

# **" Thesis "**

**Students' and their parents' attributional style, trait anxiety, and socio-demographic factors as predictors of teachers' perceptions of academic performance in late childhood .**

**A Thesis Submitted in Fulfillment of the Requirement for the Award of the Degree of Doctor of Philosophy (Ph. D.) From University of Wollongong , Department of Psychology.**

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**March, 1996**

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## Acknowledgments

My foremost acknowledgment goes to my principal supervisor, Associate Professor Mark Anshel, for his invaluable support, encouragement, technical and professional advice, and commitment to the study.

A more immediate and personal benefit has come from working with my co-supervisor Dr. Patrick Heaven, whose direction and feedback have been essential. Thank you Patrick.

I would like to especially thank Professor Robert Barry, the head of the Psychology Department, for his personal assistance, constructive comments, suggestions and good questions on an earlier draft of the thesis proposal.

I wish to thank Dr. Peter Caputi, for his willingness and availability to answer all of my statistical questions and for his valuable suggestions regarding data analysis.

I appreciate Associate Professor Beverly Walker for sharing information on sex differences and recommending relevant research articles.

I wish to acknowledge Professor Martin Seligman, at the University of Pennsylvania, for granting me permission to use the instruments CASQ, and ASQ, as well as Table 1 and Figure 1. I am also grateful to Professor Charles Spielberger, at the University of South Florida for providing important information about the STAIC and reprints of several studies related to my investigation.

Also, thanks are due to Steve Buckley, Assistant Director-General, Department of School Education, South Coast Region, and T. White, Director of Education Diocese of Wollongong, Catholic Education Office, for permission to conduct the fieldwork in the school settings.

The investigator wishes to express appreciation to the Tehran University for a full scholarship award, as well as to the Department of Psychology and Research Office of the University of Wollongong for their financial support, in order to present a part of this study at the 30th APS Annual Conference in 1995.

The assistance of the principals, teachers, students of the schools in the Illawarra region and their parents is also greatly appreciated.

I am indebted to my wife, Akram, for extending to me her continued support through my graduate studies. Without her help, none of this would have been possible.

Finally, I thank my father and the memory of my mother for teaching me to value continuing education for the quality of experience it provides.

## Abstract

The purposes of this thesis were to investigate the relationships between attributional style, trait anxiety and academic performance with some key demographic and family factors. The thesis consisted of two parts. The purpose of Part One was to investigate the relationships between trait anxiety, attributional style and academic performance of students enrolled in 18 primary public schools in the Illawarra region of New South Wales, Australia. In each of these schools one class of students in grade 4, 5, and 6 were included ( $N = 554$  students; 277 boys and 277 girls). The results of Part One showed significant differences between low and high trait anxious children on their composite attributional style for negative events. Children with low trait anxiety scored significantly superior to children with high trait anxiety ( $p < .001$ ). The results also showed that the academic performance of students with low trait anxiety was noticeably higher than the academic performance of students with high trait anxiety ( $p < .01$ ). Academic performance was significantly correlated with pessimistic attributional style, suggesting that low performance is associated with more stable negative attributional styles and with more global negative attributional styles. In addition, the academic performance of English-speaking students was significantly higher than the academic performance of the non-English-speaking students ( $p < .05$ ). Moreover, there were significant differences between non-English and native English-speaking children for trait anxiety ( $p < .01$ ), however, these groups were statistically similar for attributional style ( $p > .05$ ).

Concerning gender differences, remarkable differences were also found between boys and girls regarding their academic performance, trait anxiety and attributional style ( $p < .05$ ). Academic performance and trait anxiety were significantly higher for the girls than for the boys ( $p < .01$ ). Regarding attributional style, girls attributed positive events to internal, stable, and global causes and negative events to external, unstable, and specific causes. Boys, on the other hand, tended to attribute negative events to internal, stable, and global causes and positive events to external, unstable, and specific causes. No significant correlation were found between academic performance and grade, academic performance and birth order, academic performance and family size, or between anxiety and grade, anxiety and birth order and between anxiety and family size ( $p > .05$ ). Furthermore, there were no significant correlations between attributional style, birth order and family size ( $p > .05$ ).

Part two of the study was designed to determine the effects of socio-economic status as determined by parents' occupation and education on the academic performance of their child, and to investigate predictions of parents' anxiety and attributional style on children's academic performance, trait anxiety and attributional style ( $N = 280$  fathers and 374 mothers).

The results of Part Two showed remarkable cultural differences regarding parents' anxiety and their attributional style. Regarding fathers' attributional style, there were significant cultural differences between hopelessness and language spoken at home, negative stability and language spoken, and composite negative attributional style and language spoken ( $p < .05$ ). Furthermore, high-anxious parents, more than low anxious parents, attributed negative events to more internal, stable and global causes ( $p < .001$ ).

Students' academic performance significantly increased with higher socio-economic status (SES) of their parents. Specifically, academic performance increased with improving fathers' occupation and education ( $p < .001$ ). In addition, the pessimistic attributional style of students with middle SES was significantly higher than pessimistic attributional style of students with high SES ( $p < .01$ ).

Finally, multiple regression analyses indicated that the best predictor of children's academic performance was sex ( $R^2 = .10$ ) followed by fathers' occupation ( $R^2 = .25$ ) and education ( $R^2 = .09$ ), children's global negative attributional style ( $R^2 = .29$ ), children's anxiety ( $R^2 = .21$ ), mothers' global positive ( $R^2 = .24$ ) and fathers' stable negative attributional style ( $R^2 = .16$ ). Results showed that fathers' stable negative attributional style was the best predictor of girls' academic performance ( $R^2 = .16$ ), followed by mothers' education ( $R^2 = .18$ ) and children's stable positive attributional style ( $R^2 = .21$ ). Regarding non-English-speaking students, only children's global negative attributional style ( $R^2 = .18$ ) and children's sex contributed to predicting academic performance ( $R^2 = .29$ ). Thus, the results of this thesis infer that children's academic performance may be a function of selected personal characteristics of themselves, their parents, and cultural factors.

# Chapter 1

## Introduction

This research concerns the relationships between attributional style, trait anxiety, and socio-demographic factors and their influence on the academic performance of 9-12 year-old boys and girls. The students' academic performance is a primary criterion of learning and achieving in schools. Since evaluation of students' knowledge is an integral part of the educational system, the perceptions of whether students have succeeded or failed academically have a significant impact on their expectancies in future performance, mood, and subsequent academic outcomes (Weary, Stanley, & Harvey, 1989). According to these authors, anxiety in academic situations may reduce future performance expectancies, foster negative mood states, and inhibit success in their educational programs. One area of cognitive behavior theory that seems specially important for understanding the source of anxiety among older children is their causal attributions, or the ways in which children perceive and describe causality in the world (Doland & Wessler, 1994).

Attributional style is defined as the pattern of explanations for the causes of events. This refers to the person's perception of what causes the behavior (i.e., whether the behavior is due to internal or external factors and whether personal or environmental factors accounted for the behavior; (see Abramson, Seligman, & Teasdale, 1978; Anderson & Arnoult, 1985; Weiner, 1974 for reviews of attribution theory). Abramson et al. (1978) argued that there are three dimensions relating to a person's causal attributions and that each dimension is related to a particular aspect of adaptation to an uncontrollable event. The first dimension is the locus of one's causal explanation: "Did this event happen due to something about me (an internal attribution) or something about the situation (an external attribution)?" According to Abramson (1978), the internal attribution, but not external attribution, for bad events are related to loss of self-esteem. The second dimension is the stability of the causal explanation: "Did this event happen due to something that will persist (a stable attribution) or something that is transient (an unstable attribution)?" According to the reformulation after exposure to an uncontrollable bad event, stable attributions may lead to more chronic adaptational deficits. Finally, the globality of the causal explanation concerns whether the cause of this event influences many aspects of life, that is a global explanation or influences only the currently experienced event. Tennen and Herzberger (1985) contend that the globality of a person's causal explanation includes a generality of adaptational deficits across situations. A bad event attributed to a global factor may lead to pervasive adaptational deficits, whereas attributing the event to a more specific cause will lead to less pervasive deficits.

Attribution includes an appraisal or an interpretation, of what occurs or what exists in different conditions. According to Weary et al. (1989), an attribution is an inference about the cause of an event or a person's dispositions or other psychological states. "We may make attributions about our own dispositions and experiences just as we make attributions about others. Hence, attribution may be perceptions and inferences about others or about self" (pp. 3-4). There are some relations between different attributional styles and psychological states. Henker, Whalen, and Hinshaw (1980) state that external causal attribution for the source of behavior problems may be adaptive by reducing guilt and blame.

Attributional style is related to children's adjustment in a variety of areas, including depression, self-esteem, and achievement motivation (Dweck & Elliot, 1983; Kaslow, Rehm, Pollack, & Siegel, 1988). Nolen-Hoeksema, Girgus, and Seligman (1986) predicted a significant interaction between attributional style and life events in the development of depression for children in the third, fourth and fifth grades. They found that children who attributed negative events to internal, stable, and global causes (i.e., pessimistic attributional style) possessed higher levels of depression than children who attributed these events to external, unstable, and specific causes (i.e., optimistic attributional style). Doland and Wessler (1994) state that "Children who view negative events as due to internal, stable, and/or global causes while viewing positive events as controlled by external, unstable, and specific causes are more likely to show symptoms of depression, low self-esteem, and low achievement motivation. It is very possible that attributional style is similarly related to anxiety. Viewing failures as internal and stable, for example, may be associated with fear and avoidance of situations that involve risk of failure" (p. 81). This perspective has important implications for the development of anxiety because, as children develop, their ability to anticipate possible negative events and elaborate their consequences improve dramatically (Vasey, 1993). Thus, it appears that trait anxiety among older children is related to negative attributional style.

Despite extensive literature on attributions of depressed children (e.g., Kaslow, Rehm, & Siegel, 1984; Kaslow et al., 1988; Seligman, Peterson, Kaslow, Tanenbaum, Alloy, & Abramson, 1984), research concerned with children and anxiety is virtually absent from the literature, particularly in relation to attributional style. On the other hand, adults relatively have been studied extensively in past research. Few studies have compared the attributional style in children and their parents (Seligman, Peterson, Kaslow, Tanenbaum, Alloy, & Abramson, 1984).

Researchers have begun exploring how parent-child interactions affect children's explanations for achievement outcomes (Cashmore & Goodnow, 1988; Dix, 1993; Yamauchi, 1989). Studies have indicated that children's self-judgment are connected to the perceptions of their parents' strengths and weaknesses and to the self-reported support they receive from people who have significant influence on them (Reid, Ramey, & Burchinal, 1990). This emphasis that effective interactions for achievement or behavior problems may need to involve attribution-specific parent-child interpersonal interactions. Such interventions would likely benefit from more specific information on how parents assess the causes of their children's success and failure, and the effects of that assessments on their children's emotions and behaviors (Green, 1989).

Effective interventions may involve "attribution training" or retraining for parents or children for the purpose of changing their causal attributions and emotions about success and failure outcomes in performance. For example, when children are taught to attribute failure to lack of effort (an internal, unstable factor) rather than to lack of ability (an internal, stable factor), they are more likely to perform better on academic tasks (Dweck, 1975; Kistner, Osborne, & le Verrier, 1988). Patterns of parent and child beliefs about their respective explanations of good or bad events that they experience may influence both of their responses to the events and enhance parental support of their child's academic performance. Furthermore, one possible mediating factor in the study of attributional style and anxiety is culture.

Culture is thought to play a significant role in attributional style, anxiety, and academic performance. Previous investigations of cultural differences on attribution theory of achievement indicate that understanding of the causes of success and failure may depend on social and cultural values (Hau & Salili, 1990; Little & Lopez, 1977; Salili, 1994). Thus, it is possible that non-English-speaking immigrant families in Australia may differ from their English-speaking, Australian families counterparts on causal attributions, anxiety, and academic performance.

Many investigators have claimed that anxiety and negative attributional style among people of non-English-speaking backgrounds have been closely associated with the process of acculturation (Berry, Poortinga, Segall, & Dasen 1992; Berry, Kim, Minde, & Mok, 1987; Padilla, 1980). The operational definition of acculturation includes a common language spoken by the host community, national food in which the majority of the host population are interested, the style of clothing which is accepted by the majority of the host people, cultural and convenience activities of the host population, and social contacts and social participation. Starr and Robert (1986) suggest that a common language between migrants and the host population be related directly to acculturation. Acculturation introduces potential sources of conflict and anxiety, as well as values and role conflicts between the native and host cultures which may present stressful situations to non-English-speaking background (Torbiorn, 1982).

Berry et al. (1992) claimed that there is often a specific set of stress behaviors that occur during acculturation (e.g., anxiety and depression). Separation from earlier support systems, weather and other environmental differences, increased health problems, and lack of information about daily habits each contributes to stress on the non-English-speaking background (Berry et al., 1987). Smith and Bond (1993) contend that "these additional problems serve to distract the new arrival from the culture-learning task, and deplete the energy and motivation necessary to master the communication process. They thus have an indirect effect on the acquisition of skills for effective functioning within cultures new to oneself" (p. 192).

Westwood and Barker (1990) claim that foreign students must confront problems that arise from adjusting to a new culture and functioning in an unfamiliar psychological and educational setting. Furnham and Bochner (1986) state that there are great difficulties for a person who moves to a new society. An investigation of the causal attributions and anxiety of non-English-speaking and native English-speaking children contribute substantially to the body of knowledge on attribution theory. At present, research is lacking on role of attributional style in anxiety and academic performance in late childhood among children of different cultures.

One conceptual framework with which to examine and predict academic performance among students is explanatory style. Explanatory style is the way in which people explain events, or the pattern of explanations for what causes events (Seligman, 1975). Previous studies of the relation between causal explanations and achievement behaviors have focused on ability versus effort explanations for success and failure, with performance

on laboratory tasks as dependent measures of achievement. For example, Kamen and Seligman (1985) found that explanatory style predicted future college grade point average, even after controlling for other predictors, such as SAT scores, high school rank in class, and scores on achievement tests. In another study, Fincham, Hokoda, and Sanders (1989) found that stability attributions predicted academic performance in third grade and fifth grade students.

Dweck and Wortman (1982) found that children tend to explain academic failure in terms of stable and global causes (e.g., stupidity) and explain success in terms of unstable, specific causes (e.g., luck). As predicted, these explanatory patterns correlated with decreased persistence, decreased initiation of tasks, lowered quality of problem-solving strategies and lowered expectations for future success. On the other hand, Ward et al. (1987) found that when subjects succeed, they attribute their performance more to ability and luck and less to task difficulty than when they fail. These results suggest that schoolchildren "showing depressive symptoms or not, tend to attribute success to both internal and external factors and failure to external alone" (pp. 223- 224).

### **1.1- Statement of Problem and Significance of the Study**

Attributional style, anxiety, and socio-demographic factors are three constructs which have received widespread attention over the years (e.g., Abramson, Seligman, & Teasdale 1978; Ingram & Kendall, 1987; Rosenbaum & Ronen, 1997; Swendsen; 1997). However, researchers have virtually ignored the relationship between students' attributional style and their academic performance (Nolen-Hoeksema, Girgus, & Seligman, 1986). In addition, apparently no previous study has been concerned with whether or not children's trait anxiety and attributional style predict academic performance, and the effects of socio-demographic factors on student's academic performance, particularly among non-English-speaking students and their parents. The present study combined these constructs to investigate: (1) students' and their parents' attributional style, anxiety, and socio-demographic factors as predictors of academic performance among 9-12 yr.-olds, (2) the relationship between trait anxiety and attributional style of 9-12 yr. old children of English-speaking and non-English-speaking background, and (3) the relationship between anxiety and attributional style of 9-12 yr. old children and their parents.

The implications of research in this area may allow the educators to modify selectively their teaching strategies to favorably influence anxiety and causal attributions. In particular, teachers may be able to improve students' performance and work habits by reducing their anxiety through changing their negative attributions. Identifying maladaptive attributions associated with child anxiety would have clear intervention and treatment implications. The empirical data derived from this investigation should provide important insights into the psychological, educational and socio-cultural difficulties that exist among non-English-speaking families.

### **1.2- Research Questions and Hypotheses**

There are five primary research questions being addressed in this study: First, what is the relationship between attributional style and trait anxiety in children? Second, what is the relationship between anxiety in children and their academic performance? Third, what is the association between attributional style and academic performance in children? Fourth, what is the association between socio-demographic factors (e.g., sex, grade, birth order, family size, occupation and education) and students' academic performances? Finally, what are the relationships between children's anxiety and attributional style and their parents' anxiety and attributional style?

The relationship between anxiety and attributional style in children is based on the model of reformulated learned helplessness (Abramson et al., 1978; Peterson & Seligman, 1984; Seligman et al., 1984). According to this model, as explained earlier, children who explain bad events by internal, stable and global causes, and explain good events by external, unstable, and specific causes, will be more prone to helplessness reactions, and thus, possibly to become depressed and anxious due to the fact that anxiety may be a symptom of learned helplessness. The relationship between socio-demographic factors and students' academic performances is based on Weiner's (1982) contention that the perceived causes of success and failure primarily are ability and effort, and also include a small number of "salient factors" such as home environment and the student's teacher. Finally, the relationship between children's trait anxiety and attributional style and their parents' trait anxiety and attributional style is related to the theory of Seligman and associates (1984). They believe that the mother's composite attribution following bad events is correlated with her child's composite style for bad events. The present study will extend these works examining the relationship between anxiety, attributional style and socio-demographic factors for student's academic performance.

In regard to these five research questions, the following hypotheses were examined.

1- Children who attribute negative events to internal, stable and global causes would have significantly higher trait anxiety than children who attribute negative events to external, unstable and specific causes.

- 2- High trait anxiety would be associated with low academic performance.
- 3- Students with a pessimistic attributional style would have lower academic performance than students with an optimistic attributional style.
- 4- There would be significant cultural differences in relation to attributional style, trait anxiety, and academic performance in favor of families whose first language is English as opposed to their non-English-speaking counterparts.
- 5- There would be significant differences between boys and girls in relation to their attributional style, trait anxiety, and academic performance in favor of girls.
- 6- Student's attributional style, trait anxiety level and academic performance would differ as a function of some elements of socio-demographic factors such as grade, birth order and family size.
- 7- Parents' trait anxiety would be associated with internal, stable and global attributions for negative events.
- 8- There would be a significant and high relationship between children's and their parents' trait anxiety.
- 9- Children's and their parents' attributional styles would be significantly highly correlated.
- 10- Student's with high SES would perform higher on academic performance, lower on trait anxiety, and positive on attributional styles.

### 1.3- Operational Definitions of Variables

**Anxiety:** A chronic complex emotional state with apprehension or nervous and mental disorders.

**Trait Anxiety:** Relatively stable individual differences in anxiety proneness, that is, the differences between people in the tendency to respond to situations perceive as threatening.

**Attributional Style:** The ways in which a person explains events, or the pattern of the person's explanations for what causes events.

**Socio-demographic Factors:** Consists of the participants' age, grade, sex, birth order, family size, language spoken at home, parents' education and their occupations.

**Academic Performance:** The teachers' assessment of their students' general academic progresses.

**Age:** The age range determined for this study was 9-12 yr., as grouped by Bee (1985), based on the children's cognitive, developmental and psychological characteristics.

**Grade:** Years 4 through 6 were the grades determined for this study at elementary school level.

**Birth Order:** The order of the child's birth within the family.

**Family Size:** Family size is the total number of parents, siblings, and the subject living together.

**Speaking Language:** The language usually spoken at the subject's home.

**Parents' Occupation:** The job of each subject's parents.

**Parents' Education:** The total numbers of years the subject's parents studied at all levels of education.

The contents that will be presented in the subsequent chapters are as follows:

In Chapter 2, the theoretical background and a brief historical overview of attribution theory, with an emphasis on the learned helplessness theory and the reformulation of the learned helplessness model will be discussed. Then, briefly, attributional style in children, attributional style and academic performance, attributional style and different cultures, attributional style and parent-child interaction, and measurement of attributional style will be explained.

In Chapter 3, the theoretical background and a brief historical overview of the nature of anxiety will be presented. This includes Freud's perspective of anxiety, the behaviorist perspective of anxiety, the cognitive behavioral theories of anxiety and the theory of trait anxiety. Then, brief review of literature on childhood anxiety, anxiety and attributional style, anxiety and academic performance, and measurement of anxiety in children will be presented.

In Chapter 4, affects of socio-demographic factors on attributional style and performance behavior will be discussed. Among these factors sex, age, family size and socio-economic status of the family (parents' occupation and education) are selected for the aims of this study. In Chapter 5, variables of the first part of the study will be operationally defined. Then, population, participants, materials, methods and procedures for the experiments will be discussed. Finally, designs and statistical procedures of the part 1 will be presented. In Chapter 6, results and discussion of the first part of the study will be presented. In this chapter, statistical characteristics of the sample will be described first. Then, the results of the relationship between variables and also differences between various groups of the study will be discussed. Finally, the discussion regarding children's attributional style, anxiety and academic performance in relation to each of the independent variables of the study will be presented. In Chapter 7, variables of the second part of the study will be operationally defined first. Then, participants, materials, methods

and procedures will be explained. Finally, designs and statistical procedures of the second part of the study will be presented.

In Chapter 8, results and discussion of the second part will be presented. In this chapter, statistical characteristics of the sample will be described first. Then, the results of the relationship between variables and also differences between various groups of the study will be discussed. Comparison of students' academic performance, anxiety, and attributional style on the basis of each of the parents' occupation, education, anxiety and attributional style will be presented in this chapter. Then the results of prediction of students' academic performance measured by the independent variables will be presented. Furthermore, the discussion regarding children's attributional style, anxiety and academic performance in relation to each of the parents' anxiety, attributional style, occupation and education will be presented. Finally, in Chapter 9, the general discussion, limitation, implication, conclusion and future direction of the study will be presented

## Chapter 2

# Review of LITERATURE: theoretical background and A Brief Historical Overview of Attribution Theory

Attribution theory, a perceptual approach to attitude formation (Weiner, 1972), is concerned with the manner in which individual makes inferences to the causes of events or outcomes of other people's dispositions, on the evidence of the individuals behavior. Attribution theory is rooted in the work of Heider (1944). Heider (1944) was interested in knowing how people make attributions to the causes of events and the conditions under-which attributions of stable dispositions to a person are made. The individual decides whether his or her behavior was due to function based on two dimensions, internal or external. In the case of internal causality, Heider (1958) further distinguishes between personal and impersonal causality. Personal causality includes those events, which a person intends to produce. Impersonal causality includes events, which a person does not have any control over them. For example, if a cup of hot coffee is spilled on the person, explanation for this action may be internal - an intentional action on the part of the actor - or external - some uncontrollable factor caused the hot coffee to be spilt. On determining the internal-external dimension, the perceiver must decide whether the action was intentional (personal causality) or accidental (external causality).

Several researchers have contributed to the development of attribution theory. Jones and Davis (1965) and Kelley (1967) among the first of these researchers to extend Heider's (1958) theory. Jones and Davis's attribution theory has been supported on many points and may provide a basic understanding of how a person behaves as an intuitive psychologist or scientist inferring the causes of observed behavior. Jones and Davis (1965) suggest that in order to attribute dispositions to an actor, first the actor's actions and the effects (or consequences) of these actions are observed by the perceiver. Then the perceiver has to decide whether the effects were intended by the actor. On the basis of this decision, the perceiver makes the attribution of the disposition to the actor.

Weiner (1972, 1974) derived an attributional theory of achievement motivation that continues to guide most studies of attributions in the achievement realm. According to the theory, the causes of success and failure can be subsumed within a two-dimensional taxonomy: an internal-external (locus) dimension, which locates the cause within the person or in the environment, and a stable-unstable (stability) dimension which identifies the cause as one that is chronic or transient. Weiner's theory will be discussed in more detail later in this chapter. One conceptual framework that has been linked to attributional theory, based on the factor of controllability, is learned helplessness.

### 2.1- Learned Helplessness

Learned helplessness (LH) is a phenomenon first described by researchers who focused their attention on animals' helpless behavior. This group noted that dogs repeatedly exposed to inescapable shocks failed to initiate attempts to escape on later testing, despite escape mechanisms in a study by Seligman & Maier (1967). Mongrel dogs were placed in the position of inescapable electric shock, then after 24 hours were placed in a shuttle box in which a simple act can stop the shock. They seemed helpless, unlike dogs not previously placed in uncontrollable shock. The helpless animals showed less effort to escape the shock (motivational deficit). Moreover, they did not learn to repeat an occasionally successful response (learning deficit). The shocked animals did not exhibit overt emotionality, also called emotional deficit (Maier, Seligman, & Solomon, 1969; Seligman, Maier, & Solomon, 1971). During exposure to the electric shocks, the dogs learned that shocks were independent of their responses. The shocks happened regardless of their actions. According to Peterson and Seligman (1984) "This learning was represented as an expectation of future response outcome independence (i.e., uncontrollability) that was generalized to new situations to produce the observed deficits" (pp. 347-348). Psychologists applied these findings to explain human helpless behavior that appears to result from the expectancy of uncontrollability.

A number of theories, such as self-efficacy (Bandura, 1977), attribution theory (Weiner, 1974), locus of control (Rotter, 1966) and learned helplessness (Seligman, 1972) have been made to define or deal with a person's need for personal control. Seligman (1974, 1975) suggested that LH may form depression with respect to symptoms, causes, prevention, and cures. Helplessness feelings are related to anxiety; when individuals understand the result is possibly uncertain, then they experience discomfort (Garber, Miller, & Abramson, 1980). Figure 1 shows the

general process by which helplessness symptoms are produced. The symptoms of helplessness are passivity, cognitive deficits, emotional deficits including sadness, anxiety, hostility, a lowering of aggression, a lowering of appetite drives, series of neurochemical deficits, reduced self-esteem, and an increase in susceptibility. In addition, Seligman (1975) states the following:

“Explanations and explanatory style also influence the expectation that no action will control outcomes in the future (see Figure 1 for the process of learned helplessness). Explanations involving global causes tend to produce the expectation that action will not control many outcomes, which in turn produces the symptoms of helplessness in exactly that large range of situation. In parallel, if the cause of a bad event is explained by stable factors, the expectation tends to occur for a long time into the future, and therefore, the symptoms of helplessness are long lasting. If the explanation for a bad event is internal, then the symptom of lowered self-esteem tends to be displayed. Thus, the particular explanation an individual makes for the bad event influences the generality and time course of the symptoms of helplessness, as well as the loss of self-esteem” (p.349).

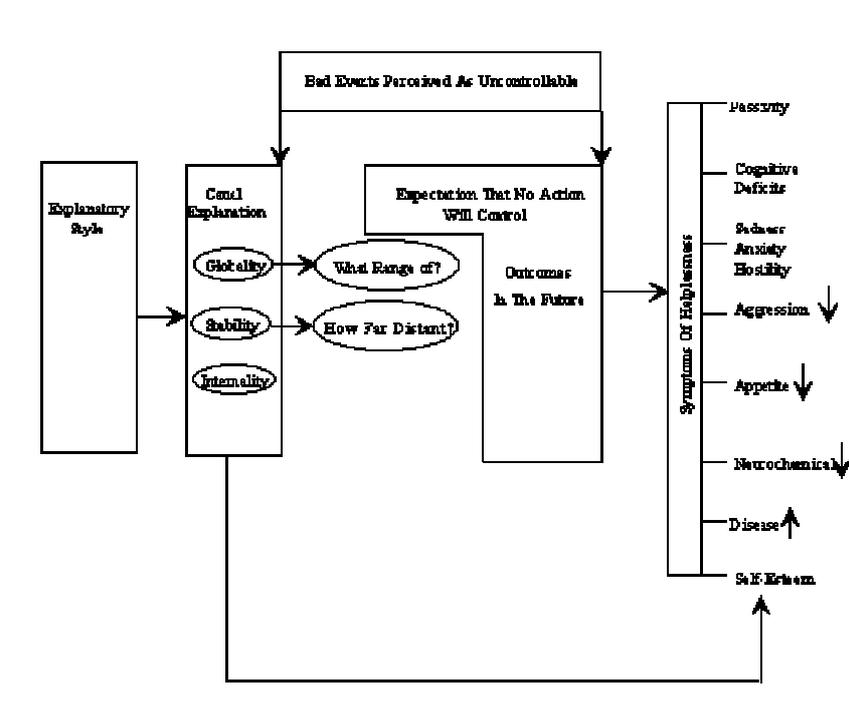


Figure 1: The process of learned helplessness. Adapted (with permission) from Causal Explanations as a Risk Factor for Depression: Theory and Evidence (p. 349) by C. Peterson and M. E. P. Seligman, 1984, Psychological Review, vol. 91, No. 3, p. 350.

Peterson and Seligman (1984) studied the patterns adopted by the individual in selecting the causes of events. These patterns are considered explanatory style. The particular style that most concerns the researchers is the depressive explanatory style. In the depression explanatory style, a person tends to make internal, stable, and global explanations following bad events. Peterson and Seligman (1984) explained this point as follows:

“It should now be apparent why a particular explanation or explanatory style is not sufficient for the symptoms of helplessness to appear. These variables influence the expectation, but it is the expectation, which is sufficient. Usually, causal explanations for an event and expectations about the consequences of an event have the same properties. For example, if the explanation for blindness is a progressive brain disease, this cause has stable and global properties, as do the consequences of blindness. But sometimes the properties of a cause and its consequences can be dissimilar. If, for example, the cause of blindness was a freak accident, the cause is unstable and specific, but the consequences are stable and global” (pp. 349-350).

Abramson et al., (1978) assert that LH is dependent on the individual’s perception that his/her responses and environmental reinforcements are independent. When individuals perceive independence between their responses and environmental reinforcements, they attribute their helplessness to a specific cause. The person may consider this cause as fixed or flexible, global or particular, and internal or external. For instance, persons who attribute the

inferred cause to global, fixed and internal factors show a tendency towards the helpless depression. Researchers (e.g., Nolen-Hoeksema et al., 1986) have discovered limitations in LH theory. For example, the theory does not define when helplessness deficits would be stable in time and when they would be unstable. If the person explains a bad event by a cause that is stable rather than unstable in time, he or she will expect bad events to occur in the future and helplessness deficits will be chronic. Second, the theory is not able to define when helplessness deficits would generalize to multiple domains of outcomes and when they would be specific to one domain. If a person explains a bad event by a cause that has global effects instead of by a cause that influences only that specific event, he or she will expect bad events to occur in multiple domains and helplessness deficits will generalize across domains. Third, it was not able to explain why individuals would lose self-esteem when they perceived they were helpless. If a person explains a bad event by a cause internal to himself or herself rather than external, he or she will be more likely to show lowered self-esteem. Finally, Nolen-Hoeksema and associates contend that "the original helplessness theory could not account for individual differences in humans' susceptibility to helplessness" (p. 1). In addition to indicating feelings of helplessness and depression, these individuals may also report other affective states, such as hostility (Miller & Seligman, 1975).

## **2.2- Reformulation of the Model of Learned Helplessness**

The reformulation of the LH model requires people to question perceived causes of an uncontrollable and unpleasant event, or the reasons people should blame themselves for events which are beyond their control (Abramson & Sackeim, 1977).

Abramson et al. (1978) reformulated the original model using an attributional approach. The reformulated LH model is one of the most important attributional accounts of depression (Abramson et al., 1978). On the basis of this model, depression is the result of experience with aversive events beyond control. Depending on the nature of the depression, however, the following uncontrollable events can be controlled by the causal attributions, which a person makes. According to the reformulated model of LH (Abramson et al., 1978), depressed persons may interpret events in unique ways, which are related to the "etiology and maintenance of their depression. Depressed individuals are said to attribute the causes of negative events to internal, stable, and global sources. These causal attributions of life events lead to intensified sad affect, lowered self-esteem, and reduced motivation" (pp. 49-74).

Abramson and associates (1978) in order to include the individual's causal explanations of perceived unpleasant events revised the LH theory. They argued that there are three dimensions relating to a person's causal attributions and that each dimension is related to a particular aspect of adaptation to an uncontrollable event. The first dimension is the person's locus of his or her causal explanation of the outcome (e.g., whether the event happened due to the person's actions, an internal attribution, or due to the situation, an external attribution).

The second dimension is the stability of the causal explanation that is whether this event occurred due to something that will persist, a stable attribution, or due to something that is transient, an unstable attribution. According to the reformulated model after exposure to an uncontrollable bad event, stable attributions may lead to more chronic adaptational deficits.

Finally, the globality of the causal explanation is considered in the model whether the cause of this event influences many aspects of life, a global explanation, or influences only the currently experienced event. It is thought that the globality of a person's causal explanation includes generality of adaptational deficits across situations. A bad event attributed to a global factor may lead to pervasive adaptational deficits, whereas attributing the event to a more specific cause will lead to less pervasive deficits (Tennen & Herzberger, 1985). Table 1 shows examples of these types of explanations.

Table 1: Examples of Causal Explanations for the Event  
 "My checking account is overdrawn."

Style	Explanation	
	Internal	External
Stable		
Global	"I am incapable of doing anything right"	"All institutions chronically make mistakes"
Specific	"I always have trouble figuring my balance"	"This bank has always used antiquated techniques"
Unstable		
Global	"I've had the flu for a few weeks, and I've let everything slide"	"Holiday shopping demands that one throw oneself into it"
Specific	"The one time I didn't enter a check is the one time my account gets overdrawn"	"I'm surprised-my bank has never made an error before"

Note. Adapted (with permission) from Causal Explanations as a Risk Factor for Depression: Theory and Evidence (p. 349) by C. Peterson and M. E. P. Seligman, 1984, *Psychological Review*, vol. 91, No. 3, pp. 347-374.

### 2.3-Attributional Style in Children

One important question about the attributional style of children is whether the relationship between attributional style and anxiety is similar to adults. By middle to late elementary school, children's attributions seem similar to those of adults. In particular, these children consistently utilize attributions dimensions similar to those used by adults, and they define success and failure in terms of social comparison (Wigfield, 1988). Middle-elementary age children also show attributional mediation of the affective responses, with positive and negative feelings dependent on whether they attribute their success or failure to internal vs. external causes. Finally, similar to adults, children of this age tend to show a self-serving bias, attributing success to internal and global causes and attributing failure to specific causes (Wigfield, 1988). In this way, the adults and children literatures are consistent. This consistency is generalized to attributions and anxiety, though; research targeting the attributions of anxious children specifically is needed.

Abramson et al., (1978) believed that those children who consider the causes of bad events as stable in time, global in effect, and internal to themselves are at certain risk for behavioral and emotional deficits of helplessness. Nolen-Hoeksema and associates (1986) explained such deficits as due to: (a) lowered response initiation (passivity), (b) cognitive deficits, (c) sadness, (d) lowered self-esteem, and (e) lowered assertiveness and competitiveness. In their study, they tested the prediction that children with a maladaptive explanatory style would exhibit more helplessness deficits than children without the maladaptive style. In line with previous research, helplessness deficits were operationalised as deficits in achievement-oriented behaviors and as the motivational, cognitive, and emotional deficits of depression.

Abramson et al., (1978) predicted that individuals who habitually explain bad events by internal, stable and global causes will be more prone to depressive episodes than individuals without this maladaptive explanatory style. This prediction has been confirmed by a number of studies on adults or children. For example, many previous researchers have investigated the relationship between attributional style and depressive symptoms among elementary school children (Dixon & Ahrens, 1992; Nolen-Hoeksema et al., 1986; Seligman, Peterson, Kaslow, Tanenbaum, Alloy, & Abramson, 1984; Ward, Friedlander, & Silverman, 1987). Seligman et al., (1984) measured the attributional style of non-hospitalized depressed children, age 8-13 years, using a forced-choice instrument that reflects how a child characteristically explains good or bad events. It was found, as predicted, that attributional style and depressive symptoms were highly correlated. Specifically, children who attributed bad events to internal, stable, and global causes (i.e., pessimistic attributional style) were more likely to report depressive symptoms than children who attributed these events to external, unstable, and specific causes (i.e., an optimistic attributional style). The opposite style for good events was also associated with depressive symptoms.

There have been extensive studies in supporting the reformulated LH theory. Nolen-Hoeksema and associates (1986) tested the prediction of a significant interaction between explanatory style and life events in the development of depression with children in the third, fourth and fifth grade of two elementary schools. They measured the children's levels of depression and explanatory style patterns for 3, 6, 10, and 12 months after initial evaluation of these variables, in order to test the depressive symptoms stability and explanatory style. Researchers found that the maladaptive explanatory style not only correlated with concurrent depression but also predicted future depression, as predicted by the reformulated helplessness theory. They concluded, "children with the maladaptive explanatory style at time "n" had higher levels of depression at time "n + 1" than did children with the optimistic explanatory style. However, they also found that depression at time "n" predicted explanatory style at time "n + 1". Thus, it is possible that explanatory style is simply a symptom of depression, and that the stability of depression in the children is what accounts for the power of explanatory style to predict future depression" (Nolen-Hoeksema et al., 1986, p. 6).

In another study, Nolen-Hoeksema, Gergus, and Seligman (1992) evaluated 352 children's helpless behaviors in social and achievement settings over 5 years. Teachers' reports assessed the nature of the relationship between helplessness deficits and depressive symptoms. They found that children who showed a pessimistic explanatory style early in the study were at increased risk of developing depressive symptoms later in the study, even after researchers statistically controlled for their initial levels of depression. In addition, "these children tended to show a constellation of pessimistic thinking and helplessness behaviors in the classroom and in peer interactions" (p. 420). Thus, the results of previous studies lend credence of the reformulated LH theory as a possible explanation of children's attributional styles.

#### **2.4- Attributional Style and Academic Performance**

The results of studies in the attribution and achievement literature have offered support for explanatory style as predictors of academic student performance. Previous studies of the relation between causal explanations and achievement behaviors have focused on ability versus effort explanations for success and failure. Many of these studies have included performance in laboratory tasks as dependent measures of achievement behaviors. For example, Kamen and Seligman (1985) found that explanatory style, as measured by the ASQ, predicted college grade-point average (GPA) even after controlling for other predictors such as SAT scores, high school rank in class, and scores on achievement tests. In their study, explanatory style accounted for nearly as much variance in GPA as all other predictors combined. In another study, Fincham, Hokoda, and Sanders (1989) found that the explanatory style of stability attributions significantly predicted academic performance in third grade and fifth grade students. Another factor that may predict or be related to academic performance is the students' motive.

Weiner et al., (1971) delineated a taxonomic scheme for the assignment of causality in achievement-related settings. They postulated that success or failure could generally be attributed to four causal elements: ability, effort, task difficulty or luck. Ability and effort were defined as internal attributions of causality, or properties of the person, while task difficulty and luck were categorized as external attributions, or properties of the environment or situation. They further argued that ability and task difficulty are fixed, in that they remain relatively unchanged over time, while effort and luck are variable and may change from moment to moment. Weiner and associates (1971) suggested that attributions to internal factors are associated with greater intensity of emotional response than attributions to external factors. In addition, attributions to stable factors are associated with greater changes in one's expectations for subsequent performance than attributions to unstable factors.

Weiner et al., (1971) further maintain that variations in achievement motivation are mediated by differences in causal attributions for success and failure. These causal inferences also affect subsequent achievement behavior. Weiner and associates have argued that individuals who are high in achievement motivation have more interest in achievement-related tasks because they attribute success to their own ability and effort. This attribution is thought to enhance pride in one's accomplishment. Such persons should be able to endure failure because failure is usually attributed to lack of effort and may be modified. Ultimately, they have to choose tasks of intermediate difficulty because the most self-evaluative feedback can be obtained from such tasks.

Conversely, individuals who tend to attribute their success to external factors and failure to a lack of ability are usually less eager to engage in achievement-related activities. For these individuals, success is not particularly rewarding; failure is threatening. They believe that their actions are not affected by their efforts, and therefore, they will perform most achievement tasks with relatively low intensity or strength (see Carr, Borkowski, & Maxwell, 1991; Eccies, 1983; Marsh, 1986; Weiner, 1985; Whitley & Frieze, 1985, for reviews).

Weiner (1985) argues that emotions appear to be generated from performance outcomes or attribution. After success, the person has positive mood states and emotions due to feelings of pleasure, happiness, or satisfaction. After failure, the person has negative mood states and emotions due to feeling unhappy, displeased, or upset. These outcome-linked feelings are associated with more specific attribution generated emotions. If success is perceived as the result of the person's ability, then pride is elicited. However, if another person is perceived as the reason for success, then gratitude is generated. Failure attributed to interference from others elicits aggression, while casual attribution of failure to the internal factors of ability and effort causes anxiety-related affects. When casual attribution are made to internal and stable factors (such as lack of ability or lack of typical effort), depressive affects are seen. Weiner's (1985) reformulated attribution model has reawakened widespread interest in the study of achievement and its underpinning. His analysis about the effective results of success and failure in achievement contexts refers to anxiety and other negative and positive emotions. Weiner's (1982), theory can be summarized as follows:

"The perceived causes of success and failure primarily are ability and effort but also include a small number of salient factors such as home environment and teacher and a countless host of idiosyncratic factor. These causes can be comprised within three primary dimensions of causality: stability, locus, and control. There also are an undetermined number of subordinate causal dimension, including perhaps internality and globality. The three main dimensions, respectively, are linked to expectancy changes, esteem-related affects, and interpersonal judgements (decisions about helping, evaluation, and sentiments). In addition, there are secondary linkages between the causal dimensions and psychological effects: stability relates to depression-type affects, and control is associated with particular feeling states and behaviors. The dimension-consequence linkages influence motivated behaviors such as persistence and choice" (p. 240).

Dweck and Reppucci (1973) and Dweck (1975) have investigated the relationships between attributions of causality for outcomes and subsequent performance decrements extensively in an early study. Their research has focused on a diverse set of problem areas, including the development of helpless response patterns, the nature of the cognition underlying helpless behavior and the alleviation of helplessness effects. This perception is associated with attributions of failure to uncontrollable, invariant factors such as lack of ability, rather than to controllable factors such as effort. Despite equivalent performance prior to failure, children who attribute failure to lack of ability display marked performance decrements when they experience failure. Children who attribute their failure to lack of effort do not show deterioration in performance and often show improvement. Indeed, helpless children who are trained to make attributions that stress motivation rather than ability as determinants of failure show striking improvement in their responses to failure (Dweck, 1975).

In a later study, Dweck and Wortman (1982) found that children tend to explain academic failure in terms of stable and global causes (e.g., their own stupidity) and to explain success in terms of unstable, specific causes (e.g., luck). As predicted, these explanatory patterns correlated with decreased persistence, decreased initiation of tasks, poorer problem-solving strategies, and lowered expectations for future success.

Several other researchers have found that depressed students tend to attribute failure to internal factors, whereas non-depressed students tend to make external attributions (Klein, Fencil, & Seligman, 1976; Kuiper, 1978; Nolen-Hoeksema et al., 1986). Nolen-Hoeksema et al., claimed that "children who were not depressed and who were not having achievement problems tended to explain bad events by external, unstable, and specific causes and good events by internal, stable, and global causes" (p. 6). The evidence regarding successful performance is mixed, however. In a study by Kuiper (1978), the depressed students, similar to their non-depressed peers, made internal attributions for a successful outcome. On the other hand, Ward et al. (1987) found that subjects in the success condition attributed their performances more to ability and luck and less to task difficulty than those subjects in the failure condition. The researchers concluded that schoolchildren "showing depressive symptoms or not, tend to attribute success to both internal and external factors and failure to external alone" (pp. 223- 224).

As was described earlier, attributions of academic success and failure have been linked to both expectancies for future performance and affective reactions. A student may encounter with one or more affective reactions such as pride or shame, happiness or sadness and low or high self-esteem after receiving information that one has performed well or poorly in academic tasks. From this point of view, Weiner (1974), in his initial model, suggested that internal attributions, relative to external ones, should increase pride or shame after academic success or failure. In attributing academic success to more ability or hard work (internal attributions), a student should feel prouder of his/her achievements and should get more external praise than if outcomes were attributed to external causes such as ease of task or good luck. Finally, on the contrary to the failure attributed to external causes (such

as difficulty of test or bad luck), failure attributed to internal causes (such as low ability or insufficient effort) may lead to feelings of shame.

## **2.5- Attributional Style in Different Cultures**

Although numerous studies have been conducted on attributional style and academic performance, relatively few investigations in recent years have been concerned with cross-cultural differences (e.g., Corenblum, Annis, & Young 1996; Mizokawa & Ryckman, 1990; Morris & Peng, 1994; Ng, McClure, Walkey, & Hunt 1995; Yan & Gaier, 1994). In one investigation, Mizokawa and Ryckman (1990) compared the different attributional beliefs for success and failure in six Asian American ethnic groups. They confirmed that the attribution of effort rather than ability was important in explaining high academic performance by Asian populations. Chandler et al., (1981), in another cross-national study, found significant differences in causal attributions for performance between students in Japan and the United States. Japanese students were the most internal in causal ascription for failures and the least internal for success when compared with American students. These investigators also showed that American students believed effort to be more important for success than lack of effort for failure, whereas Japanese students believed that lack of effort is the more likely cause of failure.

In another investigation, Fry and Ghosh (1980) measured the attributional style for success and failure of white Canadian and Asian Indian Canadian children aged eight and 10 years. They found that the white Canadian children showed the usual pattern of self-serving attributions, rating effort and ability higher for success, and contextual factors such as luck higher for failure. In contrast, the Asian Indian children showed luck as more important in their successes and ability as more important in their failures. Tuss, Zimmer, and Ho (1995) found that Asian students emphasized both stable and unstable effort as more important factors than did the United States students, in which American students valued ability, task difficulty and situational factors, such as mood, more than did Asian students.

Children of various cultures may develop different attributional style due to differences in child rearing in their cultures. In addition, different cultures may use different attributional style to explain events (Fletcher & Ward, 1988). Even if the same attribution, such as luck, is used within two cultures, the connotations of that attribution may differ across those cultures (Kukla, 1988). Thus, it can be concluded that the interactions between children and environmental variables such as culture are thought to play a significant role in their attributional styles.

## **2.6- Academic Performance in Minority Students**

About academic performance, there exists a considerable amount of literature that deals with non-English-speaking backgrounds or ethnic minority groups. Most of these studies have shown that these groups obtain a comparatively lower performance score in academic tasks, than other groups in the society (Hau & Salili, 1996). However, some studies show that non-English speakers have more positive attitudes towards schooling than other groups in the society. Farmer et al., (1991) reported that minority students were more ego-involved in their school performance than white students. Ainley, Foreman and Sheret (1991) found that students from non-English-speaking families were concerned about academic performance than Australian students or students from an English-speaking family. It was also found that, students from a non-English-speaking background viewed school more satisfying as compared to Australian-born or English-speaking background students. However, foreign students exhibited lower academic performance than students whose parents were born in an English-speaking country (Ainley, Foreman, & Sheret, 1991).

In a comprehensive study conducted in the U.S. using a nationally stratified cluster sample of 8,100 students in grades 1-6. Students from homes in which Spanish was regularly spoken were compared on academic performance and learning with students whose native language was English (Rosenthal, Baker, & Ginsburg, 1983). Results showed that performance levels were related to language background especially for reading performance. Native English-speaking students learned to read moderately better than those from a Spanish background. However, the relationship between mathematics learning and language background was inconsistent. When race and/or ethnicity and socio-economic status were controlled the relationship between performance and home use of Spanish was minimal.

In an Australian study 336 primary school students from seven countries, Australia, Britain, Chile, Yugoslavia, Italy, Greece and Turkey (de Lacey & Rich, 1979) were examined to determine the relationships between country of origin, sex, age, length of residence in Australia and their performance on selected cognitive test. The researchers used the Peabody Picture Vocabulary Test (PPVT) and Auditory Association (A.A) and Illinois Test of

Psycho-linguistic Abilities (ITPA). The results showed that most of the immigrant subjects obtained very low scores in the cognitive test and AA sub-test. It should be noted that a large number of the immigrant students came from low-income backgrounds in their native country, and this status continued in Australia. Therefore, minority students in general and specifically Australian immigrants inclined to perform lower in academics compared to English-speaking pupils.

There are several explanations for the shortcomings of academic performance of non-English-speaking background students. First, the major problem for lower performance appears to be language. Anxiety occurs when a person's language skills are not sufficient for him or her to cope successfully with demanding situations (Dornic, 1988). Because of language difficulty, children from a language minority often display poor performance in school, as they do not understand the lessons taught in English (Rosenthal, Baker, & Ginsburg, 1983). In addition, the lack of linguistic progress of students whose native language is other than English may be another cause of their lower academic performance (Brown, Rosen, & Hill, 1980). Second, other researchers contend that many students from non-English-speaking backgrounds are from low socio-economic status families and that low SES is associated with poor academic performance (de Lacey & Rich, 1979; Rosenthal et al., 1983).

So and Chan, (1982) report that about 50% of the difference in academic performance between Hispanic students and English students was due to socio-economic status and ethnic reasons with 50% due to other factors, especially language background. Hayden (1982) found that higher continuation rates were obtained from non-English speaking students because they had higher levels of aspiration and stronger parental stimulation to continue formal studies. This situation has been attributed to the higher motivation of the immigrants. According to the authors, since the immigrants feel a need to succeed in order to excuse their emigration they do not mind if their children stay longer in secondary schools (Poole et al., 1985).

In most studies, the academic performance of students from an English-speaking background has been examined and compared with the academic performance of students from a non-English-speaking background in high school. Results of such studies indicated differences in the academic performance of the two groups (Mizokawa & Ryckman 1990). Contrary to high school, similar research with elementary school students is apparently absent from the literature. Thus, in multicultural countries such as Australia, it is appropriate to compare the beliefs of students from different cultures with different language backgrounds about the effects of their attributional style and anxiety on academic performance.

## **2.7- Attributional Style and Parent-Child Interaction**

The importance of role models in socialization and attributional styles is a recurring theme throughout the sex-difference literature (Turner & Gervai, 1995). The process of "observational learning" has been suggested as one of the ways in which children assimilate social norms; especially those associated with sex-appropriate qualities of behavior. According to modeling theory, models, particularly parents, exhibit behaviors which children copy and later adopt as part of their own behavioral repertoire. If "important" female models exhibit different behavior patterns than comparable male models, then girls and boys will exhibit different behavioral patterns (Parsons, Adler, & Kaczala, 1982).

Bird and Berman (1985) suggested that mothers, as primary care givers, might be in tune with their child's thinking and behavior and so most influential in determining the child's development. In comparing the views of 30 predominantly Caucasian and middle-class mothers and fathers of their child's performance on an academic task, they found that mothers' attributions were more congruent with those of their child than fathers' attributions. Harmony of parent and child attributional styles may be due to the fact that child learns the attributional style of one or both parents, which the child then reveals in his or her own behaviors (Keltikangas-Jarvinen, 1990). Such agreement or harmony of attributional style between parent and child might be expected, given that "parents transmit values, beliefs or traits to a younger generation" (Cashmore & Goodnow, 1986, p. 191).

Weiner (1985) suggests that there are underlying dimensions of attributional thinking that may have specific effects on the affective and behavioral responses of parents. For example, consistent with Heider's framework (1958), parents and children can view performance outcomes as due to child ability (internal-stable) or effort (internal-unstable), task difficulty (external-stable) or luck (external-unstable). Weiner's model (1985) of causal dimensions suggests that the responses parents and children make to child behavior may depend on what inferences they hold about locus, stability and controllability of these behaviors. Furthermore, attributions of success to stable causes, such as ability or task ease, leads to an anticipation of continued success, whereas failure due to these stable causes leads to an anticipation of continued failure. On the other hand, attributions of success or failure to unstable

causes, such as luck or effort, leads to an anticipation of change. It may be concluded that parents' assessments about why their children act in certain ways may be transmitted to children and affect their view of themselves

## Chapter 3

# Review of LITERATURE: theoretical BACKGROUND and A brief historical overview of the nature of trait anxiety

Anxiety is defined as: apprehension, tension, or uneasiness related to the expectation of danger, whether internal or external. Anxiety may be focused on object, situation or activity that is avoided, as in phobia, or it may be unfocused (Kendall, Chansky, Kane, Kim, Kortlander, Ronan, Sessa, & Siqueland, 1992). Although it seems that the present problem of anxiety has historical roots in Kierkegaard's (1944) work as an existentialist philosopher, it was Freud who tried to define the meaning of anxiety within personality theory (McReynolds, 1985). Freud (1959) claimed that "The psyche develops the affect with a task approaching it externally" (pp. 101-102). Freud described anxiety as "something felt", a particular unpleasant emotional state or condition of human organism, which is based on experiential, physiological, and behavioral factors. In psychoanalytic theory, Freud (1959) explained three categories of anxiety, which he saw as originating in the ego. Realistic anxiety developed in response to a real external threat and was not seen to be a cause of later psychological problems. Moral anxiety arose from ego and superego conflicts and led to feelings of shame and guilt. Neurotic anxiety developed from the failure of the ego's defenses to suppress primal impulses. Neurotic anxiety could lead to phobias, free-floating or generalized anxiety and panic attacks.

Beck (1985) conceives of anxiety as a primitive response to danger. Anxiety could be seen to serve a similar purpose to physical pain. When we feel pain, we are automatically warned to pay special attention to this part of the body and take the necessary action for removing the physical pain. Beck suggests that anxiety may have served to alert us to danger so we can take action to deal with the danger. Such actions include the protective, reflexive responses of fight, flight, freeze and faint. As our environment has changed, however, the types of threats that we encounter today are not primarily physical in nature but psychological. Therefore, the reflexive responses which are initially activated when we feel under psychological threat are no longer the most appropriate for dealing with perceived danger.

Anxiety, according to Williams, Watts, Macleod, and Mathews, (1988) is a "multi-components system which helps normal people to anticipate and avoid danger" (p. 182). It is evident that anxiety is a system that reacts very quickly to event a partial representation of a possibly dangerous stimulus. In reaction to a threatening stimulus, the organism may need to take quick avoidance action, so there is little reason (at that time) to recruit further system which elaborates the stimulus, which might only interfere with the necessary action.

Ingram and Kendall (1987) claim that "anxiety is so prevalent that its experience is virtually commonplace in both normal and abnormal functioning. It is when this "common" phenomenon becomes excessive or protracted, when it becomes activated at the wrong time, or when it becomes transsituational, that it is considered dysfunctional" (p. 524).

The common feature of anxiety is that it lacks a known source. Gillies and Lader (1986) declare that anxiety may be a special state of mood, a feeling, a response to instinctive feeling, an emotional response, a symptom or a syndrome. What can be common about anxiety in various definitions is the unpleasant nature, its projection to the future, its similarity to fear and its lack of references. Moreover, among the stimulus conditions, the past history and characteristic for these forms of anxiety should be specified.

### 3.1- Theory of Trait Anxiety

Trait anxiety is defined by Spielberger, Edwards, Lushene, Montuori, and Platzek, (1973) as "refers to relatively stable individual differences in anxiety proneness, that is, to differences between people in the tendency to respond to situations perceived as threatening" (Spielberger et al., 1973, p. 3). The state-trait theory of anxiety predicts that the people with high trait anxiety will perceive more situations as threatening and they respond with higher state anxiety and greater change of situations than the people with low trait anxiety.

Spielberger (1972) has used the words of "stress" and "threat" to show different aspects of a sequence of events, which results in the evocation of an anxiety state. Stress is related to objective stimulus properties of events that happen naturally or are manipulated by an experimenter. Threat is related to subjective evaluation of a situation that is perilous physically or psychologically and the state of anxiety is directly related to perceived threat. When

situations are understood as more threatening without considering the objective stress, then the intensity of the anxiety state will be higher.

According to "Trait-State Anxiety Theory" (Spielberger, 1966, 1972), people with high trait anxiety will experience more elevations in state anxiety than the people with low trait anxiety when experimental conditions involve some form of psychological stress such as direct or implied threats to self-esteem, ego-involving instructions or failure feedback. Spielberger et al. (1973) found that individuals who are high in trait anxiety interpreted most situations as more intimidating and perilous and reacts with greater intensity to threatening situations than low trait anxious individuals. The tendency of these reactions depends on the nature or type of stress to which they are exposed, high trait anxiety individuals responding with higher elevations of state anxiety. According to Spielberger and Sarason (1978), the characteristics of anxiety responses are as follows:

"The situation is seen as difficult, challenging, and threatening. The individual sees himself or herself as ineffective in handling or inadequate to the task at hand. The individual focuses on undesirable consequences of personal inadequacy. Self-deprecatory preoccupations are strong and interfere or compete with task-relevant cognitive activity. The individual expects and anticipates failure and loss of regard by others. These characteristics can become linked to situations through experience" (pp. 195-196).

Researchers and theorists generally agree that anxiety is an affective response, anxiety is one of the most apparent and clear mental and psycho-physiological disorders, there is a quantitative difference and qualitative continuity between normal and pathological anxiety, and that it is diagnostically important to determine the difference between anxiety as a personality trait and anxiety as a pathological state (Lader, 1972).

### **3.2- Childhood Anxiety**

The classification system for childhood anxiety disorders has been reported in the Diagnostic and Statistical Manual of Mental Disorders (DSM) by the American Psychiatric Association. In the most recent version of DSM (i.e., DSM IV, 1994) a subclass of diagnostic disorders has been devoted to anxiety disorders of childhood and adolescence, including three disorders of separation anxiety, avoidance, and overanxious. The disorders indicated in the section for adult anxiety disorders may also be diagnosed in children, including social phobia, agoraphobia, simple phobia and obsessive compulsive disorders.

The central concern of children with separation anxiety is easy access to mother and home. The type and intensity of the situations that are relating to reaching the mother are not the same in all children and special behavioral results of pathological anxiety vary with age. Some clinicians believe that separation anxiety may not be present unless the child does not accept being separated from the parents and no attention is given to the child's mental content. "Many feel ashamed of what they perceive as childish and irrational concerns; therefore, they may avoid separation with excuses that camouflage their ego-dystonic anxious feelings" (Gittelman & Klein 1985, p. 391). Therefore, in order to remain close to home or parents, they may blame other children, their teachers or report illness. In such children, the presence of significant separation will be missed if the definition of separation anxiety does not take into account the child's thought processes and associated affective state.

As mentioned above, the hallmark of a separation anxiety disorder is excessive anxiety concerning separation from those to whom the child is significantly attached (i.e. parents or caregivers). Children with separation anxiety may show unrealistic and persistent worry and they think that some unfortunate event may happen to their parents or themselves due to permanent separations. These children are often mentally preoccupied with fears and they worry that they may be kidnapped or killed or that serious accidents or illness will happen for them or their parents. Thus, such children may also refuse to stay alone. These children even may show serious unwillingness to go to school or other places, they like to stay with their parents or at home and when one of their parents is not in their bedrooms, they may be unable to go to sleep.

Children, who are suffering from this disorder, rarely accept invitations for sleeping or staying the whole night away from their homes and in extreme cases, it has been seen that they have slept by the door to their parents' bedroom. Such children may suffer from repeated nightmares concerning separation from their parents. Separation anxious children often "shadow" their parents around the house. For example, a child may cling to a parent, following father or mother from room to room. Even when such children anticipate any possible separation, they may complain of headaches, stomach aches or nausea, they may exhibit bad temper and mood and they often ask their parents to stay with them. When such children are separated from their parents, they ask their parents to call home frequently or return home as soon as possible. Palmer (1990) understood that in foster children due to increased separation conflicts there is low self-esteem. Palmer claimed that most foster children will response to an opportunity to share sad, anger and confused feelings about separation.

An avoidance disorder in children is specified by excessive shyness with unfamiliar persons, such shyness being sufficient to interfere with appropriate and expected social interactions. Although such children generally refuse contact with the persons they do not know, they show willingness for social interaction with the persons they know well, like family members of their same ages. Children who are classified suffering from an avoidance disorder often appear single, socially withdrawn, shy or fearful. Such children may become excessively anxious even in the most minimal interactions with people they do not know (Kendall et al., 1992).

The hallmark of overanxious disorder is excessive and unrealistic worry. The overanxious children may worry about their future, such as future tests at a doctor's appointment or they may worry about their past, such as whether they behaved appropriately or made correct decisions concerning what to wear. Such children may be concerned about personal competence in sports, social or academic domains and they are significantly and excessively self-conscious. These children may have an excessive need for reassurance and to be told that they are doing a good job. Physical signs that accompany the overanxious disorder may include headaches, stomachaches, nausea, and or they may feel stress and be unable to relax (Kendall et al., 1992). In addition, overanxious children have a compulsive need to meet deadlines, adhere to rules, and to keep appointments. This "pseudo-maturity" may cover the distress from which these children are suffering. Overanxious children may have perfectionist tendencies; such a tendency is not abnormal for them. The overt behavioral indication of such tendencies can be seen in the child who spends excessive hours completing their homework or who delays the school assignment for fear of failure. Those children who are suffering from an overanxious disorder may be called as the "teacher's pet" because of their strict adherence to regulations or their excessive need for approval, particularly approval from adults (Kendall et al., 1992). The agoraphobic, obsessive compulsive disorder as well as adult diagnoses of panic disorder can be applied to children. Since these disorders are very rare among children, they are not described in this section.

Studies of the relationship between childhood and adult anxiety would be helpful in clarifying the significance of anxiety states in children. If such a relationship were found, it would also provide important clinical information regarding the evolution of adult anxiety disorders. The implementation of this goal is limited by the fact that the evaluation of anxiety disorders has not followed a consistent pattern, so that even when information about anxious children is available, it is difficult to identify the nature of the anxiety in question. Furthermore, no prospective studies of the psychiatric status of children with anxiety disorders have been reported.

Childhood anxiety disorders and their relationship to adult anxiety disorders have been investigated by previous researchers. Klein and Klein (1988) contend that "adult anxiety disorders have fostered renewed attention in the childhood and adolescent anxiety states that often bear close resemblance to the adult conditions" (p. 230). The similarity between early and later forms of anxiety disorders does not hold true for all the disorders. For example, panic disorder with panic attacks has not been observed in children. Furthermore, many adults report their panic disorders began in adolescence, not in childhood. Sarason et al., (1960) claims, "The behavior of every child is continually and explicitly evaluated by parents as adequate or inadequate, good or bad" (p. 12). Similar to parents, the teacher is in a position of authority, sets goals for the child, evaluates his or her behavior in attempting to meet these goals and has available a variety of rewards and punishments by which he or she (the teacher) can affect the child. Sarason believes that "the reaction of the test anxious child to actual test and test-like situations in the classroom reflects his experiences in psychologically or interpersonally similar situations in his home both before and after the beginning of formal schooling" (p. 13).

Most of the fears and anxieties reported by children are a normal part of development and are often transitory. McFarlane, Allen and Honzik (1954) found that among the normal children between the age of 2 and 14, 90% of them reported some kind of fear. More recent data indicate that due to a child's growth experience, the content of these fears change over development (Kendall et al., 1992).

There are not only developmental differences but also differences in the number of childhood anxieties. Childhood anxiety is associated with sex. Researchers have found that, in general, fears are more common in girls than boys (Houston, Fax, & Forbes, 1984; Ollendick, Matson, & Holsel, 1985). Differences between girls and boys may be related to socio-cultural factors including the tendency of girls to admit more freely to their fears than boys (Ollendick et al., 1985), and that parents are more likely to report fears of girls than of boys, because the fearful state is more acceptable in girls (Harris & Ferrari, 1983).

### **3.3- Anxiety and Attributional Style**

Former research has not explored the relationship between anxiety and attributional style in children. Only a few studies have examined the relationship between anxiety and attributional style (Ahrens & Haaga, 1993; Heimberg,

Klosko, Dodge, Shadick, Becker, & Barlow, 1989; Heimberg, Vermilyea, Dodge, Becker, & Barlow, 1987; Rodriguez & Routh, 1989).

The relationship between trait anxiety and children's causal attributions has also been studied. Rodriguez and Routh (1989) investigated relationship between anxiety and attributional style among learning disabled and non-learning disabled elementary school students. Using the Children's Attributional Style Questionnaire (CASQ; Kaslow et al., 1984) to measure attributional style, the researcher found that anxiety was significantly associated with negative attributional style among both learning disabled and non-learning disabled group. In another study, Bell-Dolan and Last (1990) found that trait anxiety and anxiety disorders in children were significantly correlated with negative attributional style. In particular, children with anxiety disorders made significantly more negative attributions (internal, stable, global) for negative events than did normal. Thus, there is a meaningful relationship between trait anxiety and children's attributional style.

### **3.4- Anxiety and Academic Performance**

Several investigators have studied the complex relationship between anxiety and students' academic performance (e.g., Eysenck & Calvo, 1992; Heinrich & Spielberger, 1982; Schwarzer, 1984; Schwarzer & Kim, 1984; Seipp, 1991). The results of these studies have been equivocal depending on different anxiety constructs, characteristics of subjects or the conceptualization of performance (Seipp, 1991).

Becker (1982) has investigated the relationship between several aspects of achievement behavior and methods for testing the model for predicting examination fear. Subjects were 28 male economics students who intended to participate in their first academic examination at university level. The students had had an opportunity to attend a sample examination in order to receive feedback on their competence level two months before the examination. Two groups were selected as having extremely high or low scores on a test of emotional liability. Becker reported that achievement motivation level contributed to fear and grade level. Two types of examination fear were discovered, inverted U-shaped curves characterizing fear levels of most of the success-oriented students and the monotonous fear increase of the failure-oriented students. Thus, the relationship between anxiety and student's academic performance depends on characteristics of participants and the conceptualization of their performances.

Snyder and Katahn (1970) examined the effects of positive and negative feedback creating stress on a concept learning task for low, middle and high-test anxious students. Using the STAI A-State scale, the anxiety was evaluated by instructing the students to answer how they normally feel when they take a classroom examination. The results indicated that the high anxiety level related to poor task performance in the negative feedback (stress) condition, whereas the stress by trait anxiety interaction was not statistically significant. Therefore, the abnormally high levels of examination anxiety are detrimental to student's performance.

Ray, Katahn, and Snyder (1971) investigated the effects of test anxiety on acquisition, retention, and generalization of a complex verbal task in classroom situations using the same concept learning task as Snyder and Katahn (1970). As part of course requirements, 122 males university students were divided into high, medium, and low test anxiety groups according to their scores on a modified version of the STAI (Spielberger et. al., 1969), designed to estimate feelings before a classroom test. Immediately after each of five learning trials, one group of the students was tested but the other group was tested only once at the end of five trials. In order to identify the retention and generalization after 48 hours, all of the above students were tested. It was found that the subjects who were tested during acquisition after each trial had higher performance than subjects who were tested after the completion of five trials did. The low anxious subjects showed higher performance than high anxious subjects with repeated testing did. The retention and generalization of low anxious subjects was higher than the high anxious subjects were when differences of correct response acquisition were statistically controlled. Seipp (1991) concluded the following:

Anxiety is confirmed to be a multifaceted construct having differential relationships with performance. All research concerning anxiety has to consider this fact. This, however, does not imply calculation of all possible effects or correlations at all times, but on the contrary, consideration of the differential effects or validities connected with the special facets of the constructs which research has brought about in the course of time. For example, predicting academic performance from anxiety could be improved if anxiety was measured only in terms of test anxiety and test anxiety in terms of worry (p. 39).

Ialongo, Edelsohn, Werthamer-Larsson, Crockett, and Kellam (1994) claimed that the prevalence of clinically significant levels of anxious symptoms among children, at least in terms of academic performance, appears to be relatively high. They found that anxious children performed more poorly in their academic performance than did non-anxious children. Sarason (1972) also found that anxiety related to decreased test performance. Fite, Howard,

Garlington, and Zinkgraf (1992) believe that anxiety is related to low self-image and low anxiety is related to a positive view of how others perceive one's own academic performance. Calvo and Carreiras (1993) argue that "high-anxious individuals are not simply slow, or low-efficient, processors, compared with low-anxious individuals" (p. 385). By contrast, the interactions between anxiety and some of the other variables show that anxious individuals are slower or less efficient than non-anxious individuals although this is only when they must read certain words that depend on their psycho-linguistic attributes. In conclusion, several researchers investigated the relationship between anxiety and academic performance. However, no research has been devoted to study such relationship considering all three variables of trait anxiety, children's attributional style, and academic performance, indicating the need to conduct the current study.

### 3.5- Measurement of Anxiety in Children

The main techniques which are available for evaluating childhood anxiety are interviews, direct observation of childhood behaviors, peer and parents' report scales and self-report questionnaires. For evaluating childhood anxiety, the clinical interview is one of the most common methods (Miller, Barrett, & Hampe, 1974). For administration of child and parents, numerous interview schedules have been made and empirically tested. These schedules vary from highly structured format to unstructured format, and include information about the child's development history from the child and parents perspective. Interviewing the child directly allows for establishing a relationship, which helps to maintain the child's interest and provides a situation in which misunderstandings and ambiguous responses can be clarified (Edelbrock & Costello, 1988; Morris & Kratochwill, 1983).

The interviewers can modify their methods and rearrange the questions in order to be adapted to the developmental level of the children and, to a degree to their pathology. During the interview, an anxious child is often timid, reticent and fearful and they will require support to respond. The anxious children can respond to specifics better than to open-ended questions (Ollendick & Francis, 1988). Unfortunately, the strength of the unstructured interview is also the principal disadvantage: the flexibility of the interviewer to be developmentally sensitive to the child may introduce bias and /or obscure the standardization of the interview. In addition, interview -in general- is very time consuming, resulting in a low sample size.

Direct behavioral observation is another method of measuring a child's anxiety. It is considered an important component of the assessment process. The behavioral evaluation of childhood anxiety includes many structured and unstructured observational techniques, ranging from informal observations (made during clinical interviews) to standardized Behavioral Avoidance Tasks (BATS). There are several observational coding systems including Observer Rating Scale of Anxiety and Behavior Profile Rating Scale (Strauss, 1988). The anxious children often exhibit overt behavioral patterns such as fidgeting, fingernail biting, avoiding eye contact, speaking softly, trembling, stuttering and crying.

Several potential disadvantages hinder the utility of behavioral observation techniques. The observation techniques, coding systems and instructions vary across studies. Research or clinical settings usually use individualized and specific techniques, which are not comparable. Investigators have also identified problems with the reliability and validity of these techniques, observer coding drift and poorly defined criteria (Foster & Cone, 1986).

The most widely used technique for childhood anxiety evaluation is the self-report inventory. Many inventories have shown that they have sufficient reliability and validity (see Barrios & Hartmann, 1988, for a review). Some assess specific fears or worries (like the Revised Fear Survey Schedule for Children, FSSC-R; Ollendick, 1983) and some assess more general worries and anxieties (e.g., Revised Children's Manifest Anxiety Scale, RCMAS, Reynolds and Richmond, 1978, and the State-Trait Anxiety Inventory for Children, STAIC, Spielberger, Edwards, Lushene, Montuori, & Platzek, 1973). Self-report questionnaires have become the more common measure of anxiety because of easy administration, especially in field settings and their economy from time and expense points of view.

Consistent with his state-trait theory of anxiety, Spielberger and associates (1973) developed the State-Trait Anxiety Inventory for Children (STAIC), which has separate scales for the child's current anxiety *state*, as well as a more enduring anxiety *trait*. The STAIC became a popular tool for the study of anxiety in elementary school children. Both of (A-State) and (A-Trait) contains 40 items, which are printed on opposite sides of a single-page test form. The A-State scale is identified as C-1 and the A-Trait scale is identified as C-2. The anxiety in elementary school children is measured and extensive norms for 4th, 5th and 6th grade students were assessed by STAIC. It includes separate self-report scales for measuring two separate anxiety concepts, state anxiety (A-State) and trait anxiety (A-Trait).

In this chapter, first a brief historical perspective of the theory of anxiety was discussed. Second, childhood anxiety including three disorders of separation anxiety, avoidance, and overanxious were explained. Third, the relationship between anxiety and academic performance was described. Finally, measurement of anxiety in children was discussed.

# Chapter 4

## Review of LITERATURE:

### Affects of socio-demographic factors on Attributional Style and Performance Behaviour

Many socio-demographic factors affect attributional style and academic performance. Among these factors are the persons' sex, age, family size and socio-economic status of the family (parents' occupation and education) each of which was examined in this study.

#### 4.1- Sex

The results of studies examining sex differences in relation to attributional style and academic performance have been contradictory. Several studies did not show significant differences on attributional scores for males or females (e.g., Bar-Tal, Goldberg, & Knaani, 1984; Johnson & Kanoy, 1980). For example, Bar-Tal et al., (1984) found no differences between male and female advantaged and disadvantaged students regarding causes for success and failure in each socio-economic status group on the basis of grade point average. In another study (Johnson & Kanoy, 1980), no significant relationships were found between sex, self-concept, and attributional style among elementary school children.

On the other hand, sex differences in relation to attributional style and academic performance were shown in other investigations (e.g., Butler, 1994; Callaghan & Manstead, 1983; Nolen-Hoeksema, Girgus, & Seligman 1991). For example, Callaghan and Manstead (1983) found that males and females presented different patterns of causal attributions for similar academic performance outcomes. Butler (1994) showed that girls rated effort efficacy lower than did boys. Bar -Tal (1978) claims that females are more external in their attributional style. Contrary to boys, girls are more likely to attribute events to external causes such as luck. Nolen-Hoeksema et al., (1991) examined sex differences on attributional style for negative and positive events in children from third grade through fifth grade. They found that the girls showed much more positive explanatory styles for negative events than the boys did.

A review of related literature reveals several explanations for the relationship between attributional style of females and their academic performance. First, attributional patterns can be the result of females' perceptions of lower expectations by others about their successes and failures; females then internalize these attributional patterns and form maladaptive attributional patterns (Bar-Tal, 1978). Second, Stipek and Weisz (1981) pointed out that the differences between attributional styles of boys and girls may be related to social desirability, to different expectancies of the sexes. That is, many people, including family members, behave differently towards boys and girls.

The results of research comparing male and female students on academic performance have been contradictory. While numerous studies have indicated no significant differences between the academic performance of boys and girls (e.g., Ainley, Foreman and Sheret, 1991), the majority of research findings have shown sex differences. For example, Birenbaum and Kraemer (1995) claimed that "The overall picture is of small but pervasive discrepancies in favor of boys in performance in certain areas of post-elementary mathematics" (p. 342). Marsh (1989) also found that, at the conclusion of high school, male students achieved better than female students in mathematics tests, especially in tests that concentrate on problem solving. However, girls' overall school performance was reported to be higher than boys' school performance. Chipman and Thomas (1985) also indicated that although no sex differences were found between mathematics scores that students received at high school level; overall, female students received higher grades on all subjects than male students. These results were in contradiction with the findings of another Australian study reporting a lower achievement rate for girls compared with boys (Adams, 1985). In summary, equivocal results have been reported in the literature in regard to sex differences in attributional style and academic performance. These contradictions need further investigation.

#### 4.2- Age (Grade)

Age, or grade level of students, is another variable that affects the relationship between attributional style and academic performance (Stipek & Weisz, 1981). Phares (1976) claimed that as a child grows the internal control would increase because the young child is relatively helpless and has little control over his or her behavior. In

other words, adults mostly control his or her behavior, but as he or she grows, his or her self-perception is increasingly internalized.

The results of studies examining the relationship between attributional style and academic performance among children and adults have been equivocal. According to Phares (1976), the relationship between attributional style and academic performance is stronger among children than among adults. However, Stipek and Weisz (1981) did not find any consistent age differences on these measures. Findley and Cooper (1983), in support of Phares' findings, state that the inconsistency among the above studies could be related to the complex nature of the relationship that exists between attributional style and academic performance. This means that the correlation that represents this relationship is stronger among adolescents than among children or adults.

In summary, from the results of past studies concerned with age differences on attributional style, it can be said that increased age and grade of the children was accompanied by an increased internal attributional style. In this regard, perhaps researchers should consider the age or grade levels of the students in attributional style measures, particularly in relation to academic performance. Since promotions from one grade to the next are usually based on the child's age, grade and age were interchangeable criteria for the purposes of this study.

### **4.3- Family Size and Birth Order**

Findings of various studies have indicated contradictory results regarding family size and its relation to attributional style. For example, Parnicky, Williams and Silva (1987) compared college students from small families with subjects from large families on their attributional style. They found neither birth order nor family size significantly increased the predictability of attributional style. Similarly, Kohen and Schooler (1969) found no significant relationship between birth order and attributional style of college students. One possible explanation for these findings is that college students are relatively independent from their families as opposed to younger grade school students. Thus, if large family size markedly correlated, with, or is a consequence of, low socio-economic status, then each of these factors may be linked to attributional style.

Several studies have been carried out to find the relationship between family size and academic performance. Iverson and Walberg (1982) reported that the typical correlation between the number of children in the family and academic performance was -0.25. Hauser and Sewell (1985) reanalyzed data from several studies in order to determine the effects of family size on educational attainment. After adjusting for age, sex, socio-economic status, religion, community size and intact family, the researchers found that family size had a significant negative effect on educational attainment. On the other hand, in a study completed in England, no significant relationship was reported between family size and academic performance (Roodin, Broughton, & Vought, 1974). The researchers reported that the above-unexpected result might be attributed to the relative homogeneity of family size within schools (Roodin et al., 1974). In another study, Olneck and Bills (1979) found that the relationship between the number of siblings and cognitive ability was significantly reduced if parental IQ is taken into consideration. The researchers surmised that if parents' IQ were higher than average it would reduce the negative effect of large families.

There are several possible explanations for the existence of relationship between family size and academic performance. Roodin et al., (1974) claimed that family size was related to both poverty and socio-economic status. In other words, families of lower socio-economic status are more likely to have larger family size. As the size of the family increases, the home environment is less stimulating, leading to lower academic performance. Other researchers have examined the relationship between intellectual activity and the intellectual environment of the children. Intellectual environment is dependent on the ability level of all family members who are older than the child is. Consequently, when the number of children in the family increases, ostensibly the home environment will be less stimulating for the child's intellectual development (Steelman & Doby, 1983). One likely reason for this outcome is that the attention any child receives from the parents will decrease (Steelman & Doby, 1983), although this attention might, in part, be substituted for the younger children by attention from older siblings.

Researchers have noticed deficiency in language development in children in large families. Steelman and Doby (1983) contend that language learning requires interaction with other persons. In other words, the amount of stimulation that is provided by others, mostly parents, affect the development of verbal ability of the children. Consequently, in large families the parental attention or the amount of stimulation that is provided by the parents will be reduced, thereby affecting the verbal ability of the children (Steelman & Doby, 1983). There is also a relationship between the number of children in a family and the educational background of the parents. Generally, in large families, the parents' educational level is lower than in smaller families; the low level of parental education impairs the verbal ability of the children (Steelman & Doby, 1983). It is apparently that additional research on the effects of family size on both attributional style and academic performance is

warranted. The contribution of this variable to attributional style and academic performance has clearly not been determined, particularly at elementary-school level.

#### **4.4- Socio-economic Status**

Socio-economic status is an amalgam of a series of interrelated variables, such as occupation, income, wealth, power, prestige and educational achievements, each of which goes some way toward determining the position of an individual within society. According to Bank and Finlayson (1973) indicators that have been used for determining socio-economic status are usually income, education, occupation, or a combination of at least two of these factors.

Income may be used as an indicator for socio-economic status because it is highly and closely related to the economic status or material conditions of the family (Bank & Finlayson, 1973). In other words, poverty directly effects the quality of family life, bad housing, malnutrition and higher rates of sickness. In addition, it has indirect effects on family relationships and patterns of child rearing. Bank and Finlayson (1973) claimed that poverty, especially if it occurs over a long time in terms of financial insecurity, might have an influence on value orientation. However, the effects of poverty, either direct or indirect, can influence the perception of peoples and develop a negative perception toward social activities including education.

Obtaining accurate data about family income, there have been some difficulties that are well known to social scientists. Linke, Oertel and Kelsey's (1988) study, which was carried out in Australia, showed that the Index of Economy Resources could be excluded as a measure for socio-economic status. They claimed that the direct measure of income is the weakest indicator for socio-economic status. For this reason, in the current study, income was not used as a measure of socio-economic status. Instead, a combination of educational level and occupation were considered.

The second factor that is well established as an indicator for socio-economic status is level of parental education (Bank & Finlayson, 1973; Carpenter & Hayden, 1985; Fotheringham & Creal, 1980). Educated parents can improve the family life and environment by assisting their children with their homework, developing intellectual activities, and creating more pressure for educational success. Level of parental education can also affect their child's way of life; influence parent-child interactions, linguistic style, and promote parental values and behavior (Bank & Finlayson, 1973).

Parents' occupation is a third indicator of socio-economic status. In almost all-previous researches, the parents' occupation has been used as an indicator of socio-economic status (Ainley, Foreman, & Sheret, 1991; Farmer, Vispoel & Maehr, 1991; Maqsud, 1983). These investigators claimed that parental occupation as an indicator of socio-economic status is closely linked to income and social status. In addition, this indicator, is derived from information which can be easily collected and coded (Bank & Finlayson 1973). A major component and determinant of socio-economic status is the combination of occupation and education, especially post-school qualifications. The link between occupation and education has powerful influence on attitudes and the perception held about the role of a person in society (Keys & Wilson, 1984).

One scale for measuring social differentiation and social stratification in Australian society is the Australian Standard Classification of Occupations (ASCO), which was developed and revised in 1986 in 1992. According to this scale, occupation was classified into eight basic socio-economic status groups, which are based on collective judgments about their social standing. The percentage of workforce based on the eight ranked categories in the ASCO scale for both women and men in the 1992 Census were: Management and administrators (6.7% women and 14.7% men), professionals (13.9% women and 13.8% men), para-professionals (6.7% women and 5.6% men), trades persons (3.7% women and 23.3% men), clerks (30.6% women and 6.5% men), salespersons and personal service workers (23.7% women and 9.1% men), plant and machine operators and drivers (2.4% women and 10.6% men), and laborers and related workers (12.4% women and 16.4% men) respectively (ASCO, 1992).

According to Katz (1967), the self-conception system of the children is a basis for their motivation towards performance. Therefore, children learn differently due to their different socio-economic and racial conditions. For example, the cognitive structure of some student may not be developed in a way that protects the usefulness and effectiveness of personal effort. This means that some students do not attribute performance to effort or do not see any relationship between effort and performance outcome while others experience and understand this relationship.

Socio-economic status of the family has significant effects on academic performance of the children. Fraser (as cited in Fortheringham & Creal, 1980) stated that most of the students who fail at school are from disadvantaged families. Physical, cognitive, and emotional developments of children are highly dependent on the socio-psychological characteristics of the family. The growth of potential developmental areas, such as academic performance, mainly occurs during the first few years of life, and the influence of the family on these developmental areas is very important (Fotheringham & Creal, 1980). Ainley, Foreman, and Sheret (1991) found that students whose parents were from higher socio-economic status and who wished their children to continue their studies after high school showed higher academic performance as compared with the students whose parents were from lower socio-economic status and who were not interested in having their children continue their education beyond high school.

One possible explanation for the significant differences in academic performance between high and low socio-economic status is that students from higher socio-economic status tend to have more favorable attitude towards education, school and teachers (Ainley, Foreman & Sheret, 1991). A research project carried out in Nigeria indicated a significant relationship between school performance and the socio-economic status of the students (Maqsd, 1983). One explanation for this result is that students from the higher socio-economic status tended to have a more favorable attitude towards the school than students from a lower socio-economic status. Thus, it appears that the relationship between socio-economic status and academic performance is significant and worthy of future study.

Bank and Finlayson (1973) found a significant difference between the academic performance of students in working class and middle-class families in UK. Specifically, working-class parents had lower educational aspirations than middle-class parents did. In addition, middle-class parents, in contrast to working class parents, were more likely to send their children to grammar school and to high schools with a higher occupational aspiration for their children. In general, parents from middle-class families were more concerned about their children's progress than parents from working class. In another study supporting Bank and Finlayson, Ainley, Foreman & Sheret (1991) showed that students from higher socio-economic status were more interested in continuing their school education, and that the level of student performance in higher socio-economic status was significantly higher than of students from lower socio-economic status.

In an Australian study (Carpenter & Hayden, 1985), the performance of senior high school students from Victoria, Western Australia, and Queensland were compared on the basis of selected indicators of socio-economic status. The researchers found that the Victorian female students whose fathers were well educated and their mothers were not working had significantly better grades than other female students did. Male students whose mothers had high level of education performed significantly better than their counterparts whose mothers had relatively lower education. Similar results were found for Western Australian and Queensland male senior high school students, in which the father's occupation rather than father's educational attainment was a significant predictor of academic performance (Carpenter & Hayden, 1985).

Although different indicators have been used in various studies for determining socio-economic status, the majority of these indicators have shown significant correlations with academic performance. For example, a Canadian study by Fotheringham and Creal (1980) showed that levels of academic performance varied significantly with the socio-economic status of the students on the basis of fathers' education. Results indicated that children of more educated fathers performed better academically compared to children whose fathers had lower education.

A strong relationship between the occupation and education of parents and academic performance of the child at all educational levels except in higher education was found by Bank and Finlayson (1973). In their study, fathers' occupation significantly influenced the success of children, in general, and on working class children in particular. There are several possible explanations for the existence of positive relations between socio-economic status and academic performance. Hoover-Dempsey, Bassler and Brissie (1987) reported that higher socio-economic status parents attend more to their children's educational performance because they know that education is an important factor and they are more involved in the schooling of their children. Thus, they play a more active role in supporting school programs than parents of students from lower socio-economic status (Hoover-Dempsey, Bassler & Brissie, 1987).

It is apparent that the effects of socio-economic status on attributional style and academic performance deserve more attention by researchers. This is because, first, the contribution of socio-economic status on the attributional style and academic performance is not clearly determined, particularly at elementary school level. Second, the effects of socio-economic status on academic performance, as compared to the effects of variables such as sex, age, and family size, could be considered more variables.

The results of previous studies have been inconsistent. This is probably due to sampling instruments, research design, the cultural background, and finally the locations where the studies were conducted. Thus, the current study appears warranted for the following reasons. First, variables associated with anxiety, attributional style and academic performance are mostly of cultural quality; as the culture of a society changes over time, the relations between culture and psychological and educational factors change as well. Culture then is a dynamic process. The attitude toward factors such as education, sex and child rearing will change gradually in the course of time and some of these changes affect the students' anxiety level, attributional style and academic performance. Second, in most societies the foundation of formal education is based on elementary school, this is considered as an important stage in developing different aspects of cognition and personality. Therefore, future research should be more

concerned with elementary school students, because an early school dropout or a failure at a higher level of education, may be the result of shortcomings in elementary education. Third, as education in Australia is compulsory up to grade 10, most of the studies developed and carried out in Australia considered students at grade 10 or beyond. Students with better academic performance are more motivated to continue their studies beyond grade 10. Consequently, the correlation of school performance in the early stage of education should be studied because at elementary stage the children's deficiencies can be improved much more easily than at later stages. Fourth, attributional style, studied primarily by Seligman (1972, 1975), has been concerned primarily with depressed subjects rather than anxious subjects. Furthermore, adult subjects rather than children, have been participants in the majority of past research. Thus, the relationship between childhood anxiety and attributional style has been neglected in past research. Finally, few studies have focused on children's attributional style and its relationship to their parents and also scant research has been done on the relationship between children's attributional style and their academic performance. Therefore, the differences between studies regarding some variables and factors and their effects on anxiety, attributional style and academic performance need to be further studied.

# Chapter 5

## Methodology of part one

### 5.1- Description of the Participants' Geographical Region

This investigation was performed in the Illawarra region of New South Wales, Australia. This region is the third largest urbanized area in New South Wales, Australia and is located about 80 kilometers south of Sydney (McDonald & Wilson, 1990, 1991). The total population of the region in 1986 was about 309,444 (Illawarra, Census for 1986, 1989).

A relatively high proportion of the population living in Illawarra are non-English-speaking, with 22.7 percent born overseas and more than half (12.8%) from non-English-speaking countries (McDonald & Wilson, 1990, 1991). These migrant groups mostly came from countries in Southern Europe such as Yugoslavia, Portugal, Spain, Italy and Greece. Other migrant groups came from the Middle East, especially Lebanon and Egypt, Southeast Asia and Central America (McDonald & Wilson, 1990, 1991).

A high proportion of male workers in this area is in 'blue collar' occupations. Moreover, the unemployment rate in this area is significantly higher than in most other parts of New South Wales, and in Australia. For example, the unemployment rate in the Illawarra, New South Wales, and Australia was reported as 13.1, 10.1 and 9.2 percent, respectively (Illawarra, Census for 1986, 1989). Also the distribution of managerial occupation in the Illawarra, New South Wales, and Australia was 7.7, 11.2 and 11.7 percent, respectively, while the distribution of blue collar workers was 17.1, 14.3, and 14.4 percent, respectively (Illawarra, Census for 1986, 1989).

Furthermore, the distribution of males and females without formal education or employment qualification is high in this region. According to relatively recent statistics (McDonald & Wilson 1990, 1991) the rate of males over 15 years of age who did not attend school ranged from slightly under 14 percent to 75 percent in different parts of the Illawarra. The range for females was from 55 to 85 percent. In particular, the rate of dropout among lower socio-economic groups from high school is higher in the Illawarra over than elsewhere. It appears, then, that the Illawarra, New South Weles, region, in comparison to other parts of Australia, is lower than average from the socio-economic status point of view.

### 5.2 Participants

In Part One of the study, 9-12 year-old boys and girls attending elementary schools in the Illawarra, New South Wales, were randomly selected from grades 4, 5, and 6. A stratified random sampling method was employed for selecting the subjects. The Illawarra region was divided into three parts according to family income, families who earned less than \$15,000, between \$15,000-\$20,000 and above \$20,000 annually, (McDonald & Wilson, 1990, 1991). In relation to the above three categories, the post-code of each area and the location of each primary school on the map of the Illawarra region were determined. Six schools representing the upper-socio-economic, middle-socio-economic, and lower-socio-economic part of the region (based on the 1991 census data from the Australian Bureau of Statistics) were selected randomly for participation in the study.

Experts in the department of Education and Psychology as well as those in the Department of School Education in Wollongong, who were experienced in determining socio-economic status, were asked to verify the level of socio-economic of the selected schools. One class for each grad level (grades 4, 5 and 6) in each school was selected. Thus, a total of 18 classes for each grade level were selected. The final sample consisted of 554 students, including 227 boys and 227 girls. As indicated earlier, the children were from upper class, middle-class, and lower-class families with an age mean of 10.29 years ( $SD = .95$ ). Table 2 shows characteristics of the participants.

Table 2: Characteristics of the Participants

Grade four	Grade five	Grade six	First child	Second child	Third child	Small family	Large family	Non-English	English
31%	36.5%	32.5%	46%	32.2%	20.4%	50%	50%	17.7%	82.3%

$N = 554$

### 5.3- Materials

In order to measure the variables of the first part of the study, three questionnaires were administered, including Socio-demographic questionnaire, Trait Anxiety Inventory for Children (STAIC; Spielberger et al., 1973) and Children's Attributional Style Questionnaire (Kaslow, Tanenbaum, & Seligman, 1978).

### 5.3.1- Socio-demographic Questionnaire

The socio-demographic questionnaire contains 10 questions measuring the socio-demographics of the students including grade, sex, age, family size, birth order, nationality, first language, and parental occupation. A copy of this questionnaire is presented in Appendix 1.F. Although the parents' occupations had been requested, many students did not have enough information about their parents' jobs or they were not able to write a complete answer to that question. Therefore, due to missing data, this variable was not analyzed in Part One of the study. However, in Part Two, parents' occupation was analyzed.

### 5.3.2- Trait Anxiety Inventory for Children

The Trait Anxiety Inventory for Children (STAIC; Spielberger et al., 1973) was used as a self-report measure of childhood anxiety. There are 20 statements in the Trait-Anxiety scale (TAIC) which evaluate the general feelings of children, on a 3-point Likert-type rating scale, ranging from 1 (hardly ever) to 3 (often). The authors provide norms for fourth, fifth and sixth grade children. See Appendix 1.A and Appendix 1. B for copies of these questionnaires. Scores range from 20 to 60, in which the higher scores indicate increased anxiety and low scores reflect the presence of mild anxiety.

The STAIC adequately distinguishes anxious from non-anxious children. Over the past decade, the STAIC has been used extensively to assess state and trait anxiety in children ages 9 through 12 years old (e.g., Finch & Nelson, 1974; Pappy, Costello, Held, & Spielberger, (1975). From the conception and structure point of view, the STAIC is similar to State-Trait Anxiety Inventory (STAI) which provides a measure of anxiety for adolescents and adults (Spielberger, Grouch, Lushene, VGA, & Jacobs, 1983).

The psychometric properties of the STAIC have been supported by Spielberger et-al. (1973). The Cronbach (1950) alpha reliability of the STAIC, for the A-Trait scale was reported as .78 for males and .81 for females (Spielberger et al., 1973). The test developers demonstrated construct validity of the aforementioned test. In addition, high internal consistency with coefficients ranging from .83 to .92 was reported. The mean for the fourth, fifth, and sixth grade students in the standardization sample for A-Trait was 36.7 for males and 38.0 for females. The reliability coefficient of test-retest for A-Trait scale was .65 for males and .71 for females. The alpha reliability coefficients in the current study were .73 for boys and .77 for girls.

Concurrent validity of the A-Trait scale is shown by its correlation with the two most widely used measures of trait anxiety in children, the Children's Manifest Anxiety Scale (Castaneda, McCandless, & Palermo, 1956) and the General Anxiety Scale for Children (Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960). The A-Trait scale (STAIC) correlated .75 with the CMAS and .63 with the GASC. See Appendix 1. B. for a copy of this questionnaire.

### 5.3.3 - Children's Attributional Style Questionnaire

Student's attributional style was measured by the Children's Attributional Style Questionnaire (KASTAN-CASQ; Seligman et al., 1984; Kaslow, Tanenbaum, & Seligman, 1978). The scale consists of 48 items which include 24 good events and 24 bad events that related to school achievement, sports achievement, peer relationships, and relationships with parents. Each item describes an event and two attributions, which explain the reason why each hypothetical situation might have happened. The positive outcomes are represented by half of the situation and the other half represents the negative outcomes. Participants were taught to choose one sentence from the pair that best explain why the event happened to them (see Appendix 1. D for a copy of this questionnaire). A sample item from the CASQ which measures internality versus externality (while holding constant stability and globality) is:

- A good friend tells you that he hates you.
- a. My friend was in a bad mood that day.
  - b. I was not nice to my friend that day.

The participant is asked to imagine the event happening to them and to check off which of the two causes describes the reason why that event would happen to them. There are 16 events, which belong to each of the three explanatory dimensions. Half of the events are considered 'good' (e.g., you get very good grades) and half are 'bad' (e.g., a person steals money from you). The scale has six sub-scales: (1) Good-Internal/External, (2) Good-Stable/Unstable, (3) Good-Specific/Global, (4) Bad-Internal/External, (5) Bad-Stable/Unstable, (6) Bad-Specific/Global. According to Tennen and Herzberger (1985), children as young as 8 years of age can complete the CASQ.

The Children Attributional Style Questionnaire (CASQ) is scored by assigning a value of '1' to each internal, stable, or global response, and a value of '0' to each external, unstable, or specific response. By adding the child's

scores on each of the three sub-scales for good events, a composite explanatory style score for good events is obtained. By summing the scores for the sub-scales for bad events, a composite explanatory style score for bad events is obtained. By subtracting the composite negative score from the composite positive score, an overall attributional style is obtained (see Appendix 4.C for a copy of this scoring key).

The psychometric properties of the CASQ has been supported by Seligman et al., (1984). The coefficients of Cronbach (1950) alpha for the composite positive, composite negative, and overall attributional style were, .71, .66, and .73, respectively (Seligman et al., 1984). The criterion validity of the CASQ was demonstrated by Seligman et al., 1984 who examined the extent to which the CASQ predicts causal explanatory style and uses a forced-choice format to assess the child's tendency to attribute events to internal, stable and global factors. Construct validity for the CASQ was demonstrated in the results of these investigations in that both types spontaneously generated attributions and related to theoretically relevant symptomatology. In the present study, the raw scores of the tests were converted to the scaled score in accordance with the norms of the tests. The alpha reliability coefficients in the current study were .70, .67, and .71 for composite positive, composite negative and overall attributional style respectively.

#### **5.3.4 - Teachers' Perceptions of Academic Performance**

Classroom teachers were asked to rate their students' general academic performance based on a scale of 0 to 100. Teacher ratings were used in this study to measure academic performance due to the fact that some schools did not use grades. However, in the majority of schools the students were evaluated by their teachers during the school year. This methodology was derived from the work of Ames (1984) who studied achievement attributions and self-instructions under competitive and individualistic goal structures on 88 fifth and six grad children and used teacher ratings as the only criterion for students' academic achievement.

#### **5.4- Procedure**

In order to collect data from the specified schools, permission from several sources had to be obtained. The relevant organizations and persons were University of Wollongong, New South Wales, Department of School Education, school principals and parents. As stated in University of Wollongong regulations, the Human Experimentation Ethics Committee should approve each experiment or item of investigation, in which human beings are involved as participants of study. Permission was granted by this Committee (see Appendix 2.A for a copy of University consent form). In order to perform the investigation in the specified schools, the permission of the School Education Department in the South Coast Region was granted after discussing the aims and procedures of the investigation (see Appendix 2.B for a copy of department of school education consent form). According to the authorization of the School Education Department, any research being performed in a school should grant the permission of school principal. Therefore, the researcher presented copies of research proposal and instruments along with a cover letter explaining the purposes of the investigation and the procedures of data collection to the school principals. Finally, permissions from all 18 school principles participated in the study were obtained.

Before data collection, the investigator was required by the Department of School Education to obtain the parents' permission for their children to participate in the study. A letter from the researcher, along with permission slip and a cover letter from the principal of the school, was sent to the parents of all 1007 children in the fourth, fifth and sixth grades of 18 elementary schools in the Illawarra, NSW region. They were asked to permit their children to participate in this study. Appendix 2.C includes a copy of the consent form. The response rate was 55 percent, yielding a sample of 564 children. In addition, because the two inventories (T-Anxiety and CASQ) were administered over two sessions this procedure resulted in selected students ( $N=10$ ) not completing both inventories due to absence from school. These students ( $N = 10$ ) were eliminated from the study, reducing the total number of participants to 554.

#### **5.5- Pilot Study**

In order to ensure that the readability of inventories was suitable for children in the study, it was necessary to administer a pilot test. The sample size of this pilot study consisted of 45 students in grade 4, 5 and 6 ( $N = 15$  students per class). These groups were excluded from the main study. After administering the STAIC and CASQ tests and consulting with some experienced principals and teachers, selected words from the CASQ were altered in order to be more understandable and suitable for children.

#### **5.6. - Administration of Materials**

In the first part of the study, participants completed the STAIC and CASQ, as well as demographic information, such as grade, sex, age, family size, birth order, nationality, language spoken at home, father's job, and mother's job. Before the data were collected, students received a short presentation by the researcher concerning the nature

of the study and were given the opportunity to ask questions. They then gave verbal consent to participate in the study.

The teachers' cooperation was needed in this study to assist in administering the test. The student participants were grouped in another classroom, while non-participants remained in their own classroom working on their daily curriculum under supervision of another school staff member. The teacher read each inventory item aloud to the participants and asked them to answer every item immediately. Before administering the test, the students were instructed to respond anonymously. Their questionnaires were number coded. Administration time of each of the two tests was about 30 minutes. Therefore, due to time restrictions, the two inventories (T-Anxiety and CASQ) were administered over two 30 minutes sessions.

# Chapter 6

## Results and discussion of part 1

Various measures of descriptive statistics and various measures of inferential statistics were used in order to analyse the data. The means and standard deviations for age, trait anxiety, academic performance and attributional style of the students for total sample, English-speakers, and non-English-speakers are presented in Table 3.

### 6.1-Relationships Between Variables

To determine the relationships between academic performance, trait anxiety, and attributional style (internality, stability, globality, and overall), correlation coefficients were calculated. The results presented in Table 4 indicate that there were negative low but significant associations between academic performance and trait anxiety ( $r = -.15$ ,  $p < .0001$ ), as well as between academic performance and negative globality of attributional style ( $r = -.18$ ,  $p < .0001$ ). Thus, increasing trait anxiety and negative globality of attributional style were inversely and significantly, but only moderately, linked to decreased academic performance. On the other hand, the correlations between academic performance and negative internality ( $r = -.08$ ,  $p < .05$ ), as well as between academic performance and negative stability ( $r = -.09$ ,  $p < .03$ ), though statistically significant, were low and did not have clinical value.

Table 3 Means and Standard Deviations for Age, Trait Anxiety, Academic Performance and Attributional Style for Total Sample, English-Speakers and Non-English-Speakers.

Variables	<i>M</i> Total sample	<i>SD</i> Total sample	<i>M</i> English- speakers	<i>SD</i> English- speakers	<i>M</i> Non- English	<i>SD</i> Non- English
Age	10.29	.95	10.29	.94	10.29	.98
Trait Anxiety	35.12	7.55	34.58	7.36	37.61	7.95
Academic Performance	74.53	12.99	75.11	12.84	71.95	13.38
Negative Stability	2.46	1.50	2.45	1.51	2.52	1.47
Negative Globality	2.51	1.35	2.48	1.35	2.60	1.38
Negative Internality	3.19	1.83	3.20	1.82	3.17	1.88
Positive Stability	4.29	1.88	4.24	1.89	4.52	1.83
Positive Globality	4.39	1.51	4.35	1.51	4.57	1.49
Positive Internality	4.44	1.38	4.43	1.40	4.50	1.25
Overall Attribution	4.97	4.97	4.90	4.96	5.30	5.04
Composite Negative Attribution	8.16	2.93	8.13	2.95	8.30	2.82
Composite Positive Attribution	13.13	3.37	13.03	3.41	13.59	3.15

$N$  for total sample = 554     $N$  for English-speaker = 456     $N$  for non-English speaker = 98

Table 4: Correlation Coefficients Between Students' Academic Performance, Trait Anxiety and Attributional Style.

VARI	Acade	Tanxi	Negin	Negst	Neggl	Coneg	Posin	Posst	Posgl	Copos	Overa
Acade	1.00										
Tanxi	-.15**	1.00									
Negin	-.08	-.01	1.00								
Negst	-.09*	.16**	.09*	1.00							
Neggl	-.18**	.13**	.03	.20**	1.00						
Coneg	-.8	.14**	.66**	.66**	.55**	1.00					
Posin	.02	-.05	-.16**	-.05	-.12**	-.18**	1.00				
Posst	.09*	-.04	-.29**	-.06	-.02	-.20**	.23**	1.00			
Posgl	.04	-.03	-.17**	-.06	-.01	-.13**	.14**	.32**	1.00		

Copos	.03	-.05	-.30**	-.08*	-.03	-.25**	.60**	.80**	.69**	1.00	
Overa	.03	-.12**	-.59**	-.44**	-.34**	-.76**	.51**	.66**	.54**	.82**	1.00

Note. \*\*  $p < 0.01$  \*  $p < 0.05$   $N = 554$

VARI = Variables

Acade = Academic performance

Tanxi = Trait anxiety

Posin = Positive internality

Negin = Negative internality

Posst = Positive stability

Negst = Negative stability

Posgl = Positive globality

Neggl = Negative globality

Copos = Composite positive

Coneg = Composite negative

Overa = Overall attributional style

The result of correlation coefficients between attributional style, age, and grade, presented in Table 5, indicates significant, but only moderate, associations between negative internality and age ( $r = .16, p < .0001$ ), between negative internality and grade ( $r = .18, p < .0001$ ), and between negative stability and grade ( $r = .10, p < .01$ ). There are significant correlations between composite negative attributional style and age ( $r = .16, p < .001$ ), and between composite negative attributional style and grade ( $r = .18, p < .001$ ). There were negative significant correlations between composite positive attributional style and age ( $r = -.12, p < .01$ ), between composite positive attributional style and grade ( $r = -.14, p < .001$ ), between overall attributional style and age ( $r = -.17, p < .001$ ), and between overall attributional style and grade ( $r = -.20, p < .0001$ ). In summary, increased age and grade of the children was associated with increased composite negative and decreased composite positive attributional style.

Table 5: Correlation Coefficients Between Age, Grade and Attributional Style.

Vari	Age	Grad	Negin	Negst	Neggl	Posin	Posst	Posgl	Cone	Copo	Overa
Age	1.00										
Grad	.87**	1.00									
Negin	.16**	.18**	1.00								
Negst	.07	.10*	.09*	1.00							
Neggl	.04	.02	.03	.20**	1.00						
Posin	-	-	-	-.05	-	1.00					
Posst	.14**	.13**	.16**	.12**			1.00				
Posgl	-.10*	-	-.06	.02	.23**			1.00			
Cone		.15**	.29**						1.00		
Copo	-.01	-.02	-.06	.01	.13**	.32**				1.00	
Overa		.17**									1.00
	.16**	.18**	.66**	.66**	.55**	-	-	-	1.00		
						.18**	.20**	.13**		1.00	
				-.08*	-.03	.60**	.80**	.69**	-		1.00
									.25**		
						.51**	.66**	.54**	-	.82**	1.00
									.76**		

Note. \*\*  $p < 0.01$  \*  $p < 0.05$   $N = 554$

Negin = Negative internality

Posin = Positive internality

Negst = Negative stability

Posst = Positive stability

Neggl = Negative globality

Posgl = Positive globality

Cone = Composite negative

Copo = Composite positive

Overa = Overall Attributional Style

## 6.2- Between-Group Comparisons

In order to determine statistical differences between students' scores on academic performance, trait anxiety, and attributional style based on independent variables of the study (sex, grade, family size, birth orders and culture) –in addition to a multivariate test of analysis of variance (MANOVA)- unpaired  $t$ -tests, and one-way analyses of variance (ANOVAs) were applied to the data.

Results of the MANOVA procedure are presented in tables 6-11, indicating that main effects of speaking language and sex are significant. Univariate  $F$ -tests show that English-speaking and non-English-speaking students differ significantly on their academic performance and trait anxiety (see table 7 for descriptive statistics). English-speaking subjects received higher scores on academic performance and lower on trait anxiety compared to their counterparts. In addition, boys and girls performed significantly different on their academic performance and

negative stability of attributional style (see table 9 for descriptive statistics). Girls received higher scores for their academic performance and lower for negative stability. Finally, as table 10 shows, interactions between sex and speaking language was not statistically significant.

Table 6: Multivariate Tests of Significance (S = 1, M = 1 1/2, N = 261)

Effect: Speaking language

Test Name	Value	Exact F	Hypoth. DF	Error DF	Sig. of F
Pillais	.03	3.07	5.00	524.00	.010
Hotellings	.03	3.07	5.00	524.00	.010
Wilks	.97	3.07	5.00	524.00	.010
Roys	.02				

Table 7: Univariate F-tests with (1,528) D. F.

Effect: Speaking language

Variable	Hypoth.ss	Error SS	Hypoth.MS	Error MS	F	Sig.of F
ACADPE	641.60	86622.04	641.60	164.06	3.91	.05
RF						
TANXIE	714.96	29086.20	714.96	55.09	12.98	.00
TY						
NEGGL	.60	969.43	.60	1.84	.33	.57
NEGIN	.16	1731.10	.16	3.28	.05	.82
NEGST	.16	1146.24	.16	2.17	.08	.79

Not. ACADPERF = Academic performance  
NEGST = Negative stability  
NEGGL = Negative globality

TANXIETY = Trait anxiety  
NEGIN = Negative internality

Table 8: Multivariate Tests of Significance (S = 1, M = 1 1/2, N = 261)

EFFECT: Sex

Test Name	Value	Exact F	Hypoth. DF	Error DF	Sig. of F
Pillais	.06	6.42	5.00	524.00	.000
Hotellings	.06	6.42	5.00	524.00	.000
Wilks	.94	6.42	5.00	524.00	.000
Roys	.06				

Table 9: Univariate F-tests with (1,528) D. F.

Effect: Sex

Variable	Hypoth.ss	Error SS	Hypoth.MS	Error MS	F	Sig.of F
ACADPE	2158.34	86622.04	2158.34	164.06	13.16	.000
RF						
TANXIE	134.68	29086.20	134.68	55.09	2.45	.119
TY						
NEGGL	1.86	969.43	1.86	1.84	1.01	.314
NEGIN	.63	1731.10	.63	3.28	.19	.661
NEGST	27.31	1146.24	27.31	2.17	12.58	.000

Not. ACADPERF = Academic performance  
NEGST = Negative stability  
NEGGL = Negative globality

TANXIETY = Trait anxiety  
NEGIN = Negative internality

Table 10: Multivariate Tests of Significance (S = 1, M = 1 1/2, N = 261)

EFFECT: Sex by speaking language

Test Name	Value	Exact F	Hypoth. DF	Error DF	Sig. of F
Pillais	.02	1.93	5.00	524.00	.09
Hotellings	.02	1.93	5.00	524.00	.09
Wilks	.98	1.93	5.00	524.00	.09

Table 11: Univariate F-tests with (1,528) D. F. language

Effect: Sex by speaking

Variable	Hypoth.ss	Error SS	Hypoth.MS	Error MS	F	Sig.of F
ACADPE	851.41	86622.04	851.41	164.06	5.19	.02
TANXIE	32.36	29086.20	32.36	55.09	.59	.44
NEGGL	2.40	969.43	2.40	1.84	1.31	.25
NEGIN	14.94	1731.10	14.94	3.28	4.56	.03
NEGST	.00	1146.24	.00	2.17	.00	.99

Not. ACADPERF = Academic performance  
 NEGST = Negative stability  
 NEGGL = Negative globality  
 TANXIETY = Trait anxiety  
 NEGIN = Negative internality

The mean score for anxiety was used as a cut-off-point to divide the participants into groups. This was done due to the fact that the mean and the median scores found to be very close. Therefore, the mean score was selected as the cut-off-point. Having 2 groups with low and high anxiety scores helps us to determine whether anxiety is related to academic performance and attributional style. After this, ANOVA was used to compare high and low trait anxiety on academic performance. Results showed that students with low trait anxiety showed higher academic achievement compared to students with high trait anxiety,  $F(1, 530) = 9.64, p < .01$  (see Table 12 for descriptive statistics).

Table 12: Differences Between Students' Academic Performance by Low and High Trait Anxiety.

Group	N	Mean	SD	SE	F
Low trait anxiety	281	76.17	11.87	.71	
High trait anxiety	251	72.70	13.94	.88	9.64
Total	532	74.53	12.99	.56	

$p < .01$

No significant differences were found between the academic performance of students living in a large family compared to those with a small family size,  $F(1, 530) = .16, p = .69$ . In addition, birth order was not an influencing factor for students' academic performance  $F(2, 529) = 1.74, p = .18$ . The results of the *t*-test as presented in Table 13, indicated that the girls scored higher on trait anxiety compared to boys,  $t(552) = -2.8, p < .01$ .

Table 13: Differences Between Trait Anxiety of Boys and Girls.

Variable	N	Mean	SD	SE	t
Boy	277	34.24	7.24	.44	-2.75
Girl	277	35.10	7.77	.47	

$p < .01$

In order to determine the effects of the independent variables grade, family size, birth order, and culture on students' trait anxiety, ANOVA was computed. The results presented in Table 14 indicate that the mean trait anxiety scores for non-English-speaking students were significantly higher than the mean for English speakers,  $F(1, 552) = 13.30, p < .001$ . Furthermore, no significant differences were found between the anxiety level of students of different grades, family size, and birth orders. This indicated that non-English-speaking students were more anxious than English speakers.

Table 14: Differences Between Students' Trait Anxiety by First Language.

Group	N	Mean	SD	SE	F
Non English speakers	98	37.61	7.95	.80	
English speakers	456	34.58	7.36	.35	13.30
Total	554	35.12	7.55	.32	

$p < .001$

Composite negative attributional style was greater in boys than girls (see Table 15 for differences between composite attributional style for negative events of boys and girls),  $t(552) = 3.22, p < .001$ . On the contrary, overall attributional style scores for girls was higher than for boys,  $t(552) = -2.84, p < .01$  (see Table 16 for descriptive statistics). Thus, girls attributed positive events to internal, stable, and global causes and negative events to external, unstable, and specific causes, more frequently than boys who attributed negative events to internal, stable, and global causes, and positive events to external, unstable, and specific causes. In addition, no significant differences were found between the attributional style of children living in small families and large families,  $F(1, 552) = 2.20, p = .14$ , or among children with different birth order,  $F(2, 551) = .02, p = .98$ . For negative stability of attributional style, as shown in Table 17, there were significant differences between students with low trait anxiety and high trait anxiety,  $F(1, 552) = 18.33, p < .001$ .

Table 15: Differences Between Composite Attributional Style for Negative Events of Boys and Girls.

Variable	N	Mean	SD	SE	t
Boy	277	8.56	2.90	.17	3.22
Girl	277	7.76	2.91	.18	

$p < .001$

Table 16: Differences Between Overall Attributional Style of Boys and Girls.

Variable	N	Mean	SD	SE	t
Boy	277	4.38	4.79	.29	-2.84
Girl	277	5.57	5.10	.31	

$p < .01$

Table 17: Differences Between Students' Negative Stability of Attributional Style by Trait Anxiety.

Group	N	Mean	SD	SE	F
Low trait anxiety	299	2.21	1.44	.08	
High trait anxiety	255	2.75	1.52	.10	18.33
Total	554	2.46	1.50	.06	

$p < .001$

Table 18 presenting students' scores on negative globality of attributional style indicates that the mean score of low trait anxiety group was significantly lower than the mean score of the group with high trait anxiety,  $F(1, 552) = 8.18, p < .01$ . Thus, high anxious children attributed negative events to more global causes than low anxious children did.

Table 18: Differences Between Students' Negative Globality of Attributional Style by Trait Anxiety.

Group	N	Mean	SD	SE	F
Low trait anxiety	299	2.36	1.28	.07	
High trait anxiety	255	2.68	1.42	.09	8.18
Total	554	2.51	1.35	.06	

$p < .01$

Table 19: Differences Between Students' Composite Attributional Style for Negative Events by Trait Anxiety.

Group	N	Mean	SD	SE	F
Low trait anxiety	299	7.78	2.92	.17	
High trait anxiety	255	8.61	2.88	.18	11.32
Total	554	8.16	2.93	.12	

$p < .001$

Children with high trait anxiety received higher scores on composite attributional style for negative events compared to the group with lower trait anxiety,  $F(1, 552) = 11.32, p < .001$  (see Table 19 for differences between students' composite attributional style for negative events by trait anxiety). As expected, overall attributional style scores were lower for the group of children with low trait anxiety compared to the high trait anxiety counterparts,  $F(1, 552) = 7.96, p = .005$  (see Table 20 for differences between students' overall attributional style by trait

anxiety). This indicates that low trait anxious children attributed more frequently positive events to internal, stable, and global causes as compared to high trait anxious children.

Table 20: Differences Between Students' Overall Attributional Style by Trait Anxiety.

Group	N	Mean	SD	SE	F
Low trait anxiety	299	5.52	5.10	.30	
High trait anxiety	255	4.33	4.76	.30	7.96
Total	554	4.97	4.98	.21	

$p < .01$

Children coming from non-English-speaking families performed ( $M = 8.30$ ,  $SD = 2.82$ ) not differently on composite attributional style for negative events than children with English-speaking background ( $M = 8.13$ ,  $SD = 2.95$ ),  $F(1, 552) = .26$ ,  $p = .61$ . In addition, no significant differences were found between the scores of composite attributional style for positive events of children with different levels of trait anxiety,  $F(1, 552) = 1.52$ ,  $p = .22$ . In summary, it was found that anxious children attributed negative events more frequently to internal, stable and global causes as compared to non-anxious children. These results will be discussed in the next section.

### 6.3- Discussion

#### 6.3.1- Attributional Style and Cultural Differences

The results of this study indicated no significant differences in attributional style between children of non-English-speaking and English-speaking families. These findings are consistent with the results of past studies (e.g., Graham & Long, 1986; Willig, Harnisch, Hill, & Maehr, 1983) in which the attributional styles of black and white students were statistically similar. However, the current results are inconsistent with other studies (e.g., Corenblum et al., 1996; Friend & Neale, 1972; Ng et al., 1995; Yan & Gaier, 1994). For example, in a U.S. study, Friend and Neale (1972) found that black students, as compared to their white peers, tended to rate external factors as the most important determinants of academic success and failure. In a Canadian study, Fry and Ghosh (1980) showed that white children rated themselves as more responsible for their academic success than for their failure, while Indian Asian children considered luck as the causal attribution for their success, and low ability as most common explanation for failure.

The overall inconsistency in results on effects of cultural background on attributional style may be due to the type of measures used. For example, Tashakkori and Thompson (1991) contend that the items of each instrument may produce certain cognitive or evaluative sets that are culturally or socially significant for minority groups. The instruments selected for this study were generated in the U.S. without consideration for cultural to ethnic characteristics of samples.

#### 6.3.2- Attributional Style and Gender

Results of the present study indicated that girls attributed positive events to internal, stable, and global causes. This tendency describes an optimistic attributional style. The girls also attributed negative events to external, unstable, and specific causes, descriptive of a pessimistic attributional style. However, boys attributed negative events to internal, stable, and global causes, and positive events to external, unstable, and specific causes, pessimistic and optimistic attributional styles respectively. Consistent with these results, Nolen-Hoeksema et al., (1991) after a three-year longitudinal study in the U.S. found that third, fourth, and fifth grade boys reported significantly more pessimistic attributions for negative events than similarly-aged girls. Bar-Tal (1978) found that females rated their ability lower than males, especially after successful outcomes. Butler (1994) also found that girls attributed greater shame to the failing child, and rated effort efficacy lower than did boys. It appears, then, that males and females present different patterns of causal attributions for similar achievement outcomes.

Still, other researchers of previous investigations found no significant differences between males and females on their attributional style. Bar-Tal, Goldberg and Knaani (1984) studied advantaged and disadvantaged students on the basis of grade point average. These researchers observed no difference between male and female students, according to causal attribution for success and failure in each socio-economic status group. In another study of elementary school students, Johnson and Kanoy (1980) found no correlation between sex and attributional style.

There are two main possible explanations for the results of present study in which investigator found sex differences on attributional style. First, in most previous studies, children were usually asked to indicate verbally their attributions for academic performance to a life experimenter, whereas in this study, self-report questionnaires were used to assess children's attributional style. A second explanation is that in most previous achievement

motivation studies, children were asked whether their success or failure is due to task difficulty, effort, luck or ability. For example, Frieze and Snyder (1980) have shown that when children are given the opportunity to voice attributions for their performance spontaneously, they almost never indicate luck and often give other causes, such as “wanting to do well”. Nolen-Hoeksema et al. (1991) suggest that forcing children to choose from among the traditional four attributions for their performance leads to a distorted picture of children’s true attributional tendencies. In summary, most of the researchers who studied the relationship between sex and attributional style reported significant sex differences in attributing events to various causal factors. Overall, girls seem to be more optimistic and less pessimistic in their causal attributional style than boys.

### **6.3.3- Attributional Style and Grade in School**

The results of the present study indicated that as the grade of students increased from year 4 to year 6, the mean of their overall attributional style for positive events decreased consistently. Whereas younger children attribute positive events to more external causes, older children attribute such events to more internal causes. Nowicki and Strickland (1973) point out that with increasing age, attributional responses tend to be more internal. Thus, it is apparent that as children get older, their overall attributional style become more negative.

### **6.3.4- Attributional Style and Anxiety**

Significant differences were found between trait anxiety and attributional style in the present study. In other words, children who attributed negative events to stable and global causes were more anxious than children who attributed these events to unstable and specific causes.

From this point of view, Doland and Wessler (1994) claim that anxious people usually do not expect success, yet if success did occur, they would not see it as likely to occur again in the future. This explanation process reflects an unstable, rather than a stable, attribution for success. The researchers concluded that “anxious individuals would externalize credit for success in order to prevent others from expecting future success. Thus, internal and stable failure attributions and external success attributions are presumed to result from anxious individuals’ own doubts about their ability to succeed, as well as from their desire to present themselves in a way that protects them from further negative evaluation by others” (p. 83).

### **6.3.5- Students’ Anxiety and Cultural Differences**

The results of this study indicated significant cultural differences between non-English-speaking and English speaking children on trait anxiety. Trait anxiety scores for non-English-speaking children were higher than for their English speaking peers. Foreign students face problems that arise from adjusting to a new culture and functioning in an unfamiliar psychological and educational setting (Furnham & Bochner, 1986). Thus, when a person moves from a non-advanced society to a more advanced and complex one, the possibility of change in attributions, values, and beliefs is greater. These changes are stressful, resulting in heightened anxiety.

### **6.3.6- Anxiety and Gender**

Results of the present investigation indicated that girls reported higher trait anxiety than boys. Differences in psychological characteristics between girls and boys may be related to socio-cultural factors. For example, girls more freely than boys admit to their fears (Ollendick et al., 1985). This may be because admitting a fearful state by girls is more acceptable than by boys (Harris & Ferrari, 1983) due to the fact that girls reported fears more frequently.

### **6.3.7- Students’ Academic Performance and Cultural Differences**

The results of the present study indicated a significant cultural difference between English-speaking students and non-English-speaking students, with English-speaking students attaining better academic performance.

Two possible explanations have been suggested for these results. First, language is one of the most important factors that is responsible for poorer academic performance among these students. It is possible that non-English speaking students performed more poorly because they did not adequately understand the language of instruction, a common problem when students do not learn in their first language (Rosenthal et al., 1983). Brown et al. (1980) suggest that students’ linguistic development in their home language other than English is another reason for lower academic performance. Lawton (1986) suggests that even children whose mothers speak English quite well, but whose home language is not English, can be nevertheless impaired in learning English when knowledge of their own home language is not sufficient. In support of this contention, Rosenthal et al. (1983) found that performance levels have a strong correlation with language background. Another possible reason for the influence of culture on academic performance is that people from different cultures are socialized according to different beliefs, values, expectations, and norms. Differences in past experiences can lead to the development of different concerns for achievement, different domains of action, and different success criteria (De Vos, 1973).

### **6.3.8- Academic Performance and Gender**

The results of the first part of the study indicated significant differences between boys and girls regarding their academic performance. In particular, girls had superior academic performance than boys. In support of this finding, Marsh (1989) showed that school performance of high school girls was higher than boys' school performance. As mentioned earlier, Chipman and Thomas (1985) found that although no significant difference was observed between the two sexes in high school mathematics performance, the means of girls score overall on all subjects were higher than the means of boys.

Conversely, the findings of this study were inconsistent with other earlier investigations reporting sex differences in academic performance. For example, Ainley, Foreman and Sheret (1991) compared academic performance in both sexes of year 9 students, but did not observe significant differences between them. Adams (1985) compared academic performance in high school boys and girls reporting poorer performance for girls as compared to boys. In their study, Adams used the ASAT (Australian Scholastic Aptitude Test) in order to evaluate students performance. From 1979 to 1983, the data indicated a significant difference between the two sexes, in favor of boy students (Adams, 1985).

Attitude toward school is the possible explanation which may be partly responsible for the results of the present study. Previous investigations have indicated a more positive attitude toward school for girls than boys. For example, in England, a study carried out on students in grade 3 and 4 at elementary school level indicated that girl students had a more favorable attitude towards school in comparison with boy students (Baker-Lunn, 1972). This was supported by a subsequent study among primary school students in the United States (Haladyna & Thomas, 1977). Similar results were obtained by Call et al. (1994) in their investigation of elementary school children. The researcher found that girls had higher academic performance and a more favorable attitude towards school than boys. Favorable attitudes toward school among female students could influence their general academic performance.

### **6.3.9- Academic Performance and Trait Anxiety**

The results of this study indicated a significant difference between students with low trait anxiety and high trait anxiety regarding their academic performance. Students with low trait anxiety showed superior academic performance when compared to students that had high trait anxiety. The finding that higher anxiety was associated with poorer performance in school children was consistent with results of several previous studies (Becker, 1982; Heinrich & Spielberger, 1982; Papay & Spielberger, 1986; Rodriguez & Routh, 1989) which showed that emotionally-disturbed children were characterized by poorer academic performance. In particular, Becker (1982) found that the high anxiety related to poor cognitive task performance under stressful condition.

### **6.3.10- Links Between Academic Performance and Attributional Style**

The findings of the present study indicated significant, but moderate, associations between academic performance and internality, stability, and globality of attributional style. In other words, high scores on internality, stability and globality of attributional style for negative events were linked to decreased academic performance. High achieving students usually attributed their academic performances to internal, stable and global sources, and tend to accept responsibility for their performance. However, low achievers usually attribute their failure or low performance to external, unstable and specific factors or attributed responsibility to other sources.

# Chapter 7

## methodology of part Two

The purposes of Part Two of this study were to determine the effects of socio-economic status (e.g., parents' occupation and education level) on their children's academic performance, to test these variables as predictors of students' academic performance, and to determine the relationship between anxiety and attributional style of children and their parents.

### 7.1- Participants

The participants in Part Two of the study were parents of the students who participated in part 1 of this study. These parents included 279 fathers and 374 mothers ( $N = 653$ ). A total of 240 questionnaires were completed by the child's mother and father, 126 only by the mothers of the child's married parents, 12 only by fathers of married parents, and 35 questionnaires by single-parent mothers. As mentioned earlier, a major component and determinant of socio-economic status is the combination of occupation and education that were used to determine SES in this study. Based on Australian Standard Classification of Occupations (1992) regarding fathers' occupation, 21.4 percent of the fathers had jobs categorized as low SES, 45.5 percent of the fathers had middle SES jobs, and 33.1 percent had high SES jobs. Among mothers, 8.4 percent had low SES jobs, 56.5 percent had middle SES jobs, and 35.2 percent high SES jobs. Regarding nationality, 67.5 percent of the parents were Australian-born, 20.4 percent of them were European and 12.1 percent of the participants were born in other countries. For language spoken at home, 81.2 percent of the participants were English-speaking, with 18.8 percent non-English-speaking at home.

### 7.2- Materials

Three questionnaires were administered to the parents in order to measure the variables of Part Two of the study. These questionnaires were the Socio-demographic questionnaire, the Trait Anxiety Inventory from the STAI (Spielberger et al., 1983), and the Attributional Style Questionnaire (ASQ; Peterson et al., 1982).

#### 7.2.1- Socio-demographic Questionnaire

There were 10 questions in this inventory that ascertained the socio-demographics of the parents, including their sex, family size, nationality, language, occupation, and level of education. See Appendix 1.G for a copy of this questionnaire.

#### 7.2.2- Trait Anxiety Inventory

The Trait Anxiety Scale (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) was used in order to measure the parents' anxiety (see Appendix 1.C for copy of this scale). There are 20 statements in the T-Anxiety scale that assess "usual" feelings associated with anxiety on a 4-point Likert rating scale, ranging from 1 (not at all), to 4 (very much so). Scores for the T-Anxiety scales can vary from a minimum of 20 to a maximum of 80.

Each TAI item was given a weighed score of 1 to 4. The presence of a high level of anxiety for eleven T-Anxiety items is indicated by a rating of 4 (e.g., I feel nervous). A high rating indicates the absence of anxiety for the remaining nine items (e.g., I feel secure). See Appendix 4.B for a copy of the scoring key.

The internal consistency of the STAI has been investigated in several studies. For example, Spielberger et al., (1983) found high alpha coefficients, .91 for working adults ( $N = 1,838$ ). Item-remainder correlations which were computed by Spielberger et al., (1983) for the normative samples have provided further evidence of the internal consistency of the STAI scales. The median T-Anxiety item-remainder correlation was .56 for working adults, .57 for the college students, and .54 for the high school students. It has been widely used in assessing clinical anxiety in medical, surgical, psychosomatic and psychiatric patients. There are generally high scores in this scale for psycho-neurotic and depressed patients. The alpha coefficient in the current study was .82 for fathers and .84 for mothers.

Evidence of the concurrent validity of the Trait-Anxiety scale consists correlations with the IPAT Anxiety Scale (Cattell & Scheier, 1963), the Taylor Manifest Anxiety Scale (TMAS: 1953), and the Zuckerman Affect Adjective Checklist (AACL, 1960). Correlations between the T-Anxiety scale, the IPAT, and the TMAS were relatively high, ranging from .85 to .73.

### 7.2.3- Attributional Style Questionnaire

The Attributional Style Questionnaire was used to measure the attributional style of the children's parents (ASQ; Peterson et al., 1982). The ASQ is a self-report measure of patterns of explanatory style (Peterson & Seligman, 1984). Explanatory style is defined as the tendency to choose certain causal explanations for good and bad events with internal versus external, stable versus unstable, and global versus specific causes. The ASQ assesses the extent of the respondents' causal explanations of the three dimensions, internality, stability, and globality on 7-point Likert rating scale.

There are 12 situations presented by the ASQ equally divided among those which have positive outcomes and those which have negative outcomes. First, the subjects are asked to write the major cause of 12 hypothetical events in their own words, and then to rate their perceived cause of the outcome along the three attributional dimensions. Subjects are then asked to rate the importance of each situation, and the degree to which the outcomes result from causes that are internal (i.e., owing to some aspects of themselves or their character), global (i.e., the characteristic may affect the outcomes of large numbers of situations) or stable (i.e., the characteristic which is unlikely to change over time). See Appendix 1.E for copy of this test (Peterson & Seligman, 1984).

There are 12 hypothetical events, six good events and six bad events in the Attributional Style Questionnaire. Each event has four questions. The first question, not scored, concerns the major cause of the event. The next 3 questions address whether the cause of the event is internal or external, stable or unstable, global or specific. For each of the 3 dimensions (internality, stability and globality), scores can be generated. Scores were derived by averaging within dimensions and across events for individual dimension scores or across dimensions and across events for composite scores. See Appendix 4.D for a copy of the scoring key. Each individual dimension scored on a Likert scale, ranging from 1 (low) to 7 (high). Therefore, the range of composite scores is from 3 to 21 composite positive and from -18 to +18 composite negative for CPCN.

In one U.S. study of undergraduate students (Peterson, et al., 1982), the internal consistency of Locus, Stability, and Globality Scales of the ASQ was .93, .89, and .90, respectively. The aforementioned coefficients in the current study were .90 (Internality), .88 (Stability), and .85 (Globality). The criterion validity of the ASQ was demonstrated by Peterson and Seligman (1984), who examined the extent to which the ASQ predicts causal explanations that occur spontaneously. The ASQ was employed by Alloy, Peterson, Abramson and Seligman (1984) to test the premise of the reformulated learned hopelessness model that people who habitually attribute negative outcomes to global causes will demonstrate behavioral deficits across a broad range of situations after being exposed to uncontrollable aversive outcomes. Persons who tend to attribute negative outcomes to specific factors should show less pervasive deficits. As predicted, participants who had attributed negative events to global factors on the ASQ showed more generalized deficits on subsequent task. According to Alloy et al. (1984), these findings add to the construct validity of the ASQ.

### 7.3- Procedure

The parents of the students who participated in the first part of the study were given the Trait Anxiety Scale (STAI form Y-2, Spielberger et al., 1983), the adult Attributional Style Questionnaire (ASQ; Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982), and a demographic sheet containing questions about sex, family size, nationality, language spoken at home, occupation, and level of education. The questionnaires were sent to the parents through their children in 18 elementary schools in New South Wales. A total of 564 children were given two questionnaires and demographic sheets, along with two cover letters, one for each of their parents. Of these, 35 children lived with their mothers only. Overall, 653 questionnaires were returned (374 mothers, and 279 fathers). Parents had already signed the consent form in the first part of the study. Finally, participants were asked to return the questionnaires in a self-addressed stamped envelope to the Department of Psychology, the University of Wollongong.

# Chapter 8

## Results and discussion of part 2

The means, standard deviations and sample size for anxiety and attributional style of the parents are presented in Table 21.

Table 21: Means, Standard Deviations and Size of the Sample for Parents' Anxiety, and Attributional Style.

Variables	M	SD	N
Father Anxiety	35.21	8.67	280
Mother Anxiety	37.98	9.52	369
Mother Global Negative	3.45	1.19	340
Father Global Negative	3.56	1.12	251
Father Internal Negative	3.94	1.07	251
Mother Internal Negative	3.95	1.00	340
Mother Stable Negative	3.95	.96	340
Father Stable Negative	4.20	1.00	251
Father Global Positive	4.58	1.11	251
Mother Global Positive	4.66	1.09	340
Mother Internal Positive	4.92	1.06	340
Father Internal Positive	4.97	1.10	251
Mother Stable Positive	5.03	.94	340
Father Stable Positive	5.13	1.02	251
Mother Hopelessness	7.41	1.91	340
Father Hopelessness	7.76	1.79	251
Mother Hopefulness	9.69	1.84	340
Father Hopefulness	9.72	1.93	251
Mother Composite Negative	11.35	2.51	340
Father Composite Negative	11.70	2.44	251
Mother Composite Positive	14.60	2.70	340
Father Composite Positive	14.69	2.80	251

### 8.1-Relationships Between Variables

Pearson product-moment correlation coefficients were calculated to determine the relationship between parents' anxiety and attributional style (internality, stability and globality). The results, presented in Table 22, indicated significant but only moderate correlations between anxiety and negative internality of attributional style,  $r(591) = .17, p < .001$ , anxiety and negative stability,  $r = .26, p < .001$ , anxiety and negative globality,  $r = .25, p < .001$ , anxiety and composite negative attributional style,  $r = .29, p < .001$ , and anxiety and hopelessness,  $r = .29, p < .001$ . Low and negative, yet significant, associations were found between anxiety and internal positive,  $r = -.12, p < .01$ , anxiety and stable positive,  $r = -.11, p < .01$ , anxiety and composite positive attributional style,  $r = -.10, p < .01$ , and anxiety and hopefulness,  $r = -.08, p < .05$ . Furthermore, there were negative significant correlations between anxiety and composite positive minus composite negative attributional style,  $r = -.32, p < .001$ . Taken together, these results indicated that higher attributional style scores were moderately associated with higher trait anxiety for negative events, and higher attributional style scores were related to reduced trait anxiety following positive events.

Table 22: Correlation Coefficients Between Parents' Anxiety and Attributional Style.

Vria	Angx	Cone	Copo	Cocn	Hopf	Hopl	Inne	Inpos	Stne	Stpos	Gln	Glpo
Angx	1.00											
Cone	.29**	1.00										
Copo	-.10*	-.30**	1.00									
Cocn	-.31**	-.54**	.65**	1.00								
Hopf	-.08*	-.32**	.96**	.59**	1.00							

Hopl	.29**	.92**	-.25**	-.52**	-.29**	1.00						
Inne	.17**	.73**	-.26**	-.35**	-.23**	.41**	1.00					
Inpos	-.12**	-.19**	.87**	.62**	.70**	-.11**	-.26**	1.00				
Stne	.25**	.77**	-.26**	-.39**	-.29**	.85**	.33**	-.16**	1.00			
Stpos	-.11**	-.26**	.88**	.57**	.89**	-.22**	-.21**	.69**	-.30**	1.00		
Gln	.25**	.84**	-.18**	-.15**	-.23**	.89**	.39**	-.04	.52**	-.11**	1.00	
Glpo	-.05	-.32**	.86**	.50**	.92**	-.31**	-.21**	.59**	-.22**	** .64	-.30**	1.00

Note. \*\*  $p < 0.01$  \*  $p < 0.05$   $N = 591$

Vria = Variable, Angx = Anxiety, Cone = Composite negative, Copo = Composite positive, Cocn = Composite positive minus composite negative, Hopf = Hopefulness, Hopl = Hopelessness, Inne = Internal negative, Inpos = Internal positive, Stne = Stable negative, Stpos = Stable positive, Gln = Global negative, Glpo = Global positive.

## 8.2- Relationship Between Parents' Trait Anxiety and Their Attributional Style

In order to study the relationship between parents' anxiety and their attributional style, MANOVA procedure was computed. Results presented in tables 23 and 24 show that parents with high anxiety performed higher on negative attributional style for internality, stability, and globality, as well as for hopelessness. Regarding parents' internal negative attributional style, the results indicated significant differences between low trait anxiety and high trait anxiety groups,  $F(1, 588) = 11.43, p < .001$ . Also, high trait anxious parents were significantly higher than low trait anxious parents for stable negative attributional style,  $F(1, 588) = 20.64, p < .001$ . There were also significant differences between low and high trait anxiety groups in their global negative attributional style and hopelessness, respectively,  $F(1, 588) = 12.80, p < .001, F(1, 588) = 21.78, p < .001$ . The high anxiety group was significantly higher than the low anxiety group for both global negative and hopelessness. Thus, parents who attributed negative events to internal, stable, and global causes indicated more hopelessness and were also more anxious than parents who attributed negative events to external, unstable, and specific causes.

Table 23: Multivariate Tests of Significance (S = 1, M = 1, N = 291 1/2) Effect: Parents' Trait Anxiety.

Test Name	Value	Exact F	Hypoth. DF	Error DF	Sig. of F
Pillais	.05	6.87	4.00	585.00	.000
Hotellings	.05	6.87	4.00	585.00	.000
Wilks	.96	6.87	4.00	585.00	.000
Roys	.05				

Table 24: Univariate F-tests with (1,588) D. F., Effect: Parents' Trait Anxiety

Variable	Hypoth.ss	Error SS	Hypoth.MS	Error MS	F	Sig.of F
PINNEG	11.92	613.33	11.92	1.04	11.43	.001
PSTNEG	19.29	549.67	19.29	.94	20.64	.000
PGLNEG	16.82	772.58	16.82	1.31	12.80	.000
PHOPLE	73.17	1975.34	73.17	3.36	21.78	.000

Not. PINNEG = Parents' Negative internality

PSTNEG = Parents' Negative stability

PGLNEG = Parents' Negative globality

PHOPLESS = Parents' hopelessness

### 8.3- Comparison Based on Demographic Variables

In order to determine the differences between parents' trait anxiety and attributional style scores based on some selected personal characteristics, (i.e., parents' sex, culture, occupation and education), one-way ANOVAs were applied to the data. The results, presented in Table 25, indicate that the mean for females' anxiety were significantly higher than the mean for males' anxiety,  $F(1, 647) = 16.81, p < .001$ . Thus, was concluded that, overall, fathers were more anxious than mothers.

Table 25: Differences Between Parents' Trait Anxiety by Sex.

Group	N	Mean	SD	SE	F
Male	278	35.08	8.55	.51	
Female	371	38.06	9.56	.50	16.81
Total	649	36.78	9.26	.36	

$p < .001$

There were also significant cultural differences regarding parents' anxiety. Non-English-speaking fathers were more trait anxious than English-speaking fathers,  $F(1, 278) = 7.66, p < .01$ . The mean for trait anxiety of non-English-speaking mothers was higher than that for mothers who were English speakers,  $F(1, 367) = 4.03, p < .05$  (see Table 26 and Table 27 for descriptive statistic). Therefore, it is apparent that both fathers and mothers from non-English-speaking background were more anxious than their English-speaking counterparts.

Table 26: Differences Between Fathers' Trait Anxiety by First Language.

Group	N	Mean	SD	SE	F
Non-English	58	37.98	8.35	1.10	
English	222	34.49	8.62	.58	7.66
Total	280	35.21	8.67	.52	

$p < .01$

Table 27: Differences Between Mothers' Trait Anxiety by First Language.

Group	N	Mean	SD	SE	F
Non-English	68	40.06	7.77	.94	
English	301	37.51	9.82	.57	4.03
Total	369	37.98	9.52	.50	

$p < .05$

Results of the one-way ANOVA on trait anxiety scores of mothers indicated significant differences among low, middle, and high SES groups,  $F(2, 269) = 4.60, p < .01$ . The results of a post hoc analysis, using the Scheffe test, indicated that mothers who have low SES jobs had higher trait anxiety when compared with mothers who had middle or high SES jobs (see Table 28 for differences between mothers' trait anxiety by their occupation). In addition, the difference between scores of mothers from middle and high SES was not statistically significant. However no significant differences were found between the trait anxiety level of mothers with low, middle, and high levels of education,  $F(2, 365) = .75, p = .48$ . Regarding mothers' attributional style, significant differences were found between positive stability of mothers with different levels of occupation,  $F(2, 250) = 3.23, p < .05$  (see Table 29 for differences between mothers' positive stability of attributional style by mothers' job). No significant differences, however, were found between the internality of attributional style of mothers with different job levels,  $F(2, 250) = 2.22, p = .11$ . Furthermore, no significant effects of mother's job were found on their globality of attributional style,  $F(2, 250) = .50, p = .61$ . Finally, there were no significant differences between the composite negative attributional style of mothers with different levels of education,  $F(2, 337) = .29, p = .75$ . These results suggest that mothers from low-class occupations were more anxious than mothers from high class occupations.

In order to compare attributional style of males and females, a one-way ANOVA was computed. Significant differences between males and females regarding negative stability of attributional style and hopelessness were found (see Table 30 and Table 31, for descriptive statistic). Males were significantly higher than females in both negative stability of attributional style,  $F(1, 589) = 9.1, p < .01$ , and hopelessness,  $F(1, 589) = 5.31, p < .05$ . Thus, it appears that males attributed more events to negative causes compared to females.

Table 28: Differences Between Mothers' Trait Anxiety by Their Occupation.

Group	N	Mean	SD	SE	F
Low SES	24	42.58	9.73	1.99	
Middle SES	159	36.89	8.84	.70	4.60
High SES	89	36.48	9.38	.99	
Total	272	37.26	9.21	.56	

Note. SES = Socio-Economic Status  
 $p < .01$

Table 29: Differences Between Mothers' Positive Stability of Attributional Style by Mothers' Job.

Group	N	Mean	SD	SE	F
Low SES	21	4.66	1.06	.23	
Middle SES	145	5.12	.85	.07	3.23
High SES	87	5.17	.78	.08	
Total	253	5.10	.85	.05	

Note. SES = Socio-Economic Status  
 $p < .05$

Table 30: Differences Between parents' Negative Stability of Attributional Style by Sex.

Group	N	Mean	SD	SE	F
Male	251	4.20	.10	.06	
Female	340	3.96	.96	.05	9.10
Total	591	4.06	.98	.04	

$p < .01$

Table 31: Differences Between Parents' Hopelessness by Sex.

Group	N	Mean	SD	SE	F
Male	251	7.76	1.79	.11	
Female	340	7.41	1.91	.10	5.31
Total	591	7.56	1.87	.08	

$p < .05$

The results of a comparison between the attributional style of fathers from different cultural backgrounds indicated significant differences for hopelessness,  $F(1, 249) = 7.14, p < .01$ , negative stability,  $F(1, 249) = 9.14, p < .01$ , and composite negative attributional style,  $F(1, 249) = 4.50, p < .05$ , (see Table 32, Table 33 and Table 34 for descriptive statistics). On the other hand, no significant differences were observed for fathers' hopefulness,  $F(1, 249) = 1.68, p = .20$ , and for their internality of attributional style,  $F(1, 249) = .15, p = .67$ , based on their cultural background. In addition, neither fathers' occupation nor their education level were significantly related to fathers' anxiety levels  $F(2, 273) = .53, p = .59$ , for occupation and  $F(2, 274) = 1.06, p = .35$  for education. In summary, the results indicated significant cultural differences regarding parents' anxiety and attributional style. Pessimistic attributional style of Non-English speaking parents was higher than for English-speaking parents. In addition, Non-English speaking parents were more trait anxious than English speakers.

Table 32: Differences Between Fathers' Hopelessness by First Language.

Group	N	Mean	SD	SE	F
Non-English speakers	50	7.16	1.61	.23	
English speakers	201	7.91	1.81	.13	7.14
Total	251	7.76	1.79	.11	

$p < .01$

Table 33: Differences Between Fathers' Negative Stability by First Language.

Group	N	Mean	SD	SE	F
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Non-English speakers	50	3.82	.91	.13	
English speakers	201	4.29	.10	.07	9.14
Total	251	4.20	.10	.06	

$p < .01$

Table 34: Differences Between Fathers' Composite Negative Attributional Style by First Language.

Group	N	Mean	SD	SE	F
Non-English speakers	50	11.05	2.35	.33	
English speakers	201	11.86	2.44	.17	4.50
Total	251	11.70	2.44	.15	

$p < .05$

#### 8.4- Effects of Family's Socio-economic Status, Parents' Trait Anxiety and Their Attributional Style on Children's Academic Performance

In order to determine the effects of family's SES on academic performance, trait anxiety, and attributional style of children one-way ANOVAs were computed. Table 35 indicates significant differences regarding students' academic performance among families of various socio-economic status in terms of father's job,  $F(2, 387) = 16.52$ ,  $p < .001$ . The Scheffe' test showed that the academic performance of students in middle SES families was significantly higher than performance of students in low SES families ( $p < .05$ ). The results also showed that the academic performance of students in high SES families was significantly higher than of those in low SES and middle SES families ( $p < .05$ ). No significant differences were found between the mean academic performance of students whose fathers worked part-time or full-time,  $F(1, 377) = .07$ ,  $p = .83$ .

Table 35: Comparison Between Students' Academic Performance as a Function of Fathers' Employment SES.

Group	N	Mean	SD	SE	F
Low SES	87	70.15	14.56	1.56	
Middle SES	179	76.23	11.43	.85	16.52
High SES	124	79.63	10.14	.91	
Total	390	75.96	12.29	.62	

Note. SES = Socio-Economic Status

$p < .001$

Students' academic performance differed as a function of socio-economic status, as defined by mother's job,  $F(2, 326) = 3.39$ ,  $p < .05$ . Post hoc tests indicated that the academic performance of students in high SES families was significantly better than the performance of students in middle SES families ( $p < .05$ ). The post hoc results also showed that the academic performance of high SES students was significantly higher than that of low SES and middle SES students ( $p < .05$ ) (see Table 36 for comparison of students' academic performance as a function of mothers' SES employment). In addition, no significant difference was found between the low and middle SES groups. Finally, no significant difference was found between the means of academic performance of students whose mothers worked full-time or part-time,  $F(1, 320) = 1.02$ ,  $p = .31$ .

Table 36: Comparison of Students' Academic Performance as a function of Mothers' SES Employment.

Group	N	Mean	SD	SE	F
Low SES	29	73.38	12.57	2.34	
Middle SES	185	75.24	12.22	.90	3.39
High SES	115	78.61	13.06	1.22	
Total	329	76.26	12.64	.70	

Note. SES = Socio-Economic Status

$p < .05$

In order to compare students' academic performance according to their parents' education level, a one-way ANOVA was computed. The differences between students' academic performance as a function of fathers' educational level was significant,  $F(2, 267) = 15.87$ ,  $p < .001$ . The Scheffe' post hoc test indicated that students of highly educated fathers performed significantly better academically than students with less educated fathers (see Table 37 for descriptive statistics). There were significant differences regarding students' academic performance

among families of different socio-economic status in terms of mothers' education,  $F(2, 362) = 11.77, p < .001$ . According to the Scheffe' post hoc test, the academic performance of students whose mothers were highly educated was significantly higher than the performance of students whose mothers received lower level of education (see Table 38 for comparison between students' academic performance according to their mothers' education.).

The ANOVA procedure revealed no significant effects on students' academic performance due to fathers' trait anxiety,  $F(1, 270) = .49, p = .49$ , nor due to their mothers' trait anxiety  $F(1, 350) = .00, p = .97$ .

Table 37: Comparison Between Students' Academic Performance According to Their Fathers' Education.

Group	N	Mean	SD	SE	F
Low education	43	67.91	17.71	2.70	
Middle education	113	75.97	10.31	.97	15.87
High education	114	80.04	11.11	1.04	
Total	270	76.40	12.74	78	

$p < .001$

Table 38: Comparison Between Students' Academic Performance According to Their Mothers' Education.

Group	N	Mean	SD	SE	F
Low education	92	70.14	13.18	1.37	
Middle education	140	75.94	11.21	.95	11.77
High education	133	78.13	12.79	1.11	
Total	365	75.27	12.67	.66	

$p < .001$

### 8.5- Effects of Family's Socio-economic Status, Parents' Trait Anxiety and Their Attributional Style on Children's Trait Anxiety

In order to investigate the effects of family's SES, parents' trait anxiety and their attributional style on children's trait anxiety the ANOVA procedure was applied. Findings indicated significant differences on students' trait anxiety based on their parents' trait anxiety,  $F(1,228)=5.96, P < .01$ . The Scheffe' post hoc test indicated that trait anxiety of students of high trait anxious parents was significantly higher than trait anxiety of students of low trait anxious parents for fathers ( $P < .01$ ) and for mothers ( $P < .001$ ) (see Table 39 and Table 40 for descriptive statistics). However, no significant differences were found between children's trait anxiety and their fathers',  $F(2, 408) = 1.13, p = .32$ , and mothers' occupation  $F(2, 384) = 2.28, p = .10$ .

Table 39: Comparison Between Students' Trait Anxiety According to their Fathers' Trait Anxiety.

Group	N	Mean	SD	SE	F
Low Anxiety	157	34.36	7.49	.60	
High Anxiety	123	36.53	7.26	.65	5.96
Total	280	35.31	7.46	.45	

$p < .01$

Table 40: Comparison Between Students' Trait Anxiety According to their Mothers' Trait Anxiety.

Group	N	Mean	SD	SE	F
Low Anxiety	197	33.93	6.90	.49	
High Anxiety	172	36.40	7.93	.61	10.24
Total	369	35.08	7.49	.39	

$p < .001$

### 8.6- Effects of Family's Socio-economic Status, Parents' Trait Anxiety and Their Attributional Style on Children's Attributional Style

The influence of factors such as family's SES, parents' trait anxiety and attributional style on children's attributional style was also studied. The ANOVA procedure indicated significant differences between the composite attributional style for negative events as a function of mothers' occupation,  $F(2, 344) = 4.86, p < .01$ . There were also significant differences between mothers' job and children's negative stability of attributional style,

$F(2, 344) = 4.35, p < .01$ . As shown in Table 41 and Table 42, Scheffe' post hoc tests indicated that pessimistic attributional style of low SES students was significantly higher than pessimistic attributional style of middle SES and high SES students ( $p < .01$ ). On the other hand, no significant effects were found on children's composite negative attributional style based on their fathers' occupation ( $p = .74$ ). Father's educational level was not found to be related to children's attributional style,  $F(2, 275) = .43, p = .65$ . Finally, there were no significant differences between children's attributional style and parents' anxiety/attributional style.

Table 41: Comparison Between Students' Composite Attributional Style for Negative Events According to their Mothers' Job.

Group	N	Mean	SD	SE	F
Low SES	29	8.76	3.14	.58	4.86
Middle SES	196	8.43	3.08	.22	
High SES	122	7.49	2.34	.21	
Total	347	8.13	2.88	.15	

$p < .01$

Table 42: Comparison Between Students' Negative Stability of Attributional Style According to their Mothers' Job.

Group	N	Mean	SD	SE	F
Low SES	29	3.07	1.56	.29	4.35
Middle SES	196	2.52	1.50	.11	
High SES	122	2.22	1.35	.12	
Total	347	2.46	1.47	.08	

$p < .01$

### 8.7- Prediction of Students' Academic Performance

A stepwise multiple regression procedure was computed to determine the contributions of each dependent variable, specifically, children's attributional style, anxiety, sex, birth order, language, parents' attributional style, anxiety, education, and occupation as predictors of academic performance. Of course the assumptions of multiple regression analyses were satisfied. The results of this procedure for predicting students' academic performance are indicated in Table 43. Figure 2 shows the predictive model of students' academic performance for the total sample. Fathers' education was the best predictor of academic performance ( $R = .09$ ). All other selected variables by the stepwise procedure (i.e., students' sex, fathers' stable negative attributional style, children's global negative attributional style, children's trait anxiety, fathers' job, and mothers' global positive attributional style) contributed only 15 percent of the variance to the model. A total of 24 percent of the variance for students' academic performance was explained by the above selected predictors.

The stepwise multiple regression procedure was also computed for girls and boys separately to predict students' academic performance. Results indicated that fathers' stable negative attributional style was the best predictor of the girls' academic performance ( $R = .10$ ). Mothers' education and children's stable positive attributional style added only 11 percent to the percent of variance accounted for (see Table 44 for summary of stepwise multiple regression for girls' analysis and Figure 3 to illustrate the predictive model of girls' academic performance). A total of 21 percent of variation of girls' academic performance was explained by the above predictors of the study.

Regarding the prediction of boys' academic performance, fathers' job was the best predictor of academic performance ( $R = .25$ ). All other selected variables by the stepwise procedure (i.e., children's trait anxiety, children's global negative attributional style, children's global positive attributional style, children's internal negative attributional style, and mothers' global positive attributional style) added only 28 percent of variance accounted for (see Table 45 for descriptive statistic and Figure 4 to illustrate the predictive model of boys' academic performance). A total of 53 percent of variation of boys' academic performance was explained by the above predictors.

Stepwise multiple regression procedures were applied to the data separately for English-speaking students and non-English-speaking students in predicting academic performance. The results indicated that fathers' job was the best predictors of English-speaking students' academic performance ( $R = .11$ ). All other variables selected by the

stepwise procedure (i.e., mothers' global positive attributional style, fathers' composite negative attributional style, children's anxiety, sex, and children's global negative attributional style) contributed only 14 percent of the variance accounted for (see Table 46 for descriptive statistics and Figure 5 to illustrate the predictive model of English-speaking students' academic performance). Students' internal negative, stable negative, and positive attributional style and fathers' education, mothers' education and occupation, fathers' positive attributional style, mothers' negative attributional style, and mothers' internal and stable positive of attributional style did not contribute significantly to predicting English-speaking students' academic performance. A total of 25 percent of variance for English-speaking students' academic performance was explained by the predictors.

Table 43: Summary of Stepwise Multiple Regression Analysis for Variables Predicting Academic Performance for Total Sample (N = 554).

<i>Variables</i>	<i>Multiple R</i>	<i>R</i>	<i>R change</i>	<i>B</i>	<i>Beta</i>	<i>F</i>
F Education	.30	.09	.09	3	.30	.18
Sex	.36	.13	.04	5	.20	.21
F Stable Neg	.40	.16	.03	-2.7	-.17	-.17
C Global Neg	.43	.29	.03	-1.6	-.16	-.15
C Anxiety	.45	.21	.02	-.27	-.15	-.14
F Job	.47	.23	.02	1.1	.18	.19
M Global Pos	.49	.24	.01	1.6	.15	.14

Note. Only variables that were significant are shown in order of entry into the model.

$R = .24$ . F = Father; M = Mother; C = Child; Neg = Negative; Pos = Positive

$p < .05$   $p < .01$   $p < .001$

Figure 2: Predictive model of students' academic performance for total sample

Table 44: Summary of Stepwise Multiple Regression Analysis for Variables Predicting Total Girl's Academic Performance (N = 277).

<i>Variables</i>	<i>Multiple R</i>	<i>R</i>	<i>R change</i>	<i>B</i>	<i>Beta</i>	<i>F</i>
F Stable Neg	.32	.10	.10	-3.3	-.32	-.35
M Education	.42	.18	.08	2.2	.28	.28
C Stable Pos	.46	.21	.03	1.2	.20	.20

Note. Only variables that were significant are shown in order of entry into the model.

$R = .21$ . F = Father, M = Mother, C = Child, Neg = Negative, Pos = Positive

$p < .05$   $p < .01$   $p < .001$

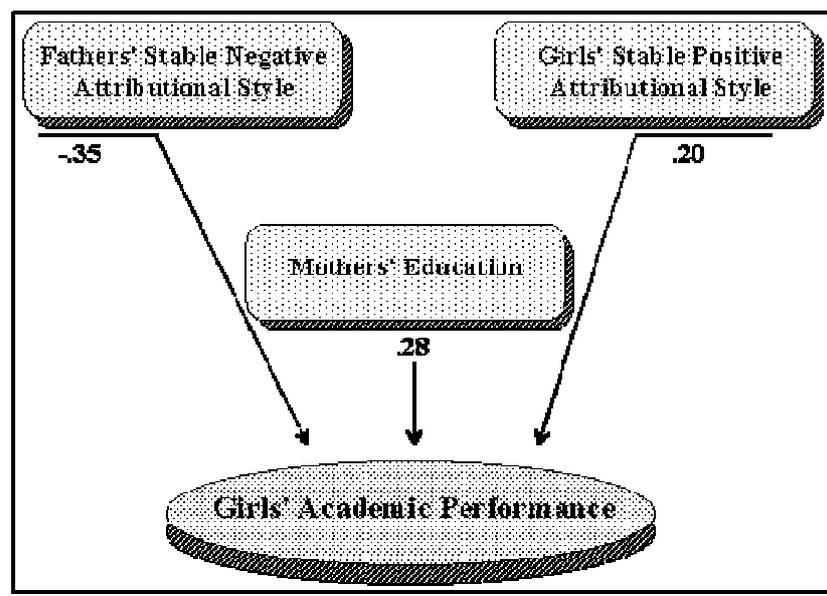


Figure 3: Predictive model of girls' academic performance.

Table 45: Summary of Stepwise Multiple Regression Analysis for Variables Predicting Total Boy's Academic Performance (N = 277).

<i>Variables</i>	<i>Multiple R</i>	<i>R</i>	<i>R change</i>	<i>B</i>	<i>Beta</i>	<i>F</i>
F Job	.50	.25	.25	3.9	.50	.45
C Anxiety	.59	.35	.10	-.73	-.32	-.22
C Global Neg	.65	.42	.07	-2.81	-.26	-.25
C Global Pos	.68	.46	.04	2.1	.20	.25
C Internal Neg	.71	.50	.04	-1.8	-.23	-.21
M Global Pos	.73	.53	.03	2.3	.17	.17

Note. Only variables that were significant are shown in order of entry into the model.

R = .53. F = Father; M = Mother; C = Child; Neg = Negative; Pos = Positive

$p < .05$   $p < .01$   $p < .001$

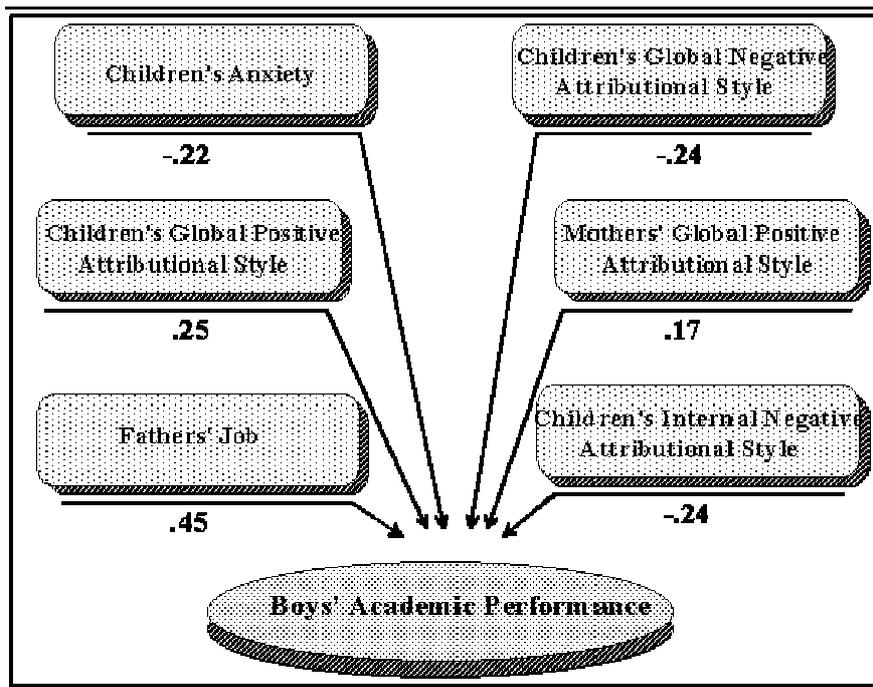


Figure 4: Predictive model of boys' academic performance.

Table 46: Summary of Stepwise Multiple Regression Analysis for Variables Predicting English-speaking Students' Academic Performance (N = 456).

Variables	Multiple R	R	R change	B	Beta	F
F Job	.33	.11	.11	2.1	.33	.34
M Global Pos	.37	.14	.03	2.1	.17	.19
F Composite Neg	.42	.18	.04	-2	-.33	-.21
C Anxiety	.45	.20	.02	-.29	-.15	-.16
Sex	.47	.23	.03	4.1	.16	.15
C Global Neg	.50	.25	.02	-1.4	-.14	-.14

Note. Only variables that were significant are shown in order of entry into the model.

R = .25. F = Father; M = Mother; C = Child; Neg = Negative; Pos = Positive

p < .05 p < .01 p < .001

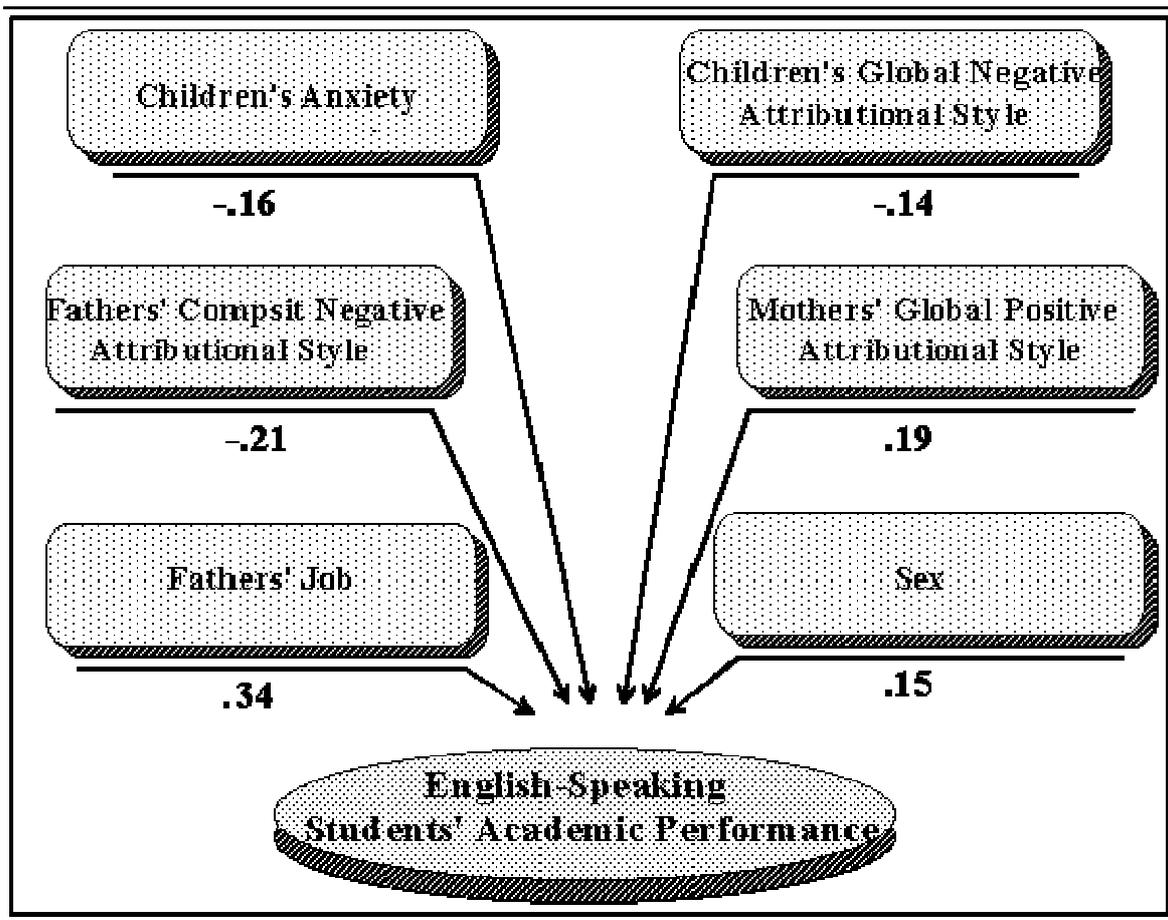


Figure 5: Predictive model of English-speaking students' academic performance.

Table 47 : Summary of Stepwise Multiple Regression Analysis for Variables Predicting Non-English-speaking Students' Academic Performance (N = 98).

Variables	Multiple R	R	R change	B	Beta	F
C Global Neg	.42	.18	.18	-4.2	-.42	-.36
Sex	.54	.29	.11	8.6	.33	.33

Note. Only variables that were significant are shown in order of entry into the model.

R = .29. C = Child; Neg = Negative

p < .05 p < .01

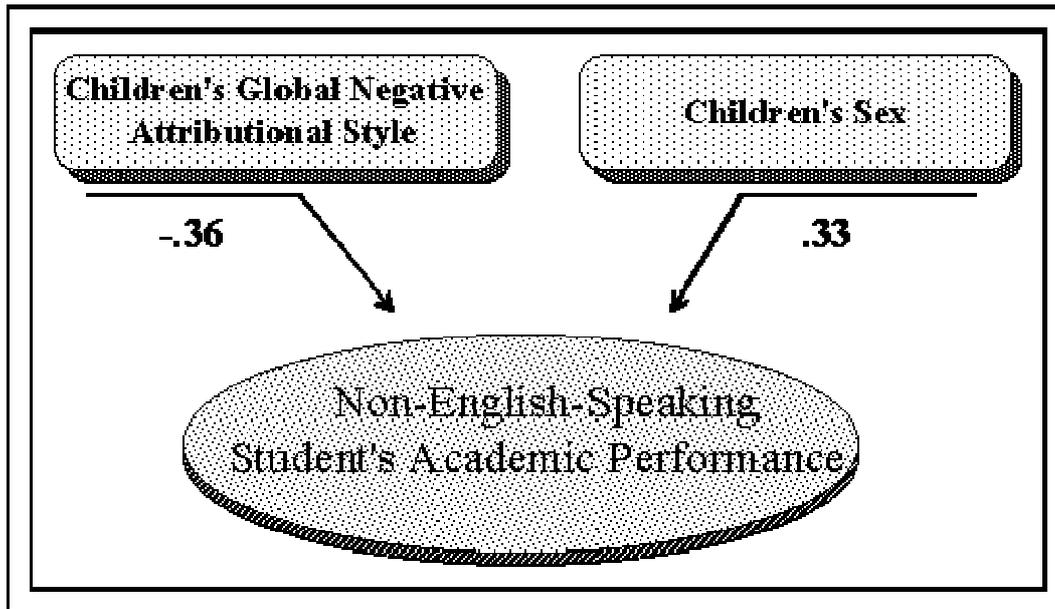


Figure 6: Predictive model of non-English-speaking students' academic performance.

A summary of stepwise multiple regression analyses for non-English-speaking students is presented in Table 47 and the predictive model of academic performance of non-English speaking students is illustrated in Figure 6. Only children's global negative attributional style and sex contributed markedly to predicting academic performance ( $R = .29$ ). A total of 29 percent of variance for non-English-speaking students' academic performance was explained by these two predictors of academic performance. In order to determine the predictors of English-speaking boys' academic performance, stepwise multiple regression was applied to the data. The results of this analysis indicated in Table 48 and Figure 7 shows the predictive model of English-speaking boys' academic performance. Again, fathers' job was the best predictor of academic performance ( $R = .23$ ). All other selected variables by the stepwise procedure (i.e., children's anxiety, children's global negative and global positive attributional style) added only 21% to the explained total variance. The other variables did not contribute significantly to predicting English-speaking boys' academic performance. A total of 40 percent of variation of English-speaking boys' academic performance was explained by predictors of the study. Stepwise multiple regression, applied to the data for predicting English-speaking girls' academic performance, indicated that fathers' education was the best predictor of the English-speaking girls' academic performance ( $R = .12$ ). Fathers' stable negative attributional style and children's stable positive attributional style added only 12% to the variance (see Table 49 for descriptive statistic and Figure 8 to illustrate the predictive model of the English-speaking girls' academic performance). No other dependent variables contributed to the variance accounted for. Girls' academic performance was explained by 24 percent of the variance.

Table 48: Summary of Stepwise Multiple Regression Analysis for Variables Predicting English-speaking Boys' Academic Performance (N = 224)

<i>Variables</i>	<i>Multiple R</i>	<i>R</i>	<i>R change</i>	<i>B</i>	<i>Beta</i>	<i>F</i>
F Job	.48	.23	.23	3.4	.48	.46
C Anxiety	.56	.32	.09	-.71	-.30	-.27
C Global Neg	.61	.37	.05	-.65	-.28	-.25
C Global Pos	.63	.40	.03	1.8	.17	.17

Note. Only variables that were significant are shown in order of entry into the model.

$R = .40$ . F = Father; C = Child; Neg = Negative; Pos = Positive

$P < .05$   $P < .01$   $P < .001$

Figure 7: Predictive model of English-speaking boys' academic performance.

Table 49: Summary of Stepwise Multiple Regression Analysis for Variables Predicting English-speaking Girls' Academic Performance (N = 232)

<i>Variables</i>	<i>Multiple R</i>	<i>R</i>	<i>R change</i>	<i>B</i>	<i>Beta</i>	<i>F</i>
F Stable Neg	.35	.12	.12	-3	-.35	-.30
F Education	.46	.21	.21	2.7	.31	.29
C Stable Pos	.49	.24	.24	1.1	.19	.19

Note. Only variables that were significant are shown in order of entry into the model.

*R* = .24. F = Father; C = Child; Neg = Negative; Pos = Positive

*P* < .05 *P* < .01

Figure 8: Predictive model of the English girls' academic performance

One additional hierarchical regression was carried out by grouping predictors into blocks to determine the contributions of each variable as predictors of students' academic performance. This was accomplished by entering the predictors consistent with a- the Weiner's (1982) model contention that one of the perceived causes of success and failure is home environment, b- as well as the correlation among the predictors and students' academic performance in the present study. Thus, demographic background variables (including child's gender, parents' occupation and education, and language spoken at home) were grouped together and were entered in step 1. In step 2, variables related to the parents' personality (including anxiety and attributional style) were entered in the model. Finally, children's personality variables (including anxiety and attributional style) were grouped together in step 3.

Consistent with the stepwise regression analysis, results of hierarchical regression indicated that sex and fathers' job were the best and only predictors of students' academic performance (Multiple *R* = .62, and *R* Square = .38). Results presented in Tables 50 and 51 indicates that a total of 38 percent of the variance for students' academic performance was explained by sex and father's job. However, inconsistent with the stepwise regression, variables related to students' and their parents' personality did not contribute significantly to the prediction of academic performance.

Table 50 : Summary of Hierarchical Multiple Regression Analysis for Variables Predicting Students' Academic Performance.

<i>Variables</i>	<i>Multiple R</i>	<i>R</i>	<i>R change</i>	<i>df</i>	<i>F</i>	<i>Sig F</i>
Variables in step 1	.40	.16	.16	(6, 184)	5.77	.000
Variables in step 2	.56	.31	.15	(26, 141)	2.42	.000
Variables in step 3	.62	.38	.07	(35, 132)	2.32	.000

Note. Variables in step 1 = child's gender, parents' occupation and education, and language spoken at home. Variables in step 2 = parents' personality including anxiety and attributional style. Variables in step 3 = children's personality including anxiety and attributional style.

Table 51 : Summary of Hierarchical Multiple Regression Analysis for Variables Predicting Students' Academic Performance.

<i>Variables</i>	<i>B</i>	<i>Beta</i>	<i>T</i>	<i>Sig T</i>
Fathers' job	1.18	.18	1.92	.05
Sex	7.3	.28	3.35	.00

Note. Only variables that were significant are shown in order of entry into the model.

*Multiple R* = .62, *R* = .38

Two hierarchical regressions by grouping predictors into blocks were also computed for girls and boys separately to predict students' academic performance. As mentioned earlier, demographic background variables (including parents' occupation and education, and language spoken at home) were grouped together and were entered in step 1. In step 2 variables related to the parents' personality (including anxiety and attributional style) were entered in the model. Finally, children's personality variables (including anxiety and attributional style) were entered in step 3. Similar to the results of the stepwise multiple regression analyses, fathers' stable negative attributional style was the best and only predictor of the girls' academic performance (*R* = .12). However, inconsistent with the stepwise regression, mothers' education and children's stable positive attributional style did not contribute significantly the

prediction of girls' academic performance ( see Table 52 and Table 53 for summary of hierarchical regression for girls' academic performance).

Consistent with the stepwise regression analysis, results of hierarchical regression indicated that fathers' job was the best predictor of boys' academic performance ( $R = .25$ ). All other selected variables by the hierarchical regression procedure (i.e., children's trait anxiety, children's global negative attributional style, and fathers' stable negative attributional style) added only 27 percent to the explained variance (see Table 54 and Table 55 for the results of hierarchical regression of boys' academic performance). Therefore, a total of 52 percent of variation of boys' academic performance was explained by all the predictors entered in the model. On the other hand, children's global positive attributional style, children's internal negative attributional style, and mothers' global positive attributional style did not contribute significantly to the prediction of boys' academic performance.

Table 52 : Summary of Hierarchical Multiple Regression Analysis for Variables Predicting Total Girls' Academic Performance.

Variables	Multiple R	R	R change	df	F	Sig F
Variables in step 1	.35	.12	.12	(5, 94)	2.66	.03
Variables in step 2	.47	.22	.10	(14, 71)	1.51	.13
Variables in step 3	.48	.23	.01	(18, 67)	1.14	.34

Note. Variables in step 1 = parents' occupation and education, and language spoken at home. Variables in step 2 = parents' personality including anxiety and attributional style. Variables in step 3 = children's personality including anxiety and attributional style.

Table 53 : Summary of Hierarchical Multiple Regression Analysis for Variables Predicting Total Girls' Academic Performance.

Variables	B	Beta	T	Sig T
Father's stable negative attributional style	2.95	.29	2.14	.03

Note. Only variables that were significant are shown in order of entry into the model.

Multiple R = .48, R = .23

Table 54 : Summary of Hierarchical Multiple Regression Analysis for Variables Predicting Total Boys' Academic Performance.

Variables	Multiple R	R	R change	df	F	Sig F
Variables in step 1	.50	.25	.25	(5, 85)	5.60	.000
Variables in step 2	.64	.41	.16	(15, 66)	3.03	.001
Variables in step 3	.72	.52	.11	(19, 62)	3.60	.000

Note. Variables in step 1 = parents' occupation and education, and language spoken at home. Variables in step 2 = parents' personality including anxiety and attributional style. Variables in step 3 = children's personality including anxiety and attributional style.

Table 55 : Summary of Hierarchical Multiple Regression Analysis for Variables Predicting Total Boys' Academic Performance.

Variables	B	Beta	T	Sig T
Fathers' job	3.90	.50	4.05	.000
Father stable negative	40.34	2.64	2.02	.05
Children's global negative	2.31	.21	2.24	.02
Children's trait anxiety	.46	.20	1.94	.05

Note. Only variables that were significant are shown in order of entry into the model.

Multiple R = .72, R = .52

## 8.8- Discussion

### 8.8.1- Predictors of Academic Performance

The results of Part Two of this study indicated moderate predictions of academic performance. As expected, the students' sex was the highest predictor of academic performance followed by socio-economic status of the family, specifically fathers' occupation and education, children's global negative attributional style, children's anxiety, mothers' global positive, and fathers' stable negative, attributional style. On the other hand, predictors of students'

academic performance for non-English-speaking students, as opposed to native English-speaking students, indicated that only children's global negative attributional style and sex accounted for 29 percent of the variance. However, among native English-speaking students, the socio-economic status of the family was the most effective factor. Other significant predictors of academic performance were mothers' global positive attributional style, fathers' composite negative attributional style, children's anxiety, sex (females), and children's global negative attributional style.

One possible interpretation of the relatively low to moderate predictors of academic performance may be concerned with extraneous factors not addressed in this study. Examples include students' attitudes towards school, students' adjustment to school environment, and teachers' perceptions of students' and teachers' experiences (Hoover-Dempsey et al., 1987). In addition, it can be surmised that high socio-economic status can result in more favorable attitudes of students from these families toward their education and school environment (Hoover-Dempsey et al., 1987). According to the researchers, parents with higher-socio-economic status tend to be more involved in the school activities than parents with lower socio-economic status. In addition, students from non-English-speaking backgrounds tend to be from low socio-economic status families (O'Sullivan, 1996; Rosenthal et al., 1983). Future examination of the factors inherent in high and low SES families that influence children's academic performance appears warranted.

Another predictor of academic performance may be the students' poor English language. Rosenthal et al. (1983) found that because of language difficulties, the children from minorities performed more poorly in school because they did not understand the lessons taught in English. Brown, Rosen and Hill (1980) contend that students' linguistic progress in both languages, particularly if their native language is other than English, is another cause of their lower academic performance.

Most previous studies comparing the academic performance of students from native English-speaking and non-English-speaking background included high school students. Therefore, the results of the present study concerning elementary school students may not be applicable because younger students are more flexible in adapting to a new language (Mizokawa & Ryckman, 1990). Moreover, learning in elementary school as opposed to higher education levels, does not require advanced knowledge of the English language. Additionally, these authors contend that personality factors such as attributional style for non-English language background students may differ from those for native English-language background students, resulting in varied academic performance. In a multi-cultural society like Australia, this aspect should receive more attention by researchers.

#### **8.8.2- Children's Attributional Style and Socio-economic Status**

The results of the present study revealed significant differences between children's composite attributional style for negative events and families' socio-economic status.

One possible explanation for linking children's attributional style with the socio-economic status of their family is that persons who belong to a low SES tend to manifest higher scores of externality in their behavior on attributional style scales (Phares, 1976). These individuals often feel that they have no control over their behavior because they do not have significant power in social mobility or material advantages (Joiner and Wagner, 1996).

#### **8.8.3- Children's Anxiety and Parents' Anxiety**

The results of this study showed that parents' trait anxiety would be significantly related to children's trait anxiety. In particular, mean trait anxiety scores for students whose parents showed low trait anxiety was significantly lower than for students whose parents scored high in trait anxiety. Perhaps children internalize their parents' values and views, or they learn anxiety symptoms from their parents.

#### **8.8.4- Children's Anxiety and Socio-economic Status**

The results of this study showed significant differences in trait anxiety among families of various socio-economic status as a function of students' mothers' jobs. Children of lower SES reported more anxiety than those from middle or upper SES groups, and parents in the lower SES group were more anxious than those from middle or upper SES. These findings provide evidence for environmental and social factors that influence anxiety level in children and their parents.

#### **8.8.6- Academic Performance and Socio-economic Status**

The results of part two of this study indicated significant differences as a function of socio-economic status regarding students' academic performance. Specifically, students' academic performance increased with low to high socio-economic status.

One possible explanation for differences in academic performance between various socio-economic groups is that SES may reflect the economic situation and material circumstances of the family (Bank & Finlayson, 1973). These two

factors, economic situation and material circumstances of the family, may be strongly related to the child's home environment. According to Bank and Finlayson, poverty and low socio-economic status could directly influence the quality of family life, bad housing, malnutrition, and higher risk of sickness. These factors may also affect family relationships and patterns of child-rearing (O'Sullivan & Howe (1996), and thus, promote an unfavorable attitude toward the importance of obtaining an education.

# Chapter 9

## general discussion

The present study consisted of two parts. The relationship between trait anxiety, attributional style and academic performance in children of native English-speaking and non-English-speaking backgrounds was investigated in Part one. And in Part two the prediction of academic performance as a function of children and their parents' trait anxiety, attributional style and socio-demographic factors was studied.

In Part One of this study, the relationships among children's attributional style, trait anxiety, and academic performance, were studied. In Part Two, two major questions were addressed. The association between socio-demographic factors and students' academic performances, as well as the relationships between anxiety and attributional style, in children and their parents were analyzed. In addition, predictors of students' academic performance are also presented in Part Two. The results of the current study may be summarized as follows:

1- Attribution of negative events to internal, stable and global causes made children significantly more anxious than children who attributed these events to external, unstable and specific causes. Other investigators have supported similar findings (Ahrens & Haaga, 1993; Lynd-Stevenson & Rigani, 1996; Peterson et al., 1982). Ahrens and Haaga found that anxiety was strongly related to attributional style of negative event. From this point of view Heimberg et al. (1989) claimed that high anxious subjects attributed negative events to internal, stable, and global causes significantly more than normal subjects. Teglasi and Fagin (1984) also concluded that anxious subjects made more stable and global attributions compared to non-anxious subjects. In a partial explanation of these findings, Doland and Wessler (1994) claim that success is not expected by anxious people. Yet if success did occur, it was not seen as likely to occur again in the future. Such process of explanation reflects an unstable, rather than a stable attribution for success. The authors concluded that individuals who are anxious may externalize credit for their success in order to prevent other people from expecting future success. Thus, external success attributions and internal and stable failure attributions are presumed to result from anxious individuals' own doubts about their desire to present themselves in a way that protects them from further negative evaluation by others, as well as their ability to succeed. It is apparent, then, that children who attribute negative events to internal, stable, and global causes are more anxious than children who attribute these events to external, unstable, and specific causes.

2- Low academic performance was associated with high trait anxiety. Students with high trait anxiety performed more poorly in school compared to students with low trait anxiety. This result was consistent with the results of several previous studies (e.g., Becker, 1982; Ialongo et al., 1994; Seipp, 1991; Williams, Watts, Macleod, & Mathews, 1988). Ialongo et al. (1994) found that anxious children performed lower in their academic performance than did non-anxious children. Becker (1982) reported that under stressful conditions high anxiety is related to poor cognitive task performance. Also, Spielberger (1966) found that students with high test anxiety have a higher academic failure rate than low anxiety students while controlling for intelligence. Thus, the effect of anxiety on academic performance appears consistent.

3- The academic performance of students with a pessimistic attributional style was lower than students with an optimistic attributional style. In other words, high achieving students usually attributed their academic performances to internal, stable and global sources, and tended to accept responsibility for their performance. However, low achievers usually attribute their failure or their low performance to external, unstable and specific factors or attribute responsibility to other sources. Results of other studies also indicate that high scores on internality, stability, and globality for negative events are associated with poor performance (e.g., Stipek & Weisz 1981; Maqsd, 1983). A correlational study by Stipeck and Weisz (1981) indicated the relationship between internal attributional style and academic performance. Rotter's (1966) hypothesis that internals are more engaged in performance related behaviors than externals, is supported by these findings.

4- There were significant cultural differences in relation to students' trait anxiety and academic performance in favor of families whose first language was English. Children whose mothers' language was not English scored higher on trait anxiety than English speakers. Academic performance scores for English-speaking students, however, was significantly higher than that for non-English-speaking students. Similar findings have been reported in previous studies such as Berry et al. (1992) and Torbiorn (1982). Berry et al., explained that anxiety among families from non-English-speaking backgrounds is closely associated with the process of acculturation. According to Torbiorn (1982), potential sources of conflict and anxiety, introduced by acculturation as well as values and role conflicts between the native and host cultures which may present stressful situations to families from non-English-speaking

backgrounds. Foreign students, especially those from non-English-speaking families, experience the same problems as local students (Westwood & Barker, 1990). Generally, adjusting to a new culture and trying to function in an unfamiliar psychological and educational setting creates serious problems to anyone let alone the foreign students who came from non-English speaking families (Furnham & Bochner, 1986). The possibility of change in attributions, values, and beliefs is greater when a person moves from a non-advanced society to a more advanced and complex one. These changes are stressful, resulting in heightened anxiety. In regards to academic performance, previous investigations have also shown that native English-speaking students tend to achieve higher academic performance than their non-English speaking peers. In one Australian study, students from non-English-speaking families, were found to have lower academic performance when compared with Australian-born counterparts (Ainley, Foreman, & Sheret, 1991). In addition, minorities of non-English-speaking families usually obtained a lower score in academic performance (de Lacey & Rich, 1979; Steelman & Doby, 1983). In another study, Rosenthal et al. (1983) compared academic performance scores of English-speaking and Spanish background students and found that English-speaking students learn better than students from a Spanish-speaking background. Ainley et al. (1991) found that students from non-English-speaking families received lower scores for their academic performance than did English-speakers or Australian born pupils.

Two possible explanations have been suggested for these results. First, inability in speaking and comprehending the language fully is considered the main factors of academic performance among foreign students (Rosenthal et al., 1983). Brown and associates (1980) suggested that another reason for lower academic performance is pupils' linguistic development of their home language other than English. Lawton (1986) indicated that even children whose mothers are fluent in English, but whose home language is not English, nevertheless may have difficulties in learning English when knowledge of their own home language is insufficient. In support of this contention, Rosenthal et al. (1983) found that performance levels have a strong correlation with language background. People from different cultures are socialized according to different beliefs, values, expectations, and norms which is another possible reason for the influence of culture on academic performance. Students with different history of experiences may differ in their development of concerns for achievement, domains of action, and success criteria (De Vos, 1973).

5- Girls' attributional style, trait anxiety, and academic performance differed significantly from boys. Girls attributed positive events to internal, stable, and global causes, while ascribing negative events to external, unstable, and specific causes. Boys, on the other hand, attributed negative events to internal, stable, and global causes, and positive events to external, unstable, and specific causes. Findings indicated that girls were higher on both trait anxiety and academic performance than boys. Consistent with these results, Nolen-Hoeksema et al., (1991) found that boys reported significantly more pessimistic attributions for negative events compared to girls. Callaghan and Manstead (1983) found sex differences in attributional style and academic performance; males and females presented different patterns of causal attributions for similar achievement outcomes. Females were more internal for both practice and main-tasks performance than males. Weiner (1986) concluded that females in an achievement position tend to attribute their achievement to unstable causes and in failure situations to stable causes, whereas for males this pattern is reversed. In support of this explanation, Nolen-Hoeksema et al. (1991) suggest that girls may be more modest and boys are more self-aggrandizing in their attributions verbalized to an adult. In regards to anxiety, other investigators have supported the results of current study and found that, in general, girls anxiety are stronger than boys anxiety (e.g., Call et al. 1994; Joiner & Blalock, 1995). Socio-cultural factors play a great role in psychological characteristics of boys and girls. For example, girls admit to their fears more freely than boys (Ollendick et al., 1985), and parents report more fears of their daughters than their sons. Crick and Ladd (1993) hold that social situations serve as a greater, more frequent source of anxiety for girls than for boys. Joiner and Blalock (1995) claimed that females score higher than males for the trait of emotionality. Thus, perhaps most of the fears and anxieties reported by girls are a normal part of their social development and are more freely accepted, and hence, reported more by girls than by boys.

6- A remarkable balance had been shown between increasing age and composite negative attributional style. This result is consistent with the results of several other investigations (e.g., Hau & Salili, 1989; Nolen-Hoeksema et al., 1991). Nolen-Hoeksema found that children's pessimistic attributional style for positive events increased by age. Similarly, Friedland (1984) found developmental change in causal attributions of children. Younger children attribute positive events to more external causes, whereas, older children attribute such events to more internal causes. Nowicki and Strickland (1973) pointed out that attributional responses tend to be more internal with increasing age. Thus, it is apparent that as children get older, their overall attributional style becomes more negative.

7- Internal, stable, and global attributions for negative events were associated with trait anxiety among parents. With increasing parents' anxiety, their pessimistic attributional style increased. In other words, anxious parents attributed negative events more to internal, stable and global causes, while the parents with low anxiety attributed these events to external, unstable and specific causes. These results are consistent with the results of other investigations (e.g., Hedl, 1990; Heimberg et al., 1989; Peterson et al., 1982). Peterson et al., found that global attributions for negative events was a good predictor of trait anxiety.

8- A significant, moderate relationship between children's and their parents' trait anxiety levels was found. Children whose parents were low trait anxious tended to score significantly lower on trait anxiety compared to their counterparts whose parents were high trait anxious. These results are consistent with previous studies such as Dix (1993), and Hamden, Burge, & Adrian (1991). Dix claims that children internalize their parents' values and views, and perhaps parents and their offspring react similarly to the same stressful life events. Hamden et al. (1991) hold the view that "external stressors through their effects on the behavior of one family member [mother or daughter] become family stressors, and the process is reciprocal, potentially affecting all family members" (p. 344). Thus, it is possible that children learn anxiety symptoms from their parents.

9- Investigating children's attributional style and their parents' attributional style no significant differences were found. These results are consistent with previous investigations (Commerford, 1994; Seligman et al., 1984). Seligman et al. found that fathers' and their children's attributional style for negative events were not related. In addition, Commerford claims that the primary care-giver and his/her child may explain the causes of events differently. The results of other studies (e.g., Estrada, Arsenio, Hess, & Holloway, 1987; Graham, 1984; Joiner & Wagner, 1996; Seligman et al. 1984), however, were not consistent with the present study. Seligman et al., (1984) found that the mother's composite attributional style for negative events correlated with her child's composite style for negative events. Moreover, Estrada et al. (1987) suggested that reciprocal patterns of parent and child attributions about events experienced by the child may influence the responses of family members. It is apparent that children learn attributional style from one or both parents, then children manifest in their own behaviors (Keltikangas-Jarvinen, 1990). According to Cashmore and Goodnow (1986), this is because "parents transmit values, beliefs or traits to a younger generation" (p. 191).

10- Significant differences were found among socio-economic groups in relation to students' attributional styles, anxiety levels, and academic performances in favor of high SES families. Pessimistic attributional style of low SES children was significantly higher than pessimistic attributional style of children in middle SES or high SES families. Children of lower SES reported more anxiety than those from middle or upper SES groups, and parents in the lower SES group were more anxious than those from middle or upper SES. In addition, Students' academic performance appears to increase with improving socio-economic status. Ludwigsen and Rollins (as cited in Nowicki & Strickland, 1973) compared students from low socio-economic classes with those of high socio-economic status. The researchers did not find a relationship between composite attributional style and socio-economic status, though they did report that students from low socio-economic status were more internal than students from high socio-economic class. In addition, Maqsud (1983), in a Nigerian study, reported no significant relationship between socio-economic status and attributional style. Similar findings were reported by Gore and Rotter (1963) for college students in the United States of America. Explaining the relationship between children's attributional style and the socio-economic status of their family, may suggest that persons who belong to a low SES tend to manifest higher scores of externality in their behavior on the scales of attributional style (Phares, 1976). These individuals often blame their lack of significant power in social mobility or material advantages to their own feeble control over their behavior (Joiner and Wagner, 1996). From anxiety and SES point of view, researchers provide evidence for social and environmental factors that influence the level of anxiety in children and their parents. For example, McLoyd (1990) found that anxiety is more intense in low SES parents which, in turn, may increase the tendency of parents to be less supportive of their children, as compared to parents in high SES groups. Regarding the relationship between students' academic performance and SES, current findings are consistent with several previous investigations (e.g., Ainley et al., 1991; Carpenter & Hayden, 1985; Maqsud, 1983; O'sullivan & Howe, 1996). Ainley et al. indicated that students whose parents were from higher socio-economic class showed a higher academic performance as compared to the counterparts whose parents were from the lower socio-economic group. According to Carpenter and Hayden (1985), higher educated parents are especially aware of the importance of education, and thus, are more likely to pay more attention to their children's academic performance. In addition, high SES parents who tend to be more involved in the school activities than parents of lower socio-economic status (Hoover-Dempsey, Bassler & Brissie, 1987). Student attributes also differ as a function of SES. Students from higher

socio-economic status, for instance, tend to have more favorable attitudes toward education, in general, and toward their own school and teachers, in particular (Ainley, Foreman, & Sheret, 1991; Maqsd, 1983), which may be due to the fact that they are more likely to attend high quality schools. Thus, students' academic performance appears to be influenced by the socio-economic status of their family.

11- Overall, the predictors of academic performance were father's education, sex, fathers' stable negative attributional style, children's global negative attributional style, children's anxiety, fathers' job and mothers' global positive attributional style. Results of hierarchical regression analysis by grouping predictors into blocks, however, indicated that sex and fathers' job were the only predictors of students' academic performance for total sample. One possible interpretation of the relatively low to moderate predictors of academic performance may be concerned with extraneous factors not addressed in this study. According to Hoover-Dempsey et al., (1987) parents with higher socio-economic status tend to be more involved in the school activities than parents with lower socio-economic status. From this view point Bank and Finlayson (1973) hold that the quality of family life, bad housing, malnutrition, and higher risk of sickness associated with poverty and low socio-economic status. These factors may also affect family relationships and patterns of child-rearing (O'Sullivan & Howe, 1996), and thus, promote an unfavorable attitude toward the importance of obtaining an education. In this connection, Fortheringham and Creal (1980) contend that the family's home environment and SES may affect children's academic skills upon entering school, thereby influencing their present and future attitudes toward school. Similarly, middle class parents tend to use more humanistic methods of discipline, while parents from working classes more often tend to use ridicule and physical punishment in rearing their children (Bank & Finlayson, 1973). Thus, it may be concluded that home environment might be a function of socio-economic status, which, in turn, could affect their children's academic performance, all of which is supported by the results of this study.

There is an apparent absence of previous research in examining children and their parents' trait anxiety and attributional style in ethnically diverse population. This study appears to be an early attempt examining the effects of different factors in family background, trait anxiety, and attributional style simultaneously in relation to elementary school students' academic performance.

### **9.1- Implications of the Study**

Australia has many new immigrants. These Non-English speaking immigrant families have a different set of problems to overcome in achieving academic excellence. They have more problems to work out like learning new language, finding new support systems, getting used to the weather, staying healthy, and collecting new information about daily habits. In addition, foreign students face problems that arise from adjusting to a new culture and functioning in an unfamiliar psychological and educational setting (Furnham & Bochner, 1986). Thus, when a person moves from a non-advanced society to a more advanced and complex one, the possibility of changing attributions, values, and beliefs is greater. These changes are stressful, resulting in heightened anxiety. A program should be developed to solve these problems, so that the new students can concentrate on learning and not be held back by such adjustment problems.

One implication of the results of this study is the importance of being sensitive to the psychological characteristics and individual needs of minority groups in Australia. The current findings suggest that lower socio-economic status families, particularly of non-English-speaking origin, have special needs, as compared to individuals from higher socio-economic, English-speaking backgrounds.

Culture is thought to play a significant role in attributional style, anxiety, and academic performance. Previous investigations of cultural differences on attribution theory of achievement indicate that understanding of the causes of success and failure may depend on social and cultural values (Hau & Salili, 1990; Little & Lopez, 1977; Salili, 1994). Thus, the present research studied the differences between non-English-speaking immigrant families in Australia and their English-speaking, counterparts on causal attributions, anxiety, and academic performance.

In most studies conducted in Australia, the academic performance of high school students from English-speaking background has been examined and compared with the academic performance of students from non-English-speaking backgrounds. Results of such studies indicated differences in the academic performance of the two groups (Mizokawa & Ryckman 1990). Contrary to the research investigating high school students, research on elementary school pupils in this area is apparently absent from the literature. For this reason the current study has focused on elementary students as its population.

Attributional style, anxiety, and socio-demographic factors are three constructs which have received widespread attention over the years (e.g., Abramson, Seligman, & Teasdale 1978; Ingram & Kendall, 1987; Rosenbaum & Ronen, 1997; Swendsen; 1997). Researchers however, have virtually ignored the relationship between students'

attributional style and their academic performance (Nolen-Hoeksema, Girgus, & Seligman, 1986). In addition, apparently no previous study has been concerned with whether or not children's trait anxiety and attributional style predict academic performance, and the effects of socio-demographic factors on students' academic performance, particularly among non-English-speaking students and their parents.

Doland and Wessler (1994) state that Children who view negative events as due to internal, stable, and/or global causes while viewing positive events as controlled by external, unstable, and specific causes are more likely to show symptoms of depression, low self-esteem, and low achievement motivation. Attributional style also is similarly related to anxiety. Viewing failures as internal and stable, for example, may be associated with fear and avoidance of situations that involve risk of failure. This perspective has important implications for the development of anxiety because, as children grow their ability to anticipate possible negative events and elaborate their consequences improve dramatically. Despite extensive literature on attributions of depressed children (e.g., Kaslow, Rehm, & Siegel, 1984; Kaslow et al., 1988; Seligman, Peterson, Kaslow, Tanenbaum, Alloy, & Abramson, 1984), research concerned with children and their anxiety is virtually absent from the literature, particularly in relation to attributional style. On the other hand, adults have been studied extensively in past research. Few studies have compared the attributional style in children and their parents (Seligman, Peterson, Kaslow, Tanenbaum, Alloy, & Abramson, 1984).

The relationship between the attributional style of children and their parents has been studied in this research. Children judge themselves according to how they see their parents' strengths and weaknesses and according to the influence of other significant people in their lives. This study filled the gap in the literature in regards to the relationship between parents' and their children's attributional style. Furthermore, investigation of the causal attributions and anxiety of non-English-speaking and native English-speaking children contribute substantially to the body of knowledge on attribution theory.

The present findings also indicate that attributional style plays a significant role in predicting academic performance. For example, attributing positive events to internal, stable, and global causes, and attributing negative events to external, unstable, and specific causes were related to high academic performance among students in this study. Thus, one may suggest that educators should help children to become more optimistic in regards to their attributional style. This may require providing attributional training for children and parents to alter their explanations for success and failure outcomes. These include: (a) to help the student overcome viewing failure as unavoidable, (b) to improve children's academic performance and persistence in achieving social success, (c) to promote a "mastery-oriented pattern" in which the focus is on enhancing competence (Dweck, 1990), and (d) to help children to function as more active, strategic learners. Attributional training in making more realistic assessments of causes of difficulties may be especially effective for maladaptive behaviors, such as under achievement or lack of persistence (Fosterling, 1985).

The implications of research in this area allow the educators to modify selectively their teaching strategies to favorably influence anxiety and causal attributions. In particular, teachers may be able to improve students' performance and work habits by reducing their anxiety through changing their negative attributions. Identifying maladaptive attributions associated with child anxiety would have clear intervention and treatment implications. The empirical data derived from this investigation provide important insights into the psychological, educational and socio-cultural difficulties that exist among non-English-speaking families.

## **9.2- Limitations of the Study**

This study was not without limitations that may have influenced the generalization of the results.

First, the administration of the tests over two sessions was less desirable than over one session. For example, some of the students who completed inventories in the first session were absent in the second session, and some students during the testing process did not complete the test in one of the sessions. As a result, these data were eliminated from the analyses. Second, there is a dearth of literature supporting the criterion and construct validity of CASQ and ASQ in relation to trait anxiety. The CASQ and ASQ are derived from depression theory and are not related to other psycho-pathology, such as trait anxiety. Therefore, most studies using these inventories have been concerned with aspects of a depressive attributional style. Third, the scoring of students' academic performance was conducted differently among the teachers. As a result, students' academic performance scores which were obtained from their school records were not standardized. Fourth, as stated in Chapter 5, was that school Principals involved in the study made every effort to include all the grade 4, 5 and 6 children. However, only about 55 percent of parents allowed their children to participate in the study. Furthermore, some parents who were provided surveys especially in low socio-economic status regions, did not answer many items, perhaps due to a lack of English-speaking skills. Consequently, this factor limited participation by many parents in the second part of the study.

This limitation also may have skewed the representativeness of the sample in terms of personal characteristics of those families who participated in the study. Fifth, evidence from this study suggests that attributional style, trait anxiety, and some aspects of socio-demographic factors are related to child's academic performance. However, the design of the present investigation (i.e. cross sectional) does not permit the conclusion that academic performance is actually caused by attributional style, anxiety and socio-demographic factors. Finally, other important predictor variables such as ability and achievement motivation were not addressed.

### **9.3- Conclusion and Suggestions for Future Research**

According to the results of the present study, it may be concluded that increased negative internality, stability, and globality of attributional style are linked to decreased academic performance. Thus, high achieving students usually attribute their academic performances to internal, stable, and global sources, that is, they accept responsibility for their performance. However, low achieving students usually attribute their perceived failure, or low performance, to external, unstable, and specific factors, that is, not taking responsibility for their lack of success.

One of the most important factors that influences students' academic performance is the role of parents' personality. Parents as primary care givers, might be in tune with their child's thinking and behavior and so most influential in determining the child's development and school performance (Bird & Berman 1985). Cognitive, and emotional development of children are highly dependent on the psychological characteristics of the parents. The growth of potential developmental areas, such as academic performance, mainly occurs during the first few years of life, and the influence of the parents on these developmental areas is very important (Fotheringham & Creal, 1980).

Another factor that influences academic performance is language.. Researchers contend that non-English speaking students demonstrate lower academic performance because they do not adequately understand the language of instruction. In addition, heightened trait anxiety, negative attributional style and low academic performance among non-English-speaking students have been closely associated with the process of acculturation. Acculturation introduces potential sources of conflict and increased anxiety, as well as values and role conflicts between the native and host cultures which may present stressful situations to non-English-speaking background.

The present study raises certain issues for future research.

1. The relationship between trait anxiety and attributional style was found among school children. Future research should be conducted on clinically-anxious children who are in treatment. Similar research on clinically-anxious parents of children is also needed.
2. While attributional style is typically viewed as a disposition, the current study has not considered children's attributional style as a state or trait. Future research is needed to determine if children's attributional style is situational-determined or stable and enduring.
3. One of the limitations of the current study related to the measurement of academic performance (i.e., variations in teachers' ratings). Standardized test scores of the children were unavailable to the researcher. Future studies, however, should consider applying a standard achievement test to all the students as a uniform measure of their academic performance.
4. In this study, some variables that may affect academic performance were not measured. For instance, Marsh (1989) indicated that girls, in comparison with boys, spend more time in doing their homework. Including homework time as a variable in predicting academic performance would be of interest in future research. Other variables such as students' adjustment to school environment, student attitude toward school, teacher attention to students, teacher training and experience, and nature of the interactions between teachers and their students, all not considered in the present study, might influence the dependent measures in this investigation.
5. Results of the present study revealed significant correlations between students' trait anxiety, attributional style, and academic performance. However, since the students' intelligence or academic status was not taken into account, future research measuring the relationships between anxiety, attributional style, and academic performance might control for students' academic ability.
6. The results of this study indicated that language used at home was particularly dependent on students' attributional style. Further research is needed to understand the antecedents and underlying causes of these group differences.
7. Moderate, but significant, correlations were found between children's attributional style and their academic performance, and between parents' attributional style and students' academic performance. More investigation is needed to examine the interaction between the attributional style of children and their parents on academic performance.
8. Longitudinal research is needed to investigate the effects of development and/or maturation in attributional style, anxiety and academic performance. For example, examining the relationships between children's anxiety and

attributional style and their parents' anxiety and attributional style require a longitudinal research design. Similarly, a three-year follow-up study of the current study's research participants may help predict adolescent anxiety, school drop-out, under-achievement, delinquency, drug abuse, or other psycho-social difficulties for early identification and prevention programs, indicating attributional training

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# Appendices:

## Appendix 1 Psychological Inventories

Appendix 1.A- State Anxiety Inventory for Children

Appendix 1.B- Trait Anxiety Inventory for Children

Appendix 1.C- Trait Anxiety Inventory (Form Y-2, for Adult)

Appendix 1.D- Children Attributional Style Questionnaire

### Instructions

I am going to read you some situations and I want you to try really hard to imagine that they have just happened to you. Then, I want you to choose the most likely reason to explain why the situation happened to you.

First I will read you the situation, and then I will read you two possible reasons for the situation and I want you to choose the one that seems most true to you.

Sometimes both reasons may sound true, and sometimes both may sound false, and you may never have been in some of these situations. But even so, I want you to pick the reason that seems to explain why the situation happened to you.

There are no right answers and no wrong answers, so always pick the reason that seems the most likely to you.

Circle "a" or "b" for each question.

1. You get an "a" on a test.

- a. I am smart.
- b. I am good in the subject that the test was in.

2. You play a game with some friends and you win.

- a. No one I know plays that game well.
- b. I play that game well.

3. 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.
- b. Everyone in my friend's family was in a friendly mood that night.

4. You go on vacation with a group of people and you have fun.

- a. I was in a good mood.
- b. The people I was with were in good moods.

5. All of your friends catch a cold except you.

- a. I have been healthy lately.
- b. I am a healthy person.

6. Your pet gets run over by a car.

- a. I don't take good care of my pets.
- b. Drivers are not cautious enough.

7. Some kids that you know say that they do not like you.
- Once in a while people are mean to me.
  - Once in a while I am mean to other people.
8. You get very good grades.
- School work is simple.
  - I am a hard worker.
9. You meet a friend and your friend tells you that you look nice.
- My friend liked the way I looked that day.
  - My friend likes the way I look.
10. A good friend tells you that she or he hates you.
- My friend was in a bad mood that day.
  - I wasn't nice to my friend that day.
11. You tell a joke and no one laughs.
- I do not tell jokes well.
  - The joke is so well know that it is no longer funny.
12. Your teacher gives a lesson and you do not understand it.
- I didn't pay attention to anything that day.
  - I didn't pay attention when my teacher was talking.
13. You fail a test.
- Teachers make hard tests.
  - Sometimes teachers make hard tests.
14. You gain a lot of weight and start to look fat.
- The food that I have to eat is fattening.
  - I like fattening foods.
15. A person steals money from you.
- That person is dishonest.
  - People are dishonest.
16. Your parents praise something that you make.
- I am good at making some things.
  - My parents like some things I make.
17. You play a game and you win money.
- I am a lucky person.
  - I am lucky when I play games.
18. You break a glass.
- I am not careful enough.

- b. Sometimes I am not careful enough.
19. You are invited to a lot of parties.
- a. A lot of people have been acting friendly toward me lately.  
b. I have been acting friendly toward a lot of people lately.
20. A grown up yells at you.
- a. That person yelled at the first person he or she saw.  
b. That person yelled at a lot of people he or she saw that day.
21. You do a project with a group of kids and it turns out badly.
- a. I don't work well with the people in the group.  
b. I never work well with a group.
22. You make a new friend.
- a. I am a nice person.  
b. The people that I meet are nice.
23. You have been getting along well with your family.
- a. I am easy to get along with when I am with my family.  
b. Once in awhile I am easy to get along with when I am with my family.
24. You try to sell candy, but no one will buy any.
- a. Lately a lot of children are selling things, so people don't want to buy anything else from children.  
b. People don't like to buy things from children.
25. You put a hard puzzle together.
- a. Sometimes I am good at putting puzzles together.  
b. Sometimes I am good at putting things together.
26. You get a bad grade in school.
- a. I am stupid.  
b. Teachers are unfair graders.
27. You walk into a door and you get a bloody nose.
- a. I wasn't looking where I was going.  
b. I have been careless lately.
28. You have a messy room.
- a. I did not clean my room that day.  
b. I usually do not clean my room.
29. You twist your ankle in gym class.
- a. The past few weeks the sports we played in gym class have been dangerous.  
b. The past few weeks I have been clumsy in gym class.

30. Your parents take you to the beach and you have a good time.
- Everything at the beach was nice that day.
  - The weather at the beach was nice that day.
31. You take a train which arrives so late that you miss a movie.
- The past few days there have been problems with the train being on time.
  - The trains are almost never on time.
32. Your mother makes you your favourite dinner.
- There are a few things that my mother will do to please me.
  - My mother like to please me.
33. A team that you are on loses a game.
- The team members don't play well together.
  - That day the team members didn't play well together.
34. You finish your homework quickly.
- Lately I have been doing everything quickly.
  - Lately I have been doing school work quickly.
35. Your teacher ask you a question and you give the wrong answer.
- I get nervous when I have to answer questions.
  - That day I got nervous when I had to answer questions.
36. You do not get your chores done at home.
- I was lazy that day.
  - Many days I am lazy.
37. You go to an amusement park and you have a good time.
- I usually enjoy myself at amusement parks.
  - I usually enjoy myself.
38. You have a fight with a friend.
- I was in a bad mood that day.
  - My friend was in a bad mood that day.
39. You get all the toys you want on your birthday.
- People always guess what toys to buy me for my birthday.
  - This birthday people guessed right as to what toys I wanted.
40. You go to a friend's partly and you have fun.
- Your friend gives good parties.
  - Your friend gave a good party that day.
41. Your neighbors ask you over for dinner.
- Sometimes people are in kind moods.

- b. People are kind.
42. You have a substitute teacher and she likes you.
- a. I was well behaved during class that day.
  - b. I am almost always well behaved during class.
43. You make your friends happy.
- a. I am a fun person to be with.
  - b. Sometimes I am a fun person to be with.
44. You get a free ice-cream cone.
- a. I was friendly to the ice-cream man that day.
  - b. The ice-cream man was feeling friendly that day.
45. At your friend's party the magician asks you to help him out.
- a. It was just luck that I got picked.
  - b. I looked really interested in what was going on.
46. You try to convince a kid to go to the movies with you, but he or she won't go.
- a. That day he or she did not feel like doing anything.
  - b. That day he or she did not feel like going to the movies.
47. Your parents have a big fight.
- a. It is hard for people to get along well.
  - b. It is hard for people who are married to get along well.
48. You have been trying to get into a club and you don't get in.
- a. There are a lot of things that I am not good at.
  - b. I am not good at the things that people in the club do.

## Appendix 1.E- Adult Attributional Style Questionnaire

### DIRECTIONS

Please try to vividly imagine your self if the situations that follow. If such a situation happened to you, what would you feel would have caused it? While events may have many causes, we want you to pick only one- the major cause if this event happened to you. Please write this cause in the blank provided after each event. Next we want you to answer some questions about the cause and a final question about the situation. To summarise, we want you to:

- 1) Read each situation and vividly imagine it happening to you.
- 2) Decide what you believe would be the one major cause of the situation if it happened to you.
- 3) write this cause in the blank provided.
- 4) Answer three questions about the cause by circling one number per question. Do not circle the words.
- 5) Go on the next situation.

SITUATIONS

YOU MEET A FRIEND WHO COMPLIMENTS YOU ON YOUR APPEARANCE.

1) Write down the one major cause: \_\_\_\_\_  
\_\_\_\_\_

2) Is the cause of your friend's compliment due to something about you or people or circumstances? something about other

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

3) In the future when you are with your friend, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

4) Is the cause something that just affects interacting with friends, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

YOU HAVE BEEN LOOKING FOR A JOB UNSUCCESSFULLY FOR SOME TIME.

5) write down the one major cause: \_\_\_\_\_  
\_\_\_\_\_

6) Is the cause of your unsuccessful job search due to something about you or people or circumstances? something about other

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

7) In the future when you look for a job, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

8) Is the cause something that just influences looking for a job, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

YOU BECOME VERY RICH.

9) write down the one major cause: \_\_\_\_\_

\_\_\_\_\_

10) Is the cause of your becoming rich due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

11) In your financial future, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

12) Is the cause something that just affects obtaining money, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

A FRIEND COMES TO YOU WITH A PROBLEM AND YOU DON'T TRY TO HELP HIM/HER.

13) Write down the one major cause: \_\_\_\_\_

\_\_\_\_\_

14) Is the cause of your not helping your friend due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

15) In the future when a friend comes to you with a problem, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

16) Is the cause something that just affects what happens when a friend comes to you with a problem, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

YOU GIVE AN IMPORTANT TALK IN FRONT OF A GROUP AND THE AUDIENCE REACTS NEGATIVELY.

17) Write down the one major cause: \_\_\_\_\_

\_\_\_\_\_

18) Is the cause of the audience's negative reaction due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

19) In the future when you give talks, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

20) Is the cause something that just influences giving talks, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

YOU DO A PROJECT WHICH IS HIGHLY PRAISED.

21) 17) Write down the one major cause: \_\_\_\_\_

22) Is the cause of your being praised due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

23) In the future when you do a project, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

24) Is the cause something that just affects doing projects, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

YOU MEET A FRIEND WHO ACTS HOSTILELY TOWARDS YOU.

25) Write down the one major cause: \_\_\_\_\_

26) Is the cause of your friend acting hostile due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

27) In the future when interacting with friends , will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

28) Is the cause something that just influences interacting with friends, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

YOU CAN'T GET ALL THE WORK DONE THAT OTHERS EXPECT OF YOU.

29) Write down the one major cause: \_\_\_\_\_

30) Is the cause of your not getting the work done due to something about you or people or circumstances? something about other

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

31) In the future when doing work that others expect, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

32) Is the cause something that just affects doing work that others expect of you, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

YOUR SPOUSE (BOYFRIEND/GIRLFRIEND) HAS BEEN TREATING YOU MORE LOVINGLY.

33) Write down the one major cause: \_\_\_\_\_

34) Is the cause of your spouse (boyfriend/girlfriend) treating you more lovingly you or something about other people or circumstances? due to something about

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

35) In the future interactions with your spouse (boyfriend/girlfriend), will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

36) Is the cause something that just affects how your spouse (boyfriend/girlfriend) treats you, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

YOU APPLY FOR A POSITION THAT YOU WANT VERY BADLY (E.G., IMPORTANT JOB, GRADUATE SCHOOL ADMISSION, ETC.) AND YOU GET IT.

37) Write down the one major cause: \_\_\_\_\_  
\_\_\_\_\_

38) Is the cause of your getting the position due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

39) In the future when you apply for a position, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

40) Is the cause something that just influences applying for a position, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

YOU GO OUT ON A DATE AND IT GOES BADLY.

41) Write down the one major cause: \_\_\_\_\_  
\_\_\_\_\_

42) Is the cause of the date going badly due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

43) In the future when you are dating, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

44) Is the cause something that just influences dating, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situation in my life

YOU GET A RAISE.

45) Write down the one major cause: \_\_\_\_\_  
\_\_\_\_\_

46) Is the cause of your getting a raise due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

47) In the future on your job, will this cause again be present?

Will never again be present    1   2   3   4   5   6   7    Will always be present

48) Is the cause something that just affects getting a raise, or does it also influence other areas of your life?

Influences just this particular situation    1   2   3   4   5   6   7    Influences all situation in my life

### Appendix 1.f- Children Socio-demographic Questionnaire

#### QUESTIONNAIRE

Please answer all of the questions below. Your answers will be kept confidential for the research.

- 1) Code Number \_\_\_\_\_
- 2) What is your Grade? \_\_\_\_\_
- 3) What sex are you? (tick one)  
Boy \_\_\_\_\_ Girl \_\_\_\_\_
- 4) What is your age now? \_\_\_\_\_ years
- 5) How many brothers and/or sisters do you have? \_\_\_\_\_
- 6) How many brothers and/or sisters are older than you? \_\_\_\_\_
- 7) In which country were you born? \_\_\_\_\_
- 8) Do you speak any other language, beside English, at home?    Yes \_\_\_ No \_\_\_
- 9) If you speak a language other than English at your home, what is the main non-English language you speak?  
\_\_\_\_\_
- 10) What job does your father (or stepfather) do? (please write down) \_\_\_\_\_
- 11) What job does your mother (or stepmother) do? \_\_\_\_\_

Please turn to the other side of this page.

### Appendix 1.g- Adult Socio-demographic Questionnaire

#### QUESTIONNAIRE

Please answer all of the questions below. Your answers will be kept confidential for the research.

- 1) Code Number \_\_\_\_\_
- 2) What sex are you? (tick one).  
Male \_\_\_\_\_ Female \_\_\_\_\_
- 3) How many children do you have? \_\_\_\_\_
- 4) In which country were you born? \_\_\_\_\_
- 5) Do you speak any other language, beside English, at home? Yes \_\_\_ No \_\_\_
- 6) If you speak a language other than English at your home, what is the main non-English language you speak?  
\_\_\_\_\_
- 7) What is your present or most recent job? (please write it down exactly) \_\_\_\_\_
- 8) Is your job full time or part time? (tick one)  
Full time \_\_\_\_\_ Part time \_\_\_\_\_
- 9) What is the last year of your education? (tick one)  
\_\_\_\_ End of primary school (grade 6)  
\_\_\_\_ Grades 7-8-9-10  
\_\_\_\_ End of secondary school (grade 11-12)  
\_\_\_\_ Technical college  
\_\_\_\_ University (Bachelor degree)  
\_\_\_\_ University (Post graduate degree)

Please turn over this page and continue.

## Appendix 2 consent forms

### Appendix 2.A- University Consent Form

### Appendix 2.B- Department of School Education Consent Form

### Appendix 2.C- Parents' Consent Form

Dear Parent

March 1994

I am a Ph.D. student in the Department of Psychology at University of Wollongong. My study concerns the relationship between certain characteristic of children and their parents as predictors of academic performance in late childhood.

The findings of this study can be of assistance to psychologists, counselors and other school personnel whose job it is to help students to achieve their highest potential. The study will consist of asking students to complete two short surveys about their feelings and motivation in school. Then they will be asked to bring home copies of similar surveys for their parents to complete and return in a self-addressed, stamped envelop.

It would be highly appreciated if you could kindly give your permission to your child to participate. The University's Human Experimentation and Ethics Committee has approved my study. Furthermore, the initial permission has already been obtained from the State Department of Education.

Please be advised that the name of the schools and all subjects' names will not be published and that all information obtained in my study will remain confidential.

I thank you for your co-operation, and I am looking forward to receive your positive answer(see note below).

Yours Sincerely,

Mohammad Khodayarifard  
Department of Psychology

-----  
I give permission for my son/daughter \_\_\_\_\_ of class \_\_\_\_\_ to participation in the research to be conducted by Mr. M. Khodayarifard. Both my child and I are fully aware that participation in the study is voluntary and we are free to withdraw from the study at any time.

Name (please print) \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

Dear Parent

August 1994

Within the past couple of months, I sent you two questionnaires concerned with predictors of children's academic performance. *To date, my records indicate that you have not as yet returned this questionnaire.* Your child has already completed similar questionnaires at school. Because my study requires parental participation, I greatly need your assistance, and ask you to please complete and return the enclosed questionnaires before 30 August. This deadline is very important for completing my study with the Department of Psychology, University of Wollongong, where I am a doctoral student.

As indicated in my last letter, the information gathered from this study will be held in strict confidence, and will not be used to identify you or your child. This study was supported by the university's Human Ethics Research Committee, the Department of School Education of NSW, and by the Principal of your child's school. I very much appreciate your assistance. Please feel free to phone me at the university if you have any questions (Ph 21 4071).

Sincerely,

Mohammad Khodayarifard  
Doctoral Student

## Appendix 3

# Psychological Inventories' permission

[Appendix 3.A- Spielberger's Permission](#)

[Appendix 3.B- Seligman's Permission](#)

## Appendix 4

# Scoring KEYS

[Appendix 4.A- State-Trait Anxiety Scoring Keys](#)

### Scoring Instructions for STAIC FORM C-1

Turn this stencil over and match the numbers along the left edge with the item numbers of the answer sheet; be sure you are on the correct side of the answer sheet (Form C-1). Total the scoring weights shown for the marked responses.

#### Scoring Key STAIC FORM C-1

1.	1	2	3
2.	3	2	1
3.	1	2	3
4.	3	2	1
5.	3	2	1
6.	1	2	3
7.	3	2	1
8.	1	2	3
9.	3	2	1
10.	1	2	3
11.	3	2	1
12.	1	2	3
13.	1	2	3
14.	1	2	3
15.	3	2	1
16.	3	2	1
17.	1	2	3
18.	3	2	1

19. 3 2 1  
20. 1 2 3

### Scoring Instructions for STAIC Form C-2

All the items on the A-Trait scale are scored as follows: 1 point for “hardly ever”; 2 points for “sometimes”; 3 points for “often”.

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### Appendix 4.B- Adult Trait Anxiety Scoring Key

#### Scoring Key for STAI Form Y-2

1.	4	3	2	1
2.	1	2	3	4
3.	4	3	2	1
4.	1	2	3	4
5.	1	2	3	4
6.	4	3	2	1
7.	4	3	2	1
8.	1	2	3	4
9.	1	2	3	4
10.	4	3	2	1
11.	1	2	3	4
12.	1	2	3	4
13.	4	3	2	1
14.	4	3	2	1
15.	1	2	3	4
16.	4	3	2	1
17.	1	2	3	4
18.	1	2	3	4
19.	4	3	2	1
20.	1	2	3	4

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### Appendix 4.C-Children Attributional Style Questionnaire Scoring Key

#### SCORING KEY FOR CASQ

Below are listed the items comprising each of the sub-scales of the CASQ, and the choice (A or B) leading to a score of 1 for that item.

<u>Internality Scale</u>		<u>Positive Events</u>		<u>Globality Scale</u>	
<u>Item #</u>	<u>Internal Choice</u>	<u>Item #</u>	<u>Stable Choice</u>	<u>Item #</u>	<u>Global Choice</u>
2	B	5	B	1	A
4	A	9	B	3	B
8	B	23	A	17	A
16	A	39	A	25	B
19	B	40	A	30	A
22	A	41	B	32	B

44	A	42	B	34	A
45	B	43	A	37	B

Composite Attributional Style for Positive Events (CP) = the sum of the scores on the Internality, Stability and Globality Scales for Positive events.

Negative Events

<u>Internality Scale</u>		<u>Stability Scale</u>		<u>Globality Scale</u>	
<u>Item #</u>	<u>Internal Choice</u>	<u>Item #</u>	<u>Stable Choice</u>	<u>Item #</u>	<u>Global Choice</u>
6	A	13	A	12	A
7	B	18	A	15	B
10	B	24	B	20	B
11	A	28	B	21	B
14	B	31	B	27	B
26	A	33	A	46	A
29	B	35	A	47	A
38	A	36	B	48	A

Composite Attributional Style for Negative Events (CN) = the sum of scores on the Internality, Stability and Globality for Negative Events.

Overall Attributional Style = CP - CN.

**Appendix 4.D- Adult Attributional Style Questionnaire Scoring Key**

Scoring key for ASQ

The Attributional Style Questionnaire (ASQ: C 1984) has 12 hypothetical events-6 good events and 6 bad events. Each event has 4 questions that are always in the same order. The first question asks for the one major cause of the event. It is not used in the scoring but is necessary for the test-taker to answer the next 3 questions on whether the cause of the event is internal or external, stable or unstable, global or specific. Scores can be generated for each of the 3 dimensions- internality, stability and globality. Composite scores (CPCN, CoNeg and CoPos) that sum across these 3 dimensions have proven, however, to be the most valid and reliable in the prediction of depression. There is also a measure of hope that sums across stability and globality.

Scores are derived by simply averaging within dimension and across events for individual dimension scores or across dimensions and across events for composite scores. Each individual dimension ranges from 1 to 7. Composite scores, therefore, range from 3 to 21 for CoPos and CoNeg and from -18 to +18 for CPCN. The higher the CoPos of CPCN score the better and the lower the CoNeg score the better. Styles are calculated separately for good events and bad events. For example:

Internal Negative = the sum of #s 6, 14, 18, 26, 30 and 42 divided by 6. (There are 6 bad events).

Hopelessness = the sum of #s 7, 8, 15, 16, 19, 20, 27, 28, 31, 32, 43 and 44 divided by 6.

Composite Negative (CoNeg) = the sum of 6, 7, 8, 14, 15, 16, 18, 19, 20, 26, 27, 28, 30, 31, 32, 42, 43, and 44 divided by 6.

Following is a list of all the measures:

Composite Positive Attributional Style (CoPos): \_\_\_\_\_  
 Composite Negative Attributional Style (CoNeg): \_\_\_\_\_  
 Composite Positive Minus Composite Negative (CPCN): \_\_\_\_\_

Internal Negative:	_____	Internal Positive:	_____
Stable Negative:	_____	Stable Positive:	_____
Global Negative:	_____	Global Positive:	_____
Hopelessness:	_____	Hopefulness:	_____