ACADEMIC ACHIEVEMENT
AS A FUNCTION OF
ATTRIBUTIONS OF SUCCESS AND FAILURE
AND SOCIO-CULTURAL VARIABLES
IN MEXICAN-AMERICAN STUDENTS

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Development of human resources is, in part, dependent upon education attainment. According to the United States Bureau of the Census (2001), 35.3 million people in the United States are Hispanic-Latino of which is the largest minority group in the United States. This is an increase of 57.6% from the 22.4 million in 1990. The largest group within the United States Hispanic population is Mexican American with 20.6 million or 58.4%. This Mexican American population resides along the United States and Mexican border and in Southwestern United States. Mexican American students’ academic achievement in mathematics and reading is significantly and consistently below other ethnic groups in the United States, with the exception of Native American Indians. The present study is designed to increase the understanding of what Mexican Americans attribute to their success and failure in mathematics and reading. That is, do Mexican Americans attribute their academic success and failure to ability, effort, ease of task, or luck/fatalism. Through increasing the understanding of what Mexican American students attribute to their academic success and failure may lead to interventions which may alleviate the loss of human resource potential. School failure among Hispanic students has long been an issue of great concern to educators of this minority student population. Attempts to explain the nature of this failure have taken many forms and have focused on genetic, social, linguistic, and cultural reasons for this problem. A genetic deficit theory has been proposed (Dunn, 1987; Jensen, 1981) as an explanation for school failure among low socio-economic, minority populations. This theory suggests that genetic inferiority and a deficit gene pool are the reasons for lower achievement intelligence among low-income, minority populations as compared to more advantaged groups.

Another explanation for this failure, according to Erickson (1986), lies in the differences inherent in limited opportunities provided students due to the lack of available resources in lower class families. This socialization deficit hypothesis suggests that because of the limited opportunities that the poor can access, they are not able to provide their children with the appropriate intellectual stimulators the motivation to success as do middle class families. Therefore, it can be hypothesized that school failure among lower class, minority children is inevitable because school subjects and tests require abstract thinking, and they may only develop limited concrete reasoning ability as a result of their lower class poor upbringing. It can be further hypothesized that their lower class poverty upbringing contributes to developmental problems that also affect learning.

Whereas the socialization deficit hypothesis focuses on the influence of the cultural and social development of the student within the family structure, modern language acquisition theory emphasizes the subcultural differences between the home and school. This cultural difference hypothesis suggests that differences in the use of language such as dialect, appropriateness of nonverbal cues and use of humor, for example, affect the assumptions made by teachers toward their students (Piestrup, 1973; Erickson, 1979; Lein, 1975). When students’ behavior does not match the teacher’s cultural expectations, the students’ behavior is perceived as inappropriate. This preperception leads to conflict, inhibits the teacher’s ability to interact positively with the students, and contributes to low student achievement (Erickson, 1986). According to Valencia (1991), school failure among Hispanic students has a historical origin and has
persisted over time. He defines school failure in relationship to Hispanic students’ “persistently, pervasively and disproportionately, low academic achievement” (pp. 3-4). From the time Mexican-American students gained greater access to public schools early in the twentieth century to this day, patterns of failure have been prevalent among this population of students. As a result, Mexican-American students continue to lag behind their peers at every level according to standardized measures. A recent report by the Texas Education Agency (n.d.) indicates that Mexican-American students scored lower than Asian-American and African-American peers on the American College Testing Program (ACT), a national achievement test measuring English, reading, math and science (The Monitor August 19, 2001). These results reflect the pervasive nature of academic achievement that seems to be widespread across geographical regions.

The difference in achievement is not just between groups (White/American-American/Asian-American/African-American); within-group differences occur as well. Despite these differences, however; Mexican-American students do read above grade level, excel at high levels, finish high school and graduate from college. Nevertheless, this seems to be the exception and not the rule. Low academic achievement is still the norm for many Mexican-American students in our nation’s schools.

To date, some of the most compelling information regarding low academic achievement among U.S. born minorities, including Mexican-Americans has been provided (Ogbu 1974, 1978, 1987, 1991). Ogbu (1991) asserts that historical racism and institutional oppression have affected the way minorities negotiate within the dominant culture’s pathway to success. Some scholars (Ogbu, 1991; Fodham & Ogbu, Matute-Bianchi, 1991) have suggested that minority students faced with this kind of racism and oppression find the means to counter these powerful forces in ways that will protect their cultural identities. One way in which they counter is to reject schooling and academic achievement because they equate it to “acting white”. Ogbu’s ‘caste theory’ (Foley, 1991) depicts students within a racist, oppressive society. It is hypothesized that as a result of being in this type of society, students perceive their choices to be limited and, therefore, they adapt accordingly. In so doing they ‘develop a dysfunctional oppositional culture that leads them to believe that they cannot be both academically successful and ethnically different’ (p. 67). Under these conditions, Foley (1991) further asserts that these adaptive expressions serve to protect them against psychological damage. Erickson (1984) describes a similar resistance to achievement by students who are in cultural transition and who feel alienated in the process. It is presumed, therefore, that students are unlikely to succeed in school because the factors that affect their achievement are seen as external and beyond their control. Trueba (2002) cautions, however, that these conclusions may “attempt to reject one type of determinism (genetic, biological, etc.) for another type of determinism (cultural)” (p.5).

Unlike Ogbu, Valenzuela (1999) found Mexican-American students did not necessarily reject education and its role in upward mobility, but rejected “schooling [or] the content of their education and the way it is offered to them” (p. 19). Venezuela (1999) suggested that schooling for these students becomes subtractive in nature as a result of policies, practices and procedures that divest them of their culture and language in an effort to insure their assimilation into the dominant culture.

This divesture by its very nature aims to change the student in order to facilitate assimilation into the dominant culture. This ideology exposes what Ryan (1971) noted as
‘blaming the victim’ for his/her failure while perceiving language and cultural differences as deficiencies needing remediation and correction. According to Valencia (1991), blaming the victim and deficit thinking are the result of an abuse of authority and power aimed at keeping a group of people oppressed and marginalized. Also known in the literature as the ‘social pathology’ model or the ‘cultural deprivation’ model, the deficit thinking model attributes students’ failure to their sociocultural background (e.g., the culture into which they were born, the language they first learned to speak if it is other than English, or their socioeconomic status) and identified the family unit as the “carrier of pathology” (Pearl, 1997, p. 113). These deficiencies transmitted by the parents and the home environment allegedly manifest into “limited intellectual abilities, linguistic shortcomings, lack of motivation to learn, and immoral behavior” (Valencia 1991, p. 2). Flores (1982, 1993) notes the devastating effects this deficit model has had on perceptions regarding Latino student achievement. She chronicles the history of descriptions which have been used to label Latino students as mentally retarded, culturally deprived, linguistically handicapped, and at-risk, to name a few.

Although articulated in the educational policies of the 1960’s, the deficit model continues to pervade current educational policies, practices, and procedures despite its criticism by scholars as ethnocentric, and invalid (Boykin, 1983; Trueba, 1989). Not only does it seem to be making a resurgence in current thought and practice, but it is also framing national policy regarding reform initiatives for the economically disadvantaged (Valencia, 1991).

Contrary to the deficit model of thinking in which failure is attributed to deficits in an individual’s sociocultural background, Trueba (1991) suggested that failure should not be attributed to the individual, but to “the sociocultural system [itself] that denies a child the opportunity for meaningful social intercourse, and thus for cognitive development” (p. 153). He suggests that academic failure can only be fully understood when it is considered within a “macro-historical, social, economic and political context” (p. 153).

The study will further educators’ understanding regarding what Mexican American eighth grade students believe are the reasons for their success and failure and the variables that may influence their academic achievement. Given that causal attributions have been found to be determinants of achievement-related behavior (Weiner et al. 1971; Weiner et al. 1972), these beliefs can and do influence academic performance. In addition, students’ beliefs and perceptions regarding their success and failure also affect their motivation to engage in academic activities. This engagement or lack thereof, affects motivation, participation, and student performance.

Attribution theory is a cognitive theory of motivation based on the assumption that individuals have a natural tendency to want to understand why events occur, especially when the events are important or unexpected (Weiner, 1992). The theory has its root in the work of Heider (1958) who investigated the reasons people give for their successes and failures. He suggested that the causes people give for their success or failure determine expectations and behaviors that influence their future success or failure. Among the reasons people give for their performance, Heider (1958) identified two most often cited: can and try. Can refers to one’s ability to succeed at a task, and try is the amount of effort exerted. According to Heider’s (1958) naive attributional theory, expectation for future success depends on whether an individual attributes his failure to
ability or to effort. If failure is attributed to ability, the will be little expectation of future success. If, however, failure is attributed to effort, the likelihood that greater effort will be expended next time will lead to an expectation for future success. It is this attributional pattern that influences behavior and expectation for future success.

Weiner (1985) identified four causes of success and failure: ability, effort, ease of task and luck. Of these, ability and effort were found to be the most frequently cited (Weiner, 1992). In some cases, students didn’t know the causes of their performance. Alderman, Klein, Seely, and Sanders (1993) denitified these causes as mystery attributions most often cited by low achievers (Butler & Orion, 1990).

In addition to the cause of performance, Weiner (1985, 1986) first proposed a model which further classified causes into three dimensions: locus, stabilities, and controllability. Alderman (1999) described these dimensions within a continuum. The locus dimension is described according to an internal-external continuum that includes factors within a person (ability or aptitude) or factors outside the person (luck, task ease). Other scholars have reported the importance of control on achievement. For example, Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, and York (1966) identified differences among minority groups. Similar, Nowicki and Stickland (1973) found that achievement correlated more with locus of control than with measures of intelligence.

The stability dimension is described by Alderman (1999) within a stable-unstable continuum. A cause is considered stable if it is consistent over time and unstable if it is inconsistent in nature.

The third dimension, controllability, is also described within a continuum ranging from controllable to uncontrollable, and refers to the extent a person believes he/she has control over a performance outcome (Alderman, 1999). Luck, for example, is an uncontrollable cause; whereas, effort is one that can be controlled by the individual.

Students draw information from certain direct and/or indirect cues that influence how they perceive the causes of their own performance. For example, prior performance and history information directly influences how students view their current performance (Keely & Michela, 1986).

According to Johnson and Johnson (1985), past attributions affect students’ current achievements motivation. Motivation to achieve is greater when students feel that their past performance was caused by something they did personally to arrive at that outcome, when it is something that is likely to recur, and when they are in control of the situation. A reduction in motivation is probable when students feel that their past performance was their sole responsibility, not remediable, and beyond their control (Johnson & Johnson, 1985). Stipek (1998) considers the consistency of past performance as significant, influencing current attributions and suggests that the stability dimension also plays a role. When students have consistently experienced failure on the past, they are likely to attribute current failure to stable causes such as ability. If, however, past performance is inconsistent, students are more likely to attribute their current failure to unstable causes such as effort, luck, or the ease or difficulty of the task (Stipek, 1998).

Social norm performance is another cue that directly influences attributions for performance. Stipek (1998) considers this as consensus information because it is associated with the locus of control dimension and influenced by the overall performance of the group. For example, if all the students in a class get a high grade on an assignment, a student is likely to attribute his/her performance to an external cause such as the ease
of task. If, however, only a few students score a high grade, the student is likely to attribute his/her performance to an internal cause such as ability (Stipek, 1998). Consensus information is also used by individuals to compare their performance to that of others when forming perceptions of their own performance (Weiner, 1992).

In addition to direct cues that influence attributions of performance, indirect and subtle cues also contribute to a student’s perception of their own success and failure. Teacher behavior in response to student success and failure experiences can indirectly and subtly affect attributions to performance (Graham, 1991). Teacher feedback is one such behavior. According to Graham (1991), teacher feedback in achievement-related situations can be categorized into three groups: pity versus blame, sympathy versus anger, and help versus neglect. When teachers offer pity following failure, they communicate that the student did not have the ability to succeed on the task. If the teachers fix blame on the student for the failure, the message that is communicated is that the student did not have the ability to succeed on the task. If the teachers fix blame on the student for the failure, the message that is communicated is that the student could have done better if more effort had been exerted. In this latter cue, because the teacher has attributed the failure to a lack of effort, the student is more likely to attribute his/her failure to lack of effort and would more likely be motivated to try harder next time.

Similarly, when teachers offer sympathy following failure, they communicate their lack of faith in their students’ ability to succeed. When teachers become angry at their students following failure on a task, test or assignment, they let them know that they are disappointed with their performance, and they expect them to do better next time. This feedback, unlike sympathy, attributes the students’ failure to their lack of effort, which can be remediable.

Another form of teacher feedback that can indirectly influence how students perceive their performance is the unsolicited help from teacher (Graham & Baker, 1990). Because most teachers want to help students succeed, especially those students who are having the greatest difficulty, this subtle cue may go unnoticed. However, when teachers offer help to students without it having been solicited, they are indirectly communicating to them that they don’t believe they can do the work without assistance (Alderman, 1999). When teachers leave students to attempt the assignment on their own and only assist when it is solicited, their message to the students is one of faith in the students’ ability to succeed. Graham and Barker (1990) found that other students judged students receiving help as lower in ability than those who did not receive help, even if the help came from peers.

In addition to teacher feedback, another very powerful indirect and subtle cue for ability is the practice of ability grouping and placing students in academic tracks (Alderman, 1999). Labels such as high, low, and honors define students according to their placement in ability groups (Oakes, 1985). Romeo and Falbo (1996) state that over time the labeling itself serves to affect how students perceive themselves. These labels are powerful cues of one’s ability (Alderman, 1999) and can be received early in a student’s educational experience. According to Pearl (1997), it is placement in low ability groups in elementary school that limits a student’s educational experiences at an early age. This results in placement in low tracks in high school, perpetuating a cycle of limited opportunities for more intellectually challenging activities (Oakes, 1985, 1992). Tracking can have a devastating effect on students’ perceptions of their ability.
(1985) found that students in lower tracks are perceived by their peers to be dumb, and they perceive themselves as such.

Dispositions such as a history of poor performance, cultural, gender, situational, and developmental differences, as well as socioeconomic status may influence students’ attributions for performance. Students who experience a history of poor performance are more likely to attribute success to external causes and failure to a lack of ability than do students with a history of good performance (Butkowsky & Willows, 1980; Green, 1985; Marsh, 1984; Stipek & Hoffman, 1980). Failure syndrome students fail because they do not exert the effort necessary to succeed, and it tends to develop as a result of experiences with repeated failure (Brophy, 1996). These experiences can constitute prior knowledge and be stored in memory in what Jones, Palinscar, Ogle, and Carr (1987) describe as knowledge framework, and may require effective intervention strategies to address.

Some evidence support cultural differences as influencing attributions of success and failure. For example, Japanese and Chinese attribute outcomes more to effort and less to ability than do Americans (Chen & Stevenson, 1995; Tuss, Zimmer & Ho, 1995). Because it is suggested that perceptions are socialized, parents may influence students’ perceptions of the causes of their achievement outcomes. Stevenson & Lee (1990) found that U.S. mothers rated ability and effort as equal; whereas Asian mothers placed more emphasis on effort than ability. Peak (1993) describes Japanese elementary schools as more focused on effort as a key to success, rarely mentioning ability as a factor. In contrast, Bempechat, Nakkula, Wu, and Ginsberg (1996) found no difference in attributional patterns among poor African-Americans, Hispanic, Indochinese, and White 5th and 6th graders. All groups identified ability as the most important attribute to success in mathematics. Willing, Harnish, Hill, and Maher (1983) found relationships among social, cultural, and personal factors in moderating achievement attributions among Anglo, Black and Hispanic students. The results indicated that different factors were important to different groups. Hispanic children had a greater tendency to attribute failure to lack of ability than did the Black or Anglo group.

In this same study, Willig et al. (1983) noted differences within the Hispanic group as they related to levels of acculturation. Three degrees of acculturation to the Anglo-American ethos were explored and defined as follows:

* Group 1 (low acculturation) was comprised of children who came from families where both parents and the child were born in Mexico;

* Group 2 (moderate acculturation) children were from families where some or any of the above three members were born in Mexico and some or any were born in the United States;

* Group 3 (high acculturation) consisted of children from families where both parents and the child were born in the United States (p. 391)

The results of this sub study, indicated that the least acculturated children do not attribute failure to lack of effort or to ability, but to luck. In addition, they credit their success to their effort which indicates that they believe they work hard. Unlike this group, the moderately acculturated group demonstrated the most debilitating attributions. They attributed their failure to lack of ability and did not use effort attributions to describe
success or failure. The explanation provided by the authors suggested that the process of shifting from one sociocultural group to the other may contribute to this devastating situation. In contrast, the highly acculturated group attributed their failure to a lack of effort, a “healthier attribution in the face of failure” than the moderately acculturate group (p 405). Other scholars have supported these findings in the few studies which have focused on acculturation and self-concept development (Dowkin, 1965; Knight, Kagan, Nelson, and Gumbiner, 1978).

Frieze and Synder (1980) found students related different attributions to different tasks. In this study, elementary school students were asked to judge tasks such as an art assignment, playing football, catching frogs, and taking an academic test. Students indicated ability as more important tasks such as football and art; task difficulty as more important for catching frogs; and effort more important for academic testing.

Similarly, different learning situations can also influence students’ dispositions for attributions. In competitive situations, students attribute success to superior ability (Ames, 1978, 1984; Ames & Ames, 1981; Ames et al., 1977). In cooperative learning situations, success is more often attributed to the joint abilities and efforts of the group member (Johnson & Johnson, 1985).

Evidence supports differences in gender as they relate to attributions of performance. Females are less likely to attribute success to their own ability and attribute failure to low ability than are males (Cramer & Oshima, 1992; Dweck & Reppucci, 1973; Nicholls, 1975, 1979, 1980). These differences seem to be subject-specific. Stipek (1984) found that girls attributed their failure to lack of ability in mathematics and were less likely than boys to attribute their success in mathematics to ability. In spelling, however, no differences were found. Frieze (1990) found that girls tend to underestimate their performance, whereas boys tend to overestimate their performance. As a result, girls reflect a lower expectancy for success than do boys.

Attributional patterns seem to progress developmentally, especially those related to ability and effort (Nicholls, 1978, 1979). Young children before the age of 10, perceive ability and effort as the same. They believe that more effort results in increased ability. They also see ability as modifiable and adaptive more so than do older children (Alderman, 1999). Adolescents, however, tend to see ability as the most important reason for their performance outcome (Covington, 1984). They equate expending more effort with having less ability and leads to their reluctance in seeking help (Alderman, 1999).

Research on socio-economic status (SES) as a factor in influencing achievement motivation and academic performance is inconclusive. In a review of 43 studies that compared different ethnic groups, socio-economic status, and achievement motivation, Cooper and To (1984) found that the research clearly demonstrated a positive relationship between socio-economic status and achievement motivation. The higher the SES, the higher the achievement. Conversely, the lower the SES, the lower the achievement motivation.

In a correlation study of the relationship between socio-economic advantage, achievement motivation, and academic performance in an urban elementary school, Schultz (1993) found that “socio-economic advantage and achievement motivation are significant mediators of academic performance in minority children, independent of intellectual ability” (p.221).
However, regarding attributional patterns for success or failure in particular, these seem to be no differences in children of different social class (Graham & Long, 1986; Graham, 1984; Willig et. al., 1983). Although Broderick and Sewell (1985) also found no significant differences in attributional patterns among students from different social class groups, they did note differences in attributions for failure among the groups. Lower class students attributed their failure more to stable causes than did middle class students. Expectancy for success and the condition of helplessness are among the most significant consequences of attributions of performance. According to Heider (1985), it is attributions to ability and to effort that determine behavior and expectancy for success.

Expectations arise following success or failure and are referred to as typical shifts (Graham, 1991). Shifts occur only when a stable attribution is given for past performance (Weiner, 1980, 1992). Typically, expectancies seem to rise after successes and drop after failure (Weiner, 1986). According to Weiner (1994), effort attributions have great implications for future performance than any other cause. Students who attribute their past performance to low effort can still expect future success if they expend greater effort in the future. In contrast, students who attribute their failure to low ability will not be motivated to exert much effort because they don’t perceive themselves as capable of success regardless of how much effort they exert.

Graham (1991) notes that among well-documented findings is the notion that expectancy is related to the perceived stability of causes. If failure is attributed to a stable cause such as ability, the expected outcome will be failure. If, however, failure is attributed to an unstable cause such as effort, the expectation is that this situation need not occur again and that it is remediable. Furthermore, expectancies are more difficult to change when failure is attributed to stable versus unstable causes (Graham, 1991; Weiner, 1985). When this occurs, it leads to what has been identified as learned helplessness. This condition was first investigated with animals in laboratory settings in which dogs were administered mild shocks regardless of what they did to prevent them. They became passive and eventually made no attempt to avoid the shocks even when they could because they learned that the environment was unresponsive to their needs. Other dogs that were able to prevent the shocks as a result of their actions, learned strategies to avoid the shocks (Seligman & Maier, 1967).

It was hypothesized that humans respond in a similar manner. Given this hypothesis, a similar situation would occur with students when they experience failure and believe that there is nothing they can do to prevent it. According to Dweck and Goetz (1978), helpless children attribute their failure to low ability; an internal cause which they perceive is beyond their control. As a result, they exert little effort and tend not to persevere in difficult situations. Dweck and Repucci (1973) found that when students attributed failure to controllable factors such as effort, they tended to be persistent even after they experienced failure. When failure was attributed to uncontrollable factor such as ability, students tended to give up easily when faced with failure. Because there is a connection between attributional patterns developed from performance experiences, helplessness, and subsequent behavior (Abramson, Seligman, and Teasdale, 1978), there can be devastating effects on future performance as a result of low-ability attributions (Weiner, 1994). It does not seem surprising, therefore, that learned helplessness has been found to be most common in low-achieving children (Cramer & Oshimar, 1992).
Research into attributional theory has been followed by investigations into how to apply attributional principles to change student behavior and affect student performance. Attributional retraining works on the assumption that attributions can be changed, thereby predicting future performance. Attributional retraining programs have been developed to attempt to “restructure a student’s maladaptive explanations for failure and success to adaptive ones” (Alderman, 1999, p. 47). One such retraining program was examined by Dweck (1975) in a study of twelve children identified as helpless. This groundbreaking study focused on training two experimental groups of students. One group was taught to take responsibility for their failure and to attribute it to a lack of effort, the other group received no attribution interventions. Before the training, the children’s performance indicated a decline following failure. After the training, students who were taught to attribute failure to lack of effort continued to persist even after they experienced failure at tasks. Those students who received no interventions, showed no improvement in their persistence after failure. Wilson and Linville (1982, 1985; replicated by Van Overwalle, Segarbarth, and Goldchtein, 1989) found that students who had been retrained to attribute failure to lack of effort showed an increase in student achievement.

It is this relationship between retraining and improvement in student achievement that holds the greatest promise for changing student behavior, especially for those students who consistently experience failure. In a review of fifteen attributional retraining studies, Foresterling (1985) concluded that attributional retraining could be “an important aspect of cognitive therapies” (p. 495). It is this knowledge of attributions of success and failure that can help to predict students’ expectations for success and teachers’ plans for intervention strategies (Graham, 1991).

The review of the literature regarding attributions for success and failure describes the conceptual framework for this study based on the theory of attribution.

Research Design and Methodology

The present study utilized three questionnaires as the primary source of self-reported data collected from the students participating the study. In addition, test data are obtained from the state mandated criterion-referenced assessment; and, gender and migrant status were obtained from self-report data and student records, respectively.

Confirmatory data analysis is used to analyze data for the purpose of testing the null hypotheses. These procedures are aimed at confirming the patterns that we discovered during the exploratory phase of this study (Brilinger, 2002), and the relationships shown in the full model. Moreover, it is used to decide whether data reject or fail to reject the null hypotheses that the study was designed to test.

Students selected for the study are participants in the University of Texas Pan American Gaining Early Awareness and Readiness for Undergraduate Programs (UTPA GEAR UP) Project. A total of 7,000 Mexican American middle school students participate in the UTPA GEAR UP Project. These students are enrolled in twenty-three (23) middle schools in twelve (12) school districts participating in the Project. This project focuses on preparing middle school students for college through several interventions such as tutoring, mentoring, and computer-assisted instruction. The middle schools are situated within communities in the Rio Grande Valley of South Texas.
The sample of 900 students in the present study is selected using a stratified by school, proportional by size, random sampling procedures. Of these, 109 students are absent on the day of the survey or had withdrawn from school, and a total of 70 students were not provided consent to participate in the study. In addition, of the 621 students surveyed, 37 students are eliminated from the study due to missing data. Given these omissions, 584 students composed the final sample.

After a review of several formats and techniques for measuring “casual” attributions, the School Achievement Responsibility Survey (SARS) (Ryckman, 1985) was selected to assess student’s casual attributions of success and failure in school-related situations. The SARS includes scenarios providing the respondent with a hypothetical situation to respond to in the form of a questionnaire.

A direct-rating method we used in which the respondents were asked to rate the plausibility of a predetermined set of reasons in a forced-choice format for an outcome in a hypothetical situation. The framework for this study and includes the dimensions of locus of control, controllability and stability. Furthermore, the direct rating method has shown the greatest degree of consistency with Weiner’s attribution theory (Benson, 1989).

The SARS measured students’ perceptions of the role of ability, effort, task ease and difficulty, and luck attributions in school-related situations within two broad subject areas: mathematics and language arts. The survey was standardized on a sample of 1,500 students in grades 4-12. Construct validity of the items ranged from .53 to .75. Test-retest reliability correlations ranged from .52 to .77 (Ryckman, 1985). Students’ attributional patterns were determined by grouping items by subjects’ language arts and mathematics and outcome ability, effort, task difficulty, and luck.

The Short Acculturation Scale for Hispanic Youth (SASH-Y) (Barona & Miller, 1994) was administered to determine the level of acculturation. The SASH-Y is a short, self-reporting acculturation scale designed for Hispanic youth that samples cultural behavior from the context of the family and the social and media influences outside of the family context. The SARS measured students’ perceptions of the role of ability, effort, task ease and difficulty, and luck attributions in school-related situations within two broad subject areas: mathematics and language arts. The survey was standardized on a sample of 1,500 students in grades 4-12. Construct validity of the items ranged from .53 to .75. Test-retest reliability correlations ranged from .52 to .77 (Ryckman, 1985). Students’ attributional patterns were determined by grouping items by subjects’ language arts and mathematics and outcome ability, effort, task difficulty, and luck.

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Student achievement was measured through the Texas Assessment of Academic Skills (TAAS) in reading and mathematics. The 7th grade test administration (Spring,
2001) results were analyzed from student profiles provided from each campus identified in the study.

Socio-economic status and other demographic data are determined from a self-reporting questionnaire. Migrant status was determined from school records as reported on the Public Education Information Management System (PEIMS).

Responses to each item on the predictor/independent variables are entered onto an SPSS spreadsheet and items for each respective subscale in the predictor variables were aggregated. In addition, the development/criterion variables in the form of numerical scores on the TAAS reading and mathematics subtests are also entered. The criterion/dependent variables in this study were the state-mandated achievement assessment scores on the *Texas Assessment of Academic Skills (TAAS)* in reading and mathematics. The independent variables identified in the study are the eight subscales from the *SARS* that include success variables attributed to ability, effort, task, and luck; and, failure variables attributed to ability, effort, task, and luck. In addition, other predictor/independent variables included gender, migrant status, socio-economic status and acculturation level. Gender was self-reported and migrant status was obtained from the PEIMS data available at each campus site in the study. Socio-economic status was self-reported on the demographic questionnaire. Acculturation level was determined from the *SASH-Y* (Barona & Miller, 1994).

**Null Hypotheses**

The following null hypotheses were tested in the study:

**Hₐ1:** Academic achievement in reading is not a function of attributions of success in Mexican-American 8th grade students.

**Hₐ2:** Academic achievement in reading is not a function of attributions of failure in Mexican-American 8th grade students.

**Hₐ3:** Academic achievement in math is not a function of attributions of success in Mexican-American 8th grade students.

**Hₐ4:** Academic achievement in math is not a function of attributions of failure in Mexican-American 8th grade students.

**Hₐ5:** Attributions of success is not a function of socio-cultural variables in Mexican-American 8th grade students.

**Hₐ6:** Attributions of failure is not a function of socio-cultural variables in Mexican-American 8th grade students.
Data Collection Procedures

The Institutional Review Board (IRB) at the University of Texas Pan American and the district superintendents granted permission to conduct the study. A meeting was held with the participants of the schools in the study, the GEAR UP Coordinators at each campus, and UTPA GEAR UP Academic Advisors assigned to the respective campuses to review the questionnaires and explain the procedures for collecting the data. A roster of the students selected for the study was provided to each Coordinator. They were asked to provide migrant status and criterion-referenced test information in reading and mathematics for each student. The Academic Advisors were instrumental in ensuring that this information was correct, returned in a timely fashion to the researcher, and that the test administration was coordinated at each campus. They also facilitated the study by ensuring that the parental consent form was disseminated to the students’ parents and scheduled the administration of the questionnaires with the campus principal and classroom teachers. Students participating in the study were scheduled from their respective classrooms to a testing location on the campus (e.g., library, cafeteria, resource center) at a day and time mutually agreed upon by the campus principal and the GEAR UP Coordinator. Questionnaires were administered during one class period in the spring semester, 2002 according to the schedule established at each campus.

Questionnaires were administered by the researcher to all students whose parents returned a parental consent form authorizing the student’s participation in the study. Following a roll call to verify student attendance, the researcher began each administration session with a brief introduction including an explanation of the purpose of the study. All items on the questionnaires were translated to Spanish to accommodate those students in the sample who were limited English proficient. Instructions for completing the questionnaires were provided, and time for questions and answers was allowed for clarification purposes. The format of the instruments was discussed informing the students that the Spanish translation for each item was included on the back of the English version of the text. Students were asked to use Spanish version of the text if they so preferred. A sample item was read aloud and time was provided for all students to complete the sample and ask questions for further clarification.

When all questions had been addressed, the items on the questionnaires were read aloud by the researcher, and time provided for students to mark their responses. The GEAR UP Coordinator participated in this process by reading the items in Spanish to the students who preferred to complete the questionnaires in Spanish. The Academic Advisors also monitored the students during the administration process.

The survey process was completed in a period of two weeks. Only in one instance did a school need to reschedule the administration date due to an unexpected conflict. The GEAR UP Coordinator arranged for a new date and time, and the same administration procedures were followed at that time.

Data Analysis Procedures

The data collected for this study were primarily obtained through questionnaires and reading and mathematics achievement scales. The scoring of the questionnaires was conducted according to the directions specified by the authors. The data analysis was
facilitated by the software program, Statistical Package for Social Science (SPSS) 12.0 for Windows.

The methods of data analyses were descriptive, exploratory, and confirmatory. The descriptive values included values mean, standard error of mean, variance, skewness, standard error of skewness, kurtosis, and standard error of kurtosis. Exploratory data analyses included box-and-whisker plots and stem-and-leaf displays for each dependent/endogenous and independent/exogenous variable. Confirmatory analyses included correlation and regression analysis. Exploratory and confirmatory analyses were used side by side (Turkey, 1997). Null hypotheses for the present study were tested with $t$ and $F$ distributions at the .05 level of significance.

**Exploratory Analyses**

Exploratory data analyses were conducted to identify outliers in the data and to determine the characteristics of the distributions. A stem-and-leaf display was conducted to determine the distribution of the data while maintaining the actual scores in the display (Turkey, 1977). A box-and-whisker plot provided a display of the distribution of scores for the purpose of identifying any outliers, unusual scores in the data that are often considered extreme and require special consideration.

**Confirmatory Analyses**

Correlation analysis is used to determine the strength and nature of the relationship between and among the variables. Regression analysis is used to explain the amount of the variance accounted for in the dependent/criterion variable by were provided, and time for questions and answers was allowed for clarification independent/predictor variables. Following dependent/criterion and independent/predictor variables:

*dependent/criterion variables*. The following were considered in the present study as criterioriterion variables: TAAS Reading, TAAS Math, attributions of success and attributions of failure.

*independent/predictor variables*. The following were considered in the present study as predictor variables: Attributions of success, attributions of failure, and socio-cultural variables including Socio-economic status, acculturation level, gender, and migrant status.

**Results**

The purpose of the present study is to examine Mexican-American eighth grade students’ attributions for their own success and failure in school-related contexts.

Exploratory and confirmatory analyses are utilized side by side. Exploratory analyses included box-and-whisker plots and stem-and-leaf displays. Likewise, descriptive statistics mean, median, variance, standard deviation, skewness, and kurtosis were obtained for each variable. Correlation and regression analyses are used to determine the relationship between and among the variables. The null hypotheses for the present study are tested with the $t$ and $F$ distributions at the .05 level of significance.
Psychometric properties of item distribution, item discrimination, and content sampling error were derived for each predictor/independent variable. Internal consistency or content sampling measurements error estimates are derived for subscales with a Cronbach’s alpha coefficient (Cronbach, 1963). Conbach’s alpha coefficient is derived through the correlation of every item with every other item. Obtained Cronbach’s alpha coefficients ranged from .64 to .88 for subscales of the School Achievement Responsibility Survey (SARS) (Ryckman, 1985) as shown in Table 2, .88 for the Short Acculturation Scale for Hispanic Youth (SASH-Y) (Barona & Miller, 1994) as presented in Table 1, and .40 for the Socio-economic Status (SES) subscale as displayed in Table 2.

Table 1

*Reliability of Subscales for the School Achievement Responsibility Survey (SARS)*

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Number of Items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success Attributed to Ability (ATTSUAB)</td>
<td>12</td>
<td>.81</td>
</tr>
<tr>
<td>Success Attributed to Effort (ATTSUEFF)</td>
<td>12</td>
<td>.88</td>
</tr>
<tr>
<td>Success Attributed to Task (ATTSUTAS)</td>
<td>12</td>
<td>.79</td>
</tr>
<tr>
<td>Success Attributed to Luck (ATTSULUC)</td>
<td>12</td>
<td>.64</td>
</tr>
<tr>
<td>Success Attributed to Ability (ATTFAAB)</td>
<td>12</td>
<td>.82</td>
</tr>
<tr>
<td>Success Attributed to Effort (ATTFAEFF)</td>
<td>12</td>
<td>.87</td>
</tr>
<tr>
<td>Success Attributed Task (ATTFATAS)</td>
<td>12</td>
<td>.78</td>
</tr>
<tr>
<td>Success Attributed to Luck (ATTFALUC)</td>
<td>12</td>
<td>.76</td>
</tr>
</tbody>
</table>

Table 2

*Reliability of Short Acculturation Scale for Hispanic Youth (SASH-Y) and Socio-economic Status (SES) Subscale*

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Number of Items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acculturation Level</td>
<td>12</td>
<td>.88</td>
</tr>
</tbody>
</table>

| Socio-economic Status  | 10              | .40              |
Descriptive Statistics

Table 3 provides information on each variable in the study including mean, standard error of mean, variance, skewness, standard error of skewness, kurtosis, and standard error of kurtosis for each variable in the study.

Table 3

**Descriptive Statistics for Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>84.24</td>
<td>.61</td>
<td>171.26</td>
<td>-1.65</td>
<td>3.82</td>
</tr>
<tr>
<td>Math</td>
<td>81.90</td>
<td>.45</td>
<td>93.11</td>
<td>-2.26</td>
<td>8.41</td>
</tr>
<tr>
<td>ATTSUAB</td>
<td>38.00</td>
<td>.38</td>
<td>65.51</td>
<td>-.06</td>
<td>-.06</td>
</tr>
<tr>
<td>ATTSUEFF</td>
<td>45.18</td>
<td>.36</td>
<td>60.72</td>
<td>-.48</td>
<td>.18</td>
</tr>
<tr>
<td>ATTSUTAS</td>
<td>31.23</td>
<td>.32</td>
<td>47.80</td>
<td>.148</td>
<td>-.05</td>
</tr>
<tr>
<td>ATTSULUC</td>
<td>35.22</td>
<td>.26</td>
<td>31.96</td>
<td>-.13</td>
<td>.34</td>
</tr>
<tr>
<td>ATTFAAB</td>
<td>30.73</td>
<td>.39</td>
<td>69.59</td>
<td>.22</td>
<td>-.20</td>
</tr>
<tr>
<td>ATTFAEFF</td>
<td>35.98</td>
<td>.42</td>
<td>80.73</td>
<td>-.27</td>
<td>-.25</td>
</tr>
<tr>
<td>ATTFATAS</td>
<td>32.10</td>
<td>.33</td>
<td>51.59</td>
<td>.29</td>
<td>.46</td>
</tr>
<tr>
<td>ATTFALUC</td>
<td>28.01</td>
<td>.29</td>
<td>38.92</td>
<td>.14</td>
<td>.02</td>
</tr>
<tr>
<td>ACCUL</td>
<td>35.91</td>
<td>.37</td>
<td>62.68</td>
<td>.08</td>
<td>-.27</td>
</tr>
<tr>
<td>AES</td>
<td>15.75</td>
<td>.19</td>
<td>16.22</td>
<td>.57</td>
<td>-.05</td>
</tr>
</tbody>
</table>

Exploratory Analyses

Exploratory analyses are conducted for the purpose of detecting atypical data and attributions in the study (Tukey, 1977). Box-and-whisker plots are used to identify any usual scores, or outliers, in the distribution (Hoaglin, Mosteller, and Tukey, 2000).

H₀1: Academic achievement in reading is not a function of attributions of success in Mexican-American 8th grade students.
The derived multiple regression value between TAAS Reading and the attributions of success ($R= .40$) as shown in Table 4 is statistically significant ($P< .01$). The data rejects null hypothesis number one. Therefore, the data suggest that academic achievement in reading is a function of attributions of success in Mexican-American 8th grade students. The $R$ square derived in the analysis suggests that attributions of success due to ability, effort, task ease, and luck account for 16% of the variance in TAAS Reading.

Table 4

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>$F$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAAS Reading</td>
<td>.40</td>
<td>.16</td>
<td>.15</td>
<td>15.72</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictors: Attributions of success due to ability, attributions of success due to effort, attributions of success due to task ease, attributions of success due to luck.

Dependent Variable: TAAS Reading

$P< .05$

Attributions of success due to the variable, explains 9% of the variance as compared to the full model, which explains 16% of the variance. Therefore, the other predictors, attribution of success due to ability, effort, and luck explain 7% of the variance.

The second null hypothesis to be tested is as follows:

$H_0 2$: Academic achievement in reading is not a function of attributions of failure in Mexican-American 8th grade students.

The derived multiple regression value between TAAS Reading and the attributions of failure ($R= .30$) as shown in Table is statistically ($P< .05$). The data reject null hypothesis number two. Therefore, the data indicates that academic achievement in reading is a function of attributions of failure in Mexican-American 8th grade students. The $R$ square derived in the analysis suggests that attributions of failure due to ability, attributions of failure due to effort, attributions of failure due to task difficulty, and attributions of failure due to luck account for 9% of the variance in TAAS Reading.

The derived multiple regressions between the model of best fit and TAAS Reading ($R= .20$) are found to be statistically significant ($P< .05$) as presented in Table 5 third null hypothesis tested are as follows:

$H_0 3$: Academic achievement in math is not a function of attributions of success in Mexican-American 8th grade students.

The derived multiple regression value between TAAS Math and the attributions of success ($R= .36$) as shown in Table is statistically significant ($P< .05$). The data
permits the rejection of null hypothesis number three. Therefore, the data indicates that Mexican-American 8th grade students. The R square derived in the analysis suggests that attributions of success due to ability, attributions of success due to effort, attributions of success due to task difficulty, and attributions of success due to luck account for 13% of the total variance in TAAS Math.

Table 5

All Possible Regression Analysis of Model of Best Fit Between TAAS Reading and Attributions of Failure

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAAS Reading</td>
<td>.20</td>
<td>.04</td>
<td>.04</td>
<td>17.41</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictors: attributions of failure due to ability
Dependent Variable: TAAS Reading

Table 6

Regression Analysis of Full Model Between TAAS Math and Attributions of Success

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAAS Math</td>
<td>.36</td>
<td>.13</td>
<td>.12</td>
<td>17.52</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictors: attributions of success due to ability, attributions of success due to effort, attributions of success due to task ease, attributions of success due to luck
Dependent Variable: TAAS Math

All possible regression is performed between TAAS Math and the variables attributions of successful found to be statistically significant. The model of best fit is obtained as shown on Table 6. The derived multiple regression value between the model of best fit and TAAS Math (R=.26) is found to be statistically significant (P<.05). Attributions of success due to ability, is found to be the most parsimonious model and that which explains the greatest amount of the variance in TAAS Math. Attributions of success due to ability, accounts for 7% of the variance as compared to the full model that explains 13% of the variance. Therefore, the other predictors, attribution of success due to effort, task ease, and luck explain 6% of the total variance in TAAS Math.
Table 7

All Possible Regression Analysis of Model of Best Fit Between TAAS Math and Attributions of Success

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAAS Math</td>
<td>.26</td>
<td>.07</td>
<td>.07</td>
<td>35.36</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictors: attributions of success due to ability
Dependent Variable: TAAS Math

The fourth research question and null hypothesis addressed in the present study are as follows:

Is academic achievement in math a function of attributes of failure in Mexican-American 8th grade students?

H0 4: Academic achievement in math is not a function of attributions of failure in Mexican-American 8th grade students.

Table 8 presents the derived multiple regression value between TAAS Math and the attributions of failure (R= .30) as statistically significant at the .05 level. The data rejects the null hypothesis number four. Therefore, the data indicates that academic achievement in math is a function of attributions of failure in Mexican-American 8th grade students. The R square derived in the analysis suggests that attributions of failure due to ability, effort, task difficulty, and luck explain 9% of the variance in TAAS Math.

Table 8

Regression Analysis of Full Model Between TAAS Math and Attributions of Failure

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAAS Math</td>
<td>.30</td>
<td>.09</td>
<td>.08</td>
<td>11.75</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictors: attributions of failure due to ability, attributions of failure due to effort, attributions of failure due to task difficulty, attributions of failure due to luck
Dependent Variable: TAAS Math

P< .05

Table 9 indicates that the derived multiple regression value for the model best fits between TAAS Math (R= .28) are statistically significant (P< .05). Attributions of
failure due to ability are found to be the most parsimonious model explaining the greatest amount of the variance. The R square derived in the analysis indicate that attributions of failure due to ability account for 8% of the variance in TAAS Math as compared to the explains 9% of the variance in the full model. Therefore, full model with the other predictors, attribution of failure due to effort, task difficulty, and luck explain 1% of the variance in TAAS Math.

Table 9

All Possible Regression Analysis of Model of Best Fit Between TAAS Math and Attributions of Failure

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R2</th>
<th>Adjusted R2</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAAS Math</td>
<td>.28</td>
<td>.08</td>
<td>.08</td>
<td>43.00</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictors: attributions of failure due to ability
Dependent Variable: TAAS Math

H0 5: Attributions of success is not a function of socio-cultural variables in Mexican-American 8th grade students.

A regression analysis between individual attributions of success and socio-cultural variables indicate that the omnibus null hypothesis number five is rejected. Attributions of success consist of attributions due to ability, effort, task ease, and luck. Socio-cultural variables include acculturation level, SES, gender, and migrant status. Therefore, attributions of success is a function of socio-cultural variables in Mexican-American 8th grade students

Tables 1 through Tables 9 indicate the results of the regression analysis and display standardized or beta coefficients between the attributions of success and the socio-cultural variables. A regression analysis between the attributions of success due to ability as the dependent variable and socio-economic status as the predictor variable indicate that the relationship between attributions of success due to ability and SES is statistically significant at the .05 level.

Table 10

Regression Analysis of Model of Best Fit Between Attributions of Success Due to Ability and SES

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R2</th>
<th>Adjusted R2</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTSUAB</td>
<td>.17</td>
<td>.03</td>
<td>.03</td>
<td>25.33</td>
<td>.00</td>
</tr>
</tbody>
</table>
Predictor: (Constant), SES
Dependent Variable: Attributions of success due to ability (ATTSUAB)
$P < .05$

Table 10 indicates SES as the most parsimonious model in explaining the greatest amount of the variance. SES explains 3% of the variance in attributions of success due to ability. The other socio-cultural variables (acculturation level, gender, migrant status) are not significant.

Table 11 indicates gender as the most parsimonious model in explaining the greatest amount of variance in attributions of success due to effort. The other socio-cultural variables (acculturation level, SES, migrant status) are not significant. The relationship between attributions of success due to effort and gender is statistically significant ($P < .05$). Gender explains 3% of the variance in success due to effort.

Table 11

Regression Analysis of Model of Best Fit Between Attributions of Success Due to Effort and Gender

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R$^2$</th>
<th>Adjusted R$^2$</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTSUEFF</td>
<td>.17</td>
<td>.03</td>
<td>.03</td>
<td>16.43</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictor: (Constant), gender
Dependent Variable: Attributions of success due to effort (ATTSUEFF)
$P < .05$

Table 12

Regression Analysis of Model of Best Fit of Attributions of Success Due to Task Ease and Acculturation Level

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R$^2$</th>
<th>Adjusted R$^2$</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTSUTAS</td>
<td>.09</td>
<td>.01</td>
<td>.01</td>
<td>4.25</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictor: (Constant), gender
Dependent Variable: Attributions of success due to task ease (ATTSUTAS)
$P < .05$
Table 13 indicates that acculturation level is the most parsimonious model in explaining the greatest amount of the total variance.

Table 13 indicates that the relationship is statistically significant (P< .05) and presents acculturation level as accounting for 1% of the variance in attributions of success due to task ease.

Table 13 indicates acculturation level as the most parsimonious model in explaining a greater amount of the variance. The other socio-cultural variables (SES, gender, migrant status) are not significant and were eliminated from the analysis. The relationship between attributions of success due to task ease acculturation is statistically significant (P< .05). Acculturation level accounts for 1% of the variance in attributes of success due to task ease.

Table 13

Regression Analysis of Model of Best Fit of Attributions of Success Due to Luck and Acculturation Level

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTSUAB</td>
<td>.10</td>
<td>.01</td>
<td>.01</td>
<td>5.57</td>
<td>0.19</td>
</tr>
</tbody>
</table>

Predictor: (Constant), acculturation level
Dependent Variable: Attributions of success due to luck
P< .05

The sixth research question that guide the present study and null hypothesis to be tested are as follows:
Are attributions of failure a function of socio-cultural variables in Mexican-American 8th grade students?

H0 6: Attributions of failure are not functions of socio-cultural variables in Mexican-American 8th grade students.

A regression analysis between attributions of failure and socio-cultural variables indicate the omnibus null hypothesis number six is rejected. Attributions consist of attributions of failure due to ability, effort, task difficulty, and luck. Socio-cultural variables include acculturation level, SES, gender, and migrant status. Therefore, attributions of failure is a function of socio-cultural variables in Mexican-American 8th grade students. Tables 14 through Tables 16 indicate the results of the regression analysis and display standardized or beta coefficients between the attributions of failure and the socio-cultural variables.
The results of the regression analysis presented in Table 14 show a significant relationship between the full model of attributions of failure due to ability and socio-cultural variables. The correlation analysis indicates a significant relationship between acculturation level and SES are, therefore, included in the regression analysis. The other socio-cultural variables, gender and migrant status, are not significant and were eliminated from the regression analysis. The data permit the rejection of null hypothesis number **6**.

The data indicate that attributions of failure due to ability is a function of socio-cultural variables, specifically acculturation level and SES. The derived multiple regression value between attributions of failure due to ability and acculturation level and SES (R=.18) is statistically significant (P<.05).

Table 15 displays the standardized regression coefficients for each of the predictor variables, SES and acculturation level included in the analysis these socio-cultural variables and attributions of failure due to ability. Of these socio-cultural variables, only SES is statistically significant at the .05 level.

An all possible regression is conducted and the model of best fit is obtained between attributions of failure due to ability and SES as indicated in Table 16. The derived multiple regression value between attributions of failure due to ability and SES...
(R=.17) is statistically significant at the .05 level. The $r$ square derived in the analysis (R2=.03) indicate that SES accounts for the total amount of the variance in attributions of failure due to ability. Therefore, the other socio-cultural variables (acculturation, gender, migrant status) do not contribute to the variance.

### Table 16

**Regression Analysis of Model of best Fit Between Attributions of Failure Due to Ability and SES**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R2</th>
<th>Adjusted R2</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTFAAB</td>
<td>.17</td>
<td>.03</td>
<td>.03</td>
<td>16.42</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictor: (Constant), SES  
Dependent Variable: Attributions of the failure due to ability (ATTFAAB)  
P<.05

The derived multiple regression value between attributions of failure due to effort and SES (R=.09) is statistically significant at the .05 level as shown in Table 15. SES is found to be the only significant predictor variable in explaining the variance (R2=.01). The other socio-cultural variables, acculturation level, gender, and migrant status, are not significant and are not included in the regression analysis.

### Table 17

**Regression Analysis of Model of Best Fit Between Attributions of Failure Due to Effort and SES**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R2</th>
<th>Adjusted R2</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTFAEFF</td>
<td>.09</td>
<td>.01</td>
<td>.01</td>
<td>4.992</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictor: (Constant), SES  
Dependent Variable: Attributions of the failure due to ability (ATTFAEFF)  
P<.05

The derived multiple regression value between attributions of failure due to lack and acculturation level and gender (R.150 as shown in Table 17 is statistically significant at the .05 level. The $R$ square derived in the analysis suggests that socio-cultural variables, specifically acculturation level and gender account for 2% of this variance in attributions of failure due to luck.
Table 18

*Regression Analysis of Model of Full Model Between Attributions of Failure Due to Luck and Socio-cultural Variables*

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTFALUC</td>
<td>.15</td>
<td>.02</td>
<td>.02</td>
<td>6.61</td>
<td>.00</td>
</tr>
</tbody>
</table>

Predictor: (Constant), acculturation level, gender
Dependent Variable: Attributions of the failure due to luck

Table 18 summarized the standardized regression coefficients between failure due to luck and the predictor variables, acculturation level and gender. As indicated, acculturation level and gender are statistically significant at the 0.5 level.

An all possible regression is conducted between attributions of failure due to luck and the predictor variables, acculturation level and gender. The model of best fit is obtained between attribution of failure due to luck and the predictor variables, acculturation level and gender as shown in Table 19. Acculturation level and gender explain equal amounts of the variance. As indicated, acculturation level accounts for 1% of the variance and gender also accounts for 1% of the variance in the full model that explains 2% of the total variance.

Table 19

*Standardized or Beta Coefficients Between Attributions of Failure Due to Luck and Socio-cultural Variables*

<table>
<thead>
<tr>
<th>Model</th>
<th>Standardized Beta Coefficients</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>23.38</td>
<td>.00</td>
</tr>
<tr>
<td>ACCUL</td>
<td>-.11</td>
<td>2.74</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>-.10</td>
<td>2.45</td>
<td>.02</td>
</tr>
</tbody>
</table>
Table 20

Regression Analysis of Model of best Fit of Attributions of Failure Due to Luck and Acculturation Level

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTFALUC</td>
<td>.11</td>
<td>.01</td>
<td>.01</td>
<td>7.17</td>
<td>.01</td>
</tr>
</tbody>
</table>

Predictor: (Constant), acculturation level
Dependent Variable: Attributions of the failure due to ability (ATTFALUC)
P<.05

Table 21 describes the summary of analyses addressing each research question that guided the present study and the corresponding null hypothesis tested the study. The decisions indicated on the table are concluded from the analysis of the data. The data indicates that of the six null hypotheses tested in the study, all six are rejected.

Table 22

Summary of Analyses

<table>
<thead>
<tr>
<th>Questions/Hypotheses</th>
<th>Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Question 1: Is academic achievement in reading a function of attributions of success and failure in Mexican-American 8th grade Students?</td>
<td></td>
</tr>
</tbody>
</table>

Table 22 (continued)

Summary of Analyses

<table>
<thead>
<tr>
<th>Questions/Hypotheses</th>
<th>Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho1: Academic achievement in reading is not a function of attributions of success in Mexican-American 8th grade student.</td>
<td>Reject Ho1</td>
</tr>
</tbody>
</table>

Research question 2: is academic achievement in Reading a function attributions of failure in Mexican-American 8th grade students?
Ho2: Academic achievement in reading is not a function of attributions of failure in Mexican-American 8th grade students.  
Reject Ho2

Research Question 3: Is academic achievement in math a function of attributions of success in Mexican-American 8th grade students:
o3: Academic achievement in math is not a function of attributions of success in Mexican-American 8th grade students.  
Reject Ho3

Research Question 4: Is academic achievement in math a function of attributions of failure in Mexican-American 8th grade students?
Ho4: Academic achievement in math is not a function of attributions of failure in Mexican-American 8th grade students.  
Reject Ho4

Research Question 5: Is attributions of success a function of socio-cultural variables in Mexican-American 8th grade students?
Ho5: Attributions of success is not a function of Socio-cultural variables in Mexican-American 8th grade students?  
Reject Ho5

Table 22 (continued)

*Summary of Analyses*

<table>
<thead>
<tr>
<th>Questions/Hypotheses</th>
<th>Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Question 6: Is attributions of failure a function of socio-cultural variable in Mexican-American 8th grade students?</td>
<td>Reject Ho6</td>
</tr>
<tr>
<td>Ho6: Attributions of failure is not a function of socio-cultural variable in Mexican-American 8th grade students?</td>
<td></td>
</tr>
</tbody>
</table>

**Summary**

The present study utilizes exploratory and confirmatory analysis side by side. Descriptive statistics such as mean, standard error of mean, variance, skewness, standard error of skewness, kurtosis, and standard error of kurtosis are obtained for each variable.
Likewise, exploratory data analyses, box-and-whisker plots, and stem-and-leaf displays are obtained. Bivariate correlation and multiple regression analyses are unused to determine the relationship between and among the variables. Chapter V provides a discussion of the findings.

Summary, Discussion and Conclusions

The purpose of this study is to examine Mexican-American 8th grade students’ attributions of success and failure in school-related contexts. The relationship between and among these attributions, socio-cultural variables and academic achievement are also explored and analyzed.

The findings indicated that (1) there is a significant relationship between academic achievement in reading and attributions of success due to tasks ease; (2) a significant relationship was found between academic achievement in reading and attributions of failure due to ability; (3) there is also a significant relationship between academic achievement in math and attributions of success due to ability; (4) significant relationship exists between academic achievement in math and attributions of failure due to ability; (5) there is also a significant relationship between attributions of success and socio-cultural variables, specifically attributions of success due to ability and SES, attributions of success due to effort and gender, attributions of success due to task ease and acculturation level, and attributions of success due to luck and acculturation level; and finally, (6) a significant relationship was also found between attributions of failure and social-cultural variables, specifically, attributions of failure due to ability and SES, attributions of failure due to effort and SES, and attributions of failure due to luck and acculturation level.

Is academic achievement in reading a function of attributions of success in Mexican American 8th grade students? And, is academic achievement in reading function attributions of failure in Mexican-American 8th grade students?

Generally, the study found a significant relationship between academic achievement in reading and attributions of success. The findings support Weiner’s (1985, 1986, 1992) attributional theory that proposes this relationship. Specifically, attributions of success due to ability, effort and task ease are significant in relationship to academic achievement in reading.

The data also supports (Weiner’s (1992) premise that those who attribute success to ability and effort tend to perform better in school than those who implicate external factors. In this study, the higher the reading score, the greater the tendency to attribute success in reading to ability and to effort. Conversely, the lower the reading score, the greater the tendency not to attribute success in reading to ability and to effort.

In addition, attributions of success due to task ease yields the stronger relationship. The data indicate that the higher the reading score, the greater the tendency not to attribute success in reading to the ease of the task. Conversely, the lower the reading score, the greater the tendency to attribute success in reading to the ease of the task. These results are consistent with Weiner’s (1986) finding that high achieving students tend to attribute their success to internal factors such as ability and effort.

Low achieving students attribute their success to the ease of the task, suggesting that when they are successful within a reading context, they perceive it to be because the task is easy and poses no challenges and not because of their ability in reading or the effort they expend. These findings are consistent with Weiner (1986) who found that low
achieving students tended to attribute success to external-uncontrollable causes such as ease of the task or luck.

The study also found a significant relationship between academic achievement in reading and attributions of failure. Attritions of failure due to ability is the predictor variable with the strongest relationship in explaining the greatest amount of the variance. These results support Willig’s, et.al (1983) finding that Hispanic children have a greater tendency to attribute failure to a lack of ability than do the Black or Anglo group.

The data in the present study further indicate that the greater the tendency to attribute failure to a lack of ability the higher the reading scores. This finding is consistent with the literature (Weiner, 1985, 1986, 1992; Butkowsky and Willows, 1980; Green, 1985; Marsh, 1984; Stipek and Hoffman, 1980).

In addition, Stipek (1998) purported that students are likely to attribute current failure to stable causes such as ability when they have consistently experienced failure in the past. If, however, past performance is inconsistent, students are more likely to attribute their current failure to unstable causes such as effort, luck, or the ease or difficulty of the task.

The results of the study would suggest that Mexican-American 8th grade students in this study may have consistently experienced failure in the past because they are attributing their failure to their lack of ability and not to effort or other attributions. Further research could possibly clarify if past performance did influence the students’ attributions of failure. Furthermore, although the relationship between academic achievement reading and attributions of failure due to ability is significant, the educational value is minimal given the strength of the relationship and should be taken under consideration in utilizing this data to make policy or curricular decision.

Is academic achievement in math a function of attributions of success in Mexican American 8th grade students? And, is academic achievement in math a function of attributions of failure in Mexican American 8th grade students?

The data indicate that academic achievement in math is a function of attributions of success in Mexican American 8th grade students. Specifically, attributions of success due to ability is found to be the most significant. This finding suggests that Mexican-American 8th grade students attribute their success in math to their ability. These results support a recent study (Bempechat, 2002) in which higher achievers in mathematics believed that success was due to high ability.

Similarly, the results of the study indicate a significant relationship between academic achievement in math and attributions of failure due to ability. It also suggests that Mexican-American 8th grade students attribute their failure in math to their ability rather than to other attributions of failure including effort, task ease, and luck. These results are also consistent with Bempechat’s (2002) findings in which low achievers believed that failure was due to a lack of ability. In addition, this finding supports other theories that propose this relationship (Weiner, 1985, 1986, 1992; Butkowsky and Willows, 1980; Green, 1985; Marsh, 1984; Stipek and Hoffman, 1980). Is attributions of success a function of socio-cultural variables in Mexican-American 8th grade students? And, is attributions of failure a function of socio-cultural variables in Mexican-American 8th grade students?

Of the socio-cultural variables in this study, acculturations, SES, and gender are significant predictors of attributions of success. Migrant status is not statistical
significant. The data suggest a relationship between attributions of success due to ability and SES, attributions of success due to effort and acculturation, attributions of success due to task ease and acculturation level, and attributions of success due to luck and acculturation level. This finding rejects null hypotheses number five and is consistent with studies that support this premise (Cooper and Tom, 1984; Schultz, 1993). The data in the present study suggest that the higher the SES, the greater the tendency to attribute success to ability. The lower the SES, the greater the tendency not to attribute success to ability. The research on SES as a factor in influencing achievement motivation and academic performance is inconclusive. Furthermore, because the nature of the relationship between attributions of success due to ability and SES in this study is weak, it does not significantly further the research in this area.

The data in the present study indicate a relationship between attributions of failure and socio-cultural variables. Of the socio-cultural variables, SES and acculturation level were found to be significant. The data suggest a significant relationship between attributions of failure due to ability and SES. Generally, the lower the SES, the greater the tendency to attribute failure to ability. The higher the SES, the greater the tendency not to attribute failure to ability. Although not as strong a relationship as attributions of failure due to ability and SES, here is a significant relationship between attributions of failure due to effort and SES. This finding suggests that the lower the SES, the greater the tendency to attribute failure to lack of effort. This finding rejects null hypotheses number six and is consistent with the literature (Willig., et al, 1983). It also supports Broderick and Sewell’s (1985) findings regarding differences in attributions for failure among the social class groups. In this study, lower class students attributed their failure to stable causes such as ability more so than did middle class students.

The literature supports differences in gender as they relate to attributions of performance. Generally, females are less likely to attribute success to their own ability and more likely to attribute failure to low ability than are males (Bramer & Oshima, 1992; Dweck & Reppucci, 1973; Nicholls, 1975, 1979, 1980). The data presented in this study is consistent with the literature in that females did not attribute their success to ability, but to effort. The data indicate that females, to a greater extent than males, attribute their success more to effort than any other attribution including ability, task ease or luck. However, the data indicates no significant differences between males and females with regard to failure attributions.

Evidence support cultural differences as influencing attributions of success and failure. Willing, et al. (1993) noted differences within the Hispanic group as they relate to levels of acculturation in which the least acculturated children attributed failure to luck. The moderately acculturated group demonstrated the most debilitating attributions, attributing their failure to a lack of ability and not using effort attributions to describe success or failure to a lack of ability and not using effort attributions to describe success or failure. Other scholars have supported these findings in the few studies which have focused on acculturation and attributional patterns (Dworkin, 1965; Knight, Kagan, Nelson, and Gumbiner, 1978). In the present study, although the relationship between acculturation and attributions of success due to task and to luck is statistically significant, the educational value is minimal accounting for less than 1% of the variance. In addition, there were no significant differences between attributions of failure and acculturation.
Therefore, the data in the present study is inconclusive in its findings regarding acculturation and attributions of success and failure.

**Limitation of the Study**

There are certain factors that may limit the generalizability of the study. First, it is limited to a proportional, random sample derived from a population of 7,000 8th grade Mexican-American students from 23 middle schools participating in the University of Texas Pan American Gaining Early Awareness and readiness for Undergraduate Programs (UTPA GER UP) Project. Second, academic achievement is limited to the areas of reading and mathematics. Third, these academic areas are measured by one instrument exclusively, the Texas Assessment of academic Skills (TAAS).

**Recommendations for Practitioners**

Given that socio-economic status is related to attributions of failure demonstrating the most debilitating attributional pattern irrespective of acculturation level, general or migrant status, and it is an external factor out of the realm of teacher’s ability to impact directly, a form of intervention should be utilized. An attributional retraining program should be implemented which will enable students to restructure their unproductive explanations for their success and failure into more productive ones. Wilson and Linville (1982), 1985; replicated by VanOverwalle, Segar bath, & Goldchstein, 1989) found that students who had retrained to attribute failure to a lack of effort instead of to a lack of ability, showed an increase in student achievement. It is this type of intervention that holds the promise for changing student behavior, especially for those who consistently experience failure.

The following conclusions are based on the review of the literature and on the test of the null hypotheses in this study. Of the six null hypotheses included in this study, all were rejected.

One conclusion of the present study is that Mexican-American 8th grade students’ attributional pattern is consistent with the findings described in the literature. High and low achieving Mexican-American students’ attributional patterns are consistent with the high and low achieving students despite their ethnicity. This is significant because early when Hispanic students are referenced in the literature, they are cited as demonstrating the most debilitating attributional patterns as compared to other ethnic groups.

A second conclusion is that the data did not support a relationship between acculturation and attribution of success and failure among Mexican-American 8th grade students in this study. Although the results in the literature are inconclusive, it has been found that those least and moderately acculturated attribute their failure to luck and to ability, respectively (Willig, et al.; 1983). Given that in the geographical area where the present study was conducted, many Hispanic students navigate between cultures and are at varying levels of acculturation, this finding suggests that a student’s culture should not be a factor in predicating success or in describing failure.

The third conclusion drawn from the findings in this study is that there is a relationship between socio-economic status and attributions of success and failure consistent with the literature. The lower the SES, the more debilitating the attributions for failure. Lower SES students in this study attribute their failure to ability and not luck and do not recognized effort as contributing to their success. This finding is important given the
high percentage of low SES students enrolled in schools in the geographical area where this study was conducted.

The study will further practitioners’ understanding what Mexican American 8th grade students believe are the reasons for their success and failure and the variables that may influence their academic achievement. Given that “casual” attributions have been found to be determinants of achievement-related behavior (Weiner et al. 1971; Weiner et al. 1972), these beliefs can and do influence academic performance. In addition, students’ beliefs and perceptions regarding their success and failure also affect their motivation to engage in academic activities. This engagement, or lack thereof, affects motivation, participation, and student performance.
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