Goal orientation, ethnicity, and achievement of middle elementary students

Carl Phillip Koehnke

Follow this and additional works at: https://scholarworks.lib.csusb.edu/etd-project

Part of the Educational Psychology Commons, and the Race and Ethnicity Commons

Recommended Citation
Koehnke, Carl Phillip, "Goal orientation, ethnicity, and achievement of middle elementary students" (2005). Theses Digitization Project. 2837.
https://scholarworks.lib.csusb.edu/etd-project/2837
GOAL ORIENTATION, ETHNICITY, AND ACHIEVEMENT OF MIDDLE ELEMENTARY STUDENTS

A Thesis
Presented to the Faculty of California State University, San Bernardino

In Partial Fulfillment Of the Requirements for the Degree Master of Arts in Education:
Curriculum and Instruction

by
Phillip Carl Koehnke
March 2005
GOAL ORIENTATION, ETHNICITY, AND ACHIEVEMENT OF MIDDLE ELEMENTARY STUDENTS

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

by
Phillip Carl Koehnke

March 2005

Approved by:

Young-Suk Hwang, First Reader

Richard Ashcroft, Second Reader
ABSTRACT

This study examines the goal orientations, ethnicity, gender, and achievement variables of 149 third through fifth grade students at a Southern California elementary school. The research was conducted using two adapted versions of the Patterns of Adapted Learning Survey (PALS). Each version of the survey was specific to the classroom subjects of math and reading. A 2 x 2 achievement goal framework was used with the following construct variables: mastery-avoid, mastery-approach, performance-avoid, and performance-approach. California Standards Test (CST) scores were used to determine achievement.

Several research hypotheses were tested in this study. First, goal orientation would have no affect on achievement. Second, there would be no differences on the four variables because of class subject. Third, there would be no differences on the four variables because of grade level. Fourth, there would be no differences in achievement orientation for ethnically diverse and gender diverse students. The results supported the hypotheses that there would no differences based on ethnicity, gender, or grade level. However, statistically significant differences were found in the mastery-avoid goal
orientation because of class subject. Also, mastery-avoid orientation was found to have a negative correlation to high test scores as measured by the CST.
TABLE OF CONTENTS

ABSTRACT ................................................................. iii
LIST OF TABLES ............................................................ vii
LIST OF FIGURES ........................................................... viii

CHAPTER ONE: INTRODUCTION

General Statement of the Problem .................... 1
Significance of the Thesis ............................... 2
Research Questions ........................................... 4
Research Hypotheses ........................................... 4
Limitations and Delimitations ......................... 5
Assumptions ....................................................... 6
Definition of Terms ............................................. 7

CHAPTER TWO: LITERATURE REVIEW

Introduction ......................................................... 9
Goal Orientation ................................................. 9

CHAPTER THREE: DESIGN AND METHODOLOGY

Subjects ............................................................. 32
Instrumentation/Data Collection ....................... 34
Data Treatment Procedures ............................... 37

CHAPTER FOUR: FINDINGS

Descriptive Statistics ......................................... 39
Grade Level and Subject Matter Analysis ............ 40
Gender and Ethnicity Analysis ........................... 41
Discussion of the Findings ......................... 46

CHAPTER FIVE: CONCLUSION

Recommendations for Further Research ............... 51

APPENDIX A: GOAL ORIENTATION SURVEYS FOR READING
AND MATH ........................................... 53

APPENDIX B: INFORMED CONSENT .......................... 58

APPENDIX C: CHILD’S ASSENT FORM ...................... 61

APPENDIX D: CORRELATIONS AMONG THE DEPENDENT
VARIABLES ............................................. 63

REFERENCES .............................................. 65
LIST OF TABLES

Table 1. Descriptive Statistics of the Dependent Variables According to Grades and Subject Matter ............................................. 43

Table 2. Summary of Univariate Repeated Measures on Math and Reading Tests for the Four Dependent Variables (N=120) ...................... 44

Table 3. Multivariate Tests by Grade by Subject-Matter by Gender by Ethnicity Mixed Model Multiple Analysis of Variance ....................... 45
LIST OF FIGURES

Figure 1. Mean Values of the Dependent Variables Among Different Grades ................................. 46
CHAPTER ONE

INTRODUCTION

General Statement of the Problem

Increased motivation and achievement can be realized through the use of personal goal setting (Pintrich & DeGroot, 1990; Anderman, Austin, & Johnson, 2002; Leonardi & Gialamas, 2002; Pintrich, 2000; Ames, 1992). Research into motivation through goal setting is plentiful. Studies into the effects of goal setting and goal orientation have been conducted with subjects from elementary age to undergraduate students, as well as, business employees.

Researchers have found that adoption of adaptive achievement goals at the school setting has increased achievement (Midgley, Kaplan, & Middleton, 2001). Increased motivation, focus, and concentration on learning tasks are results of goal setting (Carroll & Noelani-Kahuanui, 1995). However, individual student factors either limit the student’s success or enable failure. Locus of control, need for achievement, ability, self-efficacy, and goal orientation are those factors (Phillips & Gully, 1997; Carroll & Noelani-Kahuanui, 1995; Pintrich, 2000; Bandura, 1997). Also, students must value and
achieve a level of commitment to their goals (Locke & Latham, 1990).

Motivation, as an indicator of school success, complements the importance of ability (Church, Elliot, & Gable, 2001). Self-directed learning, beginning with an achievement goal, can be a motivation tool. This motivation emphasizes student ownership in the learning process (Stipek, 2002).

Achievement motivation research has developed over the past twenty years. Two basic constructs of achievement goal theory are mastery and performance goal orientation (Church, Elliot, & Gable, 2001). Mastery goal orientation emphasizes learning as a process and a learner as constantly developing. Performance goal orientation emphasizes proof of competence or avoidance of the appearance of lack of ability (Ames & Archer, 1988).

Significance of the Thesis

This study examined the goal orientations of ethnically diverse third through fifth grade students in a southern California elementary school. Southern California elementary schools have experienced an unprecedented growth in ethnic diversity. This diversity presents a challenge
for educators, not only to supply a quality education, but to construct environments where all students are motivated for life-long learning. To do this, the research used a 2 x 2 goal orientation matrix. The matrix included mastery-approach, mastery-avoid, performance-approach, and performance-avoid constructs. These constructs became the four dependent variables in the study.

This research seeks to identify whether these students: 1) favor one goal orientation, 2) whether there are differences in goal orientations for different classroom subjects, and 3) whether there are differences in orientations and achievement for different ethnicities and genders.

Mastery goal orientation is important to the teacher. Assuming ownership, setting realistic goals, and thoroughly and honestly reflecting on their progress are skills that will serve the students beyond their middle elementary years. The value of mastery goals is real. Mastery goals promote motivation and commitment to learning tasks. However, for the process to be meaningful, a proper environment needs to be developed and individual causal factors that limit success must be considered before and during the goal setting process.
It is expected that the results of this study will benefit educators, parents, and students in the middle and upper elementary grades. If this study establishes that mastery goal orientation at this school site had no positive effect on the students, educators might research the subject more deeply to acquire successful methods for promoting mastery goals.

Research Questions

Based on the previous discussion, this study investigated the following questions: 1) Do the students in the third through fifth grade classes favor one goal orientation for different classroom subjects and does their choice remain constant across the subjects of math and reading? 2) Does achievement goal orientation affect achievement? 3) Are there differences in goal orientation for students of different ethnic backgrounds and genders?

Research Hypotheses

The following hypotheses are based on the previous discussion and the following literature review.

1. Achievement goal orientation will have an affect on achievement.
2. There will be no significant difference on the four dependent variables because of class subject.

3. There will be no significant difference on the four dependent variables because of grade level.

4. There will be no significant differences in achievement goal orientation for ethnically diverse and gender diverse students.

Limitations and Delimitations

The purpose of this study was to find what effect personal goal orientations, grade level, ethnic background, and gender had on achievement in third through fifth grade classes. The effects to be studied are as follows: 1) student goal orientation for different classroom subjects, 2) and goal orientations and achievement for ethnically diverse populations and genders.

The study can best be described as applied survey research. Control was beyond the scope of the researcher. Time was a limitation. This limitation effectively reduced the sample size. Convenience sampling was used. This method of sampling reduces generalizability of the findings to the participant characteristics. However, as this research is added to the body of research in achievement
goal orientation, the overall credibility should be enhanced. Care was taken to ensure validity and internal reliability, however, the mastery-avoid survey items are relatively new to this area of research. The teacher variable may be confounding and was not accounted for.

Much research on goal orientation, motivation, goal setting, need for achievement, and locus of control has been conducted. The researcher attempted to focus the study on those factors that relate to differences in goal orientation, achievement, ethnicity, and gender of third through fifth grade students.

Assumptions

The following assumptions apply in this thesis:

1. A 2 x 2 achievement goal framework using the construct variables of mastery-approach, mastery-avoid, performance-approach, and performance-avoid was utilized (Elliot & McGregor, 2001; Pintrich, 2000; Wolters, 2004).


4. Approach and avoid forms of motivation are consequences of higher order motivation such as efficacy beliefs, task value, personality, competency beliefs, and fear of failure (Elliot & McGregor, 2001; Pintrich, 2000; Wolters, 2004).

5. A student’s achievement goals are operational at all ages (Smiley & Dweck, 1994).

6. A student’s achievement goal orientations can be changed (Elliot & McGregor, 2001).

7. Teacher practice can influence goal adoption (Ames, 1992; Stipek, 2002).

Definition of Terms

For this thesis the following definitions apply:

1. **Mastery-approach** students engage in tasks to master tasks and content.

2. **Mastery-avoid** students engage in tasks in order to avoid failure or the lack of mastery based on their own standards.

3. **Performance-approach** students engage in tasks in order to demonstrate ability.
4. Performance-avoid students engage in tasks in order to avoid the demonstration of lack of ability based on the standards of others.

5. California Standards Test (CST) is a yearly exam administered by California K-12 schools to ascertain student achievement based upon grade level standards.

6. Patterns of Adapted Learning Scales (PALS) is a survey designed to determine the goal orientations of students.
CHAPTER TWO

LITERATURE REVIEW

Introduction

Researchers of achievement goal theory have emphasized how students think about themselves, their work, and their performance. It is relevant to consider why students involve themselves in an academic task and what processes they undergo to achieve their stated or perceived goal. Goal theory is an attempt to explain the relationship between a student’s goal orientation, their personal perspective of self-worth, their need to achieve. The following review will outline the most salient constructs and research into achievement goal theory.

Goal Orientation

Goal orientation is another conceptualization of intrinsic value and it is the reason a student involves themselves in academic tasks (Anderman, Austin, & Johnson, 2002; Church, Elliot, & Gable, 2001; Pintrich 2000; Linnenbrink & Pintrich, 2000). There are a variety of labels researchers have used to describe goal orientations. The two most basic constructs are mastery goals and
performance goals. These two constructs form the basis of normative goal theory (Church, Elliot, & Gable, 2001). Within the mastery and performance goal classifications, goal orientation has been further divided into mastery-approach, mastery-avoid, performance-approach, and performance-avoid (Anderman, Austin, & Johnson, 2002; Pintrich 2000; Linnenbrink & Pintrich 2000).

Mastery goals focus students on learning and mastery of task and content. Mastery-approach goal orientated students are interested in developing competence (Barron & Harackiewicz, 2000). Mastery-approach goals orientated students have been connected to a number of adaptive learning outcomes such as effort, persistence, higher self-efficacy, and interest (Anderman, Austin, & Johnson, 2002; Leonardi & Gialamas, 2002; Pintrich, 2000). Also, intrinsic values of self-improvement, curiosity, enjoyment, and a student’s belief system were linked to mastery goal students. Under a mastery goal, learning is an end in itself (Nicholls, 1984). Mastery goal orientation stimulates an acquisition and processing of knowledge. For this reason, mastery goals have been shown to positively affect long term retention (Elliot & McGregor, 1999).
Most of the literature in achievement goals assumes only one mastery orientation. The mastery-avoid construct is relatively new and the least studied of the four orientations. Mastery-avoid students engage in tasks in order to avoid failure or the lack of mastery (Wolters, 2004). Mastery-avoid students are concerned with their own competence or attainment trajectory, while focused on avoiding negative outcomes (Elliot & McGregor, 2001).

Performance goals orient students to compare themselves with their classmates. Students who held performance goals are engaged in tasks to demonstrate competence relative to others (Barron & Harackiewicz, 2000). Also, performance goal oriented students focus on grades or avoidance of a show of incompetence (Pintrich, 2000). Ames (1992) defined performance goals in the context of a classroom that values high grades, ability, and doing better than classmates.

Several goal orientations related to performance have been identified by researchers (Anderman, Austin, & Johnson, 2002; Elliot & Harackiewicz, 1996; Pintrich, 2000; Ames, 1992). Performance goals can be divided into two subgroups: performance-approach and performance-avoidance (Anderman, Austin, & Johnson, 2002; Elliot & Harackiewicz, 1996).
Performance-approach can be defined as the orientation to display ability. Performance-avoidance is avoiding the demonstration of lack of ability (Midgley et al., 2000; Middleton & Midgley, 1997). While mastery-avoid students do not wish to look incompetent based on their own standards, performance-avoid students desire to avoid looking foolish based on the standards of others (Linnenbrink & Pintrich, 2000).

In a review of the research, Pintrich (2000) found that students may be motivated by combinations of mastery and performance goals. These include high mastery/high-performance, high mastery/low-performance, low-mastery/high-performance, and low-mastery/low-performance. Pintrich hypothesized that students can exhibit similar levels of achievement and cognitive skills while employing different goal orientations. Pintrich used the construct of pathways to explain this phenomenon. Due to variances in goal orientation, students could use different patterns of cognitive strategies, affect, and motivation.

To study the pathways construct, Pintrich (2000) developed a person-centered analysis of four groups of junior high students in a mathematics classroom. The main research question was whether multiple pathways vary as a
function of multiple goals. Using a 2 x 2 matrix of mastery and performance goal orientation, the researcher explored whether four outcomes were related to specific goal orientations. The outcome included the following: motivational beliefs, affect, strategy use, and classroom performance. Motivational beliefs were further divided to include task value, self-efficacy, and test anxiety (Pintrich, 2000).

Pintrich (2000) predicted that self-efficacy and value would decrease and test anxiety increase over time. Also, the high-mastery/high performance and high mastery/low performance groups could be linked to similar pathways.

Affect scales were divided into two groups: positive affect and negative affect. Feeling proud or happy about school were positive affects. Negative affects were feelings of shame, embarrassment, or anger. Again, Pintrich (2000) predicted a decrease of positive affect over time while the high-mastery/low-performance, high-mastery/high performance groups would follow the most adaptive pathways.

A third outcome studied related to motivational strategies, specifically, effort level and risk taking. Pintrich (2000) predicted that both effort level and risk
taking would decrease over time, with the high-mastery/low-performance group reporting the smallest decrease. Because of the concern with grades, the high-mastery/high-performance group was predicted to show a marked decrease in risk taking.

Two measures developed by Pintrich and DeGroot (1990) were used to determine cognitive strategies. Cognitive strategies refer to the extent students use organization, rehearsal, and elaboration, while the second measure referred to metacognitive strategies. The mastery goal orientated groups were predicted to have the least decrease in the use of cognitive strategies.

The final outcome studied was classroom performance as measured by the students' actual math grades. Again the high-mastery groups were predicted to show the least decline over time.

The data for the study was collected at three intervals: the beginning of eighth grade, the end of eighth grade, and the beginning of ninth grade. 150 students were sampled, 95% Caucasian from a working class socioeconomic status. A 7-point Likert scale survey was used to focus on the student's motivation in math class while two questions were focused on their general affective school experience.
The results for motivational strategies were contrary to normative goal theory. The students who held high-mastery/high-performance goal orientation were found to have the smallest decrease in self-efficacy and task value. However, the high-mastery/high performance group showed a higher level of test anxiety and greater negative affect.

While the high-mastery/high performance group exhibited greater negative affect, they rebounded at the start of the ninth grade year to show the highest level of positive affect. Also, the high-mastery/high-performance group reported the lowest levels of self-handicapping and the highest levels of risk taking. The high-mastery/low-performance group was withholding effort comparable to the two low-mastery groups. Greater cognitive and metacognitive strategies including self-regulation were used by mastery groups. While the mastery groups showed a decline over time, the low-mastery groups started low and stayed low. The high performance groups did have higher grades but the results were not statistically significant (Pintrich, 2000).

Pintrich (2000) found that a high-performance goal orientation, when coupled with high-mastery orientation, can have several adaptive outcomes. The high-mastery/high-
performance group showed greater levels of task value and risk taking. Even though this group held a performance goal, they did not experience greater test anxiety, or more negative affect than the high-mastery/low-performance group.

Those students who were solely concerned with performance, being smarter than others, performing better than others, with little concern for mastery learning, were more likely to follow a pathway that led to maladaptive outcomes. Concern with mastery learning and high performance was shown to be as efficacious as a goal orientation limited to mastery. Pintrich (2000) suggested that classrooms which fostered mastery learning and allows for performance-approach, will not suffer a lack of motivation, cognitive strategies, affect, or grades (Pintrich, 2000).

Pintrich’s (2000) research has meaning for classroom instruction and motivation through goal setting. It clarifies the conclusion that performance-approach coupled with mastery goals can be adaptive, especially in the current climate of mandated multiple choice assessments from the federal, state, and district levels. Mastery
goals cannot be forgotten. Performance-approach goals were most effective when held in conjunction with mastery goals.

Multiple goals and/or multiple pathways to success are supported by researchers as the next area for research (Pintrich, 2000; Barron & Harackiewicz, 2000; Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002). Midgley, Kaplan, and Middleton (2001) reviewed research that found a relationship between approach-performance and adaptive outcomes. The researchers attempted to define the context and populations that would benefit from performance-approach. They found conflicting research. Performance-approach was found to benefit students who wish to perform on exams that called for simple recall of facts. However, the same students who were tested later were found to have poor retention. Because of conflicting results, Midgley et al. (2001) suggested that under certain highly defined circumstances, performance-approach goals have led to adaptive outcomes. Boys, beginning university students, students in a competitive class environment, and classrooms where mastery goals were also valued were circumstances where performance-approach goals were efficacious. However, Midgley et al. (2000) did not promote emphasizing
performance goals; rather, the researchers documented the overall adaptive outcomes of mastery goals.

Classroom structures that engage either mastery or performance orientation have been the subject of much recent research. Ames (1992) found that a classroom environment which valued progress and effort while equating success in the same way were more likely to have students who held mastery goals orientations. Stipek (2002) studied the explicit teacher practices that facilitated student skills and understanding. Stipek (2002) found that the best teacher practices enhance student learning by indirectly enhancing their motivation. The findings suggested teaching to higher order thinking skills, using materials that are authentic, meaningful, and embedded in the students' everyday lives. Also, teachers need to focus on mastery learning through active participation, while allowing students a share in the control of the learning process. Finally, teachers need to promote a classroom environment that is positive and respectful (Stipek, 2002).

Patrick, Anderman, Ryan, Edelin, and Midgley (2000) considered the association between teachers' behaviors and practices and their students' perceptions of the classroom goal structure. Implicit and explicit communications of
achievement goals, in particular, were studied. Four fifth grade classes were used for the research. The students in each class were given the PALS survey (Midgley et al., 1996). Based on the results of the survey, the classrooms were categorized into high-mastery/low-performance, high-mastery/high-performance, high-performance/low-mastery, and low performance/low-mastery groups. Using checklists, the researchers made classroom observations throughout the school year. The researchers found that the classroom environment created by the teacher was directly related to his or her implicit theory of student learning. If the teacher believed learning was an ongoing process, they tended to orient the classroom structure toward mastery goals. If the teacher believed that learning was to be from a previously known set of facts or knowledge, they tended toward performance orientation (Patrick, Anderman, Ryan, Edelin, & Midgley, 2001). These findings are consistent with the view that a student’s belief on the nature of intelligence affects their goal orientation (Dweck & Leggett, 1988).

These implicit theories translated to explicit communication of achievement goals. The two classes that were mastery oriented placed a high value on student to
teacher and student to student interaction and deemphasized formal assessments and social comparisons. Also, the teachers made themselves available to help and coupled high expectations with confidence in the students’ abilities. The researchers found a relationship between the affective environment and a mastery goal orientated classroom. Teachers in the mastery groups emphasized the students’ well-being and social support (Patrick et al., 2001).

The two classes that were oriented toward performance placed a greater emphasis on assessments and grading. The teachers communicated the differences in grades thereby promoting social comparison. Also, group work was discouraged, sharing information was deemed inappropriate, and there were only certain times throughout the day when students could seek help (Patrick et al., 2001).

Turner et al. (2002) addressed the relation between the learning environment, student’s perceptions of the classroom goal structure, teacher’s instructional discourse, and student’s reported use of avoidance. The researchers sought to answer the following questions: 1) Do student’s perceptions of goal structures relate to the use avoidance, self-handicapping or avoidance of help seeking? 2) How does instructional discourse relate to
student’s perceptions of classroom goal structure and the use of avoidance?

Turner et al. (2002) surveyed over one thousand sixth grade students using a five-point Likert scale. Ryan (Ryan, Gheen, & Midgley, 1998; Ryan & Pintrich, 1997) and Midgley (Midgley et al., 1996) developed the assessment tools used in the survey. Classrooms were visited and audiotapes made of teacher’s discourse. Notes were taken to supplement the tapes. Discourse was then coded and categorized as instructional, organizational, or motivational.

Teachers who were identified as high-mastery/low-avoidance had created an environment that supported students cognitively and motivationally. These teachers supported effort, used humor, gave personal attention and encouragement, and provided for peer support (Turner et al., 2002). These findings are consistent with Patrick et al. (2001) who found mastery-oriented teachers offered cognitive and affective support.

The relation between undergraduate’s perceptions of their classroom environment and subsequent goal adoptions was researched by Church, Elliot, and Gable (2001). Three environmental variables, lecture engagement, the absence of
evaluation focus, and harsh evaluation were found to be predictors of goal adoption. Mastery goals were linked to positive lecture engagement, a lack of evaluation focus, and harsh evaluation. Performance-approach was linked to evaluation focus, and performance-avoid was linked to harsh evaluation. Also, goal adoption influenced both intrinsic motivation and graded performance (Church, Elliot, & Gable, 2001).

The researchers suggested educators attend to the following: 1) presenting the material in an interesting fashion, 2) the degree to which they emphasize evaluation, and 3) the severity of that evaluation. Of the three environmental factors, harsh evaluation was seen as the most important and easiest to address (Church, Elliot, & Gable, 2001).

Ames (1992) found that the manner in which students are evaluated is one of the most important factors that affect student motivation. Social comparison and competitive or performance oriented classrooms were found to be detrimental techniques. Also, where evaluation is perceived as controlling, emphasizes social comparison, or is extremely differentiated, it contributes to a negative environment.
The impact of mastery-oriented structures on student motivation may be enhanced or even subverted by school policies and programs that, for example, make performance salient (e.g., public recognition and award programs), attempt to exert considerable external control over behavior (e.g., incentive or discipline programs), or encourage social comparison (e.g., tracking, honor rolls, contests). (Ames, 1992, p. 266).

The question of whether children show a tendency for one goal orientation over another and at what age was researched by Smiley and Dweck (1994). Specifically, the researchers sought to find whether pre-school aged children experience positive affect, such as self-monitoring, persistence and effort, or negative affect, such as negative attributions of ability, decreased task performance, and negative judgments about future failures, when confronted with a difficult task.

Miller (1985) and Nicholls and Miller (1984) suggested that very young children lack the cognitive skills for negative affect that leads to helplessness. Young children
were found to be unable to link current failure to future performance, or blame failure on ability. In order to test this finding, Dweck (1991) gave preschool children two puzzles, one was insoluble. Some children reacted positively, even to the insoluble puzzle. They continued with the task when given the opportunity. Other children reacted negatively, and when given the choice, switched to the simpler puzzle. The results were consistent with findings of older school aged children involved in academic tasks (Dweck & Leggett, 1988; Elliot & Dweck, 1988).

Smiley and Dweck (1994) sought findings that would show task preference following failure would predict achievement orientations, either mastery or performance. The subjects were 78 children form nursery school and kindergarten classes with a range of ages from 47 to 74 months. Children were asked to self-assess their puzzle solving skills and complete a puzzle pretest.

In the next session, the children were presented with three insoluble puzzles and one soluble puzzle. The children were then asked to respond to questions about their emotions while attempting to solve the puzzles. The questions elaborated on the children’s expectations for future success and their puzzle solving ability. Finally,
the children were given the option to work on one of the four puzzles, insoluble or soluble. The children were placed into a mastery goal or performance goal group based on their choice of puzzle and their reasoning behind that choice. Those children who chose an insoluble puzzle and stated a preference for challenge-seeking were the mastery goal group. The mastery goal group reported to have more positive affect, be less concerned with performance, disengaged less frequently, and expressed more confidence about future success (Smiley & Dweck, 1994).

Next, the researchers contrasted the performance groups, labeling them confident or not confident. Not confident performance children were more likely to engage in negative utterances, while the confident performance children had statistically similar strategies and emotions as the mastery goal group. The researchers concluded that a young child’s responses showed a motivational style and that their style is independent of differences in capacity (Smiley & Dweck, 1994).

Research in achievement goal theory has shed new insights on the educational challenges faced by ethnic minority students, those who appear to be losing ground to non-minority students (Herman, 2002). Steele and Aronson
(1995) suggested that racial barriers explain the discrepancy in achievement between minority and non-minority students. Mickleson (1990) suggested that minority students' perception was that effort did not equate with economic or social mobility. Fordham and Ogbu (1986) and Herman (2002) hypothesized that identity conflict explained the differences in achievement between minority and non-minority students.

Maladaptive outcomes associated with performance-approach and performance-avoid orientations have been well documented (Midgley et al., 2001; Middleton & Midgley, 1997; Linnenbrink & Pintrich, 2000). The negative effect of performance goal orientation, especially the aspect of social comparison, is exacerbated in a cultural context. Students who are culturally different could be made to feel marginalized if those differences are made public (Maehr, 1998). Teacher practices and classroom structures that motivate performance orientation have maladaptive outcomes for culturally diverse students. In a study of Chinese students, those students placed into a low ability group were found to have significantly lower achievement and school affect, when compared with students placed in a high ability group (Salili & Lai, 2003).
There has been discussion whether the performance and mastery goal constructs are culturally valid. In two separate studies, Salili (1987; 1996) found that Chinese students do not choose mastery or performance goal orientation for individualistic reasons. The student in these studies sought to achieve success in order to bring honor to their family or out of respect for authority (Salili, 1987; Salili, 1996). Whereas Daeryong (2000) found the salient constructs of goal orientation theory to be applicable to Korean math students.

Multi-ethnic value perceptions were studied by Graham, Taylor, and Hudley (1998). In two studies, the researchers used peer nominations to determine whether African-American students devalue effort and success in school. The first study conducted used responses from 300 low socio-economic status (SES) African-American sixth through eighth graders. The findings suggested that African-American girls valued high achievement more than African-American boys. The researchers hypothesized that other marginalized minority groups would have the same value preferences as African-American boys.

In the second study, 400 low-SES African-American, Latino, and White six through eighth graders used peer
nominations to determine whether their hypothesis was correct. Students were asked to nominate students who try hard, follow rules, do not try hard, and do not follow rules. The students predominantly chose low achieving Latino and African-American boys rather than White boys as not trying or following rules (Graham, Taylor, & Hudley, 1998). Fordham and Ogbu (1986) found that multi-racial student who self-identified as Black or Latino achieved less than those who self-identified as White or Asian.

Another factor that has been identified as negatively affecting minority achievement is home-school dissonance. Dissonance refers to the degree of difference between the culture of the student’s home and their school. Students who experienced high home-school dissonance were more apt to be angry, self-deprecating, less hopeful, and achieve less than those students with low home-school dissonance (Arunkumar, Midgley, & Urdan, 1999).

The idea that goal orientations can be subject-specific has been researched mainly under the motivational construct of interest and achievement (Renninger & Hidi, 2002). The researchers hypothesized that there are different types of interest and achievement relation, depending on the interest a student has for a particular
content. The researchers called the first of these "Well-developed Individual Interest and Achievement" (Renninger & Hidi, 2002, p. 175). Student who hold this kind of interest motivation do not need to be motivated to engage in a task because they already have a well-developed interest and are actively engaged in the challenges the task represents.

The second relation between interest and achievement was called "Less-developed Interest and Achievement" (Renninger & Hidi, 2002, p.178). A student who holds this relation may have little interest for their subject matter, and require extra input from teachers and parents. Students may clock the time spent and judge whether the effort was worthwhile (Renninger & Hidi, 2002). Renninger and Hidi (2002) found that an interest a student holds for a particular subject is related to activity and achievement. A well-developed interest can be expected to lead to high-achievement. A student who holds only a situational interest might be expected to attend to only a part of an assignment. The researchers also found that a student who held a mastery-approach orientation (Linnenbrink & Pintrich, 2000), were able to transfer goals
held for well-developed interests to content for which there was a less-developed interest.

Other researchers have found a decline in general and subject specific interest as student get older (Hidi & Harackiewicz, 2000; Anderman & Midgley, 1998; Pintrich, 2000). These researchers concluded that the decline in interest is not a function of puberty but of learning environment. By offering their students a choice and moving the focus of schools toward mastery goal orientation, schools can promote the motivation of all students (Anderman & Midgley, 1998; Hidi & Harackiewicz, 2000; Renninger & Hidi, 2002).

This research seeks to further the study of goal orientation, motivation, and achievement. Previous research has identified a need to determine the relationship between school subjects and goal orientation (Pintrich, 2000), a need to perform tests across all grades (Church, Elliot, & Gable, 2001), and a need to determine whether performance-approach orientation is adaptive or necessary (Midgley, et al. 2001; Barron & Harackiewicz, 2000; Linnenbrink & Pintrich, 2000; Harackiewicz, et al., 2002). The relation between ethnicity, orientation, and achievement has been considered in several studies (Graham,
1994; Kaplan & Maehr, 1999). However, the role of goals and achievement in the Hispanic community remains an understudied issue. Midgley, Kaplan, and Middleton (2001) wrote that the positive and negative affects of performance-approach goals for different ethnicities requires further study.
CHAPTER THREE
DESIGN AND METHODOLOGY

Subjects

The community has a total population of 24,157, of which 56.2% are male. The following are the demographics of race: African American 6.1%, American Indian 0.8%, Asian American 1.2%, Hispanic 22.8%, Native Hawaiian or Other Pacific Islander 0.3%, and White 82.4%. The community has 6,136 families. The median age is 36.3. The median family income is $66,204. 3.3% of families are below the poverty level.

The educational levels are below both state and country averages. 75.4 percent of the community is a high school graduate or higher. 11.9% have a bachelor’s degree or higher.

The school has a population of 662 students and is on a year round schedule. There are four different tracks. Each track operates on a 60/20 schedule, on for 60 days and off for 20. “A” track has 130 students, 45 in third through fifth grade. “B” track has 175 students, 86 in third through fifth grade. “C” track has 221 students, 108 in third through fifth grade. “D” track has 130 students,
48 in third through fifth grade. The total population of third through fifth graders is 287 students. The demographic breakdown is as follows: African American 1.8%, American Indian 0.7%, Asian American 1.2%, Filipino 0.3%, Hispanic 30.0%, Pacific Islander 0.3%, and White 65.7%.

The researcher collected permission and student surveys over a three week period. These three weeks coincided with the off-track schedule of "A" track. "A" track was excluded from the population, and the population was reduced. The sample was conveniently selected from the B, C, and D track third through fifth graders. The researcher had access and cooperation from the administration and staff, and the sample was both accessible and expedient. The demographics of this school site included a 30.0% Hispanic population. This enabled the researcher to study the achievement of an ethnically diverse population.

The final population of the study was (N) = 122. The breakdown by grade level was as follows: 3rd grade was 38, 4th grade was 41, and 5th grade was 43. The total number of male participants was 68 and the total number of female participants was 54. The ethnicity distinction was non-Caucasian and Caucasian. The total number of non-Caucasian
participants was 38 and the total Caucasian participation was 84.

Instrumentation/Data Collection

The data collection instrument was an adapted version of the PALS survey (Midgley, et al., 1996; Midgley, et al., 2000). The scales in the PALS survey were developed over an eight year period for both teachers and students. The validity, internal consistency, stability, and construct validity was assessed by a team of researchers using seven different samples that ranged in age from elementary to middle school students (Midgley, et al., 1998). The study used confirmatory factory analysis to determine that the PALS scales demonstrated concurrent, construct, and discriminate validity. The scales were also found to be stable over time and have internal consistency. The researchers used their results as well as findings from other studies to conclude that the scales have been effective with different genders, ethnicities, and age levels (Midgley, et al., 1998).

The original scales included mastery-approach, performance-approach, and performance-avoid orientations. The following list was the numbers of survey questions for
each goal orientation construct: mastery-approach (6), mastery-avoid (4), performance-approach (5), and performance-avoid (5). In order to test the 2 x 2 matrix, mastery-avoid orientation items needed to be included in the survey. Elliot and McGregor (2001) wrote and tested an assessment of goal orientations called the Achievement Goal Questionnaire (AGQ). This AGQ included the mastery-avoid construct. Pieper’s (2004) research sought to extend the study of a 2 x 2 matrix, one that included mastery-avoidance. Pieper (2004) developed and tested new mastery-avoid survey items that were shown to be reliable measures of both the mastery and avoidance constructs. The new survey items were also found to be internally consistent.

The current study adapted the PALS scales and the Pieper (2004) mastery-avoid items to be specific for both math and language arts classes and to be age level appropriate (Appendix A). The survey items were distributed throughout the survey in order to avoid inducing patterns of responses and a 6-point Likert scale was used. The surveys began by using an example to familiarize the students with the scales.

In order to protect the anonymity of the student participants, consent forms were developed for parent and
student approval (Appendices B and C). The consent forms were approved by the Institutional Review Board of California State University, San Bernardino. The parental consent forms were distributed to the students. The teachers summarized the information in the consent forms and asked they be returned signed within two weeks. The school site had procedures for disseminating information to parents. These procedures were followed with the consent forms. Permission from the site administrator was granted to perform all aspects of the research. A total of 242 parental consent forms were sent out. 149 consent forms were returned.

On the day of administration, those students who had received permission from their parents were given a child's assent form (Appendix C). The form notified the students of the purpose and goals of the research, the fact that the surveys were not to be graded, and that their name would not appear in the final study. Also, the assent form stated that the names of the students would be removed from the surveys approximately one month after data collection. The students were guaranteed their freedom to participate with no rewards or punishments. All 149 students signed the assent forms thereby agreeing to participate.
Teachers were trained as research assistants. The teachers were asked to read the surveys aloud to the students while moving about the room to ensure quality responses. The example item at the beginning of the survey was to be used as a teaching tool. Teachers were told that questions were inevitable and answer them to the best of their ability. Restructuring and rewording of survey items was to be kept to a minimum so that consistency was not compromised. Both surveys were to be completed in one sitting. Once completed, the surveys were placed in an envelope and sealed.

Following the collection of surveys, the researcher accessed each student's Language Arts and Math California Standards Test (CST) score. The state of California tests each student once per year on grade level standards and reports progress using scaled scores. The scale ranges from 150-600.

Data Treatment Procedures

Once collected, all data were treated numerically and placed in spreadsheets. Spreadsheets were created for math and reading. The spreadsheets for math and reading were eventually merged. Survey questions were then grouped for
each of the 2 x 2 orientation matrix: mastery-approach, mastery-avoid, performance-approach, and performance-avoid. These motivational constructs were used as the four dependent variables.

The research questions required descriptive and inferential statistical treatment. Multivariate and univariate analysis, both between and within subjects, were used. This process began with computing the average score each of the orientations and inserting that value into the merged spreadsheet. A repeated measure of MANOVA was used to test the data. The data was assumed to have a multivariate normal distribution which is a basic assumption of MANOVA. Also, MANOVA was deemed appropriate in relation to the research questions which sought to understand group differences across multiple dependent variables simultaneously. Wilk’s Lambda was used to test the null hypothesis. Statistical significance was set at $p < 0.05$. 


CHAPTER FOUR

FINDINGS

Four sets of analyses were conducted and results organized accordingly. The first set of analyses examined the correlations among the motivational constructs and math and reading achievement as measured by the CST. In the subsequent set of analyses, the first, second, and third hypotheses were tested using a MANOVA.

Descriptive Statistics

Means, standard deviations, and correlations among variables are shown in Table 1 and Appendix D. Among the subjects, math and reading, approach and avoidance forms of motivation showed significant correlations. Also, the performance-approach variable in both math and reading showed significant correlations to other forms of performance motivation. The math and reading achievement scores had significant correlations ($r = .693, p < 0.01$). Math mastery-avoid showed significant negative correlations to math ($r = -.254, p < 0.01$) and reading achievement ($r = -.300, p < 0.01$). Reading mastery-avoid also showed significant negative correlations to both math
achievement ($r = -0.225, p < 0.01$) and reading achievement ($r = -0.227, p < 0.01$). The remaining goal orientations showed no correlation between achievement goal and achievement.

Grade Level and Subject Matter Analysis

The effect of three different grades (third, fourth and fifth - between factor) and two different subject matters (math and reading - within factor) on the four dependent variables: mastery-approach, and mastery-avoid, performance-approach, and performance-avoid was examined with a three by two mixed model MANOVA.

The multivariate results showed a statistically significant within-subject difference in relation to math and reading, Wilks' Lambda = .093, $F (4,116) = 3.123, p = .018$, but no between-subjects differences among the three different grades Wilks' Lambda = .908, $F (8,232) = 1.427, p = .186$. There was no statistically significant interaction on the dependent variables between the effects of subject matter and grades, Wilks' Lambda = .919, $F(8,232) = 1.248, p = .272$.

Four one-way repeated-measures ANOVA on subject matter were performed by default (Univariate tests on SPSS) to decipher which of the motivational constructs were
responsible for the multivariate differences. Table 2 shows that mastery-avoid was the only one of the four variables that showed statistically significant difference in relation to math and reading. The means of math mastery-avoid ($M = 3.25$) and reading mastery-avoid ($M = 3.08$) were close to midpoint of the survey scale (Figure 1). While examining the main effects, the math mastery-avoid mean was significantly higher than the reading mastery-avoid mean when all grades are clustered together. The results support that the null hypothesis must be rejected. There is a statistically significant difference between math and reading mastery-avoid.

**Gender and Ethnicity Analysis**

To further explore the effects of gender and ethnicity, a full three by two by two by four or Grade by Subject-Matter by Gender by Ethnicity mixed model MANOVA could be used. Although some of the actual values are different (see Table 3), a more complicated model did not change any of the results described under "Grade Level and Subject Matter Analysis."

The results showed no significant differences among ethnicities on achievement goal adoption, and there was no
interaction between subject matter and ethnicity. The results also showed no significant differences due to gender and there was no interaction between subject matter. The null hypothesis, that no differences exist because of either gender or ethnicity on achievement goal adoption, was retained.
### Table 1. Descriptive Statistics of the Dependent Variables According to Grades and Subject Matter

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>grade level</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>3rd grade</td>
<td>5.4868</td>
<td>.66934</td>
<td>38</td>
</tr>
<tr>
<td>Mastery</td>
<td>4th grade</td>
<td>5.6382</td>
<td>.49004</td>
<td>41</td>
</tr>
<tr>
<td>Approach</td>
<td>5th grade</td>
<td>5.5620</td>
<td>.68817</td>
<td>43</td>
</tr>
<tr>
<td>compute Total</td>
<td></td>
<td>5.5642</td>
<td>.62008</td>
<td>122</td>
</tr>
<tr>
<td>Reading</td>
<td>3rd grade</td>
<td>5.5526</td>
<td>.78184</td>
<td>38</td>
</tr>
<tr>
<td>Mastery</td>
<td>4th grade</td>
<td>5.5488</td>
<td>.53780</td>
<td>41</td>
</tr>
<tr>
<td>Approach</td>
<td>5th grade</td>
<td>5.3798</td>
<td>.77180</td>
<td>43</td>
</tr>
<tr>
<td>compute Total</td>
<td></td>
<td>5.5642</td>
<td>.62008</td>
<td>122</td>
</tr>
<tr>
<td>Math</td>
<td>3rd grade</td>
<td>3.0526</td>
<td>1.13477</td>
<td>38</td>
</tr>
<tr>
<td>Mastery</td>
<td>4th grade</td>
<td>3.6463</td>
<td>1.22726</td>
<td>41</td>
</tr>
<tr>
<td>Avoid</td>
<td>5th grade</td>
<td>3.0988</td>
<td>1.11155</td>
<td>43</td>
</tr>
<tr>
<td>Orientation compute Total</td>
<td></td>
<td>3.2684</td>
<td>1.18058</td>
<td>122</td>
</tr>
<tr>
<td>Reading</td>
<td>3rd grade</td>
<td>2.9803</td>
<td>.98705</td>
<td>38</td>
</tr>
<tr>
<td>Mastery</td>
<td>4th grade</td>
<td>3.2927</td>
<td>.98568</td>
<td>41</td>
</tr>
<tr>
<td>Avoid</td>
<td>5th grade</td>
<td>2.9477</td>
<td>.98886</td>
<td>43</td>
</tr>
<tr>
<td>compute Total</td>
<td></td>
<td>3.0738</td>
<td>.99154</td>
<td>122</td>
</tr>
<tr>
<td>Math</td>
<td>3rd grade</td>
<td>4.1579</td>
<td>1.38332</td>
<td>38</td>
</tr>
<tr>
<td>performance</td>
<td>4th grade</td>
<td>4.3293</td>
<td>1.35605</td>
<td>41</td>
</tr>
<tr>
<td>Approach</td>
<td>5th grade</td>
<td>3.8953</td>
<td>1.50815</td>
<td>43</td>
</tr>
<tr>
<td>Orientation compute Total</td>
<td></td>
<td>4.1230</td>
<td>1.41977</td>
<td>122</td>
</tr>
<tr>
<td>Reading</td>
<td>3rd grade</td>
<td>4.3289</td>
<td>1.30112</td>
<td>38</td>
</tr>
<tr>
<td>Performance</td>
<td>4th grade</td>
<td>4.4268</td>
<td>1.33843</td>
<td>41</td>
</tr>
<tr>
<td>Approach</td>
<td>5th grade</td>
<td>4.0291</td>
<td>1.15883</td>
<td>43</td>
</tr>
<tr>
<td>compute Total</td>
<td></td>
<td>4.2561</td>
<td>1.26722</td>
<td>122</td>
</tr>
<tr>
<td>Math</td>
<td>3rd grade</td>
<td>3.1632</td>
<td>1.14359</td>
<td>38</td>
</tr>
<tr>
<td>performance</td>
<td>4th grade</td>
<td>4.1415</td>
<td>2.07376</td>
<td>41</td>
</tr>
<tr>
<td>Avoid</td>
<td>5th grade</td>
<td>3.4093</td>
<td>1.42959</td>
<td>43</td>
</tr>
<tr>
<td>Orientation compute Total</td>
<td></td>
<td>3.5787</td>
<td>1.64398</td>
<td>122</td>
</tr>
<tr>
<td>Reading</td>
<td>3rd grade</td>
<td>3.2053</td>
<td>1.20404</td>
<td>38</td>
</tr>
<tr>
<td>Performance</td>
<td>4th grade</td>
<td>3.5073</td>
<td>1.27522</td>
<td>41</td>
</tr>
<tr>
<td>Avoid</td>
<td>5th grade</td>
<td>3.3814</td>
<td>1.14793</td>
<td>43</td>
</tr>
<tr>
<td>compute Total</td>
<td></td>
<td>3.3689</td>
<td>1.20550</td>
<td>122</td>
</tr>
</tbody>
</table>
Table 2. Summary of Univariate Repeated Measures on Math and Reading Tests for the Four Dependent Variables (N=120)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Df</th>
<th>error df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastery-approach</td>
<td>1</td>
<td>119</td>
<td>1.855</td>
<td>.176</td>
</tr>
<tr>
<td>Mastery-avoid</td>
<td>1</td>
<td>119</td>
<td>4.749</td>
<td>.031*</td>
</tr>
<tr>
<td>Performance-</td>
<td>1</td>
<td>119</td>
<td>2.766</td>
<td>.099</td>
</tr>
<tr>
<td>approach</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance-avoid</td>
<td>1</td>
<td>119</td>
<td>2.580</td>
<td>.111</td>
</tr>
</tbody>
</table>

*p < .05
### Table 3. Multivariate Tests by Grade by Subject-Matter by Gender by Ethnicity Mixed Model Multiple Analysis of Variance

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilks' Lambda</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between Subjects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRADE</td>
<td>.937</td>
<td>.848</td>
<td>8.000</td>
<td>204.000</td>
</tr>
<tr>
<td>GENDER</td>
<td>.936</td>
<td>1.751</td>
<td>4.000</td>
<td>102.000</td>
</tr>
<tr>
<td>ETHNIC</td>
<td>.875</td>
<td>1.167</td>
<td>12.000</td>
<td>270.158</td>
</tr>
<tr>
<td>GRADE * GENDER</td>
<td>.937</td>
<td>.845</td>
<td>8.000</td>
<td>204.000</td>
</tr>
<tr>
<td>GRADE * ETHNIC</td>
<td>.883</td>
<td>.809</td>
<td>16.000</td>
<td>312.253</td>
</tr>
<tr>
<td>GENDER * ETHNIC</td>
<td>.904</td>
<td>1.315</td>
<td>8.000</td>
<td>204.000</td>
</tr>
<tr>
<td>GRADE * GENDER * ETHNIC</td>
<td>.956</td>
<td>.583</td>
<td>8.000</td>
<td>204.000</td>
</tr>
<tr>
<td><strong>Within Subjects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBMAT</td>
<td>.749</td>
<td>8.530</td>
<td>4.000</td>
<td>102.000</td>
</tr>
<tr>
<td>SUBMAT * GRADE</td>
<td>.928</td>
<td>.970</td>
<td>8.000</td>
<td>204.000</td>
</tr>
<tr>
<td>SUBMAT * GENDER</td>
<td>.949</td>
<td>1.377</td>
<td>4.000</td>
<td>102.000</td>
</tr>
<tr>
<td>SUBMAT * ETHNIC</td>
<td>.740</td>
<td>2.714</td>
<td>12.000</td>
<td>270.158</td>
</tr>
<tr>
<td>SUBMAT * GRADE * GENDER</td>
<td>.956</td>
<td>.581</td>
<td>8.000</td>
<td>204.000</td>
</tr>
<tr>
<td>SUBMAT * GRADE * ETHNIC</td>
<td>.835</td>
<td>1.187</td>
<td>16.000</td>
<td>312.253</td>
</tr>
<tr>
<td>SUBMAT * GENDER * ETHNIC</td>
<td>.949</td>
<td>.677</td>
<td>8.000</td>
<td>204.000</td>
</tr>
<tr>
<td>SUBMAT * GRADE * GENDER * ETHNIC</td>
<td>.951</td>
<td>.650</td>
<td>8.000</td>
<td>204.000</td>
</tr>
</tbody>
</table>
Discussion of the Findings

Although both approach and avoidance goals have been described by achievement goal theorists, the goal of avoiding the demonstration of lack of ability based upon an intrapersonal sense of competency has been absent from many studies. Consistent with the recent motivational framework (Pintrich, 2000; Elliot & McGregor, 2001; Wolters, 2004), the present research used the 2 x 2 orientation matrix to
investigate achievement goals, with a particular emphasis on grade level, gender, ethnicity, and achievement differences.

First, a valid and internally consistent measure of the four constructs was used (Midgley, et al., 2000; Pieper, 2004). The results showed that mastery-avoid was the only one of four motivational constructs to show a class subject difference with math scoring higher in avoidance than reading. The results would indicate that students apply avoid strategies in math with greater intensity.

Researches into motivation beliefs have found that there are differences in math and reading classrooms. Eccles (1983) and Wigfield (1994) found that student’s interest, task value, anxiety, and efficacy beliefs are less adaptive in math classrooms than in English classrooms. Also, any problems with math are more likely to come from less adaptive efficacy and anxiety than lack of interest or value (Wolters & Pintrich, 1998).

From the results, it appears that these differences originate from an avoidance orientation, specifically mastery-avoid. While those students who chose performance-avoid in math were just as likely to adopt performance-
avoid in reading, those students who chose mastery-avoid were likely to employ a different achievement goal motivation in one or the other subject, with math showing the higher level of mastery-avoid. The differences may result from the way teachers and students view the nature of each subject. Stodolsky and Grossman (1995) found that math and foreign language teachers view their subjects as sequential, static, and more defined. Whereas science, English, and social studies teachers perceived their subjects as being more open, and less sequential. Stodolsky, Salk, and Glaessner (1991) found that fifth grader’s beliefs about math were linked to their perceived ability.

A second major finding was that those students who adopted mastery-avoid scored lower on the CST for both math and reading. These results support some Elliot and McGregor (2001) findings about mastery-avoid outcomes. However, Elliot and McGregor (2001) found that mastery-avoid goals were not a negative predictor of performance attainment, evoked fewer negative processes than performance-avoid, and the negative processes that were evoked by mastery-avoid did not result in negative outcomes. The present research found that mastery-avoid
did result in a negative outcome, a negative correlation to high CST scores.

The findings showed no differences in goal orientation by gender or ethnicity. Although there is not an overwhelming amount of research on gender and ethnicity differences, the findings do support the results of research that found no differences in effects between race and gender on any of the goal orientation scales (Middleton & Midgley, 1997), and no evidence that performance-approach goals are more facilitative more one ethnic background or another (Midgley, Kaplan, & Middleton, 2001).

The findings of the present research have implications for the elementary classroom teacher and student. One, since mastery-avoidance has been shown to facilitate the subsequent adoption of both mastery-approach and performance-approach (Elliot & McGregor, 2001); the classroom teacher needs to be aware of those students who appear to be mastery-avoid oriented, and assist them with a change in goals. Regardless of the controversy over the efficacy of performance-approach goals, it is generally accepted that mastery-approach goals are the most efficacious, especially for students in the middle elementary grades. This population of students would be
best served with a classroom environment that overtly emphasizes mastery-approach goals. Two, teachers should attend to their perceptions of class subjects and their methods of instruction. This study was different from previous research in that all research subjects came from self-contained classrooms where all classroom subjects were taught by the same teacher. In this scenario, the role of a teacher’s perceptions of various subjects and the resulting effect on student goal adoption requires further study. Three, integrating more diverse and engaging tasks may result higher initial interest and more adaptive goal adoption and strategy use. Previous research has suggested that teachers of math perceive the curriculum as being rigidly defined. This perception may cause rigidly designed lessons that lack the long term ability to engage a student’s interest and promote mastery-approach goals.
CHAPTER FIVE

CONCLUSION

In summary, these findings provide some evidence that there are relations among motivational constructs, class subject, and achievement. Students reported mean level differences in the mastery-avoid construct between math and reading. Students reported a higher level of mastery-avoidance in math than in reading. Both the math and reading scores were negatively affected by the adoption of mastery-avoid goals. The research found no significant differences in orientation and achievement between genders and ethnicities.

Recommendations for Further Research

Research has offered general descriptions and few practical examples of mastery-avoid students. In order for teachers to identify and assist mastery-avoid students with a change in goals, there needs to be a greater understanding of the mastery-avoid construct. Qualitative techniques, such as case studies, should be used to create detailed descriptions of mastery-avoid students that include strategy use, efficacy beliefs, task value beliefs,
and personality traits. Also, observational checklists should be developed to make the task of identification efficient enough for teacher use.

Replication of the current study using longitudinal designs and a larger sample size are recommended. Populations that differ in ethnicity and socioeconomic status must be studied. The confounding teacher variable must be accounted for in future studies, as well as the effect of English language fluency on goals. Teacher’s perceptions of different class subjects and their subsequent effect on goal adoption should be studied. Specific attention should focused on mastery-avoid students and their subsequent goal adoption over time.
APPENDIX A

GOAL ORIENTATION SURVEYS FOR

READING AND MATH
We are interested in your ideas about school. Your answers to these questions will help us to understand what motivates students at school. This survey is not part of your regular school work, and you will not be graded. Please tell us what you really think. Thank you.

Name: ___________________________ Age: _____ Circle One:
Male   Female

WHICH BEST DESCRIBES YOU:  Black ( )  Hispanic ( )
White ( )  Other ( )

Example question:

I think baseball is fun.

1 2 3 4 5 6
Not at all true Very true

<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Not at all true</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Very true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>It is important that I really understand how to read and write.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I worry that I may not learn to read like I am supposed to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>One of my goals is to show others that I am a good reader.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>One of my goals is to keep other students from thinking I do not read very well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>It is important that I learn to read better this year.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>I try to avoid making mistakes when I write.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>It is important to me that other students think I am good at Language Arts.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>It is important that I do not look stupid during language arts.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>I like reading things I know I will learn from, even if it is hard.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>I worry that my language arts assignments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>will be too hard for me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>I would feel good if I were the only one who knew all the answers on a spelling test.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>It is important to me that I get better at reading and writing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>One reason I would not volunteer to read is to avoid sounding stupid.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>I am afraid that sometimes I do not understand what I am supposed to read as much as I would like.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>One of my goals is to show others that I am good at reading and writing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>It is important to me that my teacher does not think I know less than other students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>One of my goals is to learn as much as I can about reading and writing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>One of my goals is to look smart compared to other students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>One of my goals in class is to avoid looking like my reading assignments are too hard.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>One of my goals is to really understand new skills.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I like reading.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Not at all                                                                 |

Very much
Student Goal Orientation Survey-Math

We are interested in your ideas about school. Your answers to these questions will help us to understand what motivates students at school. This survey is not part of your regular school work, and you will not be graded. Please tell us what you really think. Thank you.

Name: _____________________________ Age: ______ Circle One:
Male    Female

WHICH BEST DESCRIBES YOU:  Black ( )   Hispanic ( )
White ( )   Other ( )

Teacher’s Name: __________________________________________

Example question:

I think baseball is fun.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>#</td>
<td>Question</td>
<td>Not at all true</td>
<td>Very true</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>It is important that I really understand how to do math.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>I worry that I may not learn math like I am supposed to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>One of my goals is to show others that I am a good at math.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>One of my goals is to keep other students from thinking I do not understand math very well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>It is important that I learn to do math better this year.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>I try to avoid making mistakes in math class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>It is important to me that other students think I am good at math.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>It is important that I do not look stupid during math class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>I like math skills I know I will learn from, even if they are hard.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>10</td>
<td>I worry that my math assignments will be too hard for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11</td>
<td>I would feel good if I were the only one who knew all the answers on a math test.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12</td>
<td>It is important to me that I get better at math.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13</td>
<td>One reason I would not volunteer to answer a math question is to avoid sounding stupid.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14</td>
<td>I am afraid that sometimes I do not understand what I am supposed to do as much as I would like.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15</td>
<td>One of my goals is to show others that I am good at math.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16</td>
<td>It is important to me that my teacher does not think I know less than other students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>17</td>
<td>One of my goals is to learn as much as I can about math.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>18</td>
<td>One of my goals is to look smart compared to other students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>19</td>
<td>One of my goals in class is to avoid looking like my math assignments are too hard.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>20</td>
<td>One of my goals is to really understand new math skills.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

I like math.

Not at all   Very much
APPENDIX B

INFORMED CONSENT
Informed Consent
For
Motivation and Goals: A Study of School Motivation of Third through Fifth Graders

Your child is invited to participate in a study of children’s motivation and goals. I hope to learn what motivates children in the school setting. Your child was selected because he/she attends Highland Elementary School and is currently enrolled in the third through the fifth grades. This study is being conducted by Phil Koehnke, fifth grade teacher and master’s student, under the supervision of Dr./Professor Young Suk Hwang, Professor of Education at California State University, San Bernardino. This study has been approved by the Institutional Review Board, California State University, San Bernardino.

If you decide to allow your child to participate, your child’s teacher will conduct a survey interview of your child for approximately fifteen minutes, using a set of questions that children generally find interesting. Principal/Mrs. Pokorny has given permission to conduct the survey during school time. If you decide not to allow your child to participate they will be allowed to read silently or choose a quiet activity at their desks during the administration of the survey. A potential benefit from participation in this study is that your child and teacher may be more aware of what motivates students in the school setting. A second part of this study is an attempt to determine which motivational styles lead to academic achievement. If you sign this consent form, you will allow me to access your child’s California Test Scores.

Their responses to the survey questions and their test scores will be reported anonymously. Any information about your child’s responses will remain strictly confidential. Your child’s name will not be associated with this study. Their names will be deleted from the survey approximately one month after survey completion. If you give me permission by signing this document, I plan to disclose only the group results of this study. You may receive the group results of this study upon completion on February 5, 2005, at Highland Elementary School Room M8.
Your child may withdraw participation at any time without penalty. They are free not to answer any questions. You may also withdraw any information which has been collected about your child until such time as names are removed from the materials (approximately one month following the interview). When your child has completed the survey, you may request and receive a debriefing statement describing the study in more detail.

If you have any questions, I invite you to contact me, Phil Koehnke, fifth grade teacher at 736-3308, or Young-Suk Hwang, Professor of Education at Cal State San Bernardino, at 880-5000. You will be given a copy of this form to keep.

You are making a decision whether or not to allow your child to participate. Your signature indicates that you have decided to allow your child to participate having read the information provided above.

_________________________
Child’s name

_________________________
Parent’s signature
APPENDIX C

CHILD’S ASSENT FORM
Child's Assent Form

You are being asked to finish a survey about school. This survey will help your teachers understand what interests you. This project is being done by Mr. Koehnke, fifth grade teacher and college student, with help from Dr./Professor Young Suk Hwang, Professor of Education at California State University, San Bernardino.

In this survey you will be asked to answer several questions about school. It will take about 15 to 20 minutes. Your answers will not be shared with anyone. Your teachers have been told to keep your answers in a sealed envelope. The information from this survey will be presented in group form only. You can check the results with Mr. Koehnke in February of 2005.

You do not have to participate. It is okay to not answer any questions and stop at any time without penalty. When you have completed the survey, you can ask for more details from Mr. Koehnke. If you do not want to complete the survey, you may read silently or choose a quiet activity at your desk.

I agree that it is okay for me to participate in a survey on motivation. If I decide I don't want to finish the survey, I may stop at any point without being punished in any way. Please print your name on the line below if you want to participate.

Student’s Signature ___________________________ Date __________

62
APPENDIX D

CORRELATIONS AMONG THE

DEPENDENT VARIABLES
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Math Mastery Approach</td>
<td>Pearson's R</td>
<td>.023</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
<td>.785</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>144</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math Mastery Avoid</td>
<td>Pearson's R</td>
<td>.020**</td>
<td>.067</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orientation</td>
<td>Sig.</td>
<td>.017</td>
<td>.423</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>143</td>
<td>146</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math performance</td>
<td>Pearson's R</td>
<td>.303**</td>
<td>.403**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach</td>
<td>Sig.</td>
<td>.100</td>
<td>.000</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>140</td>
<td>142</td>
<td>142</td>
<td>143</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math performance</td>
<td>Pearson's R</td>
<td>.603**</td>
<td>.228**</td>
<td>.162</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoid Orientation</td>
<td>Sig.</td>
<td>.000</td>
<td>.850</td>
<td>.007</td>
<td>.060</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>138</td>
<td>139</td>
<td>139</td>
<td>136</td>
<td>141</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Mastery</td>
<td>Pearson's R</td>
<td>.020**</td>
<td>.067</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach</td>
<td>Sig.</td>
<td>.012</td>
<td>.067</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>137</td>
<td>140</td>
<td>139</td>
<td>136</td>
<td>141</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>Pearson's R</td>
<td>.000</td>
<td>.042</td>
<td>.732**</td>
<td>.387**</td>
<td>.216**</td>
<td>.132</td>
<td>.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td>Sig.</td>
<td>.207</td>
<td>.620</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.001</td>
<td>.122</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach</td>
<td>N</td>
<td>141</td>
<td>143</td>
<td>143</td>
<td>145</td>
<td>159</td>
<td>159</td>
<td>145</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>Pearson's R</td>
<td>.004</td>
<td>.000</td>
<td>.000</td>
<td>.042</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Avoid</td>
<td>Sig.</td>
<td>.310</td>
<td>.392</td>
<td>.933</td>
<td>.644</td>
<td>.678</td>
<td>.010</td>
<td>.849</td>
<td>.806</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>137</td>
<td>137</td>
<td>137</td>
<td>135</td>
<td>133</td>
<td>132</td>
<td>137</td>
<td>133</td>
<td>140</td>
</tr>
<tr>
<td>California Math</td>
<td>Pearson's R</td>
<td>.074</td>
<td>.254**</td>
<td>.007</td>
<td>.040</td>
<td>.086</td>
<td>.223**</td>
<td>.016</td>
<td>.022</td>
<td></td>
</tr>
<tr>
<td>Scaled Score</td>
<td>Sig.</td>
<td>.302</td>
<td>.393</td>
<td>.644</td>
<td>.678</td>
<td>.010</td>
<td>.849</td>
<td>.806</td>
<td>.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>135</td>
<td>137</td>
<td>137</td>
<td>135</td>
<td>133</td>
<td>132</td>
<td>137</td>
<td>133</td>
<td>140</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
REFERENCES


