DIFFERENCES IN THE DOMAINS OF ACHIEVEMENT MOTIVATION BASED ON GENDER AND DEVELOPMENTAL GROUP

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By

Gina L. Clark

Director: Dr. Candace Boan-Lenzo
Associate Professor of Psychology
Psychology Department

Committee Members: Dr. Lori Unruh, Psychology
Dr. John Habel, Psychology

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ABSTRACT

The following study examined differences in domains of achievement motivation based on gender and developmental group. Participants included 129 males and females. The developmental groups in this study consisted of preadolescents (9-12 years) and adolescents (18-19 years). Participants were administered a demographics form and the *Achievement Motivation Profile* (AMP: Friedland, Mandel, & Marcus, 1996). A 2 x 2 MANOVA was used to analyze differences in achievement motivation domains (Achiever, Motivation, Competitiveness, and Goal Orientation) based on gender and developmental group. It was hypothesized that males would score higher than females on Competitiveness, while females would score higher than males on Achiever. Additionally, it was expected that preadolescents would score higher on Motivation than adolescents, and adolescents would score higher on Goal Orientation than preadolescents. Results revealed a statistically significant difference between males and females on Achiever, Goal Orientation and Motivation. There were no interaction effects (between gender and developmental group) or main effects for developmental group observed. Implications and directions for future research will be discussed in the paper.

Introduction

Achievement motivation is a widely researched topic in both the fields of psychology and education. Achievement motivation can best be understood by examining the meanings of "achievement" and "motivation" separately. Achievement typically stresses the importance of accomplishment and attainment with effort involved (Mandel & Marcus, 1988). Achievement can also be described as energy that is used to overcome challenges and persevere to conquer a goal. Motivation relates to an individual's reason for engaging in an activity, the degree to which an individual pursues the activity, and the persistence of the individual (Graham & Weiner, 1996).

Achievement motivation is an important issue for psychologists and individuals in the field of education because it has been correlated with academic self-concept (Marsh & Hau, 2003), academic self-efficacy (Bong & Skaalvik, 2003), learning and performance goals (Hsieh, Sullivan, & Guerra, 2007), personality traits (Mandel & Marcus, 1988), goal orientation (Hsieh et.al, 2003), developmental level (Guay, Marsh, & Boivin, 2003), and gender differences (Mandel & Marcus, 1988). Research on achievement motivation in the schools suggests a relationship with moral reasoning, behavioral problems, intrinsic motivation, apathy, and teacher burn-out rates (Amish, 2000; Walsh, 2006). Theoretical models of achievement motivation relate this topic to future student success, learning outcomes, student choices, and student desire to engage in a behavior (Deci, Vallerand, Pelletier, & Ryan, 1991). Furthermore, achievement motivation has significant implications for teachers, parents, school personnel, and school psychologists working with youth.

In summary, previous research in educational settings has established the importance of achievement motivation for educators and psychologists. The focus of the current research project is on differences in achievement motivation based on gender and developmental group in youth. The following sections provide an overview of theoretical models for understanding motivation, examine constructs related to achievement motivation, and inspect differences in achievement motivation based on gender and developmental group.

Literature Review

The following sections discuss and review the relevant theories of motivation, theoretical perspectives of achievement motivation, and the development of achievement motivation. Subsequent sections review research findings pertaining to developmental group differences, gender differences, and other factors that affect achievement motivation.

Theories of Motivation:

Motivation is a desire to accomplish a goal or a drive to carry out a specific behavior (Graham, 2004; Weiner, 2000). Motivation can be broken down into particular aspects of behavior. For example, how long the individual pursues an activity, the intensity of the behavior in which the individual engages, and the persistence of the behavior all contribute to motivation and the individual's choice to engage in an activity. What discourages or encourages a person to attempt to obtain a high grade in math class? What keeps a person studying for a long period of time? Why does an individual choose to tackle an activity? These types of questions are often considered in attempts to understand motivation as it relates to education. Many theorists have studied what directs individuals' behavior globally (Grant, 2008; Hart, Stasson, Mahoney, & Story, 2007; Zanobini & Usai, 2002).

Motivation can have internal and external factors that guide or influence an individual. Intrinsic motivation describes the internal factors for engaging in a behavior without incentives or rewards (Isen & Reeve, 2005; Vallerand, 2000). For example, suppose Bobby decides to read a 400-page book simply because he enjoys reading.

Bobby did not engage in this behavior because he was compelled to do so by his teacher or because he would receive a sticker for completing the book. He was motivated to read the book by an internal desire. In contrast, extrinsic motivation involves engaging in a behavior to gain some external reward or reinforcer. For instance, Susie's dad promised her an increase in her monthly allowance if she performed well on her SAT; therefore, Susie studied several weeks for her SAT to make money. Susie did not study because she was intrinsically motivated but because she wanted the reward.

Research suggests that there are three different hierarchical levels on which intrinsic and extrinsic motivation interact with characteristics of the individual to influence behavior: global, contextual, and situational (Vallerand, 2000). The global level is located at the top of the hierarchy and refers to personality dispositions such as competence and autonomy. Contextual motivation relates more to life domain regulatory styles. Life domain regulatory styles are an individual's education, interpersonal relations, and leisure activities. Situational motivation refers to an individual's present state. For example, Jalen is enthusiastic (situational) because has recently graduated from college with a Business degree (contextual) and is confident (global) that he will find a job. Vallerand indicates that these three hierarchical levels influence individuals' style of displaying intrinsic or extrinsic motivation. Vallerand also posits that intrinsic motivation is linked to producing the most positive consequences and that extrinsic motivation is associated with producing the most negative consequences. Intrinsic motivation produces the most positive consequences because this type of motivation is more gratifying for an individual in the present, and the gratification lasts longer. In

contrast, external forces that are not as personally gratifying and may produce negative consequences such as doubt or shame drive extrinsic motivation.

Intrinsic motivation occurs when a task is completed for one's own purpose and is not a means to a reward or incentive (Isen & Reeve, 2005). These researchers conducted a study that involved presenting two different activities to participants in which one activity was an interesting task and the other activity was an uninteresting task. The participants were 60 introductory psychology students. The data revealed that positive affect was closely related to intrinsic motivational processes and negative affect was related to extrinsic motivational processes.

Four different theoretical approaches attempt to explain motivation through extrinsic or intrinsic motivation. The *Behavioral* approach posits that consistent use of consequences (rewards or punishments) following a certain behavior can create motivation (Bandura, 1997). This approach focuses on extrinsic motivation. For example, 6-year old Milo, wants to earn a star sticker in class. Milo knows that if he feeds the fish today, he will get to pick a star sticker. If Milo does not feed the fish, he will not get a sticker, and he will have to miss 5 minutes of recess. Thus, Milo feeds the fish so he can receive his sticker and praise from his teacher. His behavior is motivated by the possibility of reward (getting a prized sticker) and the avoidance of a consequence (losing 5 minutes of recess).

The *Humanistic* approach suggests that striving for personal growth and self-determination are sources of intrinsic motivation (Deci, Vallerand, Pelletier, & Ryan, 1991). For instance, Maria wants to complete her homework in Geometry because she finds Geometry interesting and loves to learn. Therefore, she decides to finish her

Geometry homework covering isosceles triangles so she will advance her understanding of the material. She is motivated by her interest in the material and her desire to learn more about isosceles triangles.

The *Cognitive* approach proposes that people determine what behavior they perform by thinking, which may include intrinsic motivation and extrinsic motivation (Schunk, 1996, Stipek, 1993). For example, Junior may go outside to play with his pet dog but not before considering if his mother will permit him to do so and if he would rather play inside with his sister. In this approach, Junior's decision involves systematically weighing the options of what he wants to do (play with his dog or play with his sister) and factors that might influence his options (his mother's willingness to let him play outside). Junior's behavior is influenced by both intrinsically motivating possibilities (playing with his dog) and extrinsically motivating behaviors (his mother's behaviors as they relate to his choice).

The *Social Learning* Approach combines both intrinsic and extrinsic motivation as well as elements from the behavioral and cognitive approaches. In this model, the individual's motivation is related to the value of his or her goals and his or her expectations of attaining goals. Social learning approaches are generally regarded as learning vicariously through extrinsic and intrinsic reinforcement, and are influenced by the value of goals and expectations of obtaining a goal. For example, Mary decides that she wants to try out for the swim team at her high school. She believes that she has a good chance of making the team (high expectation), and making the swim team would be very important to her (high value). She may be interested in joining the swim team because she sees how fit the swim team members are (high expectation), and she knows

that these members are often highly esteemed by peers (high value). Her motivation may stem from intrinsic factors (she is internally motivated to be fit because she thinks it is important for her health) and from extrinsic factors (she is externally motivated by the peer-status and feedback she will get from being on the team).

Foundations of Achievement Motivation:

Achievement motivation can be defined as the desire to excel or an innate force in which an individual wants to succeed (Woolfolk, 1998). People who demonstrate high achievement motivation are driven to achieve. Achievement motivation theories differ with regard to emphasis on intrinsic motivation (e.g., Deci & Ryan, 1985; Dweck, 1986) or emphasis on extrinsic motivation (e.g., Jackson, Ahmed, & Heapy, 1973). Several theories related to achievement motivation are discussed in the next few sections. These theories are pivotal in understanding achievement motivation. They provide the foundation for current conceptualizations of achievement motivation. The final theory focuses on the conceptualization of achievement motivation that are used in the current study.

Self-Determination Theory. The self-determination theory is a popular theory that focuses on students' interest in learning and the value they place on education (Deci, Vallerand, Pelletier, & Ryan, 1991). Intentional and motivated behaviors are a large part of the self-determination theory. Intentional behaviors are defined as behaviors controlled by some interpersonal factor. Intentional behaviors are typically controlled by external forces such as rewards or expectations. A woman begins a new exercise regimen because she knows that her boyfriend will praise her for the muscle tone in her arms. In contrast, motivational behaviors are self-determined behaviors that are

performed because they contribute to one's sense of self. For example, engaging in running for the shear joy of running may contribute to how one defines himself or herself. This theory holds that people have an inherent motivation to learn. It makes a strong connection between a desire to learn and an individual's intrinsic motivation to perform a task. Tasks that pique interests are likely to motivate in meaningful and lasting ways.

Expectancy-Value Theory. The expectancy-value theory posits that an individual's beliefs can explain or predict behaviors and academic choices (Nagy, Trautwein, Baumert, Koller, & Garrett, 2006). An individual's motivation is based on two factors: his or her expectation of meeting a goal and the value the individual places on the goal. In this model, an individual's motivation is the result of a belief that the valued outcome is something he or she can attain (Atkinson & Feather, 1966). Task value is comprised of four domains: intrinsic value, attainment value, utility value, and cost (Nagy et al, 2006). Intrinsic value is the person's interest and sole enjoyment from performing a task (in other words, intrinsic motivation). Attainment value is how an individual assigns importance to completing a goal. Utility value refers to the relationship between the task and goal, and cost value refers to the perceived negative consequences of (non) participation in a task (Nagy et al, 2006). For example, a high school student is reading a book that is inherently interesting to her (intrinsic value). It is important to her to complete the book (attainment value), and completing the book increases her chances of performing well on the English literature test and ultimately her chance of attending a top-quality college (utility value). However, reading the book takes away time that she could spend with her friends (cost value). In this model, the individual is motivated as a result of some analysis of the importance of these domains.

Attribution Theory. Attribution theory focuses on how people explain the behavior of themselves and others (Weiner, 1985). The application of attribution theory to motivation relates to how people understand successes and failures. Ability, effort, task difficulty/ease, and luck are four attribution variables often used for understanding the way an individual explains successes and failures. Weiner (1979) suggested that these four common factors could be classified into three different dimensions: locus, stability/instability, and controllable/uncontrollable. Locus comprises factors that are internal (e.g., effort or ability) or external to the person (e.g., luck or difficulty level of task). Stability comprises factors that are stable (e.g., ability) or unstable (e.g., luck) over time. Controllability includes features that are controllable by the individual (e.g., effort) and uncontrollable by the individual (e.g., difficulty level of task). These attributions relate to an individual's motivation. An individual that believes he is not smart enough (internal, stable, uncontrollable) to pass calculus probably has little motivation to work hard in that class.

Achievement Motivation Profile:

The model for conceptualizing achievement motivation utilized in this study is based on the *Achievement Motivation Profile* (AMP; Friedland, Mandel, & Marcus, 1996). The AMP is a standardized assessment scale that is used to examine achievement motivation. The AMP assumes that achievement motivation is influenced by many different variables (Ligon, 2006). These variables include internal resources, work habits, and personality traits. The AMP includes four broad content scales: Inner Resources, Interpersonal Strengths, Work Habits, and Motivation for Achievement. The Inner Resources scale is designed to assess individual characteristics such as a relaxed

style (RLX), general satisfaction or happiness (HAP), patience when handling conflicts or frustrating tasks (PAT), and self-confidence (SCN). The Interpersonal Strengths scale is designed to assess personality characteristics such as assertiveness (AST), tact and diplomacy when working with others (DIPL), extraversion (EXT), and the ability to work with others (COOP). The Work Habits scale assesses planning and organization skills (PLAN), taking initiative on tasks (INI), and being a team player (TEAM). The Motivation for Achievement content scale is comprised of subscales including the following: achiever (ACH), motivation (MOT), competitiveness (COMP), and goal orientation (GOAL). Achiever (ACH) refers to whether an individual has completed a task. It includes elements related to identifying specific goals and following through in an effort to complete tasks. Motivation (MOT) relates to the inner strengths of an individual's emotions, needs, values, drive, and commitment to succeed. Competitiveness (COMP) refers to the need to outperform others and to excel in achievement standards. Goal orientation (GOAL) refers to possessing well-defined and realistic goals.

While there is little research that specifically uses this model for conceptualizing achievement motivation, previous research has examined constructs related to the ACH, MOT, COMP, and GOAL scales. Following is a review of the research that is specific to gender differences, developmental group differences, and constructs related to the four achievement motivation scales described above.

Gender Differences in Achievement Motivation:

Research examining gender differences in achievement motivation has yielded inconsistent findings. Some researchers have found that constructs related to

achievement motivation differ significantly between males and females (e.g., Linenbrink & Pintrich, 2002; Wigfield & Eccles, 2002), while others have found no differences between males and females on constructs related to achievement motivation (e.g., Ligon, 2006). The constructs that are often studied as they relate to achievement motivation include cognitions (such as beliefs about ability, academic self-concept), behaviors (such as self-regulated learning, setting goals, organization), and personality traits (such as drive or competitiveness). This section starts with an overview of general research on achievement motivation and concludes with research on constructs that most closely relate to the four subscales of the Achievement Motivation scale on the AMP.

Some studies have focused on competence-related beliefs (beliefs about academic ability) as a valuable measure of an individual's achievement motivation (Linenbrink & Pintrich, 2002; Wigfield & Eccles, 2002). Linenbrink and Pintrich (2002) examined research pertaining to student motivation and four key components that included academic self-efficacy, attributions, intrinsic motivation, and achievement goals. Males and females were found to have different competence-related beliefs during childhood and adolescence (as cited in Wigfield & Eccles, 2002). Results revealed that boys had higher competence beliefs in sports activities and math compared to girls. However, girls had higher competence beliefs in reading, English, and social activities compared to boys. Linnenbrink and Pintrich posited that competence beliefs are important because they predict performance and task choice. These beliefs also affect the student's motivation to succeed and achieve a goal.

Other researchers have investigated gender differences in future orientation and motivation (Greene & DeBacker, 2004). This meta-analysis examined differences in

orientation and motivation across several studies. They concluded that females typically pursue a greater array of goals compared to males. The researchers believe that this is possibly due to the modern Western culture of women in the workforce and pursuing more jobs that were once held exclusively by males. The researchers suggested that female students are more affected by fear of failure than males. They indicated that this fear of failure creates anxiety and likelihood of withdrawing before obtaining a goal. They concluded that the school setting plays a role in the type of motivation that males and females maintain.

In another study, researchers examined gender differences in achievement motivation while evaluating the psychometric properties of the *Academic Motivation Scale* (Cokley, Bernard, Cunningham, & Motoike, 2004). Participants in this study consisted of 263 undergraduate psychology students at a Midwestern university. The instrument used to assess academic motivation was the *Academic Motivation Scale*, which measures intrinsic, extrinsic, and amotivation. No gender differences were found in this study, and only partial support for the construct validity of the instrument was found. The primary finding was that individuals with a high academic self-concept had more of an internal locus of control. They concluded that these individuals are more intrinsically motivated than extrinsically motivated.

Other researchers have found that when females begin to reach adolescence, they feel the need to conform to female gender roles (Basow & Rubin, 1999). Gender roles for both males and females begin to intensify starting in early adolescence due to internal and external forces that require adjustments. Such adjustments include physiological, psychological, and social changes that male and female adolescents endure that influence

the formation of an adolescent's self-esteem, self-competency, and perceptions. The authors suggested that these adjustments may lead to different focuses in achievement motivation for males and females.

Ligon (2006) studied achievement motivation of 175 males and females in elementary, junior high, and high school from a white, middle-class, suburban school district in New York. The participants in this study were selected from the 4th, 7th, and 10th grades. Ligon wanted to specifically analyze differences in students' levels of achievement motivation based on gender and developmental level. The study used the *Achievement Motivation Profile* (AMP), *Achievement Motivation Profile Jr*. (AMP Jr), and the *Student's Perception of Achievement Motivation Question*. The results of the study indicated that achievement motivation across developmental level was significant, but no gender differences were found. Specific information concerning the results related to developmental levels are discussed in a subsequent section focused on developmental group and achievement motivation. This study is particularly important, since it is the only study examining gender differences that uses the AMP model for defining achievement motivation.

Gender differences and achievement. The Achiever (ACH) scale on the AMP measures domains such as task completion and beliefs about ability to complete a task (Friedland, Mandel, & Marcus, 1996). While only one study (Ligon, 2006) has used this specific domain to assess gender differences in achievement motivation, related research has focused on constructs such as academic self-concept and attributions for success.

Research has investigated the differences in social and psychological perceptions of young males and females (Chaplain, 2000). This study consisted of approximately

1000 students in grades 10 and 11 from Great Britain. The students were given a questionnaire that examined career aspirations and perceptions related to academics. Males were more likely than females to report confidence in their problem-solving abilities. Males were also more likely to attribute their success in life to luck. Females were more likely than males to score high on learned helplessness behaviors. Chaplain concluded that the positive attitudes students hold toward their education relate to higher motivation in their academic performance and success in school.

Another study was conducted to examine academic motivation and achievement among urban adolescents (Long, Monoi, Harper, Knoblauch, & Murphy, 2007). The study was comprised of 255 8th grade students and 159 9th grade students from a large urban high school in the Midwest. The study assessed achievement goal orientations of the participants. Gender differences were found among 8th graders with females possessing stronger learning goals than males and obtaining higher GPA scores. The 9th grade females did not differ from the 9th grade males on learning goals and GPA. Males in both grades possessed stronger work-avoidant goals than females in both grades.

Another study investigated achievement motivation of boys and girls to determine if any differences were apparent (Houtte, 2004). The participants in the study consisted of 3,760 adolescents from general and technical/vocational schools in Belgium. The study found that boys' academic culture is consistently less study oriented than girls' academic culture. The results also indicated that boys had higher achievement motivation in the technical/vocational schools than the general schools. One possible explanation is that the technical/vocational school is clearly linked to a goal (e.g., getting a specific type of job), whereas the general schools have a model that is less clearly

linked to a goal. The researcher concluded that the type of school environment can have a tremendous impact on achievement motivation.

Other researchers have examined gender differences related to mathematical problem-solving behavior (Vermeer, Boekaerts, & Seegers, 2000). This study consisted of 158 sixth-grade students from "regular" schools. The researchers assessed abstract reasoning ability, task-specific appraisals, learning intention, attributions, and perceived confidence. The results of the study found that compared to boys, girls were more likely to have lower subjective competence in relation to problem-solving skills. The results also demonstrated that boys were more likely to perform well in relation to problem-solving than girls. Consistent with other research, the results indicated that girls were more likely to persist longer at a task.

Other researchers have investigated gender differences in African-American adolescents relating to academic outcomes (Saunders, Davis, Williams, & Williams, 2004). The study included 243 sophomore participants from a Midwest high school who were administered a questionnaire that examined 4 domains of self-perceptions (self-esteem, racial self-esteem, academic self-efficacy, and importance of completing school to self). Gender differences were found in beliefs about completion of school. More specifically, results indicated that females had significantly stronger intentions of completing the school year than males. In addition, females reported higher academic self-efficacy than males. No gender differences were found in general self-esteem or racial self-esteem.

Researchers also have investigated the relationships between academic self-concepts and approaches to learning (Burnett & Proctor, 2002). Participants in this study

consisted of 520 students in grades 6 and 7 from elementary schools in Australia. Students' approaches to learning and academic self-concept were measured in this study. Results of the study supported the decline of self-concepts in the elementary years. The results also found that girls achieved higher scores for deep approach to learning than males. This suggests that females' approaches to studying may be more focused on understanding the material than trying to simply memorize the material when compared to males' approaches.

Another study was conducted to examine gender and domain differences of children's self-competence (Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002). The participants in this study included 761 children across grades 1 through 12 who were part of the "Childhood and Beyond" longitudinal project in the Midwest. The researchers examined changes in the beliefs of the students across ages within the domains of mathematics, language arts, and sports. The results based on age are discussed in a subsequent section focused on differences in achievement motivation based on developmental group. When the investigators examined gender differences, they found that the younger elementary students' differences in perceptions were most prevalent during this period, and the rates of change in perceptions for the young boys and girls began to decline during middle school and into high school. In other words, no gender differences in self-perceptions of competence were evident across the developmental groups.

Researchers have investigated gender differences in math, verbal, and general self-concept (Skaalvik & Rankin, 1990). Participants in the study consisted of 231 Norwegian 6th graders. The domain assessed in this study was academic self-concept.

The results pertaining to general academic self-concept and gender differences revealed that verbal self-concept had a significant relationship to general academic self-concept for girls but not for boys. The verbal self-concept was a significant predictor of general self-concept for females but not for males. When examining the math self-concept, a direct positive relationship existed for boys, but a negative relationship for girls. In other words, for males, as math self-concept increased so did general self-concept. In contrast, as math self-concept increased for girls, general self-concept decreased.

In addition to the findings in the study described above, one of the researchers used the same data set to examine gender differences in relation to general academic self-esteem (Skaalvik, 1990). Academic self-esteem and perceived expectations were assessed in this study. Results indicated that the girls had a significantly higher level of achievement and higher success expectations than males. No gender differences were found in relation to expectations in mathematics or in general academic self-esteem.

In summary, the research on gender differences in achievement for males and females has resulted in inconsistent findings. Some researchers have found no difference (e.g., Ligon, 2006), whereas others have found differences (e.g., Vermeer, Boekaerts, & Seegers, 2000). The next section examines gender differences in goal orientation.

Gender differences and goal orientation. Goal orientation in the AMP model focuses on the use of well-defined goals and the ability to identify specific steps to achieve goals (Friedland, Mandel, & Marcus, 1996). A few studies have examined gender differences in goal orientation. Results of these studies are discussed below.

A study was conducted to examine interrelationships between academic self-handicapping, personal achievement goals, social goals, and achievement in mathematics

(Leondari & Gonida, 2007). The study also aimed to address gender differences and grade-level differences in relation to academic self-handicapping. Participants in the study consisted of 702 upper elementary and high school students recruited from five different public schools located in urban areas of Greece. Academic self-handicapping refers to poor strategies that are used in which undermine a student's academic performance. For example, Billy decides to watch television for awhile before studying for his test. At the last minute, Billy crams for his test in math class tomorrow. This demonstrates that Billy has chosen a self-handicapping strategy for studying. While several significant differences in self-handicapping and types of goals used were found based on age, the results did not support any gender differences for handicapping strategies or type of goal orientation.

Another study investigated eight different types of goal orientations to determine predictability of academic achievement (Giota, 2002). Participants in this study consisted of 7,391 students who were part of a longitudinal Swedish project called "Evaluation Through Follow-up." The investigator examined male and female students in grades 6 and 8. The results revealed that there were gender differences in the types of goals for which males and females strived in school. More specifically, they found that girls were more likely than boys to score higher on academic achievement in language. Boys were more likely than girls to score higher on domain-specific mathematics/science.

In summary, there is little research on goal orientation and gender. Most research has focused on developmental level and goal orientation. Therefore, more research is needed to make a conclusions on goal orientation related to gender differences. The next section examines gender and competitiveness.

Gender differences and competitiveness. Competitiveness as defined by the AMP is the tendency to focus on one's performance relative to others when thinking about academic achievement (Friedland, Mandel, & Marcus, 1996). This external referencing with regard to achievement motivation suggests more of a personality characteristic than a behavior that is easily measured. The only study that has actually examined this component of achievement motivation with regard to gender differences is the previously described study completed by Ligon (2006). She found no gender differences in this domain of achievement motivation.

One other study that examined similar trait variables related to achievement motivation was found. This study examined differences in achievement orientations and beliefs of 5th graders (Thorkildsen & Nicholls, 1998). Participants included thirty different classes of 5th graders. Motivational orientation scales were used to assess task orientation, ego orientation, work avoidance, and academic alienation scales. The results of this study showed that boys scored higher on the Ego Orientation and Alienation Scales than girls. These results suggest that academic success was more central for males in defining themselves. The study also found the boys had higher beliefs that success was caused by extrinsic factors. Girls scored higher than boys on the Task Orientation Scale, and their beliefs related to success were caused by interest and effort factors.

In summary, the research has indicated that boys are more academically competitive than girls. However, other research has found no gender differences (e.g., Ligon, 2006). The next section examines gender differences and the importance of motivation.

Gender differences and motivation. The AMP model for achievement motivation includes a Motivation domain (Friedland, Mandel, & Marcus, 1996). This domain primarily focuses on cognitions and behaviors that are related to motivation in academics. A few sections above have included research on gender differences in constructs such as academic self-concept and self-efficacy. This section focuses on gender differences in self-regulated learning. Self-regulated learners demonstrate the use of metacognition with regard to learning, engage in strategic approaches to learning, and value the learning process.

A study was conducted to investigate patterns of relations among motivational, cognitive, and metacognitive components in language and mathematics of elementary school children (Metallidou & Vlachou, 2007). Participants in the study were 263 5th and 6th grade children from public primary schools in Central Greece. The participants completed a questionnaire which examines motivated strategies for learning. The researchers found that self-efficacy was the key predictor of performance and cognitive strategy use. Results indicated that girls did not report less favorable competence and task beliefs in mathematics compared to boys. Motivation was found not to vary with gender.

A researcher investigated the differences between and degree of school motivation in a study that consisted of 2,927 boys and girls from Australian high schools (Martin, 2004). The study assessed high school students' motivation. The results revealed that there were some gender differences in motivation, however, the effect sizes were small. Results showed that girls were more likely than boys to adopt learning or mastery-oriented styles, study more effectively, and persist longer with a challenge than

boys. Boys were less likely to experience anxiety in academic situations in this study than girls.

Researchers investigated perceptions of academic strategies and competence in elementary students who have been identified as having a learning disability (Meltzer, Roditi, Houser, & Perlman, 1998). The study included 663 students and 57 teachers. Student perceptions and teacher perceptions were assessed. The results indicated that there was a significant discrepancy between students' self-ratings and teachers' judgments of the students' performance. In addition, results revealed that the students perceived themselves to be competent and strategic in most academic domains. Boys and girls both rated their strategy uses and performances similarly in academic domains. The only significant finding for gender differences was that boys were more likely to rate themselves as having stronger math strategies than females. However, their self-ratings were still lower in academic domains than average achievers.

Through two separate studies, researchers examined the self-regulation model of decision- making and how it relates to adolescents' academic decision-making (Miller & Byrnes, 2001). Participants in the first study consisted of 412 ninth and eleventh grade boys from Washington D. C. metropolitan area. The second study consisted of 170 males and females from high schools in the Baltimore-Washington area. The participants were assessed on decision-making competency, learning and study strategies. Results indicated that the adolescents' value of their academic goals and decision-making competency predicted higher achievement behavior. A gender by age group interaction effect was observed in this study. The results indicated that younger adolescent boys and

girls (regardless of gender) had higher achievement striving behaviors than the older adolescent boys.

Researchers have investigated gender differences related to academic study behaviors (Hancock, Stack, Kulhavy, & Swindell, 1996). This study involved 793 elementary students in grades 2nd, 4th, and 6th from elementary schools in Arizona. The students were assessed on studying strategies. Results indicated that the fourth graders used more overt study activities compared to the older children. Girls in this study used more overt techniques for studying material compared to boys. This suggests that girls do more encoding of text material and have more performance orientation (attributing achievement to external indicators of success) than boys, but they do not process the information as deeply.

Researchers have investigated gender differences of students in secondary schools in relation to motivation (Lightbody, Siann, Stocks, & Walsh, 1996). The study consisted of 1068 secondary students. Questionnaires were administered to assess enjoyment of school, liking of school subjects, and attributions of academic success. The results of the study indicated that more boys than girls reported not enjoying school. The researchers also suggested that attributions are more likely to be associated with age rather than gender, and thus no significant gender differences were found in terms of attributions for academic success.

In summary, there is inconclusive research pertaining to gender differences and motivation. Some research suggests that girls are more likely to have higher motivation (Martin, 2004), but other research has found no gender differences (Metallidou & Vlachou, 2007). Therefore, more research is needed to make a conclusive statement

relating to motivation and gender. The next section introduces research on developmental group and achievement motivation.

Developmental Group and Achievement Motivation:

Achievement motivation starts to develop during infancy and it continues to develop as children imitate behaviors that they have learned are rewarded or reinforced (Ligon, 2006). Therefore, early experiences in childhood contribute to achievement motives and are established at a young age (Russell, 1971). The Developmental Theory Model (DTM) attempts to explain young children and adolescents' developmental processes and achievement motivation. This model was used as the theoretical framework for the instrument selected (AMP) to assess achievement motivation in the current study.

The DTM focuses on how achievement motivation development proceeds in individuals from infancy through adulthood (Mandel & Marcus, 1988). One critical detail of the DTM is that an individual passes through each stage and never can omit a stage of development. The Developmental Theory Model describes normal personality development for individuals from birth to their mid-20s as centered on dependence and independence. The DTM posits that children between the ages of 7 and 9 years begin to develop a greater importance of mature and differentiated self-concept than younger children. Children also are ready to engage in social roles outside of the home that might increase their desires to attend school. Therefore, children between these ages have a different view of school compared to older children, and their motivation is likely to change at the end of this period of time. Their achievement motivation is often focused on extrinsic factors such as praise or reward for task completion and effort. Children

between the ages of 9 and 12 years come to the realization that their futures are important. Children have more responsibility to complete their homework and increased academic demands that they relate to the importance of future. This realization means that motivation at this point becomes focused on meeting achievement demands, but there is a connection with the internal importance of meeting demands. Between the ages of 12 and 17, individuals struggle with peer relationships and independence-dependence conflict. This affects motivation in terms of following what one desires or settling for easy paths. This most likely is a time period to see issues related to under-achieving in youth. Does the young adolescent continue to study hard for a test because he or she wants to perform better than his or her peers, or does the adolescent choose to study hard for a test because he or she loves to do well on exams? The young adolescent is faced with new academic challenges, and achievement motivation is likely to change with these school demands. After 17 years of age, the individual begins to establish a more appropriate self-concept and independence. At this point, motivation is persuaded by the new challenges for which the individual feels competent or not competent enough to succeed in the future.

The DTM appears to be consistent with other research related to developmental changes in motivation (Stipek, 2002; Wigfield & Eccles, 2002). For example, one study found that when a child in elementary school is underachieving in his or her schoolwork, the factors contributing to the achievement motivation differ than those that would be evident in an older child or adolescent (Stipek, 2002). Younger children tend to be unfamiliar with academic settings and have difficulty with new demands and experiences. Despite the new challenges, most young children remain eager and self-confident

learners. However, according to this researcher as the child becomes older, motivational problems begin to create more serious consequences. Motivation also differs among these developmental levels because in the first few years of schooling, children have less choice of their educational curriculum, whereas high school students are provided with more choices. The difference in choice may relate to motivation because the individuals are influenced by school variables.

As previously mentioned, Ligon (2006) examined differences in achievement motivation based on gender and developmental level. This study is important because it uses the AMP model for assessing achievement motivation. The results of the study indicated that children in grades 4 and 7 scored significantly higher than older students in grade 10, signifying that the preadolescents reported higher motivation (MOT). In addition, the younger children were more often reported to have higher achievement (ACH), need to out-perform others (COMP), and have more goal-oriented behaviors (GOAL). Differences between junior high students and high school students revealed that junior high students were more likely to report higher levels of extraversion, and high school students were more likely to report higher levels of cooperativeness.

Other researchers investigated achievement motivation changes over time and the perception of academic setting factors in order to determine influences of academic outcomes (Wilkins & Kuperminc, 2010). The participants of this study included 143 Latino adolescents. Results revealed 8th grade students reported an increase in mastery-approach achievment motivation within an academic setting that was task-focused as they transitioned to high school. Their findings also support the developmental changes in the

Developmental Theory Model. The next sections examine developmental differences in the domains of AMP being investigated in the current study.

Developmental group and achievement. In the aforementioned study by Ligon (2006), achievement motivation using the AMP model was investigated. With regard to age group differences on the ACH domain, Ligon found children in grade 4 reported the highest scores on ACH when compared to children in grades 7 and 10. Other studies assessing this domain of achievement motivation were not found in the literature, so the remainder of this section reviews developmental group research on constructs related to ACH and differences between preadolescents and adolescents.

Researchers have investigated how dimensions of self-concept change across developmental levels (Marsh & Ayotte, 2003). Participants in this study included 1,103 2nd through 6th grade students from primary schools in Canada. The students were assessed on 8 domains of self-concept. The results revealed that competence components decrease dramatically with age in reading and mathematics. Additionally, it was found that the correlation between self-concept and academic competence decrease with age.

Research suggests that developmental levels play a role in academic self-concept. Academic self-concept is thought to change with developmental levels such that younger children's academic self-concept is centered more on internal factors (Guay, Marsh, & Boivin, 2003). For example, younger children are more motivated intrinsically to complete their homework or to study for a test. As children get older, they are more likely to have academic self-concepts that are influenced by external factors such as rewards or incentives. This means younger children's motivation may change as they move from preadolescence to adolescence. As children enter different academic settings, it could

also be that the demands change and children are reinforced differently by teachers. This study included three cohorts of French-Canadian children (N=385) in grades 2 through 4. The participants' academic self-concept was measured. Academic achievement was measured by the questionnaire that the teachers completed. The results indicated that as these children become older, their academic self-concept responses become more strongly correlated with academic achievement.

Researchers specifically examined different domains related to achievement and self-competence in children (Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002). Notable, were the researchers' findings concerning self-perceptions of competence. They found that self-perceptions of competence and subjective task values declined with age. This suggests that the decline in self-perceptions is more of a downward trend rather than a leap in self-perceptions relating to achievement. They also found that self-perceptions of competence are related to the value of the activity in school.

Other researchers studied the impact of student transitions of 7th, 9th, and 11th graders on motivational tasks (Yeung & McInerney, 2005). The study consisted of 199 high school students from Hong Kong with the ages ranging from 12 through 18 years of age. Motivation was assessed using scales with four specific domains that measure task, effort, competition, and praise orientation. The scale was tested for validity by applying a structural equation modeling analysis. The study found that 7th graders scored significantly higher on task and effort scores than the other grade levels. They concluded that overall student motivation drops after 7th grade. Therefore, effort motivation begins to drop around adolescence. The researchers found that competition and praise orientation declined consistently across the grades.

Some researchers have investigated longitudinal effects of educational expectations and achievement attributions on the academic achievement of adolescents (Liu, Cheng, Chen, & Wu, 2009). The sample included 2,000 Taiwanese school students from grades 7, 9, and 11. The findings indicated that students with high educational expectations and effort displayed higher growth rates in their achievement, whereas, students with lower education expectations demonstrated significantly smaller achievement. Results of the study also indicated that adolescents' educational expectations and achievement influence long-term academic accomplishments.

Researchers have also examined the nature, timing, and correlates of motivational change among third through eighth grade students (Corpus, McClintic-Gilbert, & Hayenga, 2009). Results of the study revealed within-year changes in students' motivational orientations. From fall to spring, students' intrinsic and extrinsic motivations declined. Pronounced declines in intrinsic motivation were noted for the adolescents in the sample, and pronounced declines in extrinsic motivation were noted for the elementary students. Findings suggested that intrinsic motivation and classroom achievement appeared to positively influence each other in a reciprocal fashion.

Another study examined adolescents' academic orientations during their high school years (Crosnoe, 2001). The participants were from nine high schools and completed two questionnaires in which covered social, educational, and psychological factors. Results of the longitudinal study indicated that the students first began high school with moderate level of academic orientation, but experienced significant declines in academic orientation over the period they were in high school.

Other research has examined interconnections between family dynamics and development across middle childhood and adolescence (Dotterer, McHale, & Crouter, 2009). Participants' academic interest and development was assessed by GPA and a large interest inventory. Results indicated a decline in academic interests through developmental level and near the end of high school some recovery in interests were noted. The results also indicated that when adolescents had more educated fathers, their academic interests declined less, as too with mothers' education expectations. Mothers that were often directly involved with their child's education and monitored their child's daily experiences contributed to better academic interests.

Another study investigated achievement goals of 588 preadolescent participants across four time points by using the Patterns of Adaptive Learning Survery (Shim, Ryan, & Anderson, 2008). Results of the study indicated that there were no significant declines that occurred between the end of elementary and the beginning of middle school in achievement goals. The results also indicated that a major source of decline in goals was within the middle school year and not between years, meaning that the average level of achievement goals at the beginning of the middle school year was close to that in the elementary spring school year.

In summary, there is research that suggests students experience some fluctuation in achievement motivation from preadolescence to adolescence (Ligon, 2006). However, other research suggests that this trend may start to reverse as the students get closer to an academic transition (Crosnoe, 2001; Yeung & McInerney, 2005). The following section introduces developmental group and goal orientation, and the only study to use the AMP

model for assessing the four achievement motivation domains that are central to the current study.

Developmental group and goal orientation. In the study conducted by Ligon (2006) developmental level differences with regard to goal-oriented behaviors (GOAL) were found. She found that elementary school children scored higher on the goal-orientation scale than junior high and high school students. No other studies using the AMP model for examining developmental level differences in goal orientation were found in the literature. Other research examining differences in goal orientation based on developmental level is discussed in the remainder of this section.

Young children's beliefs about intelligence may differ greatly from older children. Kinlaw and Kurtz-Costes (2007) examined elementary-age student's intelligence beliefs, achievement goals, and motivation. The study consisted of kindergarteners, second graders, and fourth graders. The extent to which the children view intelligence and how motivation is different across the three grades was an additional focus of the study The researchers assessed beliefs of intelligence by presenting two different scenarios, one in which intelligence was described as stable and the other in which intelligence was described as malleable. The children were to indicate how much they agreed with each scenario. Achievement goals were assessed by the child's preference for a performance goal or a learning goal. Lastly, self-ratings of motivation were collected by self-enjoyment of maze tasks that the children were asked to complete. This study found that the older children were more likely to use learning goals to complete tasks than younger children who used performance goals. All three age groups were more likely to view intelligence as malleable over time. Furthermore,

beliefs, achievement goals, and motivation were more likely to be supported by second graders and fourth graders in the study than the kindergartners.

A previously described study investigated achievement and academic motivation among urban adolescents (Long, Monoi, Harper, Knoblauch, & Murphy, 2007). Results of the study revealed findings that differed from previous studies. Motivational patterns of the 8th and 9th graders were related more to learning goals and less linked to performance goals. The results also revealed that achievement was correlated with learning goals for 8th graders but not for 9th graders.

Other researchers have examined how perceived parent goals relate to student achievement goal orientations across adolescence (Gonida, Kiosseoglou, & Voulala, 2007). The study had a total of 426 adolescents from a Greek high school. The adolescents' perceived parent goals were assessed. Results of the study revealed that there was a general decline from early to late adolescence in relation to student perceptions of their parents' goals, parent performance goals, and achievement goal orientations. The researchers concluded that as students enter adolescence, they become less intrinsically motivated and more extrinsically motivated.

Researchers investigated social goals and academic self-handicapping behavior (Leondari & Gonida, 2007). Importantly, results of this study indicated that self-handicapping behavior (behavior that undermines academic performance) for upper elementary and junior high school students was positively related to the goal of pleasing others. In addition, they found that task goals decreased significantly in high school students compared to upper elementary and lower junior high students. These results indicated that social comparisons and competition increase among students as they get

older through school. As mentioned earlier, high school students' decline of task goals predicts self-handicapping.

A study mentioned earlier also examined eight different types of goal orientations to investigate predictability of academic achievement (Giota, 2002). Notable, were the findings on the relationship between goal orientations and achievement in grades 6 and 8 an important time period change from preadolescence to adolescence. The researchers suggested that over time there is an increasing amount of negative/critical goal orientation in students.

Student perceptions are thought to influence motivation for learning and achievement. A study examined perception variables of 900 rural high school students of all grade levels (Handre, Crowson, Debacker, & White, 2007). Students were given three questionnaires to measure motivation-related perceptions that included variables of perceived classroom climate, perceived academic ability, perceived instrumentality of instruction, and achievement goals. Students' school engagement and effort were also measured. They found no differences across the age levels on achievement goals. However, they found that learning goals are a predictor of student engagement in rural areas, and perceived ability predicted achievement goals. Furthermore, supportive classroom environments and instrumentality were positively related to student engagement and motivation. Therefore, a student's goal to learn in the school setting may be linked to his or her motivation to achieve academically. This research relates to how a student uses other comparisons and tries to use these comparisons to outperform academically.

In summary, the above research has mixed findings related to developmental group and goal orientation. Some research has suggested that goal orientation decreases in adolescence due to the changes from intrinsic to extrinsic motivation (Gonida, Kiosseoglou, & Voulala, 2007). Therefore, this study uses the AMP to determine more conclusive results in regards to the achievement motivation domain, goal orientation. The next section discusses research pertaining to developmental group and competitiveness.

Developmental group and competitiveness. Ligon (2006) is one of the few researchers to examine personality traits (such as competitiveness) as they relate to achievement motivation. In her study, she found that the elementary school group scored higher on competitiveness than both the junior high school and high school students. No other studies that examined age group differences on this domain were found in the literature. Also, no other research was found relating to constructs of academic competitiveness and developmental level. Therefore, Ligon's study is replicated in order to examine developmental level and competitiveness to add conclusive data.

Developmental group and motivation. As previously mentioned, Ligon (2006) examined differences in achievement motivation based on gender and developmental level. The results of the study indicated that children in grades 4 and 7 scored significantly higher than older students in grade 10, meaning that the preadolescents reported higher motivation (MOT) than adolescents. No other studies have investigated developmental group differences in motivation (MOT) as defined by the AMP scale.

A study was conducted to examine self-regulated learning in relation to grade, sex, self-efficacy, and strategy use (Zimmerman & Martinez-Pons, 1990). Participants in

this study consisted of forty-five males and forty-five females in the 5th, 8th, and 11th grades from public and academically selective schools in New York City. Students' academic self-efficacy and self-regulated learning styles were assessed. Overall, results demonstrated that academic self-efficacy increases with age. This information is only somewhat consistent with previous research because as students age and become adolescents, their academic competence beliefs and academic self-efficacy beliefs decline. No age differences were found in strategy use. One important difference between the gifted and regular students was that gifted student displayed an increase in self-efficacy earlier than regular students. When examining gender differences, the results indicated that the girls used more self-regulated learning strategies than the boys in verbal efficacy.

Another study was conducted to investigate patterns of relations among motivational components in language and mathematics of elementary school children (Metallidou & Vlachou, 2007). The results revealed that the younger children in the study were more likely to use task value behaviors and had higher levels of self-efficacy compared to the older students when examining the language domain. Motivation was found to vary with age in this study but not gender given the evidence that younger children were more likely to report favorable motivational beliefs in language compared to the older children in this study.

In summary, the prior research findings indicate that developmental group is important because younger children's academic self-concept is centered more on internal factors, which are more likely to increase motivation (Metallidou & Vlachou, 2007).

Statement of the Problem

Achievement motivation is an important construct for study in the fields of education and psychology. Young children's level of achievement motivation can be a strong predictor of one's educational attainment in life (Ligon, 2006). Previous research has yielded mixed results in terms of gender differences in achievement motivation. Some researchers have found that gender does not impact achievement motivation (Cokley, Bernard, Cunningham, & Motoike, 2004; Ligon, 2006), while other researchers have found that there are gender differences concerning achievement motivation (Linenbrink & Pintrich, 2002; Wigfield & Eccles; Chaplain, 2000; Long, Monoi, Harper, Knoblauch, & Murphy, 2007; Houtte, 2004). Previous studies have also found developmental group differences in terms of achievement motivation (Ligon, 2006; Marsh & Ayotte, 2003), while others have found few differences between developmental groups (Hardre, Crowson, Debacker, & White, 2007). While the findings of these studies are interesting, it is also important to note that only one study (Ligon, 2006) has used the AMP model for conceptualizing achievement motivation.

The purpose of this study is to examine achievement motivation differences based on developmental group and gender. This study focuses on preadolescence compared to adolescence, which are important times for considering achievement motivation because research has found achievement motivation is likely to change during these periods of time (Estell, Farmer, Irvin, Thompson, Hutchins, & McDonough, 2007). These age ranges were identified using the Developmental Theory Model. In the model, children between 9 and 12 are considered to be in a different developmental period (with regard to achievement motivation) than adolescents over 17 years of age. The developmental

groups in this study consists of preadolescents (9-12 years) and adolescents (18-19 years). Additionally, Ligon (2006) found no gender differences on any domains. This study needs replication in order to obtain a better understanding of differences in achievement motivation based on gender and developmental group. My hypotheses are as follows:

- Hypothesis 1: Males will score significantly higher than females on Competition regardless of grade level.
- Hypothesis 2: Females will score significantly higher than males on Achievement regardless of grade level.
- Hypothesis 3: Preadolescents (9-12 years) will score significantly higher than adolescents (18-19 years) on the Motivation scale regardless of gender.
- Hypothesis 4: Adolescents (18-19 years) will score significantly higher than preadolescents (9-12 years) on the Goal Orientation scale regardless of gender.

Method

Participants:

Data were gathered from 129 students between the ages of 9 and 19. There were 66 males and 63 females in the sample. The participants were grouped into two developmental categories: preadolescent (N=49) and adolescent (N=80). The age range for the preadolescent group was 9 to 12 years (X=11.08, SD=.96) while the age range for the adolescent group was 18 to 19 years (X= 18.23, SD= .45). There was not a statistically significant difference (c^2 = .57, p=.75) between genders with regard to age group. This means that there were approximately equal numbers of males and females across developmental groups.

There was neither a statistically significant difference (c^2 = 9.50, p= .09) between genders with regard to ethnicity. There also was neither a statistically significant difference (c^2 = 5.89, p= .32) between the developmental groups with regard to ethnicity. Since there was not a significant difference with regard to ethnicity based on gender or developmental group, this demographic information is presented for the entire sample. 69.77% of the sample was African American, 18.60% of the sample was White, 1.55% of the sample was Hispanic/Latino, .76% of the sample was American Indian/Alaskan Native, .76% of the sample was other, and 8.56% of the sample did not identify an ethnic group.

There was not a statistically significant difference (c^2 = .68, p= .95) between genders with regard to mother's education nor a statistically significant difference (c^2 = 6.25, p= .40) between genders with regard to father's education. There was not a statistically significant difference (c^2 = 7.30, p= .12) between the developmental groups

with regard to mother's education nor a statistically significant difference ($c^2 = 7.63$, p= .27) between the developmental groups with regard to father's education. Since there was not a significant difference with regard to parent education based on gender or developmental group, this demographic information is presented for the entire sample. See Table 1 for demographics with regard to mother's education and father's education.

Table 1: Highest education obtained by mother and father for entire sample.

	Percentage of Sample
Mother's education	
Elementary School	0.0%
Middle School	0.0%
High School	44.96%
GED	6.97%
Graduated from a 2-year college	21.70%
Graduated from a 4-year college	13.95%
Graduated from graduate or professional school	4.65%
Not completed	7.77%
Father's education	
Elementary School	.77%
Middle School	3.10%
High School	53.48%
GED	6.20%
Graduated from a 2-year college	10.85%
Graduated from a 4-year college	11.62%
Graduated from graduate or professional school	1.55%
Not completed	12.43%

Materials:

Demographics questionnaire. A demographics questionnaire was used to gather data on participants (see Appendix A). The demographic form included questions related to age, gender, grade, parents' education level, parents' occupations, and other variables that were used to describe the sample.

Achievement Motivation Profile. The *Achievement Motivation Profile* (AMP; Friedland, Mandel, & Marcus, 1996) was used to measure achievement motivation. The Achievement Motivation Profile (AMP) is a self-inventory that is written at a 4th grade level. It includes several different forms based on the age of the participant. The AMP is self-report inventory containing 140 items that take an estimated 20 to 30 minutes to complete. The respondents rate on a 5-point Likert scale (with endpoints of "Always True" and "Always False") their agreement with each self-description statement.

The AMP produces scores across four domains of achievement (Friedland, Mandel, & Marcus, 1996). The four domains of achievement assessed are: (1) Motivation for Achievement, (2) Inner Resources, (3) Interpersonal Strengths, and (4) Work Habits. Each domain has subscales. The focus of this study was on the domains assessed by the Motivation for Achievement domain. The subscales for the Motivation for Achievement include: Achiever, Motivation, Competitiveness, and Goal Orientation. The subscales for the Inner Resources domain include: Relaxed Style, Happiness, Patience, and Self-confidence. The subscales for the Interpersonal Strengths domain include: Assertiveness, Personal Diplomacy, Extroversion, and Cooperativeness. The subscales for the Work Habits domain include: Planning and Organization, Initiative, and Team Player. All subscales produce T-scores with a mean of 50 and standard deviation of 10.

Since this study mainly focuses on differences on the Motivation for Achievement scale, these subscales are discussed in more detail. The Achiever scale is designed to assess task completion, achieving specific goals, and following through on goals (Friedland, Mandel, & Marcus, 1996). The Motivation scale is designed to assess

intrinsic motivation and drive to achieve. The Competitiveness scale is designed to measure a desire to achieve at a higher level than others. The Goal Orientation scale is designed to assess the ability to develop goals that are specific and clear and the ability to develop a plan to achieve goals.

The instrument also contains three validity scales that provide information about the accuracy of the scores on the form (Mandel, Friedland, & Marcus, 1996). The three scales include Inconsistent Responding, Self-Enhancing, and Self-Critical response styles. The Inconsistent Responding scale stems from 15 pairs of similar items. The Self-Enhancing (which assesses a tendency to respond in a socially desirable manner) and Self-Critical (which assesses a tendency to respond in an overly negative manner) scales derive from scores on 12 items each. No forms had elevations on any of the validity scales and thus all completed forms were included in the data analysis.

The AMP was normed on over 3,000 students with attention paid to demographics such as age, gender, and ethnicity (Friedland, Mandel, & Marcus, 1996). The instrument has been demonstrated to have adequate reliability and validity. The internal consistency estimates range from .58 to .84. Test-retest reliability coefficients ranged from .61 to .89. Concurrent and discriminant validity were established through various procedures (e.g. correlations with instruments measuring related constructs and studies discriminating between subgroups).

Within the current sample, the internal consistency for the Achiever, Motivation, Goal Orientation, and Competitiveness scales varied considerably. Internal consistency measures (using Cronbach alphas) in the normative sample were a=.86 (Achievement), a=.74 (Motivation), a=.77 (Goal Orientation), and a=.78 (Competitiveness). The alpha

values for the current sample ranged from a=.84 (Achievement) to a=.49 (Goal Orientation). The alpha value for the Motivation scale (a=.68) was just below the .70 alpha value that is generally regarded as indication of acceptable internal consistency. The Goal Orientation and Motivation scales were both below the generally acceptable level, however Goal Orientation was considered the most concerning of the two with regard to internal consistency. An analysis of items suggested deleting any individual items on the scales would not significantly improve the reliability estimate for the specific scale. Given the low reliability for the Goal Orientation scale (in particular) with this sample, these results are interpreted with more caution than the other findings.

Procedure:

Permission to conduct this study was granted by the Institutional Review Board at Western Carolina University. Permission to conduct the study was also granted by the Office of the Associate Superintendent and the individual principals at the elementary, middle, and high schools in which the data was collected. A presentation to students at the schools was conducted to request participation and to provide a letter explaining the purpose of the research. Following the explaination, the letters were sent home to their parents. Parental consent (see Appendix B) and participant assent (see Appendix C) were obtained. Participants were group administered the *Achievement Motivation Profile* (Friedland, Mandel & Marcus, 1996) and the Demographics Form during the beginning of the second semester of the school year. Participants completed the survey during 30 minute free periods, and were spaced evenly apart to ensure confidentiality of their responses. They were informed that the purpose of this questionnaire was to learn more about their perspectives on activities at school and school motivation. Participants were

also told that their individual answers would not be seen by their parents, teachers, or other students and that their confidentiality would be maintained.

Data Analysis:

A 2 (male/female) X 2 (preadolescent/adolescent) MANOVA was performed. The dependent variables were different domains of achievement motivation, which included the following: Achiever, Motivation, Goal Orientation and Competiveness. The independent variables were gender and developmental group. The developmental levels were collapsed into two age groups: preadolescents (9-12 years) and adolescents (18-19 years). Univariate ANOVAs were used to explore statistically significant main effects and interactions on all the dependent variables.

Results

Results of the MANOVA used to examine differences on the Achiever scale, Motivation scale, Goal Orientation scale, and Competition scale based on developmental group and gender indicated that an interaction between developmental group and gender approached statistical significance [$F(3,123)=2.67$, $p=.053$, $\eta^2=.053$). However, this interaction was not statistically significant therefore main effects were examined independently. The results revealed a statistically significant main effect [$F(3,123)=11.64$, $p=<.001$, $\eta^2=.22$) for gender. There was not a statistically significant main effect {$F(3,123)= .16$, $p=.004$, $\eta^2=.93$) for developmental group. (See Tables 2 and 3 for descriptive statistics by gender and developmental group).

Table 2: Means and standard deviations for Achiever, Motivation, Goal Orientation, and Competition based on gender

Domain		N	Mean	Standard Deviation
Achiever				
	Female	63	56.35*	9.98
	Male	66	49.61*	10.44
	Total	129	51.36	11.29
Motivation				
	Female	63	55.92	11.74
	Male	66	49.80	9.67
	Total	129	52.79	11.12
Competitiveness				
	Female	63	54.11	11.31
	Male	66	50.41	12.62
	Total	129	52.22	12.09
Goal Orientation				

Female	63	54.97*	9.73
Male	66	50.47*	11.12
Total	129		

Note: *Indicates a statistically significant difference at the .01 level.

Table 3: Means and standard deviations for Achiever, Motivation, Goal Orientation, and Competition based on developmental group

Domain	N	Mean	Standard Deviation
Achiever			
Preadolescent	49	51.63	11.94
Adolescent	80	51.20	10.95
Total	129	51.36	11.29
Motivation			
Preadolescent	49	52.45	12.78
Adolescent	80	53.00	10.05
Total	129	52.79	11.12
Competitiveness			
Preadolescent	49	51.80	13.01
Adolescent	80	52.48	11.57
Total	129	52.22	12.09
Goal Orientation			
Preadolescent	49	52.41	12.80
Adolescent	80	52.83	9.19
Total	129	52.67	10.66

Hypothesis One:

It was hypothesized that females would score significantly higher than males on Achiever regardless of developmental group. Follow-up examination of univariate ANOVA results indicated that there was a statistically significant difference

[F(1,125)=25.65, p<.001, η^2 =.17] on the Achiever scale based on gender. An examination of mean scores indicates that males scored (X=49.61, SD=10.44) significantly lower than females (X=56.35, SD=9.98) scored on the Achiever Scale.

Hypothesis Two:

It was hypothesized that males would score significantly higher than females on Competitiveness regardless of developmental level. Follow-up examination of univariate ANOVA results indicated that there was not a statistically significant difference [F(1,125)=3.04, p=.084, η^2 =.024] on the Competiveness scale based on gender. See Table 2 for means and standard deviations on Competitiveness based on gender.

Hypothesis Three:

It was hypothesized that preadolescents would score significantly higher than adolescents on the Motivation scale regardless of gender. Univariate ANOVA results indicated that there was not a statistically significant difference [F(1,125)=.266, p=.61, η^2 =.002] on the Motivation scale based on developmental group. See Table 3 for means and standard deviations on Motivation based on developmental group.

Hypothesis Four:

It was hypothesized that adolescents would score significantly higher than preadolescents on the Goal Orientation scale regardless of gender. Univariate ANOVA results indicated that there was not a statistically significant difference [F(1,125)=.15, p=.704, η^2 =.001 on the Goal Orientation scale based on developmental group. See Table 3 for means and standard deviations on Goal Orientation based on developmental group.

Exploratory Analyses:

Other findings related to Achievement Motivation. While there was no hypothesis about differences on Goal Orientation based on gender, an examination of the univariate ANOVA results revealed a statistically significant difference [$F(1,125)=5.90$, $p=.017$, $\eta^2 =.045$. Females scored higher on goal orientation than males. See Table 2 for means and standard deviations on Goal Orientation based on gender.

Findings related to other domains of the AMP. Exploratory analyses were conducted to examine differences on the other achievement motivation domains of the AMP. A 2 x 2 MANOVA was conducted to examine differences on the following subscales: Relaxed Style, Happiness, Patience, Self-confidence, Assertiveness, Personal Diplomacy, Extroversion, Cooperativeness, Planning and Organization, Initiative, and Team Player based on gender and developmental group. However, the interaction between developmental group and gender was not statistically significant, therefore main effects were examined. There was not a statistically significant main effect {$F(14,112)= 3.13$, $p<.001$, $\eta^2=.28$) for developmental group. There was a statistically significant main effect for gender {$F(14,112)= 4.09$, $p<.001$, $\eta^2=.34$). Differences between ethnicities were also examined in this study. There was no a statistically significant difference between any ethnicities {$F(7,107)= .69$, $p=.92$, $\eta^2=.04$).

Univariate ANOVA results on the Happiness scale {$F(1,125)= 6.95$, $p=.009$, $h^2=.053$), Personal Diplomacy scale {$F(1,125)= 14.84$, $p<.001$, $\eta^2=.11$, Extroversion scale {$F(1,125)= 5.60$, $p=.019$, $\eta^2=.043$), Cooperativeness scale {$F(1,125)= 19.39$, $p<.001$, $\eta^2=.13$), Planning and Organization scale {$F(1,125)= 19.83$, $p<.001$, $\eta^2=.14$), Initiative scale {$F(1,125)= 7.27$, $p=.008$, $\eta^2=.055$), and Team Player scale {$F(1,125)=$

12.01, p=.001, η^2=.09) were all statistically significant. An examination of mean scores indicates that males scored significantly lower than females on the aforementioned scales. See Table 4 for means and standard deviations on the additional scales of the AMP based on gender.

Table 4: Means and standard deviations for Relaxed Style, Happiness, Patience, Assertiveness, Self-Confidence, Personal Diplomacy, Extroversion, Cooperativeness, Planning and Organization, Initiative, and Team Player scales based on gender

Domain		N	Mean	Standard Deviation
Assertiveness				
	Female	63	50.67	12.09
	Male	66	49.35	11.14
	Total	129	48.84	9.41
Cooperativeness				
	Female	63	56.30*	10.29
	Male	66	50.56*	8.34
	Total	129		
Extroversion				
	Female	63	50.19*	11.91
	Male	66	45.42*	10.31
	Total	129	52.67	10.66
Happiness				
	Female	63	54.44*	9.75
	Male	66	50.42*	10.17
	Total	129	52.67	10.66
Initiative				
	Female	63	54.08*	11.73
	Male	66	48.45*	12.23
	Total	129	48.84	9.41

Patience				
	Female	63	49.79*	9.28
	Male	66	47.92*	9.50
	Total	129	49.76	9.50
Personal Diplomacy				
	Female	63	52.06*	10.90
	Male	66	45.59*	9.98
	Total	129	52.79	11.12
Planning and Organization				
	Female	63	55.97*	9.58
	Male	66	48.61*	10.22
	Total	129	53.39	10.13
Relaxed Style				
	Female	63	50.79	9.87
	Male	66	48.77	9.09
	Total	129	52.79	11.12
Self-confidence				
	Female	63	53.06	8.37
	Male	66	51.50	9.78
	Total	129	52.39	10.13
Team Player				
	Female	63	48.59*	12.42
	Male	66	41.73*	10.15
	Total	129	52.26	9.12

Note: *Indicates a statistically significant difference at the .01 level.

Discussion

Recent research highlights the importance of gender and developmental level as a key component of achievement motivation. There have been inconsistent findings pertaining to developmental level and achievement motivation. Some researchers suggest more evidence is needed on preadolescents to make better conclusions of how their achievement and motivation is affected during this stage of their lives (Ligon, 2006). Other research findings suggest students in middle school experience a difference in achievement motivation close to the time when students are transitioning from 7th to 8th grade (Guay, Marsh, & Boivin, 2003; Shim, Ryan, & Anderson, 2008; Yeung & McInerney, 2005). There is also research that has found adolescents' achievement motivation drops as they enter high school and then becomes more of a focus as they enter 12th grade (Dotterer, McHale, & Crouter, 2009). In regards to gender, there is research that has found females typically have a higher achievement interest than males (Martin, 2004) while males are typically more competitive than females (Thorkildsen & Nicholls, 1998).

Hypothesis One:

It was hypothesized that females would score significantly higher than males on Achiever regardless of developmental group. In the present study, results did support existing research in that females scored significantly higher than males in the area of achievement (Martin, 2004). This may suggest that the females in this study tend to view themselves as actually achieving and having good attitudes toward school. On the other hand, this may suggest that the males in this study are more susceptible to underachieving and less likely to perceive achievement in general as being valued.

Hypothesis Two:

It was hypothesized that males would score significantly higher than females on Competitiveness regardless of developmental level. There was no significant difference between genders for Competitiveness. This may suggest that despite the sample make-up, the students reported average scores, meaning most of the participants were satisfied with their academic self. While there was no significant finding on gender and Competitiveness in this study, there is research that has found otherwise. Results of a study concluded that males are typically more competitive than females (Thorkildsen & Nicholls, 1998). However, there is still a lack of research findings pertaining to gender differences and academic competitiveness.

Hypothesis Three:

It was hypothesized that preadolescents would score significantly higher than adolescents on the Motivation scale regardless of gender. There was no significant difference between developmental groups for Motivation. This may suggest that participants in this study do not experience a dramatic shift in motivation throughout their schooling. While this study did not find any significant differences between developmental group and motivation, there is some research that has found younger students are typically more motivated than adolescents (Ligon, 2006; Metallidou & Vlachou, 2007).

Hypothesis Four:

It was hypothesized that adolescents would score significantly higher than preadolescents on the Goal Orientation scale regardless of gender. However, there was no significant difference between developmental groups for Goal Orientation. This may

suggest that most participants in this study feel positively about their academic objectives in school. There is research that suggests older students are more goal oriented than younger students (Leondari & Gonida, 2007) but there is also research that has found younger students are more goal oriented than adolescents (Ligon, 2006).

Implications for the School System:

While the primary findings of this study suggest that there are differences on some domains of achievement motivation based on gender, there are other findings that may be of interest to the school system. There are several other significant differences based on gender when comparing the other added AMP scales. Males rate themselves significantly lower than females on several scales including Goal Orientation, Team Player, Cooperativeness, Personal Diplomacy, and Initiative. This may indicate that the males in this study have confusion regarding their personal goals, or unhappiness and self-doubt regarding goal attainment. These findings may also indicate that these individuals tend to have rather poor interpersonal skills and tend to get into difficulties because of their relative inability to be socially diplomatic. This may even reflect that some of the males are not concerned about roles of tact and diplomacy in interpersonal relationships, which may also be related to their cooperativeness and interpersonal strengths or lack of. The findings for the males' lack of initiative in this sample may suggest that their academic values are more understated than females and that the males have not practiced taking initiative. This may also be due to unsatisfying and/or unsuccessful previous experiences, or it may reflect a lack of investment in taking the lead. These findings may suggest that interventions for motivation with males in an academic context may need to consider strategies such as setting personal goals,

developing initiation skills, and more generally, helping them understand the value in their academic pursuits.

Males also scored lower than females on the Happiness, Extroversion, and Planning and Organization scales. These findings may reflect individuals who are not yet comfortable with themselves or do not have the inner strengths to deal with everyday problems or frustrations. This could also be that some of the males are not as concerned about external objects, actions, and relationships as the females in this sample. Many of these characteristics are related to achievement-related tasks and motivation of an individual. Again, these findings may have direct implications for interventions that target males with motivation issues. Helping them establish meaningful relationships with teachers and students in an academic setting, helping them with executive functions (such as planning and organization), and focusing on subjective well-being may need to be a focus in interventions. These findings may also help educators and school psychologists with more targeted interventions related to implementing Response to Intervention in the school systems.

While there were gender differences noted in this study, most of the participants scored in the average range. It is important to consider these scales because they are designed to evaluate the different kinds of personality, motivation, interpersonal, and work characteristics that contribute to achievement. This suggests, that generally these students felt positively about their academic self. This information is important in understanding problems with underachievement in schools and the factors that are associated with motivation. It is also important to consider the differences resulting from the scales to provide a better portrait of the student.

Lastly, one must also consider the demographics in relation to the significant differences among groups in the current sample. The ratings of the participants are particularly important given the percentage of the sample that was a minority and possibly from a lower SES. While some researchers have argued that minority students are at greater risk for displaying problems with motivation in academic settings, this was not supported in the current study. In general, the students in this study feel positively about their achievement motivation, with females feeling slightly better in some specific domains and achievement motivation as a whole did not seem to differ considerably between preadolescents and adolescents.

Limitations and Future Research:

There are several limitations that need to be considered and addressed in future research. First, the sample size for the elementary and middle school participants was small which created the need to collapse the elementary and middle school participants into preadolescents. This prevented the researchers from gathering insight about anticipatory transition periods from elementary to middle school and from middle to high school. This is an area of research that may have help broaden our understanding of implications and goals for achievement motivation. Therefore, future research encompassing time periods before transition could further our understanding of achievement motivation and developmental level.

Second, the current study is limited in generalizability because the data were collected from a specific geographical region and small sample size. Therefore, future research is needed to test the generalizability of the results beyond this current sample and across multiple schools or regions, given the small sample size of the current

investigation. The gender differences, or lack thereof on some domains, should be investigated with further research and other samples to verify these results. Also, as with all self-report studies, it is plausible that some participants misunderstood the questioning or may have not been wholly honest in their responses. It is possible that there was a difference between the participants and nonparticipants in which the participants in this study are less alienated and willing to complete the questionnaire compared to those who were not interested in completing the questionnaire. Despite the limitations, the study does provide some theoretical support for future research examining gender differences and various outcomes associated with achievement motivation. Understanding the factors that affect achievement and motivation and how they interact to produce desired or undesired performances in an academic setting is important because this strongly impacts students' adult work performance too (Friedland, Marcus, & Mandel, 1996)

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Appendix A
Demographics Form

Completion of this form is voluntary, and any information that you provide will be kept confidential.

Sex: Male_____ Female_____

Age: _____

Ethnic Category: (please check the appropriate category)
American Indian/ Alaskan Native
Asian
Native Hawaiian/Other Pacific Islander
Black/ African American
White
Hispanic or Latino
Unknown/ Do Not Wish To Say
Other_____

Mother's Highest Education Obtained: (please check the appropriate category)

Elementary School
Middle School
High School
Have a GED
Graduated from a 2-year college
Graduated from a 4-year college
Graduated from Graduate or Professional School

Father's Highest Education Obtained: (please check the appropriate category)

Elementary School
Middle School
High School
Have a GED
Graduated from a 2-year college
Graduated from a 4-year college
Graduated from Graduate or Professional School

Please List Job:
Father's Job: **Mother's Job:**
_____ _____

Appendix B
Parental Consent Form

I give my consent for_____ to participate in the research entitled "Differences in the Domains of Achievement Motivation on Gender and Developmental Level" being conducted by Gina L. Clark, a graduate student in the School Psychology program at Western Carolina University. Questions regarding this research may be directed to the Institutional Review Board, which is a committee that oversees the ethical dimensions of the research process. The IRB office can be contacted at (828-227-3177). You may also contact the Thesis Chair, Dr. Candace Boan-Lenzo (828-227-3451) or Gina Clark, the researcher: (803-464-5878).

I understand that participation in this research is entirely voluntary. My child or I may withdraw at anytime without any penalty. If my child or I choose to withdraw consent, the results and or identification of my child will be removed from the research records or destroyed.

I understand the following points:

1) The purpose of this research is to examine differences in domains of achievement motivation on gender and developmental level. More specifically, it will be looking at areas that are typically associated with achievement motivation of students. The researchers believe that gender and the age or developmental level of a student may impact achievement motivation in these different areas. It is important to examine if students who are transitioning or getting ready to progress to the next grade are affected in one or more of the areas of achievement motivation.

2) My child will participate in the research by completing one questionnaire form. The completion of this questionnaire form will take approximately 30 minutes. The questionnaire will be administered to a group of peers at prearranged times and dates at my child's school.

3) There are no foreseen risks, discomforts, or stresses associated with my child's participation in this research.

4) The results of my child's participation in this research will remain confidential. The results pertaining to this research will not be released in any individually identifiable form without parental consent, unless otherwise specified by law.

5) Any further questions about this research should be directed to the investigator at the phone number listed above.

6) The results will also not be used by any school system or other personnel in any way which would affect the instruction, placement, or services my child receives.

If you would like to receive results of this study, put your contact information (e-mail, mailing address, or phone number) below your signature.

Signature of Parent(s) or Guardian Date

_____ _____

Signature of the Researcher Date

_____ _____

Appendix C
Participant Assent Form

I understand that Mrs. Clark will be coming into Mr./Mrs._____ classroom to talk to the class about how to fill out a questionnaire. The questionnaire will ask questions about school accomplishments, school goals, and my motivation in school. I agree to take part in Mrs. Clark's presentation and fill out the questionnaire. I understand that if I change my mind at anytime, I can stop filling out the questionnaire without any consequences. I also understand that my name will not be written on the questionnaire and my name will be kept confidential/secret. If I have any questions, I will ask Mrs. Clark.

Print your name

_____

Sign your name

_____

Print the date

_____