

GOAL ORIENTATION AMONG GRADUATE
STUDENTS

By

JEANINE LOUISE SOLTANI

Bachelor of Science in Physical Therapy
University of Kansas
Lawrence, Kansas
1980

Master of Education
University of Central Oklahoma
Edmond, Oklahoma
2000

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STUDENTS

Dissertation Approved:

Dr. Diane Montgomery

Dissertation Adviser
Dr. Kay Bull

Dr. R. Steve Harrist

Dr. Janice Miller

Dr. Katy Perry

Dr. A. Gordon Emslie

Dean of the Graduate College

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CHAPTER 1

INTRODUCTION

Goal orientation theory as originally proposed by Dweck and Leggett (1988), focused on the processes governing the selection and pursuit of achievement goals and the meaning attached to these goals. This theory focused on explaining learners' cognitive, affective, and behavioral patterns toward achievement related processes and outcomes (Elliot, McGregor, & Gable, 1999). Achievement goal orientation theory, recently conceptualized as “competence motivation” (Elliot & Dweck, 2005, p. 6) was developed within the social-cognitive framework to understand how goals are pursued or perceived in an achievement setting (Midgley et al., 1998). The topic of this study was to determine goal orientation among graduate students and the environmental factors that influenced these goal orientations.

Background

Achievement goal theory initially described two classes of achievement goals: mastery and performance, and their subsequent behavioral patterns (Dweck, 1996a; Dweck, 2000; Dweck & Leggett, 1988). Mastery goals focus on developing competency, understanding new material, and accomplishing something challenging as the individual concentrates on the task at hand (Midgley, Middleton, & Kaplan, 2001). Mastery goals have been associated with high motivation and interest, use of self-regulatory and deep cognitive skills, persistence in the face of failure, and high self-efficacy (Dweck & Leggett, 1988; Elliot & Church, 1997; Linnenbrink, & Pintrich, 2002; Pintrich, 2000;

Pintrich & Garcia, 1991). Performance goals relate to how one's ability is judged and how one performs relative to others (Midgley et al., 2001). However, research on the consequences of performance goals has inconsistently linked them with negative coping strategies such as surface learning strategies, self-handicapping, and lack of persistence in the face of failure. Yet, in other studies, performance goals have been associated with high achievement and persistence in the face of success (Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002).

Deeper investigation into the inconsistent findings on performance goal outcomes has led researchers in recent years to a revised, or multiple, goal orientation theory (Harackiewicz et al., 2002; Midgley et al., 2001). In this theory, three goal orientations are identified: Mastery (approach), performance-approach, and performance-avoidance. Separating performance orientation into approach and avoidance components has helped clarify the ambiguous results from previous research (Harackiewicz et al.). In the multiple goal perspective (Harackiewicz et al.; Midgley et al.), performance-approach goals are linked to adaptive outcomes such as achievement and persistence with success while performance-avoidance goals are associated with maladaptive behaviors and undesirable outcomes. Mastery goals continue to be strongly associated with positive behaviors and outcomes.

Previous studies have focused on the use of goal orientation theory for understanding motivation and achievement in younger populations, from preschool to undergraduate learners; however there are not any extensive studies documenting goal orientation theory with graduate students in any context. The present study identified the

predominant goal orientation among graduate students and the environmental factors that may inform this goal orientation.

Graduate Students and Role Demands

Many graduate students are non-traditional, working and attending classes, with family commitments. Working students have been observed to be less efficient in their assignments and take longer to complete degrees (Ferrer de Valero, 2001; Keller, 2001). The amount of time from beginning to completion of a graduate degree may impact the potential for success. Attrition rate for doctoral students is about one-third in the first year, then one-third before completion of coursework, and another third prior to dissertation completion (Nesheim, Guentzel, Gansemer-Topf, Ross, & Turrentine, 2006). According to studies on graduate student attrition, reasons for attrition include financial concerns, relationships with significant others, employment demands, time constraints, family issues, and inaccessibility to faculty and cohort support (Lovitts & Nelson, 2000; Neisheim et al., 2006; Smith, Maroney, Nelson, Abel, & Abel, 2006).

As financial, personal, and academic roadblocks slow the process, students have a tendency to drop out or become unable to complete the requirements for graduation resulting in a loss to society of highly trained professionals (Ferrer de Valero, 2001). The resulting question of who will be the next generation of faculty and scholars becomes a critical one and retention of these graduate students becomes more important as the attrition rate increases (Golde, 2005; Lovitts & Nelson, 2000; Smith et al., 2006). Outside influences affecting graduate students pursuing academic degrees may impact their view of higher education coursework and influence their achievement goal orientation theory. Various intrinsic and extrinsic influences have been found to predict the ability to

complete degree requirements for graduation. In combination these factors set the stage for the graduate student to complete degree requirements and enter the professional world, or to give up and leave higher education.

Graduate education is a time of intense study and stress. Research has shown that the majority of graduate students reports high levels of stress brought on by multiple factors which are thought to negatively impact success in graduate study (Appel & Dahlgren, 2003; Home, 1997; Hudson & O'Regan, 1994; Lawson & Fuehrer, 2001). Many graduate students are older, engaged in working part or full time, and juggling work, financial, and family concerns. Finances, social support, departmental support, and academic requirements are among extrinsic factors found in previous studies to influence students' stress and achievement levels (Ferrer de Valero, 2001; Home, 1997; Keller, 2001; Tight, 1992). The pressures and time constraints of work, personal life and academic requirements may predispose toward a performance goal orientation as the student attempts to maintain competitive grades and engage in other pertinent graduate school activities while balancing work or family demands (Potts, 1992). If the results of these pressures takes the form of a performance-avoidance orientation, it may lead to conflict concerning participation in learning activities, professional activities, and research, as well as, negative coping behaviors in the face of setbacks.

In the case of many working graduate students who do not have financial support from sources other than themselves, there is a debate between part-time or full-time coursework. Part-time enrollment "is often associated with the enactment of several extracurricular roles such as marriage, parenthood, and employment" (Potts, 1992, p. 61), as well as, increased stress. Potts' research suggests that increasing university support to

students who must work would increase their ability to fulfill school-related demands and improve psychological adjustment to the academic environment. Home (1997) has found in a survey of female graduate students that income and perceptions of role demands predicted stress and suggested that more tangible support would decrease attrition rates in this group. In studies looking at gender differences, female students with families have been found to suffer from increased stress and to have higher attrition rates than their male counterparts (Home; Potts). Lovitts and Nelson (2000) found that women with higher grade point averages left graduate programs in higher numbers than other females and males with lower grade point averages, therefore not grades, but other issues such as lack of integration into the department social and professional life, intellectual isolation, and financial issues were the issue in their attrition. Combinations of financial, personal, and academic issues tend to increase attrition or failure to complete degree requirements among graduate students with a resulting loss of potential professionals (Ferrer de Valero, 2001). Therefore, positive motivators to successfully pursue a post-baccalaureate degree must be strong enough to override the extrinsic negative influences (Ferrer de Valero; Home; Potts; Weidman & Stein, 2003).

Some research has shown that part-time graduate students benefit from added or more financial assistance and feel they would be able to concentrate more on their studies (Tight, 1992). Overall, the body of research available shows that part-time students take longer in their course of study and have higher attrition rates (Keller, 2000; Tight, 1992). Women with families, especially, suffer from increased stress and role strain, and tend to drop out more than men in the same situation (Home, 1997; Potts, 1992). Female enrollment in graduate school programs has increased by 73% since 1976 with women

making up 58% of all graduate students in 2000 (U.S. Department of Education, 2003). Of all graduate students, only 59% received financial aid of any type in 1999-2000 while 80% worked an average of 36 hours per week to meet financial needs (U.S. Department of Education, 2001).

With an increase in women in graduate programs and lack of institutional support, multiple role demands may lead to a performance goal orientation out of the need to survive these stressors and lack of time and energy to devote to study, research, and professional development activities. These stressors, leading to a scarcity of time and energy to devote to multiple roles, make working graduate students potentially vulnerable to failure and loss of motivation due to a change from an approach to an avoidance orientation. This could ultimately lead to attrition of students in a graduate program.

Part-time Students and Professionalism

Professionalism is “internalized attitudes, perspectives, and personal commitment to the standards, ideals, and identity of a profession” (Spruill & Benshoff, 1996, p. 468). Promoting professionalism among graduate students involves encouraging participation in research groups, presentations, conferences, and publishing. Participation in committees, leadership positions, and other university groups are other professionalism building activities. Strategies taken by departments and faculty to encourage student participation in professionalism building activities are critical for successful orientation into the culture (Weidman & Stein, 2003). For part-time, non-traditional students, some of whom may commute an hour or more to the campus and juggle work demands, these activities may be difficult to participate in without loss to family and job duties. Rigid policies risk losing potential professional colleagues who cannot fit the mold into their

lifestyles. Therefore, “the needs of all students must be considered in the socialization and professionalization process” (Weidman, Twale, & Stein, 2001, p. 95).

Loss of income from hours lost at work, if release time is not a part of this environment, coupled with family needs makes immersion in the university socialization and professionalism process difficult for this group. The dilemma of scarcity of time and financial support over many demands may bias these learners toward performance goal orientation in order to achieve the ultimate end, a degree, as quickly as possible.

Developing professional identity and immersion into the university culture is important and will require more time and effort from faculty and departments working with non-traditional graduate students. Support systems from cohort and collaborative groups, faculty, and peers are important to assisting the graduate student in evolving into a professional. “With more diverse students and increased numbers of part-time students and distance learning programs, physical, proximal, professional, and psychological bonding become challenging” (Weidman et al., 2001, p. 96). Support may take the form of financial aid, flexible schedules, and personal encouragement among other strategies.

Goal Orientation Theory and Academic Achievement

Implicit theory (Dweck & Leggett, 1988) provided the foundation for development of goal orientation theory within the social-cognitive framework. Implicit theories “create a meaning system or conceptual framework that influences which goals are salient and important to the individual” (Dweck, 1996a, p. 69). Two views of implicit theory have been described in the literature by Dweck and Leggett, entity and incremental. Entity theorists believe in fixed, unchangeable intelligence and view outcomes as direct reflections of this intelligence. In choosing goals, the entity theorist

malleable. Because everything is changeable and possible for the incremental theorist, conflict may arise concerning where to channel one's efforts. Time used to build one set of skills takes away from another, yet each can be increased with enough effort. On the other hand, the entity theorist sees exerting effort as revealing low ability. This often leads to internal conflicts about whether to try harder, showing less ability or to give up, a self-defeating solution (Dweck).

Research has shown that students focused on mastery goals have high intrinsic motivation and tend to do well in achievement measures (Dweck, 1996a; 2000). Students holding performance goals tend to show mastery reaction patterns in the face of success but helplessness if confronted with setbacks or challenges. Some research has shown that learners can hold both performance and mastery goals simultaneously and show both high achievement and high intrinsic motivation for learning (Elliot & Church, 1997; Pintrich, 2000).

Reactions to challenge, setback, and failure differ between achievement goal orientations, and these hold significant implications for learners at all levels. Individuals holding entity theory orientations tending to choose performance goals do well with successes, but this is only a fragile sense of self-worth which can be easily damaged. Any challenge or setback will lead to maladaptive reactions such as low effort, helplessness, and avoidance (Dweck & Leggett, 1988; Elliott & Dweck, 1988). Challenge and setback are actually useful to the incremental theorist because it provides feedback for improving ability and is not a reflection of self-worth since intelligence is not fixed. These learners are motivated by setbacks to find new strategies in reaching their learning goal; their motivation is intrinsic and hardy compared to the entity theorist.

will prefer performance-type goals that show how intelligent the theorist is but do not provide challenge or risk of failure. Reactions to setbacks are generally manifested as maladaptive, helpless behaviors since these theorists believe there is nothing he or she can do to change that fixed ability (Smiley & Dweck, 1994). On the other hand, the incremental theorist sees intelligence or ability as fluid and malleable, subject to change with effort. In this model setbacks are viewed as opportunities for individuals to increase effort or change strategy in order to acquire the necessary ability, but are not discouraging because these do not reflect the essential self. This mastery-oriented reaction is stimulated by challenge or setback and is considered a positive, adaptive pattern.

The implicit theory held by an individual regulates other processes involved in achievement including goal selection, failure or success attributions, effort, and intrinsic motivation. Two types of achievement goal orientation, mastery and performance, have been identified related to implicit theory (Dweck, 2000). Performance goals are designed to measure ability and show how smart one is compared to others. Because entity theorists see intelligence as a fixed ability, they prefer performance goals that will show ability and superior performance compared to others but will not run the risk of failure, thus exposing their limitations. Conversely, incremental theorists select mastery goals to increase their competence, teach new tasks, and increase new knowledge with the risk of making public mistakes in the process. Success is measured in relation to self, therefore, the risk of learning, or mastery, goals presents a challenge to the incremental theorist, who is not concerned with competition with others but wants to increase their knowledge, skill, and ability. This risk is acceptable for the incremental theorist, since intelligence is

Elliot and Harackiewicz (1996) have proposed a revised achievement goal theory dividing performance goals into approach and avoidance categories. Performance goals define success in relation to others in a normative, competitive viewpoint. Performance-approach goals aim for favorable judgment of competence while performance avoidance goals are focused on avoiding unfavorable judgments of self. Mastery goals are classified as approach goals. For this learner the goal is to increase skill and knowledge. Success is seen in relation to the task and is self-referenced. While mastery goal orientation is consistently linked to positive behaviors and outcomes, the benefits of a performance-approach orientation has been found to be dependent on other modulating factors including being paired with mastery goals (Elliot & Harackiewicz; Harackiewicz et al., 2002; Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000; Middleton & Midgley, 1997). Performance-approach goals can benefit the learner in an environment where normative assessment and competition are emphasized, however, in the event of negative feedback or failure, performance-approach goals lead to maladaptive patterns of learning including helplessness, cheating, and switching to a performance-avoidance pattern (Elliot & Harackiewicz; Harackiewicz et al.; Harackiewicz et al.; Middleton & Midgley). Performance-avoidance goals have been consistently linked to maladaptive patterns of coping, low achievement, and decreased motivation. Revised goal orientation theory was used as the framework for this study.

Implications for the Academic Environment

Understanding the implicit belief system and its influence on goal selection, intrinsic motivation, effort, and achievement is important for administrators, faculty, and learners alike. Since mastery goals have been shown to promote deep processing,

persistence and effort in the face of setbacks (Elliot et al., 1999), this is a desirable orientation for learners. Performance-approach goals have positive links to achievement depending on other factors such as context and feedback. They are particularly effective if combined with mastery goals (Harackiewicz et al., 2002; Midgley et al., 2001).

Environment influences goal orientation. This is a concept known as goal structure and describes the type of achievement goal emphasized by the institution, mastery or performance (Wolters, 2004). Therefore, teachers and institutions can create environments which persuade goal orientation. Most elementary and secondary school curriculum is based on normative teaching and assessment techniques and “there is evidence that the emphasis on performance goals increases and the emphasis on mastery goals decreases as students move up in grade level” (Midgley et al., 2001, p. 83). These authors go on to stress “the emphasis on relative ability and competition among students is alive and well at the university level” (p. 83). Other extrinsic factors which impact attrition in the graduate population have been identified as financial issues, social support, and family (Golde, 2005; Lovitts & Nelson, 2000; Smith et al., 2006). Therefore, influence and change in goal orientation can be affected by environmental factors, including institutional support, teacher philosophy, and classroom organization.

Theoretical Framework

Revised achievement orientation theory (Elliott & Harackiewicz, 1996; Harackiewicz et al., 2002) was used to frame this study. Achievement goal orientation theory originally proposed and investigated two goal orientations, mastery and performance (Dweck & Leggett, 1988; Dweck, 1996b; Dweck, 2000). Recently, revised achievement goal theory researchers have separated performance goals into two

categories of approach and avoidance and compared these with the mastery (approach) goal orientation (Barron & Harackiewicz, 2001; Elliot & Church, 1997; Elliot & Harackiewicz; Elliot et al., 1999; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; Harackiewicz et al.; Harackiewicz et al, 2000; Linnenbrink & Pintrich 2002; Middleton & Midgley, 1997; Midgley et al, 1998; Midgley et al., 2001; Pintrich, 2000; Rawsthorne & Elliot 1999; Urdan, 2004; Wolters, 2004). In this revised theory, performance goals are divided into approach and avoidance categories. Performance goals define success in relation to others in a normative, competitive viewpoint. Performance-approach goals aim for favorable judgment of competence while performance-avoidance goals are focused on avoiding unfavorable judgments of self.

Mastery goals are classified as approach goals. For this learner, the goal is to increase skill and knowledge. Success is seen in relation to the task and is self-referenced. Mastery goals have been associated with positive benefits and outcomes such as deep processing, increased motivation and self-efficacy, and persistence in the face of failure but not always with short-term achievement (Harackiewicz et al., 2002; Midgley et al., 2001). Performance-approach goals have been linked with surface learning, short-term achievement and grade point average, and persistence with positive feedback, while performance-avoidance goals are associated with lack of persistence, low achievement, self-handicapping behaviors, and cheating. When combined with mastery goals, performance-approach goals facilitate increased motivation and interest as well as academic achievement.

Problem Statement

The problem of this investigation was that the predominant goal orientation held by graduate students was not clear and the environmental factors such as perceived social support, enrollment and work status, gender, ethnicity, marital, dependent and financial status, and time to program completion that may inform this goal orientation were unknown. Graduate students are a population in which goal orientation and the factors that inform goal orientation has not been well studied. Studies on populations from preschool to undergraduate college students have consistently shown approach orientations (mastery and performance-approach) to be associated with positive study and coping behaviors as well as better academic performance while performance-avoidance has been linked to poor performance and helpless behaviors.

Purpose of the Study

The focus of this study was to determine the predominant goal orientation held by graduate students and the environmental factors that may inform this goal orientation. The purpose of this study was to identify the predominant goal orientation (mastery; performance-approach; and performance-avoidance) among graduate students and the environmental factors that informed this goal orientation. These factors included 1) perceived social support, 2) enrollment and 3) work status, 4) gender, 5) ethnicity, 6) marital statuses, 7) dependent status, 8) financial status, and 9) time to program completion.

Research Questions

Guided by research on motivation (Elliot & Church, 1997; Elliot et al.,1999; Pintrich, 2000; Pintrich & Garcia, 1994) and goal orientation theory (Barron &

Harackiewicz, 2001; Dweck & Leggett, 1988; Dweck, 1996a; Dweck, 2000; Elliot & Church; Elliot & Harackiewicz, 1996; Elliot et al; Harackiewicz et al., 1997; Harackiewicz et al., 2002; Harackiewicz et al., 2000; Linnenbrink & Pintrich 2002; Middleton & Midgley, 1997; Midgley et al., 1998; Midgley et al., 2001; Pintrich; Rawsthorne & Elliot 1999; Urdan, 2004; Wolters, 2004) and the effects of extraneous variables on graduate students (Ferrer de Valero, 2001; Home, 1997; Keller, 2001; Potts, 1992; Tight, 1992), the following research questions were used to guide this study:

1. Is there a predominant goal orientation among graduate students (mastery, performance-approach, or performance-avoidance)?
2. What characteristics predict the predominant goal orientation type from a variety of external factors including perceived social support, enrollment and work status, gender, ethnicity, marital status, financial status, and time to program completion?

Hypotheses

The following null hypotheses were tested at a .05 level of significance. The hypotheses are:

H₀₁: There will be no significant difference in goal orientations among graduate students (mastery, performance-approach, or performance-avoidance).

H₀₂: There will be no significant predictive factors (perceived social support, enrollment, work status, gender, ethnicity, marital status, dependent status, financial status, and time to program completion) of goal orientations in graduate students.

Definitions

Achievement goal theory of motivation: The ways in which peoples' goals shape their beliefs and actions affecting their achievement (Dweck, 1996b; Dweck, 2000).

Goal structure: The type of achievement goal influenced by the institutional practices and policies such as classroom assignments, grading procedures, and student grouping (Wolters, 2004)

Entity theory of intelligence: Belief that intelligence is a fixed trait; the entity lives within the person and cannot be changed (Dweck & Leggett, 1998; Dweck, 2000).

Implicit theory: A person's concepts of their own attributes and characteristics, influenced by environment and time (Dweck & Leggett, 1998; Dweck, 2000).

Incremental theory of intelligence: Belief that intelligence is malleable and can be increased through effort and learning, hard work, and persistence (Dweck & Leggett, 1998; Dweck, 2000).

Mastery (task) learning goals: Goals focused on learning as much as possible, overcoming challenges, or increasing level of competence. This learner shows a hardy response to failure and persistence with difficulties (Dweck & Leggett, 1998; Dweck, 2000).

Multiple achievement goal orientation theory: Divided into three goal orientations: a) mastery; b) performance-approach; c) performance-avoidance. The first two are considered adaptive approaches while the last is considered maladaptive. Performance-approach can be maladaptive in certain situations including setbacks, failure, and negative feedback. Mastery is always considered to be adaptive (Midgley et al., 2001).

Performance-approach orientation: Defines success in relation to others in a normative

competitive viewpoint while aiming for favorable judgments from others (Midgley et al., 2001).

Performance-avoidance orientation: Defines success in relation to others in a normative competitive viewpoint while avoiding unfavorable judgments of self from others (Midgley et al., 2001).

Performance (ability or ego) learning goals: Focused on looking smart and winning positive judgments of competence while avoiding negative judgments. Failure leads to a helpless response, giving up, and avoiding challenges (Dweck & Leggett, 1998; Dweck, 2000).

Professionalism: “Internalized attitudes, perspectives, and personal commitment to the standards, ideals, and identity of a profession” (Spruill & Benshoff, 1996, p. 468).

Limitations of the Study

The participants were a volunteer sample and could not be truly randomized. Participants were recruited from all areas of the university and the school response was not known as to which professors gave out the requests for participation in the survey and which subjects choose to participate. It was not known if the subjects were in on-line classes or traditional classes exclusively or in a combination of the two types of classes which might affect the question of commute time. Determination of successful completion of course of study was not possible due to the sample being taken in a limited time frame. This would be subject for a longitudinal study.

Significance of the Study

Goal orientation theory is useful for explaining goal selection and subsequent behavior of learners as well as illuminating the reactions to goal outcomes. Revised

achievement goal orientation theory posits three different paths in goal choices, methods of effort and study, and strategies for coping with setback.

Educators and learners both could benefit from understanding how individuals vary in their orientation toward academic goals. While it would seem logical to believe that graduate students would naturally have a mastery approach to learning goals, if incorrect, this assumption may cause discrepancy between what the faculty and department expect and what the learner can produce. Goal orientation may have influence on attrition due to the nature of persistence or helplessness found in each orientation. Changes in environmental factors can and should be used to influence goal orientation.

Summary

Graduate study usually comes at a time when most individuals are involved in other important lifetime activities as well, such as family and career building. The multiple stresses on these individuals can make successful completion of graduate study difficult and this has implications for the individual as well as for the institution and the future of society as educators are needed in the future. The focus of graduate education is to prepare future professionals and researchers and the success of this preparation is important to society. Mastery goal orientation has a positive effect on deep learning, successful coping, adaptive learning patterns in the face of failure, and development of academic and professional success. Performance-approach goal orientation can facilitate enhanced academic performance and strong persistence if given positive feedback, at the loss of deep learning and potential to turn to performance-avoidance behavior with negative feedback. A multiple goal orientation combination of mastery and performance-approach can be beneficial in both short and long-term outcomes, although mastery

orientation is indicated by research to be the most desirable approach for long-term outcomes. Understanding the extrinsic factors that influence graduate student goal orientation would allow universities and educators to increase chances of graduate students' academic and professional success by shaping the environment toward approach (mastery and performance) orientation goals.

CHAPTER 2

REVIEW OF LITERATURE

This review explored the motivating factors of success in completing graduate education including internal motivation in the form of goal orientation theory. Both internal and external motivating factors play parts in academic success. Goal orientation theory will be examined as a strong internal motivation in the pursuit of and persistence in academic endeavors. External factors influencing success in completing graduate degrees have been identified in the literature including part-time versus full-time enrollment, work status, gender, ethnicity, marital status, dependent status, perceived social support, financial issues, and time to program completion. Identifying the causes for behavior and, ultimately, causal factors for achievement, have been the explored by motivational theorists in recent years. Achievement motivation has been studied in order to understand the factors that propel people to seek and persist in pursuing academic goals. This study will utilize Dweck's (1996a; 1996b; 2000) implicit theory and its extension, achievement goal orientation theory which has been recently expanded to "competence motivation" (Elliot & Dweck, 2005, p. 6) to explain intrinsic motivation among graduate level students.

Roles of Graduate Students

Many graduate students are non-traditional students, are often older than typical college students, have extensive life experiences, and have additional work and family demands. Frequently graduate students without financial support from other sources work

part or full-time, and therefore must choose between part-time or full-time coursework. Part-time enrollment “is often associated with the enactment of several extracurricular roles such as marriage, parenthood, and employment” (Potts, 1992, p. 61) with resulting increased stress levels compared to single, traditional students who are often partially or totally supported by family and have no other dependents to support. Potts’ study of graduate students found that students who concurrently worked and attended classes had lower levels of psychological adjustment to the educational experience. This research suggested that increasing university support for students who must work would increase their ability to fulfill school-related demands and improve psychological adjustment to the academic environment. This would allow part-time students to continue in programs and perhaps become full-time students rather than drop out, depriving universities of students in some programs. Fewer students in programs could lead to loss of programs and faculty as well as research opportunities.

In a survey of female graduate students, Home (1997), found that income and perceptions of role demands predicted stress and suggested that more tangible support would decrease attrition rates in this group. In critiquing current university support available to graduate students, Home concluded that “these limited supports are simply not enough to enable students with rusty study skills or financial or time management problems to handle their difficult learning situations successfully” (p. 343). In a study of graduate departments and students, Tight (1992) concluded that part-time graduate students might benefit from added financial assistance and students in this study indicated that they would be able to concentrate more on their studies if they had fewer financial worries. In this group of subjects, graduate students averaged 36 years of age with 56%

women, 49% married, 39% with dependent children, and 92% employed. A significant number of subjects indicated they had significant worries with financial and time issues related to completing their education. This research concluded that the most practical way to support and retain part-time graduate students would be to provide financial support in the form of tuition and fee payments. Retention of students in programs would benefit universities in terms of retaining faculty and programs, state and federal monies, and of course, present and future researchers and professionals if these students complete degrees.

Overall, research indicates that part-time students take longer in their course of study and have higher attrition rates (Keller, 2000; Tight, 1992). Much of this appears due to the need to devote time to earning money as

“most graduate students, unless they attend a wealthy and generous university and receive a large graduate fellowship, are compelled to work nearly full-time during the three to five years it takes to earn a doctoral degree” (Keller, p 5).

According to Keller, most of these working students are too exhausted to stay awake while in class, rarely complete all their assignments, avoid challenging coursework, and take longer to complete doctoral degrees. This population appears to be at higher risk as “part-time postgraduates, when compared to full-timers, tend, unsurprisingly, to be older, take longer over their studies, and are less likely to complete them successfully” (p. 3) in a study by Tight (1992) in which 47% of students at the time were studying part-time.

Women with families, especially, suffer from increased stress and role strain, and tend to drop out more than men in the same situation (Home, 1997; Potts, 1992). Female enrollment in graduate school programs has increased by 73% since 1976 with women

making up 58% of all graduate students in 2000 (U.S. Department of Education, 2003). Of all graduate students, only 59% received financial aid of any type in 1999-2000, including working as teaching and research assistants as well as receiving tuition discounts, while 80% worked an average of 36 hours per week to meet financial needs (U.S. Department of Education, 2001).

Characteristics of nontraditional students include high motivation, independent, achievement oriented, and needs for flexible schedules (Benshoff & Lewis, 1992). This study also concluded that nontraditional students needed additional services to better meet their needs which included special assistance with financial aid, separate registration and advising, more flexible course offerings such as online courses, and better faculty and staff preparation to deal with adult learners. Other indications in this study were that there were gender differences in nontraditional students with men experiencing more self-confidence issues, women experiencing more guilt and child care problems. Both women and men faced financial pressures.

Studies on attrition of graduate students indicate that drop out rates are approximate fifty percent overall for this population with one-third in the first year, another third before completion of all coursework, and an additional third before dissertation completion (Golde, 2005; Lovitts & Nelson, 2000; Nesheim et al., 2006; Smith et al., 2006). Lovitts and Nelson found that attrition varied from department to department and was also linked to university and department policies. Overall, they determined that some common causes of attrition in graduate students were poor fit to department (early attrition), isolation from the department's social and professional life, lack of financial support, and problems with faculty advisor. Nesheim et al. concluded

similar results for attrition: 1) difficulty meeting professional and personal demands; 2) little accommodation for their multiple roles; 3) dismal employment outlook; 4) lack of social support from other graduate students; 5) relationship issues with faculty; and 6) need for more information about available resources. Attrition is a problem for the academic community and society for several reasons. First, “consistently high rates of attrition may signal underlying problems in a department, university, or discipline” (Golde, 2005, p. 670). Unchecked, these factors may continue to damage present and future students. Second, attrition wastes resources at the department, institution, state, and federal levels which increase in the case of later attrition (Golde; Smith et al.). Third, when students leave, research projects can be hindered if the student was involved which may then reduce the productivity of other students and faculty (Golde). In the cost to individuals and society, Lovitts and Nelson found that former students were left with high debts, diminished self-esteem and self confidence, and often took jobs in blue-collar sectors. Ultimately, attrition means fewer new faculty and researchers “to teach a new generation of students and direct doctoral programs at other universities” (Smith et al., p. 29).

The end result of increased stress on graduate students and schools is that this population needs more time and less stress to devote to study, research, and professional development. Research indicates that the working graduate student is at risk for increased stress, academic and personal failure, and possible loss of motivation due to this scarcity of time and energy to devote to multiple roles.

Lost work, family time and income make time available for socialization and professional development difficult to obtain for graduate students. Women make up the majority of graduate students with the average age now at 37 years for doctoral students (U.S. Department of Education, 2002). Therefore, most of this population will likely have multiple roles including worker, caregiver, parent, and student. The environment of scarcity of time and financial support over many demands may bias these learners toward performance goal orientation in order to achieve the ultimate end, a degree, as quickly as possible. In this environment it is possible that a student holding an incremental goal orientation toward academic achievement may be influenced toward a performance goal orientation in order to survive the grade and performance demands of the academic environment.

“Time to doctoral degree has increased consistently in American universities since 1967, in some fields by as much as two years” (Ferrer de Valero, 2001, p. 341). In a study of doctoral students, Ferrer de Valero found that students felt departmental factors (departmental orientation and advising, flexible plan of study) were crucial to successful degree completion while faculty focused on student characteristics such as a motivation and ability to predict academic success. This study also found that various interrelated, individual traits influenced the time to completion of a doctoral degree, including financial support, ability, and motivation.

Other studies of graduate students and stress levels have found a variety of factors predictive of increased stress. Hudson and O’Regan (1994) found that no single extrinsic variable from gender, year in program, income, relationship and child status, age, or hours worked predicted stress. They did conclude that women working full-time were at

Professionalism

Professionalism can be defined as “internalized attitudes, perspectives, and personal commitment to the standards, ideals, and identity of a profession” (Spruill & Benshoff, 1996, p. 468). Developing professionalism ideally begins in undergraduate education but should continue into graduate areas and throughout the lifespan. As such, initiating professional development is an important component of graduate education and students need to have time and energy as well as guidance to develop professionalism.

Promoting professionalism among graduate students involves encouraging participation in research groups, presentations, conferences, and publishing. Participation in committees, leadership positions, and other university groups is another professionalism building activity. Strategies taken by the department to encourage student participation in professionalism building activities are critical for successful orientation into the professional and university culture (Weidman & Stein, 2003). In their study of doctoral students, Weidmann and Stein found that departments can encourage graduate student socialization through faculty encouragement of student participation in scholarly activities. They have suggested that faculty include students in research and other scholarly activities to foster professional development. Weidmann, Twale, and Stein (2001) assert that “graduate programs will have not only to create more supportive and collaborative environments in the face of increasing diversity but also to sustain them over time” (p. 96). For part-time, non-traditional students, some of whom may commute an hour or more to the campus and juggle work demands, these activities may be nearly impossible to participate in readily without negative impact on family and job duties.

the highest level of stress. In a study looking at stress levels in first year graduate students and social support, Lawson and Fuehrer (2001) found that social support was a moderator between stress and satisfaction with graduate school. They concluded that social support was very beneficial to students with high stress levels and “stress may be advantageous as long as adequate support is received to assist coping with that stress” (p. 192). Types of social support in this study included that received from fellow students and faculty as well as relationships outside the academic environment.

Mallinckrodt, Brent, and Leong (1992) found in their study of social support and graduate students that women reported more stress and its symptoms and felt they had less support from academic and private sources than did male counterparts. They concluded that women had more role strain and less support than men in graduate programs. Suggestions to help reduce stress for this population included university support in the form of affordable housing, child care, mentoring programs, financial support, and flexible scheduling. Appel and Dahlgren (2003) found that Swedish doctoral students had many areas of worry and insecurity, including finances, family, and academic career. Even with these stressors, the majority of these students reported a sense of meaningfulness in their research and intellectual stimulation from their studies.

Overall, studies indicate that graduate students have a number of extrinsic factors impacting the road to successful degree completion and professional development. These include finances, academic environment, personal and work demands, relationships, and time constraints. Various studies have indicated that financial support, social support from academic and personal sources, and academic flexibility may be important external factors influencing graduate students in completion of their degrees.

History of Motivational Theory

Motivational theorists look at “people’s goals and ... the processes that guide the choice and pursuit of those goals” (Dweck, 1996b, p. 69). One central premise of all motivation theory is to understand the behaviors that are exhibited in an effort to adapt to the environment. (Franken, 1998). Some early theories of achievement motivation have posited that there is a generalized need in humans to achieve and that “the pleasure of achievement is not in attaining the goal but rather in developing and exercising skills” (Franken, 1998, p. 370).

Historically, instinct theories were the first to try to explain motivation. The idea that all animals had survival instincts that guided behavior, seeking a present pleasure was termed appetite by Aristotle (Leahey, 2000). Humans, however, had the ability to reason and make choices based on long-term and moral choices in Aristotle’s viewpoint (Leahey). Descartes’ dualistic theory (Leahey) divided instinct from willed action, giving humans a distinct characteristic separate from animals. Descartes’ soul and body dualistic approach separated inner self from conscious experiences, giving a two-sided reality, that of the perceiver and that of the world (Leahey). This distinction led to the question of how biology and cognition interact, and under what circumstances each would win out in resulting behaviors. Darwin’s evolutionary theory later attempted to answer these questions by asserting that humans were motivated by much the same processes as animals, basically the biological need to survive (Franken, 1998). This was extended by Galton into social Darwinism in which social position was a part of the biological plan (Goldhaber, 2000). This was followed by theories which either linked the environment and genetics as a part of motivation (Diessner & Tiegs, 2001) or completely excluded the

genetic component and attempted to explain motivation as a result of environment or nurture (Goldhaber).

Influenced by Darwinism, Freud looked at motivation as driven by the need to satisfy basic drives, principally to seek pleasure and avoid pain and punishment (Dweck, 2000; Weiner, 1980). Defensive instincts provided the impetus for behavior but cognition and learning provide direction toward a goal (specific to the instinct). If goals were blocked, sometimes by social taboos or other cultural prohibitions, the need to reduce internal tension resulted in substitution behaviors and goals, while original needs were repressed. Freud believed that this clash between instincts and social values led to abnormal behavior due to redirected goal behavior.

Later theorists, such as Jung and Erikson expanded Freud's theories, believing that some motivation is stimulated by the need for self-development, beyond basic drives (Dweck, 2000). These theorists looked at motivation as being driven by a higher, self-development or growth need. Some of these theorists also believed, like Freud and Horney that social practices could repress these growth needs and result in altered behavior and repressed feelings (Dweck, 2000; Franken, 1998; Wrightsman, 1994).

Recently, Bandura's social-cognitive theory proposed that humans set goals based on ideas about their present skills and also about their ability to develop future skills, in other words based on self-concept (Franken, 1998; Goldhaber, 2000; Snowman & Biehler, 2000). This theory filled in some of the gaps of past theories by addressing "how people's beliefs, values and goals set up a meaning system within which they define themselves and operate" (Dweck, 2000, p. 139). By linking emotional and cognitive processes, social-cognitive theory began to emphasize the importance of attached

meaning. Individual interpretations and self-assessments of events now influenced cognitive pathways such as selection and pursuit of goals.

A theory closely linked to social-cognitive theory is attribution theory, developed by Weiner (1980, 1986, 2005). This theory proposes that the meanings different persons give to outcomes can create various reactions, both behavioral and emotional. Outcomes have attached meanings that further influence action and reaction differently for each individual based on their personality. The attributions that are made for success and failure are important in determining the impact of the event and future actions. For example, if an individual attributes failure to an unstable factor such as effort, he or she will be more likely to believe in trying again and giving more effort. If, however, failure is blamed on stable, unchangeable factors such as intelligence, then the person is more likely to give up future efforts since this will not improve performance.

Recently, achievement goal theory of motivation has emerged from social cognitive theory, to look at how a person's goals can influence their beliefs and actions, subsequently affecting their achievement, relationships, and self-concepts (Dweck, 2000). In this framework Dweck (1996a, 2000) has developed a goal orientation model combining characteristics of attribution and goal theories, linking goals to belief systems, and emphasizing the importance of self-theories in motivation.

Goal Orientation Theory of Motivation

Self-theories are individual concepts of one's own personality characteristics and attributes. Also known as implicit theories, self-theories can be domain specific, situation-sensitive, and influenced by environment and time (Dweck, 1996a, 2000; Heyman & Dweck, 1998; Pintrich & Garcia, 1991). Implicit theories are also thought to

be developed early in life, before most children begin formal schooling (Beneson & Dweck, 1986; Burhans & Dweck, 1995). In Dweck's model of motivation (Dweck, 1996a, 2000; Dweck & Leggett, 1988), "implicit theories and goals create a motivational framework that (a) guides the individual's strivings prior to an outcome and (b) creates a meaning system within which attributions occur" (Hong, Chiu, Dweck, Lin & Wan, 1999, p. 588). Specifically, in the area of intelligence, Dweck (1996a) posits that development of a specific theory sets up meanings that influence goal setting and reactions to failure and success outcomes.

Two types of orientations were identified within implicit theory by Dweck and Leggett (1998), entity and incremental. Each type of orientation leads to a different set of beliefs, values, and resulting behaviors (Dweck & Leggett). In the intelligence or academic domain, entity theorists see intelligence as fixed, uncontrollable, and stable whereas incremental theorists believe that intelligence is malleable, changeable, and controllable. These two views are posited to lead to different goal orientations and reactions to goal outcomes. Entity theorists tend to focus on performance goals designed to show their skills and/or to avoid negative judgments. The meaning system of this individual "is focused on the goal of measuring and validating competence, and is thus associated with ability-oriented performance goals, ability attributions for setbacks, and the belief that effort indicates low ability" (Dweck & Molden, 2005, p. 137). Study skills are generally superficial, aimed at returning the information as presented without deeper probing or metacognition involved in the process (Pintrich & Garcia, 1994). In the face of setbacks, entity theorists adopt a helpless pattern of coping, that is, they give up rather than risk looking even less intelligent if the new strategy fails to deliver success. They

also display lower intrinsic motivation and self-esteem. Performance goals have recently been differentiated into approach and avoidance components, which have very different behavioral and goal patterns. Performance-avoidance orientation focuses on avoiding negative judgments, displays helpless behavior patterns, cheating, and low achievement, and is always considered maladaptive. Performance-approach orientation focuses on obtaining positive judgment from others or showing superior ability compared to others. This pattern is associated with surface learning and high test scores but over time low retention of information and persistence in the face of positive feedback but regression to a helpless, avoidance pattern if failure is encountered (Urdu, Anderman, Anderman, & Roeser, 1998). Conversely, incremental theorists focus on mastery goals designed to promote learning and are willing to risk looking less intelligent as they work through the processes of mastering the material. This individual “creates a meaning system built around the acquisition of competence and is thus linked to learning goals, effort and strategy attributions for setbacks, and the belief that effort increases ability” (Dweck & Molden, p. 137). These individuals tend to show study efforts aimed at deeper learning and metacognition (Pintrich & Garcia). With setbacks, incremental theorists adopt mastery patterns resulting in increased effort and/or different strategies for learning (see table 1).

Table 1
Goal Orientation Theory and Links to Attribution Theory

Theory	Goal orientation	Attribution (Locus of Control)	Setback behavior	Success behavior
Entity	Performance-Avoidance	External	Helpless (negative feedback)	None
Entity	Performance-Approach	External	Persistent (positive feedback)	Mastery or Persistence
			Helpless (negative feedback)	None
Incremental	Learning or mastery	Internal	Mastery or persistence	Mastery or persistence

Implicit theories, therefore, can help predict academic goal orientation and coping behaviors as well as approaches to learning strategies. Dweck and Elliott (1998) proposed that applying this theory to achievement goals may help understanding of the mediators of achievement including attributions. They posited that implicit theories of intelligence and academic goal orientation affect achievement beliefs and approaches to learning (Leonardi & Gialamas, 2002). Pintrich and Garcia (1991) found that “having a learning or mastery goal has a general facilitative effect on students’ motivational beliefs, their use of cognitive strategies, and self-regulation of their learning” (p. 399) in a research study involving college students.

Implicit theories are thought to be domain specific and also subject to change due to environmental and situational cues. For example, an entity theorist in academics may be more incrementally biased in social situations. Studies have shown that even though an individual may enter a situation with a particular goal orientation, they can be influenced toward the opposing orientation by classroom management, peer influence, or

instructional philosophy (Elliott & Dweck, 1988; Pintrich, & Garcia, 1991). In the area of academic achievement, recent interventional studies teaching incremental strategies to learners holding entity patterns have shown significant improvements in positive motivation, belief in the value of effort, and academic performance (Dweck & Molden, 2005). Dweck and Molden also report that self-theories can be experimentally altered. They cite multiple studies in which researchers have manipulated self-theories through persuasive feedback or articles in a variety of abilities such as physical and social skills. In one example study, individuals holding an entity theory toward computer skills, for example, were persuaded by manipulated feedback to believe that they were able to perform computer tasks and report decreased anxiety and increased sense of efficacy along with displaying better skills. Aronson and Steele (2005) have reported positive results in the area of changing effect of stereotyping on achievement. They report that several studies which use interventions to change mind-set from entity to a more incremental pattern have successfully improved grades in minority students.

Goal structure “describes the type of achievement goal emphasized by the prevailing instructional practices and policies within a classroom, school, or other learning environment” (Wolters, 2004, p. 236). Research has focused on two types of goal structure which parallels the original goal theory of mastery and performance (approach-avoidance) orientation. Mastery goal structure is one in which the message is conveyed that learning, trying hard, and students themselves are valued and that students can be successful with hard work (Midgley et al., 1998). Conversely, in a performance goal structure the environment defines success as receiving extrinsic rewards, doing better than peers, and looking smarter than others. Therefore, implicit theories provide

help in understanding and predicting behaviors that might be exhibited across different settings, including academics and higher educational settings.

Implicit Theories and Academic Achievement

Working from early research, Dweck and Leggett (1988) initially found two primary motivational response patterns to setback, termed helpless and mastery-orientation. Identified as maladaptive, individuals using the helpless response find it “prevents them from functioning effectively in the face of difficulty” and they “must ultimately limit their attainments” (p. 257). This pattern was later termed performance orientation and subsequent research determined that it had two components, approach and avoidance. Performance-avoidance exhibits a helplessness pattern while performance-approach will demonstrate a persistence pattern with positive feedback. Mastery-oriented pattern, however, is considered adaptive as it gives the individual the strength of commitment to goals through a difficult period, leading to ultimate attainment of the goal. Goal patterns were found to mediate response patterns, and therefore, mastery goals led to a mastery-oriented pattern while performance-avoidance goals mediated a helpless response in the non-winners particularly if perceived ability is low (Elliot & Dweck, 1988). The effect of performance-avoidance goals was found to be vulnerability to fixed ability judgments whereas performance-approach and mastery (approach) goals created a concentration on increasing malleable ability, and adaptive patterns of seeking out challenge and persisting in the face of challenge (Dweck, 2000).

When performance goals were divided into avoiding-challenge and seeking-challenge categories and compared to mastery learning goals, Dweck and Leggett (1988) concluded that the evidence emphasized “the degree to which incremental and entity

theories are differentially associated with challenge seeking versus challenge avoidance” (p. 263). However, the overwhelming outcome of this research was that the incremental theory was more frequently associated with adaptive motivational patterns. This association of incremental theory, learning goal setting, and mastery-orientation pattern is the critical differentiation between the two implicit theories of intelligence, entity and incremental. While entity theory and performance-approach orientation will demonstrate a mastery orientation pattern in the face of success, it will become maladaptive in the performance-avoidance, helpless pattern when faced with failure. Mastery orientation, on the other hand, facilitated by incremental implicit theory, will continue to try different coping and learning strategies in the face of setbacks. The performance-approach orientation, therefore, is not as hardy as the mastery orientation due to the underlying implicit theory which drives this orientation, namely that intelligence is fixed and cannot be changed or expanded with any amount of effort.

Recently, Elliot and Dweck (2005) have proposed a shift from the concept of achievement motivation to that of competence motivation in both terminology and application to the research and literature. Since the concept of achievement is difficult to define with clear parameters, Elliot and Dweck have modified the concept to competence, and defined this as “a condition or quality of effectiveness, ability, sufficiency, or success” (p. 5). This has allowed for achievement to be conceptualized in competence terms since competence can be better measured in behavioral terms, in daily activities and across the lifespan. In this light, then, self-theories are attributed to determine if an individual is focused on competence validation (performance goals) or competence acquisition (mastery goals).

Pintrich and Garcia (1991) found that undergraduate college students who were set toward an intrinsic, mastery orientation felt more efficacious about mastering the course material. Looking at links between goal orientation and learning strategies, Pintrich and Garcia concluded that the mastery goal approach led students to increased motivation, more efficient time management and strategies, and deeper processing styles. Facilitating student orientation toward mastery goals was posited to lead to increased cognitive engagement and self-regulatory strategies, assuming students were taught these strategies and how to use them. “The use of these cognitive and self-regulatory strategies will then lead to improved performance” (Pintrich & Garcia, p. 397) was the conclusion of this research study.

Hong et al., (1999) found, in a study of undergraduate students, that implicit theories of intelligence were able to predict attributions by setting up the meaning or belief systems in which attributions are framed. Attributions are considered important in achievement and motivation because they “mediate helpless and mastery-oriented responses to setbacks, predict cognition, affect, and performance as people encounter obstacles” (p. 588). In this study, entity theorists blamed their failures on lack of ability while incremental theorists attributed failures to lack of effort and were more likely to take remedial actions. Therefore, incremental implicit theory set up attributions that led to persistence and increased effort in this study.

In the intelligence domain, implicit theory has been found to directly affect achievement beliefs, effort, goal setting, and approaches to learning (Leonardi & Gialamas, 2002). In a study looking at relationships between goal orientation, achievement, and perceived competence in junior high school students, Leonardi and

Gialamas found that implicit theories of intelligence were related to achievement goals but that goal orientation had an indirect affect on achievement outcomes. Academic achievement appeared to be facilitated by both mastery and performance goals if perceived competence was high.

Mastery orientation appeared to be indicative of decreased anxiety and higher performance and grades in a study of undergraduate college students in remedial mathematics courses by Ironsmith, Marva, Harju, and Eppler (2003). In a study looking at achievement goal orientation and coping style differences among traditional and nontraditional undergraduate college students, Morris, Brooks and May (2003) found that nontraditional college students largely held mastery goals and these were predictive of task-oriented coping styles and higher grade point averages. Eppler, Carwsen-Plentl, and Harju (2000) also found that older, nontraditional undergraduate college students had significantly higher learning goal orientations along with lower performance orientations and higher grade point averages compared to traditional students.

Multiple Goal Orientation Research

In a recently emerging area of revised achievement goal theory, researchers have separated performance goals into two categories of approach and avoidance and compared these with the mastery (approach) goal orientation (Barron & Harackiewicz, 2001; Elliot & Church, 1997; Elliot & Harackiewicz, 1996; Elliot, McGregor, & Gable, 1999; Harackiewicz et al., 1997; Harackiewicz et al., 2002; Harackiewicz et al., 2000; Linnenbrink & Pintrich 2002; Middleton & Midgley, 1997; Midgley et al., 1998; Midgley et al., 2001; Pintrich, 2000; Rawsthorne & Elliot 1999; Urdan, 2004; Wolters, 2004). In this revised theory, performance goals are divided in approach and avoidance

categories. Performance goals emerge from entity implicit theory and both types define success in relation to others in a normative, competitive viewpoint. Performance-approach goals aim for favorable judgment of competence while performance-avoidance goals are focused on avoiding unfavorable judgments of self. Emerging from incremental implicit theory, mastery goals are classified as approach goals. For this learner the goal is to increase skill and knowledge. Success is seen in relation to the task and is self-referenced.

In a study of undergraduate students looking at the efficacy of approach (mastery and performance) versus avoidance goal orientation (performance), Elliot and Harackiewicz (1996) found support for a multiple orientation theory. Results showed that performance-avoidance orientation showed negative effects in terms of motivation, effort, and task performance. They concluded that “the deleterious effect of performance goals on intrinsic motivation should be witnessed only for the performance-avoidance goal state” (p. 472) and that both approach orientations fostered intrinsic motivation. Therefore, at times a performance orientation, if aimed at approach rather than avoidance, will facilitate intrinsic orientation. Similarly, Pintrich (2000) found that in a subject group of eighth and ninth grade students, mastery goals were adaptive but performance-approach (versus performance-avoidance) goals coupled with mastery goals were equally as adaptive. The researcher concluded that while both mastery and mastery plus performance-approach orientations were adaptive and successful, students should ideally adopt a mastery goal orientation because it is the most successful in long term learning.

Harackiewicz et al., (1997) studied college undergraduates to test the relationships between achievement goals and motivation, intrinsic interest, and academic performance

using the multiple goal perspective. They concluded that mastery goals fostered intrinsic interest, performance-approach goals mediated academic achievement, and a combination of both approach goal orientations would likely impact both interest and performance positively. One important conclusion of this study was that “the student who can adopt both mastery and performance goals seems to be at an advantage” (p. 1294) since the mastery goals indicates deeper interest in the class content while a performance goals indicates better academic success. The combination of mastery and performance, as long it is approach performance, is a winning combination. A similar conclusion was reached by Elliot and Church (1997) in a study of undergraduate classrooms showing that combination of approach orientations (mastery and performance) may be the best for achievement and motivation in academic settings. The results of this research study of undergraduate psychology students, these researchers looked at performance-approach, performance-avoidance, and mastery orientations and found that

“successful negotiation of many achievement settings may entail the simultaneous adoption of a mastery goal (that would presumably facilitate intrinsic motivation) and a performance approach orientation (that would presumably instill attentiveness to the evaluative constraints of the achievement situation and enhance performance and productivity accordingly)” (p. 229).

Performance-avoidance goals have consistently been shown to lead to maladaptive patterns of learning (Elliot & Harackiewicz, 1996; Middleton and Midgley, 1997) while mastery orientation predicted academic efficacy, self-regulated learning, and help-seeking in the classroom. Performance-avoidance goals have been negatively correlated with academic efficacy and positively correlated with test anxiety and avoiding

help-seeking. Elliot et al., (1999) conducted two studies examining achievement goals as predictors of study strategies and looking at the relationship between achievement goals and normatively graded classroom performance. Mastery goals predicted deep processing, effort, and persistence while performance-approach goals predicted surface processing, effort, persistence, and higher examination performance. However, performance-avoidance goals predicted surface processing, disorganization, and negative exam performance. They concluded that mastery goals predicted deeper learning, effort, and persistence and performance-approach goals positively impacted academic performance in normative exam conditions but through surface learning.

Studies have shown that performance goal orientation can be separated into two categories of approach and avoidance and compared with mastery (approach) orientation. Midgley et al., (2001) felt that distinguishing between the approach and avoidance components of performance orientation had become important to revising and better understanding goal theory perspective. Conclusions of research support the negative academic impact of performance-avoidance goal orientation with debate over the positive impact of performance-approach goal orientation. The important distinction here appears to be the context of the performance-approach goal. Used alone, performance-approach goals lead to surface learning, less retention, and short-term better academic performance especially if the classroom emphasis is normative. However, in the face of failure, this goal orientation leads to maladaptive learning patterns and helplessness including a switch to a performance-avoidance goal orientation (Middleton et al., 2001). According to conclusions by Midgley et al., “research indicates that performance goals may be adaptive for certain students in certain circumstances as long as mastery goals are also

high” (p. 83). Mastery goal orientation is strongly correlated with higher intrinsic interest and self-efficacy, deeper immersion and retention but not necessarily with immediate academic performance although this has been found to be an eventual outcome.

The use of revised achievement goal theory provides better understanding of learner motivation by adding approach and avoidance orientations to performance goal conditions. With most classrooms from elementary to undergraduate college areas being focused on traditional lecture format and normatively graded examinations it would appear that academic presentation may be better with performance-approach goal orientation. However, persistence in the face of failure, increased intrinsic motivation, and longer and deeper learning outcomes are mediated by mastery goal orientation according to this body of research.

Summary

Research has shown that persistence and success in education is influenced by a number of factors both intrinsic and extrinsic to the learner. Intrinsic motivation and prediction of academic learning and success can be measured by revised goal orientation theory. Studies investigating achievement orientation goals of students has extended from elementary to undergraduate students, but has not been investigated with graduate students. Since many graduate students are non-traditional and must divide their time and energy on multiple roles and tasks, they have many areas of focus. External dynamics related to social, economic, and departmental factors are not always within the control of the student but may strongly influence goal orientation and motivation. Understanding the relationships among achievement goal orientation and external factors for graduate students is important to institutions of higher education, to the development of

professionals in the field of higher education, and to the graduate faculty and students themselves. Using the trichotomous, revised goal orientation theory, this research seeks to understand the predominant goal orientation of graduate students and the significant characteristics of this orientation.

CHAPTER THREE

METHODOLOGY

The methods used in this study are described in this chapter. The purpose of this study was to identify the predominant goal orientation among graduate students and the environmental factors that may influence goal orientation. These factors included perceived social support, enrollment status, work status, gender, ethnicity, marital status, commute distance, dependent status, financial status, and time to program completion.

Subjects

Subjects were recruited voluntarily for this study from among graduate students (masters and doctoral level) currently enrolled in classes at a midwestern state university. Graduate students from all areas of graduate study were recruited but no identifiers were included on the survey; therefore it was not known in which departments the subjects were enrolled. Professors and instructors from all departments of the university were contacted by email and student participation was requested with a document which could be printed or electronically mailed directing subjects to a website where the surveys could be taken (see Appendix A). This request included the website address of the electronic survey. Collection of data was done via internet survey and several reiterations of the data collection were done over nine months time to attempt to obtain a larger sample number. Subjects were asked to participate voluntarily in the study with the assurance that all information collected would be confidential and anonymous.

Research Procedures

The reason for the research was explained via document posted on the internet site (appendix A). Written consent (appendix B) was obtained from each participant before they proceeded to the survey by clicking on “I agree to participate”. If a subject clicked on “I do not agree to participate” they were redirected out of the website. If electronic agreement to the survey was given, subjects were then directed to a webpage with the three surveys (appendices C, D, E). After participants finished completing the instruments, the data were submitted electronically and stored via Microsoft Excel worksheet files located on a secure folder on the university web-server. This folder was accessible only to the researcher and university and computer lab web-server administrator. After completion of data collection, data were downloaded for analysis by the researcher and the data was deleted from the server to ensure confidentiality.

Research Instruments

Two instruments were used: Perceived social support, assessed via the (1) *Multidimensional Scale of Perceived Social Support or MSPSS* (Zimet, Dahlem, Zimet, & Farley, 1988), and (2) *the Revised Goal Orientation Scale (RGOS)* score from the *Patterns of Adaptive Learning Survey (PALS)* (Midgley et al., 2000). Demographic information and the MSPSS were the independent variables. The RGOS score from the PALS (Midgley et al.) was the dependent variable (see appendices C, D, E for instruments). These will be discussed in detail here.

Demographic Data Sheet

Demographic information (Appendix D) was collected from all students. Eleven questions were on the survey pertaining to enrollment status, work status, gender, ethnicity, marital status, dependent status, financial status, commute distance, and time to program completion.

Multidimensional Scale of Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1988), (appendix C), is a twelve item self-report scale used to distinguish perceived social support from three areas: family, friends, and significant others. It was developed in 1987 and has been both used clinically and researched extensively (Canty-Mitchell & Zimet, 2000; Dahlem, Zimet, & Walker, 1991; Edwards, 2004; Kazarian & McCabe, 1991; Stanley, M., Beck, J., & Zebb, G., 1998; Zimet, Powell, Farley, Wekman, & Berkoff, 1990). The MSPSS uses a seven point Likert-type scale (from 1, very strongly disagree to 7, very strongly agree) with each item. A sample item for family support is “My family is willing to help me make decisions”. A sample item for friend support is “My friends really try to help me”. A sample item for significant other support is “There is a special person with whom I can share my joys and sorrows”. Scoring for this scale as a whole can range from a minimum of 12 to a maximum of 84 with higher scores indicating a higher perceived level of social support. This scale can be scored separately by the three subscales of friends, family, and significant other or as a combined score for a score of overall perceived social support. For purposes of this study, it was scored as a total scale of social support. Validity and reliability of the measure determined in studies have indicated that the scale is psychometrically sound (Dahlem et al.). Principal

components analysis for construct validity has identified that the three combined scales account for 83.9% of the variance (Dahlem, et al.). In two studies of college undergraduate students, Kazarian and McCabe reported internal consistency reliability of .88 and a test-retest reliability of .85.

Revised Goal Orientation Scale

The Revised Goal Orientation Scale (RGOS) (Midgley et al., 2000) was used to determine a predominant goal orientation for each subject from among two approach goals, mastery and performance, and one performance-avoidance goal. With goal orientation measure scales, learners show the value learning and performance goals hold for them. Performance goals are valued by entity theorists who prefer tasks and assignments that allow them to demonstrate their strongest abilities without risking failure, focusing on performance relative to others. Performance-approach goals focus on demonstrating ability while performance-avoidance goals strive to avoid judgment of ability. Mastery goals focus on tasks that provide challenge and develop competency despite the risks of showing ignorance or making mistakes.

The RGOS (appendix E) is a subscale of the Patterns of Adaptive Learning Survey (PALS) developed by Midgley et al., (2000) in middle and high school environments. Since 1990 this measure has been developed and revised by a team of researchers “using goal orientation theory to examine the relation between the learning environment and students’ motivation, affect, and behavior” (Midgley et al., p. 2). There are different response patterns depending on personal goals, including cognitive, affective, and behavioral pieces or subscales. The scale used for this research consists of fourteen items divided into three subsets to measure 1) mastery, 2) performance-

approach, or 3) performance-avoidance orientation. These subscales have been tested for internal consistency and construct validity by various researchers (Midgley et al.; Midgley & Middleton, 1997; Urdan et al., 1998). For example, internal consistency for each of the three scales was .84 in a study by Middleton and Midgley. Discriminant validity is a subcategory of construct validity. The purpose of construct validity is to ask “to what extent does this test reflect the construct it is intended to measure” (Gay & Airasian, 2000, p. 169). Discriminant validity was .83 for the mastery goal orientation subscale, .86 for the performance-approach subscale, and .74 for the performance-avoidance subscale in the study by Urdan et al. (1998).

Each question on the RGOS is anchored on a five-point Likert-like scale ranging from (1), “Not at all true” to (5), “Very true”. Five statements were related to mastery orientation, for example, “It’s important to me that I improve my skills this year”. Another five statements measured a performance-approach orientation, for example, “It’s important to me that I look smart compared to others in my class”. Four statements were related to the performance-avoidance orientation, for example, “It’s important to me that my teacher doesn’t think I know less than others in class”. Each subject’s score on the three subscales was averaged to a mean score and the subject was classified in a mastery, performance-approach, or performance-avoidance orientation based on the category in which they averaged the highest.

Data Analysis

The data were analyzed in two steps in an attempt to answer the following research questions:

1. Is there a predominant achievement goal orientation among graduate students?

2. What characteristics predict the predominant goal orientation type from a variety of external factors including perceived social support, enrollment and work status, gender, ethnicity, marital status, financial status, and time to program completion?

Response Rate and Subject Characteristics

From 140 returned web surveys, 132 completed surveys were used. Eight surveys were tied in their orientations and could not be used for the Chi square analysis of orientation preference or later regression analysis. Of the usable surveys, 26% were male and 74% female. Most of the subjects (55%) were married and 30% were single. Specific details are presented in table 2.

Table 2
Demographic Table for Gender and Marital Status

Variable	Number of subjects	Percent (%)
Gender		
Male	34	26%
Female	98	74%
Marriage		
Married	72	55%
Divorced/separated	12	9%
Single	40	30%
Significant other	8	6%

Table 3 presents the details for dependents and ethnicity. An overwhelming number of subjects (49%) reported 3 or more dependents. Dependents were defined as others you feel you must consistently give support and may include but not be limited to

children, parents, pets, etc. The ethnicity reported was largely Caucasian at 76%, with the smallest sample 3% Hispanic.

Table 3
Demographic Table for Dependents and Ethnicity

Variable	Number of subjects	Percent (%)
Dependents		
0	27	20%
1	24	18%
2	17	13%
3 or more	64	49%
Ethnicity		
Caucasian	100	76%
Hispanic	4	3%
African-American	9	7%
Asian	6	4%
Native American	13	10%

Subjects reported the number of credit hours taken ranging from the least amount possible of zero to three (14%) to the option indicating the most amount of credit hours at four to six, 36%. A full-time graduate load is considered at least 9 credit hours for this institution. Most subjects were working full-time at over 32 hours per week (53%), with 31% working part-time, defined as 32 hours or less per week. Table 4 outlines the specifics of work and credit hour status.

Table 4
Demographic Table for Credit Hours and Work Status

Variable	Number of subjects	Percent (%)
Credit Hours		
0-3 hours	19	14%
4-6 hours	47	36%
7-9 hours	37	28%
10-12 hours	19	14%
12-15 hours	10	8%
Work Status		
Not working, part-time student	3	2%
Not working, full-time student	19	14%
Part-time work 0-32 hours per week	40	31%
Full-time work more than 32 hours per week	70	53%

Detailed in table 5 are income, progress in program, and commute. Yearly income reported varied from 34% under \$15,000 to 7% over \$75,000. Time in graduate program ranged from 28% completing 0-18 hours to 12% at the ABD/ABT level, and 13% at the point of completing coursework. Most (69%) commuted less than 30 minutes to attend class.

Table 5
Demographic Table for Income, Program Progress, and Commute

Variable	Number of subjects	Percent (%)
Income		
\$0-15,000/year	45	34%
\$15,001-30,000/year	30	23%
\$30,001-50,000/year	35	27%
\$50,001-75,000/year	12	9%
Over \$75,000	10	7%
Program Progress		
ABD/ABT	16	12%
Over 60 hours	17	13%
37-60 hours	34	26%
19-36 hours	28	21%
0-18 hours	37	28%
Commute		
0-30 minutes	91	69%
60 minutes	21	16%
90 minutes	12	9%
2 hours or more	8	6%

A Chi Square Goodness of Fit test was used to test for differences in the population proportions in the three preference categories. Discriminant function testing was originally proposed to distinguish characteristics common to each identified group, with functions providing those external characteristics that strongly contributed to discriminating between the groups. However, after the Chi square analysis, very small subject numbers were found in the two performance groups. At that point, a multiple

regression analysis was used to investigate the external characteristics of students in the mastery group. Data were entered into a file, which was then analyzed using SPSS, version 14. (SPSS, Inc., 1999).

Summary

This chapter outlined the methods used in response to the problem and research questions defined in chapter one. Subject selection, characteristics, instrument selection, and procedures were described.

CHAPTER IV

FINDINGS

This chapter presents a detailed description of the findings of this study. It presents findings organized sequentially by research questions. The purpose of this study was to identify the predominant goal orientation among graduate students and the factors that may predict goal orientation. The following research questions were addressed:

- 1) Is there a predominant goal orientation among graduate students (mastery, performance-approach, or performance-avoidance)?
- 2) What characteristics predict the predominant goal orientation type from a variety of external factors including perceived social support, enrollment and work status, gender, ethnicity, marital status, financial status, and time to program completion?

The following null hypotheses were proposed to be tested at a .05 level of significance:

H₀₁: There will be no significant difference in goal orientation among graduate students.

H₀₂: There will be no significant predictive factors (perceived social support, enrollment, work status, gender, ethnicity, marital status, dependent status, financial status, and time to program completion) of goal orientations in graduate students.

Goal orientation was measured by the Revised Goal Orientation Scale (RGOS), (appendix E), a component of the Patterns of Adaptive Learning Survey (PALS) developed by Midgley et al. (2000). This was used to allow the participants to identify with one of three possible achievement goal orientations: Mastery, performance-

approach, or performance-avoidance. Chi-Square Goodness-of-Fit analysis was used to test for differences in the population proportions of students appearing in one of the three preference categories (mastery, performance-approach, and performance-avoidance). This test is a comparison of observed and expected values with the hypothesis predicting equal numbers in each group. Multiple regression analysis was then used to investigate the predictive characteristics of the predominant group.

The independent categorical variables of marital status, ethnicity and work status were criterion scaled prior to entering them into the regression analysis. According to Pedhazur (1997), criterion scaling should be used when there are large numbers of interval as well as categorical variables. In criterion scaling, the categorical variable for each subject is assigned a score “equal to the criterion mean of the group to which he or she belongs” (Pedhazer, p. 505), and one predictor is created to represent all levels of the categorical variable. After the categorical variables were criterion scaled, the regression analysis was completed using theoretically indicated variables which were perceived social support, work status, gender, marital status, dependent status, income, and progress in program.

Descriptive Correlations

Dependent and Independent Variable Correlations

Correlations between the interval independent variables and the three scores from the dependent variable (orientation) were generated and are presented in table 6. Most of the correlations were non-significant, as shown in the table. Only two showed an association between variables of interest, specifically between mastery orientation and social support and between performance-avoidance orientation and social support.

Table 6
Correlation Table for Dependent/Independent Variables (N = 132)

Independent variables	Dependent variable		
	Mastery	Approach	Avoid
Credit hours	-.059	.080	.018
Income	.109	-.128	-.113
Program progress	-.147	-.173	-.113
Commute	.066	-.109	-.081
Social support	.272**	.129	.208*
Dependents	.029	-.070	-.086

**Correlation significant at the 0.01 level (2 tailed); *Correlation significant at the 0.05 level (2 tailed)

Independent Variable Correlations

Table 7 presents the correlations between the independent variables. Only significant relationships will be discussed in this section. As shown in this table, there was a significant relationship between number of dependents and number of credit hours, meaning that as a subject was responsible for more dependents, he or she took fewer credit hours, and vice versa. There were significant positive relationships between dependents and income and commute. In other words, the fewer number of dependents meant a higher income and a longer commute, or the more dependents the less income or the less commute. There was a significant, negative relationship between number of credit hours and income. Therefore, a lower income meant the student took fewer credit hours. There was a significant and positive relationship between income and commute, meaning a student with a higher income would commute further.

Table 7
Correlation Table for Independent Variables
(N = 132)

Independent variables	Independent variables				
	Income	Program progress	Commute	Social support	Dependents
Credit hours	-.492**	.143	-.081	-.126	-.397**
Income		-.138	.240**	.108	.300**
Program progress			.123	.000	.038
Commute				.060	.312**
Social support					.044

**Correlation significant at the 0.01 level (2 tailed); *Correlation significant at the 0.05 level (2 tailed)

Dependent Variable Correlations

Correlations between the dependent variables are presented in table 8. These show a positive correlation ($r = .80, p < .01$) between performance-approach and performance-avoidance orientation. In other words, as performance-approach orientation increased, so did performance-avoidance orientation. There was no significant correlation between mastery and performance-approach orientation ($r = .07, p < .01$) or between mastery and performance-avoidance orientation ($r = .092, p < .01$).

Table 8
Correlation Table for Dependent Variables
(N = 132)

Dependent variables	Dependent variables	
	Approach	Avoid
Mastery	.070	.092
Approach		.80**

**Correlation significant at the 0.01 level (2 tailed); *Correlation significant at the 0.05 level (2 tailed)

Research Question One

Is there a predominant goal orientation among graduate students (mastery, performance-approach, or performance-avoidance)?

H₀₁: There will be no significant difference in the number of students who report goal orientation (mastery, performance-approach, or performance-avoidance).

Chi Square Analysis

In order to determine the predominant goal orientation among graduate students, a Chi Square Goodness of Fit test was used to test for differences in the population frequencies in the three preference categories. This nonparametric test of significance compares observed frequencies (or proportions) to expected frequencies (or proportions) to see if they are significantly different (Gay & Airasian, 2000). The expected proportions are usually frequencies based on equal groups, which was the case in this study. When a computed test statistic is large, then the observed and expected values are not close and the model is a poor fit to the data and the null hypothesis must be rejected.

The Chi-Square goodness of fit test for these students (N=132) used the grouping strategy of assigning subjects to a goal orientation group (mastery, performance-approach, or performance-avoidance) based upon their highest average score on the RGOS. Each subject was assigned an average score on each subscale of the RGOS (mastery, performance-approach, or performance-avoidance) and orientation was based on the highest subscale score unless there were ties on two or more of the subscales, in which case, the subject data was removed from the analysis. From 140 scores reported, there were eight ties that were removed, leaving 132 scores to be analyzed.

The result for the grouping was $\chi^2(2, N=132) = 182.591, p < .001$, indicating a definite difference between the numbers falling into these groups with the majority of subjects falling into the mastery orientation group. Therefore, the null hypothesis was

rejected with most subjects falling into the mastery orientation category. Table 9 details group frequencies and percentages.

Table 9
Group Frequencies and Percentages
(N = 132)

Group	Frequency	Percentage
Mastery	117	88.6
Performance-approach	3	2.3
Performance-avoidance	12	9.1

Research Question Two

What characteristics predict the predominant goal orientation type from a variety of external factors including perceived social support, enrollment and work status, gender, ethnicity, marital status, financial status, and time to program completion?

H₀₂: There will be no significant predictive factors (perceived social support, enrollment, work status, gender, ethnicity, marital status, dependent status, financial status, and time to program completion) of goal orientations in graduate students.

Analytic Procedure

The first research question resulted in the conclusion that the majority of these graduate students fell into the mastery orientation category. As a result of the Chi Square analysis, subject numbers in the two performance categories were too small to analyze (see table 6); therefore, multiple regression analysis was run to investigate how the independent variables (demographic data and the Multidimensional Scale of Perceived Social Support or MSPSS (Zimet et al., 1988)) might account for the variance in the dependent variable, mastery orientation score, as measured by the subject scores on the RGOS (Midgley et al., 1998).

Mastery Goal Orientation Analysis

In this section of the analysis, multiple regression analysis was used to establish that a set of independent variables explains a proportion of the variance in a dependent variable at a significant level through a significance test of R^2 (Pedhazur, 1997).

Unstandardized regression coefficients are compared as these reflect the relation of the predictor with the predicted or dependent variable while other predictor variables are held constant (Williams, 1992). Standardized regression coefficients are also presented as these indicate expected change in the dependent variable, in standard scores, associated with a standard deviation change in a predictor variable while the remaining variables are held constant (Pedhazur).

Collinearity was checked (see table 10) because of the “potential adverse effects of correlated independent variables on the estimation of regression statistics” (Pedhazur, 1997, p. 294). This occurs when there is near or perfect correlation among predictors resulting in much of the variance of the dependent variance being shared by the same independent variables and lowering the R statistic. Variance inflation factor (VIF) and tolerance are diagnostic procedures used to assess collinearity. VIF indicates the inflation of the variance of beta due to the correlation between the independent variables (Pedhazur). Tolerance is defined as $1 - R^2 = 1/VIF$, and indicates intercorrelation of the independent variables or regression of a predictor on all the other predictors. Table 10 gives the tolerance and VIF statistics for this analysis. All tolerance numbers were well above zero and near one, and all VIF numbers were well below 10, above which is the level of concern according to Stevens (2002). Therefore, there was no problem with collinearity and the regression analysis proceeded.

Table 10
Collinearity Statistics

Variables	Tolerance	VIF
Dependents	.863	1.159
Work Status	.687	1.455
Income	.651	1.537
Social support	.866	1.155
Progress in Program	.937	1.067

This multiple regression analysis was conducted with criterion scaled categorical variables (marital status, work status) and interval scale variables (progress in program, dependents, social support, gender, and income) entered altogether. The results of the statistical analysis for all seven predictors was $R^2 = 18.8\%$. This was significant in predicting the variation in mastery scores and is shown in table 11, where almost 19% ($R^2 = .188$) of the variance in the dependent variable (mastery orientation) was associated with variance in the combined independent variables, ($F_{7, 117} = 3.407, p < .05$).

Table 12 gives the unstandardized and standardized regression coefficients as well as t-ratios for the predictor variables. The unstandardized, or partial, regression coefficient, b , reflects the relation of each predictor variable with the dependent variable while other predictor variables are held constant. Each b divided by its standard error yields a t-ratio which can be used as a test of statistical significance for the unstandardized coefficient, b . According to this table two independent variables were significant, work status ($b = -.195, t = -2.832$) and progress in program ($b = -.067, t = -2.012$). The standardized regression coefficients are also presented in table 12. These indicate the anticipated change in the dependent variable associated with a standard deviation change in the predictor variable while the remaining predictor variables are

held constant, expressed in standard units. For the significant predictors, work status $\beta = -.303$, $p = .006$, and progress in program $\beta = -.185$, $p = .047$.

Table 11
Regression Model Summary Mastery Goal Orientation
(N 117)

Model	R	R ²
1	.434	.188

Predictors: (Constant), progprogress, dependents, socsup, gender, workstatus, marital, income

Table 12
Summary of Coefficients for Mastery Goal Orientation
(N 117)

Model	Unstandardized Coefficient (b)	Standardized Coefficient β	t	Sig.
Gender	-.066	-.053	-.570	.570
Marital	.593	.196	1.94	.055
Dependents	.000	-.001	-.010	.992
Work status	-.195	-.303	-2.832	.006
Income	.041	.096	.876	.383
Social Support	.006	.175	1.838	.069
Program progress	-.067	-.185	-2.012	.047

Since the test of R^2 is equivalent to testing all the b values concurrently it was necessary to conduct another analysis to determine the specific weight of the significant predictors. Given that only two predictors reached statistical significance, one categorical and one continuous, simple regression analysis was used to explore the effect of program progress on mastery orientation separately for the four work status categories. These follow-up simple regressions for each category of work status allowed for an assessment of how progress in program influenced the mastery orientation score for each category of work status. The results were all non-significant except for one level of work status, part-

time 32 hours per week or less, which was statistically significant ($F_{1, 117} = 6.424, p < .05$). The overall result of this test, shown in table 13, was $R^2 = .155$, indicating that almost 16% of the variance in the dependent variable (mastery orientation) was predicted by the independent variable, progress in program, under the condition of part-time work. Table 14 shows the regression coefficients for this regression analysis. This shows the level of program progress at part time work statistically significant ($b = -.196, t = -2.353$), with the levels such as not working, part-time student ($b = -.016, t = -.115$), not working, full-time student ($b = .009, t = .142$), and working full-time ($b = -.023, t = -.580$) not significant.

Table 13
Program Progress and Work Status Regression Model
(N 117)

Model	R	R ²
1	.394	.155

Predictors: (Constant), progprogress

Table 14
Summary of Coefficients for Program Progress and Work Status Model
(N 117)

Work level	Unstandardized Coefficient (b)	Standardized Coefficient β	t	Sig
Not working/part-time student	-.016	-.115	-.115	.927
Not working/full-time student	.009	.035	.142	.889
Working part-time (0-32 hours per week)	-.196	-.394	-2.535	.016
Working full-time (32 or more hours per week)	-.023	-.071	-.580	.564

Dependent Variable: Mastery

Summary

The purpose of the analysis was to identify the predominant goal orientation among graduate students (mastery, performance-approach, or performance-avoidance) and to assess the theoretically-based external factors that may influence goal orientation (perceived social support, enrollment, work status, gender, ethnicity, marital status, dependent status, financial status, and time to program completion).

A Chi Square Goodness-of-Fit test was conducted to analyze the frequency data for the three orientation levels according to the dependent variable. The results showed a strong student preference for mastery goal orientation among these graduate students. Further, this study explored the extent to which theoretically-based characteristics influenced mastery goal orientation with multiple regression.

Results indicated that the set of predictor variables predicted almost 19% of the variation in mastery orientation scores. Finally, follow-up regression analysis was conducted to assess differences in the effect of progress in program on mastery orientation scores separately for each category of work status. Overall results suggest that progress in program, under the condition of part-time work status, 32 hours per week or less, contributed almost 16% of the variance in mastery orientation. Other categories of work status were not significant. In other words, whereas program progress significantly predicted mastery orientation for part-time workers, program progress was not influential for the other work status categories.

In conclusion, these results showed that the subject group of graduate students largely fell into a mastery orientation group and program progress significantly predicted mastery scores for the part-time work group. Taken together, the regression results

suggest that although the combination of seven predictors accounted for almost 19% of the variability in mastery orientation, most of this variance (16%) was attributed to progress in program among part-time students. Therefore, those students who worked part-time were influenced by their progress in program and this accounted for much of the variance (16%) found in the set of predictors. Part-time work appears to be an influential predictor for mastery orientation, especially when combined with progress in program for this group of subjects.

CHAPTER V

CONCLUSIONS

The purpose of this study was to identify the predominant goal orientation among graduate students and the factors that may predict goal orientation. This chapter summarizes the findings of this study, presents conclusions based on the findings of this study, and discusses implication for practical application and future research direction.

Summary of the Study

This study examined the predominant goal orientation among graduate students using a revised multiple achievement goal theory which separates orientation into three possible categories: Mastery (approach); performance-approach; and performance-avoidance. Subjects participated voluntarily via anonymous internet survey responding to three separate surveys. One instrument used was the Revised Goal Orientation Scale (RGOS), found in appendix E, is a component of the Patterns of Adaptive Learning Survey (PALS) developed by Midgley et al. (2000). This instrument allowed subjects in the dependent group to select a goal preference: Mastery (approach); performance-approach; or performance-avoidance. Since this was not a forced choice instrument, some subjects scored closely or, in a few cases, evenly in two or three of the categories. Those subjects who scored evenly in two or more categories could not be put into an orientation group and were excluded from the analysis. The demographic data (Appendix D) and the Multidimensional Scale of Perceived Social Support (Appendix C) or MSPSS (Zimet et

al., 1988) were the independent variables used to determine possible external characteristics that may predict predominant orientation type.

Two research questions guided this study:

- 1) Is there a predominant goal orientation among graduate students (mastery, performance-approach, or performance-avoidance)?
- 2) What characteristics predict the predominant goal orientation type from a variety of external factors including perceived social support, enrollment and work status, gender, ethnicity, marital status, financial status, and time to program completion?

The statistical procedures used were Chi square Goodness-of-Fit test to test for differences in the population proportions in the three preference categories (mastery, performance-approach, performance-avoidance) to answer question one followed by multiple regression analysis to answer question two.

Hypothesis 1

H₀₁: There will be no significant difference in goal orientation among graduate students.

The Chi-Square analysis revealed a significant difference between the three orientation groups with the majority of graduate students falling into the mastery orientation group. This led to a rejection of the hypothesis. Similarly, previous studies have found that undergraduate college students tend toward mastery goals, and this tendency is stronger with increasing age and with nontraditional students. (Burley, Turner, & Vitulli, 1999; Eppler et al., 2000; Eppler & Harju, 1997).

Explanation for Findings

Past studies have found that college students tend to endorse a mastery orientation more strongly than a performance orientation, especially among older and nontraditional students (Burley et al., 1999; Eppler et al., 2000; Eppler & Harju, 1997). Increasing age has been correlated with a stronger learning orientation endorsement (Eppler et al.). Even though there is pressure in graduate school to maintain high grades, the positive link between mastery orientation and academic achievement, and also between mastery orientation and persistence with failure appears to make this group confident in their success (Eppler & Harju). One possible explanation for this might be that studies have also found that learners can hold a combination of orientations simultaneously, with a mastery/performance-approach orientation being a successful blend leading to deeper learning with high academic performance (Midgley et al., 2001). It may be that this group of subjects had dual orientations with mastery appearing to be the strongest since many of the scores were close.

The instrument used to measure goal orientation, the RGOS, was not a forced choice instrument, and subjects could score in two or three categories simultaneously. This instrument was measured on a Likert-type scale from 1 (not at all true) to 5 (very true) and subjects could, therefore, score closely or, in some cases, evenly across two or three orientations. Goal orientation is known to be a fluid characteristic, influenced by environment and personal situations (Elliott & Dweck, 1988; Pintrich, & Garcia, 1991). Some of the results obtained in this study may have to do with the subjects' point of view at the time of the survey. For example, scores may be influenced by the classes they were taking, how successful they were in their academic endeavors at the time, or their

viewpoint of relationships within their academic departments or cohort. Since the survey was done through an internet tool, subjects were not under pressure to express themselves in a classroom and may have given a more honest expression of how they wanted their goal orientation to be versus what it really is or how it might have been perceived sitting in the classroom environment where reminders of performance issues may have been more pronounced. Therefore, the time, place, and type of dependent measure survey may have influenced the resulting strong tendency among these subjects toward mastery orientation. There are other types of surveys or measure for goal orientation used in research. Some of these instruments are forced choice, which may have led to different results in this study. This may be a consideration for future research.

Hypothesis 2

H₀₂: There will be no significant predictive factors (perceived social support, enrollment, work status, gender, ethnicity, marital status, dependent status, financial status, and time to program completion) of goal orientations in graduate students.

After determining that the predominant goal orientation was mastery orientation from the Chi square analysis, multiple regression analysis was used to investigate how the set of predictor variables (demographic information and the MSPSS) might predict the variance in the dependent variable (mastery orientation). The results showed a significant prediction to mastery orientation from the set of seven theoretically indicated predictor variables (gender, marital status, dependents, work status, income, social support and progress in program) at R² of almost 19%. A follow-up simple regression analysis was run to assess the effect of the significant predictors, progress in program on mastery orientation for each category of work and the results were non-significant for

each work level except the work level part-time, 32 hours per week or less, being significant at almost 16% variance. This indicated that program progress significantly predicted mastery orientation for part-time worker (32 hours per week or less).

Altogether, the results of the regression suggested that the combination of the seven predictors accounted for almost 19% of the variability in mastery orientation with most of the variance (almost 16%) attributed to program progress among part-time workers.

Explanation for Findings

For the mastery orientation group, the combined set of predictors had an effect on the variance of mastery orientation (19%) with the combination of program progress and work status (working part-time 32 hours per week or less) accounting for almost 16% of the variance. Progress in program contributed almost 16% of the variance to mastery orientation under the condition of part-time (32 hours per week or less) work. Other work conditions did not influence orientation. Although some studies have suggested that students who work part-time or full-time have increased stress (Home, 1997; Potts, 1992), the condition of working part-time in this study contributed to mastery orientation. In this case, only part-time work had predictive effect on mastery orientation, not any other work condition. It could be theorized that working part-time allowed the subjects enough financial stability plus time for study to focus on mastery orientation goals. Studies on graduate students and attrition in program as they progress show that the rate of attrition is approximately one third for the first year, another third before all coursework is completed, and yet another one third before completion of dissertation (Golde, 2005; Lovitts & Nelson, 2000; Nesheim et al., 2006; Smith et al., 2006). The findings of this study would appear to be supportive of this; that as students progress

further in program, they increase in their mastery orientation or possibly the reverse, those who are more mastery goal oriented will progress further in the program.

Therefore, for this group it appears that these predictors have some influence on mastery goal orientation, and there are other factors, intrinsic and/or extrinsic, not identified by this study that would predict mastery goal orientation.

In this analysis, some variance was contributed by external factors. Mastery orientation was modestly influenced by a combination of predictors with program progress under the condition of work status, part-time 32 hours per week or less contributing 16% of the variance in mastery orientation. The variance contributed by these factors was modest, leading the researcher to believe that there are other factors, intrinsic and/or extrinsic, yet to be identified that predict this orientation.

Integration with Past Literature

Achievement orientation theory originally proposed two levels of orientation, mastery and performance (Dweck & Leggett, 1988). Further research has indicated that a revised, multiple approach theory is more applicable to real world situations (Barron & Harackiewicz, 2001; Elliot & Church, 1997; Elliot & Harackiewicz, 1996; Elliot et al., 1999; Harackiewicz et al., 1997; Harackiewicz et al., 2002; Harackiewicz et al., 2000; Linnenbrink & Pintrich, 2002; Middleton & Midgley, 1997; Midgley et al., 1998; Midgley et al., 2001; Pintrich, 2000; Rawsthorne & Elliot 1999; Urdan, 2004; Wolters, 2004) leading to the categories of mastery (approach), performance-approach, and performance-avoidance. Students holding a mastery orientation show persistence, deeper learning, and intrinsic motivation while students with a performance-approach orientation exhibit higher test scores with more surface learning and persistence in the face of

success but maladaptive behavior patterns with failure. Students with both strong mastery and performance-approach goals did well in deeper learning and achievement scores. Conversely, students with performance-avoidance orientation showed test anxiety, avoided seeking help, and exhibited maladaptive, helplessness patterns with failure as well as poor academic performance.

In a study of differences among undergraduate traditional and nontraditional college students, Eppler and Harju (1997) found that work hours were negatively correlated with GPA and study time for nontraditional students. However, contrasted to traditional students, this subject group largely embraced learning (mastery) goals and were resistant to helplessness and irrational beliefs. The conclusion of this study was that while nontraditional students had an advantage in endorsing learning goals, work commitments may counter this advantage. The result of the present research study showed that part-time (32 hours per week or less) contributed to mastery orientation, but other work conditions did not

Progress in program contributed to the variance in mastery orientation under the condition of part-time work, and there is some indication in the literature that graduate students drop out in increasing numbers as they progress in program (Golde, 2005; Lovitts & Nelson, 2000; Nesheim et al., 2006; Smith et al., 2006). The results of this study appear to indicate that graduate students either have increasing mastery orientation as they progress in program or progress in program because they are mastery goal oriented. Other studies looking at relationships between learning orientation and age found that older and nontraditional students consistently hold learning or mastery orientation while younger, traditional students tend to have stronger performance

orientation (Burley et al., 1999; Eppler et al., 2000; Eppler & Harju, 1997). Studies have been primarily focused on elementary to high school students with a few undergraduate studies in recent years, and on the outcomes of goal orientation but not on the factors that influence goal orientation. No studies on graduate students have been found at the time of this research, and it is thought that this population is a unique mix of non-traditional and traditional students with a number of factors that may not be applicable to younger populations.

Conclusions

One conclusion of this study appears to be that this sample of graduate students largely fell into a mastery goal orientation category. This implies that these learners are focused on goals that increase skill and knowledge with less concern for appearance of performance or grades. They view success in relation to the task and tend to be self-referenced rather than competitive with others. These learners have positive behaviors and outcomes, deeper learning, and good coping skills even in the face of failure, and eventually exhibit good performance outcomes.

The extrinsic factors that were found to influence subjects in the mastery orientation group were gender, marital status, dependents, income, social support, program progress and work status (working part-time, 32 hours per week or less) at 19% with program progress under the condition of part-time work status accounting for 16% of the variance. Altogether this accounted for a modest variance in the dependent variable, indicating that there were other variables, intrinsic or extrinsic that could account for more of the variance in this group.

Implications

Understanding the extrinsic factors that influence graduate students is important to the success of graduate programs and the learners in these programs. Extrinsic factors can be influenced more readily than intrinsic factors. Past research has shown that goal orientation is fluid and changes with environmental influences. The results of this study indicate that there were some external factors, gender, marital status, dependents, income, social support, program progress and work status (working part-time, 32 hours per week or less), that accounted for a modest variance in mastery orientation in the factors studied by this researcher.

Mastery orientation is a strong approach orientation which research has shown to lead to deep learning, high achievement, and resilience in the face of setbacks. This orientation is one of the three possible orientations (mastery, performance-approach, performance-avoidance) which best facilitates achievement and persistence in academic achievement. Retention of graduate students in terms of costs to the faculty and university and preparation of future faculty are critical issues. The results of this study show that there are possible areas to look at to facilitate mastery orientation (income support, social support, work support) as well as future avenues for exploration for research in this area.

Limitations

One limitation of this study involved the tool used to determine dependent variable status, the RGOS. Since this was not a forced choice instrument, subjects could fall into two or three levels with close or, in some instances, even scores. An instrument that was forced choice and more definitively grouped the subjects might have been easier

for purposes of grouping, although the questions used for this might have been more obvious as to their intent, yielding a skew to the answers if subjects chose to answer them as they thought they should be answered more than as a truthful picture of themselves.

Another limitation of the survey was the collection of data over an internet website. Although emails were sent to professors in all departments and colleges of the university, the type of professor who might recruit students for the study and the type of student who might be inclined to answer such a survey may bias who would respond to the survey. A different method of collection might lend itself to a more generalized population. Another consideration of having this done on an internet survey is that it could be taken anytime and anywhere with any number of distractions for the subject taking the survey if they are multi-tasking, answering email, or chatting. Other potential subjects may be technology phobic or worried about anonymity, even though this was guaranteed by the researcher.

The subject number, despite several collection efforts was, in the end, lower than anticipated. This, of course, affects power in any statistical analysis. Having more subjects would have increased power of the statistical analysis.

Future Research Needs

The results of this study indicate that this group of graduate students tended toward a mastery goal orientation and that there were other factors which influence goal orientation among these graduate students other than those measured by this study. These factors may be both intrinsic as well as extrinsic. This study measured only extrinsic factors and a future study may narrow these down or measure them on a different scale in order to more precisely examine these variables. Another important direction is the need

to study intrinsic factors of motivation, self-efficacy, or anxiety levels and their influence on goal orientation.

Goal orientation is an important factor in motivation and achievement in all levels of learners. The results of this study show that the predominant goal orientation in this group of graduate students was mastery orientation. The strongest predictors of mastery orientation for this group were program progress under the condition of part-time work status (32 hours per week or less). To facilitate mastery goal orientation, university programs might provide assistance with employment opportunities and assistantships for work support and planned faculty and cohort support to address issues and promotion of program progress. The literature suggests that the environment influences goal orientation, and a traditional, normative, competitive environment fosters performance goals with the negative resulting behaviors (Harackiewicz et al., 2000; Midgley et al., 2001). This could relate to the faculty and cohort support in program progress in terms of whether the environment is one of competition or cooperative, team approach. One study by Eppler and Harju (1997) suggests that educating the learner about the concepts of academic goal orientation helps promote positive directions and changes negative behaviors such as learned helplessness. Although not addressed in this study, learner education may be beneficial in promoting mastery orientation. Promoting an environment in which mastery orientation is encouraged would benefit universities and students alike in that successful retention and degree attainment is a positive use of resources which, in the end, yields a new generation of researchers and educators.

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APPENDICES

APPENDIX A

Invitation to Participate

This is a research study I am conducting to identify goal orientation among graduate students and factors that may influence that goal orientation. First, I am going to ask you to fill out the informed consent form giving me permission to collect the data from the surveys. Please read through the consent form before you sign and email me if you have any questions at jeanine.soltani@okstate.edu . If you wish to proceed, please go to the surveys now. These will consist of the following:

- 1) Demographic survey-mark only one choice for each item. Please answer as many items as you can.
- 2) Multidimensional Scale of Perceived Social Support survey-This is based on a seven-point Likert scale. For each item mark your opinion in the range from very strong disagree (1) to very strongly agree (7). There are twelve items. Please answer as many items as you can.
- 3) Revised Goal Orientation Scale-This is based on a five-point Likert scale. For each item mark your opinion in the range from Not at all True (1) to Very True (5). There are fourteen items. Please answer as many items as you can.

These can be found at the website: <http://fp.okstate.edu/ronalsh/soltaniresearch>

APPENDIX B

INFORMED CONSENT

Project Title: GOAL ORIENTATION AMONG GRADUATE STUDENTS

Investigator: Jeanine Soltani, MEd

Purpose: This is a research study with the purpose to identify the predominant goal orientation among graduate students and factors that may influence that goal orientation.

Procedures: Please fill out the following three surveys as best you can:

- 4) Demographic survey-mark only one choice for each item
- 5) Multidimensional Scale of Perceived Social Support survey-for each item mark your opinion from very strong disagree (1) to very strongly agree (7)
- 6) Revised Goal Orientation Scale-for each item mark your opinion from Not at all True (1) to Very True (5)

Risks of Participation: There are no known risks associated with this project which are greater than those ordinarily encountered in daily life.

Benefits: Understanding motivating factors among graduate students is expected to assist institutions and faculty in helping this population successfully complete graduate education through educational and other type of assistance depending on the outcome of this study.

Confidentiality: Only the investigator will have access to the data. It will be stored on a secured computer hard drive and kept only until the completion of this study and dissertation. The data will be used in completion of this research study and in fulfillment of the requirements of this investigator's dissertation. All data will be kept confidential and no names will be used on any of the data during any time during the collection or reporting. The data will be destroyed when the study is completed.

The OSU IRB has the authority to inspect consent records and data files to assure compliance with approved procedures.

Compensation: No compensation shall be offered for participating in this study. Declining to participate in the study has no negative impact on the participant's class standing. Participation in this study is purely voluntary.

Contacts: For questions about the research, please contact the researcher, Jeanine Soltani, 405-844-3905
For information on subjects' rights, contact Dr. Sue Jacobs, IRB Chair, 415 Whitehurst Hall, 405-744-1676.

Participant Rights: Participation in this study is voluntary and can be discontinued at any time during the study without reprisal or penalty. Withdrawal during any phase of the research activity will result in no risk or penalty to the participant. Participants may terminate participation in this study for any reason including feeling uncomfortable with the survey questions or lack of time or interest to complete the survey.

Signatures: I have read and fully understand the consent form. I sign it freely and voluntarily. A copy of this form has been given to me.

Signature of Participant

Date

I certify that I have personally explained this document before requesting that the participant sign it.

Signature of Researcher

Date

APPENDIX C

Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the “1” if you **Very Strongly Disagree**

Circle the “2” if you **Strongly Disagree**

Circle the “3” if you **Mildly Disagree**

Circle the “4” if you are **Neutral**

Circle the “5” if you **Mildly Agree**

Circle the “6” if you **Strongly Agree**

Circle the “7” if you **Very Strongly Agree**

- | | | | | | | | | |
|-----|--|---|---|---|---|---|---|---|
| 1. | There is a special person who is around when I am in need. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. | There is a special person with whom I can share my joys and sorrows. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. | My family really tries to help me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. | I get the emotional help and support I need from my family. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. | I have a special person who is a real source of comfort to me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. | My friends really try to help me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. | I can count on my friends when things go wrong. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. | I can talk about my problems with my family. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. | I have friends with whom I can share my joys and sorrows. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. | There is a special person in my life who cares about my feelings. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. | My family is willing to help me make decisions. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. | I can talk about my problems with my friends. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

APPENDIX D

Demographic Survey

Instructions: Please mark the most appropriate answer for each question as best you can. Leaving a question unanswered is an option if you do not wish to answer it.

1. Gender
 - a. Female
 - b. Male

2. Marital status
 - a. Married
 - b. Divorced/separated
 - c. Widowed
 - d. Single (never married)
 - e. Residing with significant other

3. Number of others who depend on you in some way.

Note: This may be financially, emotionally, physically, or in some other way that makes you feel that you must consistently give them support and may include, but not be limited to, children, parents, or pets, etc.

 - a. 0
 - b. 1
 - c. 2
 - d. 3 or more

4. Ethnicity
 - a. Caucasian
 - b. Hispanic
 - c. African-American
 - d. Asian
 - e. Native American
 - f. Other

5. Enrollment Status: How many graduate credit hours do you take on average per semester?
 - a. 0-2 (dissertation/thesis hours)
 - b. 2 - 3
 - c. 4 – 6
 - d. 7 – 9
 - e. 10 – 12
 - f. 12 - 15

6. Work Status
 - a. Not working/part-time student
 - b. Not working/full-time student
 - c. Part-time (0-32 hours per week)
 - d. Full-time (32 or more hours/week)

7. Graduate assistantship
 - a. Research
 - b. Teaching
 - c. None
 - d. Other
 - i. Explain _____

8. Level of graduate assistantship support
 - a. 0
 - b. .25
 - c. .50
 - d. .75
 - e. 1.0

9. Yearly Income (all sources)
 - a. \$0 – 15,000
 - b. \$15,001 – 30,000
 - c. \$30,001 – 50,000
 - d. \$50,001 – 75,000
 - e. Over \$75,000

10. How far along are you in your graduate program?
 - a. 0 – 18 credit hours
 - b. 19 – 36 credit hours
 - c. 37 – 60 credit hours
 - d. Above 60 credit hours
 - e. ABD/ABT
 - f. Working on thesis or dissertation

11. Approximately how long (in time) is your commute, 1 way, to campus?
 - a. Less than 15 minutes
 - b. 30 minutes
 - c. 60 minutes
 - d. 90 minutes
 - e. 2 hours
 - f. More than 2 hours (please specify _____)

12. Looking at the definitions below, would you classify yourself as a
 - a. Traditional student
 - b. Non-traditional student

Traditional college student: Traditional college students are 18-22 years of age and attend classes on week- days.

Non-traditional college student: Non-traditional college students are 35-55 years of age and attend classes evenings and weekends and are adults who return to school full- or part-time while maintaining responsibilities such as employment, family, and other responsibilities of adult life.

Appendix E
Revised Goal Orientation Scale

Here are some questions about yourself as a student in this class. Please mark the number that best describes what you think.

No.	Questions	Not at all True	2	Somewhat True	4	Very True
		1	2	3	4	5
1	It's important to me that I learn a lot of new concepts this year.					
2	It's important to me that other students in the class think I am good at my class work.					
3	One of my goals is to show others that I'm good at my class work.					
4	It's important to me that I don't look stupid in class					
5	One of my goals in class is to learn as much as I can.					
6	It's important to me that I thoroughly understand my class work					
7	One of my goals in class is to avoid looking like I have trouble doing the work.					
8	One of my goals is to show others that class work is easy for me.					
9	One of my goals is to keep others from thinking I'm not smart in class.					
10	One of my goals is to master a lot of new skills this year.					
11	It's important to me that I improve my skills this year.					
12	One of my goals is to look smart in comparison to the other students in this class.					
13	It's important to me that my teacher doesn't think I know less than others in class.					
14	It's important to me that my I look smart compared to others in my class.					

**Appendix F
Institutional Review Board Approval**

Oklahoma State University Institutional Review Board

Date: Friday, October 14, 2005
IRB Application No ED0637
Proposal Title: Goal Orientation Among Graduate Students

Reviewed and Exempt
Processed as:

Status Recommended by Reviewer(s): Approved Protocol Expires: 10/13/2006

Principal

Investigator(s)

Jeanine Soltani
19412 Dannforth Farms
Edmond, OK 73003

Diane Montgomery
424 Willard
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

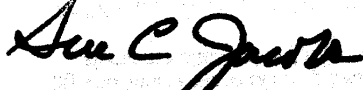
The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 415 Whitehurst (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,



Sue C. Jacobs, Chair
Institutional Review Board

VITA

Jeanine L. Soltani

Candidate for the Degree of

Doctor of Philosophy

Dissertation: GOAL ORIENTATION AMONG GRADUATE STUDENTS

Major Field: Educational Psychology

Biographical:

Education: Bachelor of science degree in Physical Therapy, University of Kansas, Lawrence, Kansas, May 1980; Master's degree in Professional Health Occupations, University of Central Oklahoma, Edmond, Oklahoma, May 2000; Completed the Requirements for the Education degree at Oklahoma State University in May, 2007.

Experience: Supervisor of Inpatient Physical Medicine at Mercy Health Center, Oklahoma City, Oklahoma from March 2002 to present; Assistant Professor in Physical Therapy Education, Langston University, Langston, Oklahoma, August 1998 to May 2002; Physical Therapist in various settings from inpatient to outpatient, pediatrics to geriatrics from 1980 to present in Kansas, Alabama, and Oklahoma hospitals, nursing homes, schools, home health agencies, and rehabilitation centers.

Professional Memberships: American Educational Research Association; American Physical Therapy Association, Acute Care Section and Geriatric Section; Oklahoma Physical Therapy Association

ABSTRACT

Name: Jeanine L. Soltani

Date of Degree: May 2007

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: GOAL ORIENTATION AMONG GRADUATE STUDENTS

Pages in Study: 92

Candidate for the Degree of Doctor of Philosophy

Major Field: Educational Psychology

Scope and Method of Study: The purpose of this study was to identify the predominant goal orientation among graduate students and the external factors that predicted that goal orientation. Participants in this study were 132 graduate students at Oklahoma State University who voluntarily participated in an internet survey. Each participant completed a demographic survey, the Multidimensional Scale of Perceived Social Support (MSPSS), and the Revised Goal Orientation Scale (RGOS). Chi square Goodness of Fit test was used to test for differences in the population proportions in three possible goal preference categories, then multiple regression analysis was used to investigate the predictive characteristics of the predominant group (mastery orientation).

Findings and Conclusions: The majority of this sample of graduate students were found to have a mastery goal orientation. Predictors of mastery goal orientation were marriage and work status, progress in program, dependents, social support, gender, and income contributing almost 19% variance. Further analysis revealed that almost 16% of the variance in the dependent variable (mastery orientation) was predicted by the independent variables, progress in program, under the condition of part-time work. Mastery goal orientation is correlated with positive behaviors such as deeper learning, persistence in the face of failure, positive coping strategies, and long term academic achievement. Promoting mastery orientation among graduate students would benefit universities with higher retention and less waste of resources. There may be other factors, extrinsic and intrinsic which contribute to mastery orientation as the variance found in this study was modest.

Advisor's Approval: Dr. Diane Montgomery

