SOCIAL ROLE THEORY AS A MEANS OF DIFFERENTIATING BETWEEN

FIRST-GENERATION AND NONFIRST-GENERATION COLLEGE STUDENTS

by

LESLIE L. HEMPHILL

B.A., University of Tulsa, 1973
M.A., University of Tulsa, 1974

AN ABSTRACT OF A DISSERTATION

Submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Counseling and Educational Psychology
College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2008

Abstract

Statistics published in 2003 indicate that over 67% of community college students are first-generation students, students from families where neither parent has graduated from college. First-generation students are disproportionately represented among those who terminate college prior to graduation. This study explores role theory as a model for understanding and addressing the problems of first-generation students.

Survey questions linked to role commitment involving intentions to work, commute and participate in campus activities were administered to 257 first-time full-time students: 182 students were first-generation and 75 were nonfirst-generation. Analysis using the Mann-Whitney U Test indicated first-generation students had significantly less commitment to the role of student. Later, first-generation students were divided into "successful" and "unsuccessful" groups based on their two semester grade point average. The Mann-Whitney U Test failed to demonstrate a significant difference between "successful" and "unsuccessful" first-generation students. The ordinal score responses of first-generation students to the three survey questions were then used as categories and grade point averages of the students in those categories were compared using ANOVA procedures. The results were mixed but suggested further investigation was warranted.

The study was concluded with interviews of ten "successful" first-generation students. The interview results were supportive of conclusions drawn from role theory underscoring the value of further studies with larger sample sizes and modifications in methodology suggested by this study.

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Major Professor
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Chapter 1

Introduction

Technological advances have led to an increasingly more complex work setting that has, in turn, fueled the need for advanced levels of education. Higher education has responded to this challenge by welcoming the entrance of many groups who historically did not attend colleges or universities. An article by Pascarella and Terenzini (as cited in McConnell, 2000) indicated undergraduate enrollment by Caucasians in postsecondary institutions had increased by 5.1 percent from 1984 to 1994. In the same time period enrollment by Asian American, Hispanic, African American and Native American students increased by 61 percent. Minority, economically disadvantaged, physically handicapped and first-generation college students have swelled both the ranks of those attending college and the ranks of those identified as being "at risk" for dropping out, often before completing the first year of college (Nisbet, Ruble, & Schurr, 1982; Ting, 1998a).

Estimates from the National Center for Education Statistics suggest that nearly half of all college students will drop out before completing a college degree (Gerald, 1992). First-generation students are disproportionately represented among those who terminate college before completion. A statistical analysis conducted on students who entered college in 1989 revealed that five years later 75.7% of the non first-generation students had either obtained a degree or were still pursuing a college degree. Only 24.3% of the students from nonfirst-generation families had dropped out without attaining a degree. This contrasted with a drop-out rate of 34.9% for those first-generation students whose parents had completed some college course work and

45.1% for those first-generation students whose parents had completed no college course work (Nunez & Cuccaro-Alamin, 1998, p. 37). By 1994 concerns about drop-out rates had resulted in over 200 state and federally funded student support service programs providing services to over 400,000 first-generation, low income, and disabled students (Cahalan, Chaney, & Chen, 1994).

Statement of the Problem

Of the various "at risk" groups, perhaps the group of greatest concern to community colleges is first-generation college students (McConnell, 2000; Willet, 1989). The United States Department of Education TRIO funding programs define a first-generation college student as one whose parents have not achieved a college degree (Billson & Terry, 1982). The concept of "first-generation" was first employed by Fuji A. Adachi who advocated its use in referring to students who did not have at least one parent that had graduated from college (Billson & Terry, 1982). Using this definition, Willett (1989) concluded there was little distinction between community college students and first-generation students. Based on a study of four Midwestern community colleges, Willett found that between eighty and ninety percent of the community college students sampled were first-generation students. The community colleges were diverse in terms of the communities served. One of the colleges sampled was on the edge of a major metropolitan area, two were located in medium-sized cities and one was in a rural area (Willett, 1989).

Similar results were obtained at the college which provided the sample for the study discussed in this dissertation. A survey of the student body at Cloud County Community College was conducted in 1998 to collect data for a TRIO grant application.

The data derived from that survey indicated 87% of the students at Cloud County Community College met the TRIO definition of first-generation students (personal communication, Cloud County Community College Registrar's Office).

More recent studies have demonstrated a small drop nation wide but the number of first-generation students on the campuses of two-year institutions is still significant. Figures from the National Center for Education Statistics suggest that in 2003, 67.9% of the students attending public two-year postsecondary institutions met the TRIO definition of a first-generation student (National Center for Educational Statistics, 2005).

In 1982, Billson and Terry, writing about first-generation students commented, "We do not know exactly how and why lack of parental experience with higher education serves to make their children, at whatever age, such a highly vulnerable group" (p. 59). Twelve years later the lack of progress in this area prompted another researcher to make the following comments concerning first-generation students, "Among the academically high-risk students, relatively little has been written about academic and personal characteristics of college students of first-generation and low-income families and how these characteristics may affect their success in college" (Ting, 1998, p. 16).

Ting does, however, suggest that the difficulties experienced by first-generation students are not just an artifact related to economic deprivation or minority status. First-generation students appear to have a variety of difficulties unique to their circumstances that do place them "at risk." However, their problems are different from those of minority students, students who are physically challenged and those who are economically deprived. According to Ting, the problems of first-generation students may be increased by economic deprivation or minority status, but these factors by

themselves are not the cause of their problems (1998).

Studies have been conducted that identify a number of differences between nonfirst-generation and first-generation students. For example, first-generation students have less family support for college attendance (Choy, 2001; Hsiao, 1992; Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996; York-Anderson & Bowman, 1991), lower levels of academic preparation (Choy, 2001; Riehl, 1994; Terenzini et al., 1996), less knowledge about the demands of college (Education Resources Institute & Institute for Higher Education Policy, 1997;York-Anderson & Bowman, 1991), a career versus an academic orientation (Billson & Terry, 1982; Choy, 2001) and a lower level of commitment to the role of student than nonfirst-generation students (Billson & Terry,1982; Fallon, 1997). While numerous non-cognitive variables have been identified that appear to distinguish between first-generation and nonfirst-generation students, much less success has been encountered when cognitive variables are applied. College administrators routinely use various cognitive measures to predict achievement for nonfirst-generation students but researchers have had little success in predicting the level of academic achievement of first-generation college students using cognitive variables such as GPA, high school class rank and ACT scores as predictors of achievement (Houston 1980; Nisbet, Ruble & Schurr, 1982).

Because of these observations, some researchers have speculated that non-cognitive variables may exist that alone or in combination with cognitive variables are more robust predictors of student success and persistence for first-generation students than cognitive variables by themselves.   In this regard Hood (1992, p. 13) comments, "an assessment of non-cognitive factors, would be expected to provide not only a more

accurate predictive measure of GPA and persistence but also aid in the design of program intervention and services better tailored to student's actual needs."

This has led to efforts to incorporate non-cognitive factors in developing procedures for estimating academic performance and persistence of first-generation college students. In one such study researchers first identified a group of high risk students using high school class rank and Scholastic Aptitude Test results. The high risk students were then administered a study skills inventory (the Effective Study Test), a personality type inventory (the Meyers-Briggs Type Indicator), a vocational preference survey (the Holland Vocational Preference Inventory), and a reading skills survey (the Nelson Denny Reading Test). Addition of the EFST and the MBTI as predictor variables to high school rank and SAT scores "resulted in an improvement in the predictability of high-risk students who were likely to have academic difficulties in the college environment" (Nisbet, Ruble, & Schurr, 1982, p. 233). In a study conducted by Ting, cognitive variables including ACT scores and class rank were correlated with the eight variables measured in the *Non-Cognitive Questionnaire*. The results indicated greater accuracy in predicting student grades with the combination of cognitive variables and the *Non-Cognitive Questionnaire* than with cognitive variables alone (Ting, 1997). The *Non-cognitive Questionnaire*, a pencil and paper instrument developed specifically as a non-cognitive approach to predicting academic success in college examines eight psychosocial variables believed to be predictive of academic performance (Tracey & Sedlacek, 1984; Tracey & Sedlacek 1985).   Other examples of non-cognitive tests developed to help identify "at risk" students include the *College Learning Effectiveness Inventory* (*CLEI*) and *Insight: Your College Success Planner*. The *CLEI*, currently under

development at Kansas State University, consists of six scales that measure such positive attributes as Confidence in Academic Goals, Study Approach, Emotional Well Being in College, Support, Involvement and Problem Solving/Instrumentality and six negative scales including Failure Expectation, Time Pressure, Procrastination, Attention Concerns, Avoidance/Reluctance and Discouragement (F. Newton, personal communication, February 10, 2006). *Insight: Your College Success Planner* is being developed by Educational Testing Service and surveys new students on eight factors including time management, learning situations, learning attitudes, self-motivation, dealing with tests, test-taking strategies, working with others and career interests (Educational Testing Service, 2006).

All of the instruments listed used an empirical approach to develop their factors and the questions from which those factors are composed. None of the test instruments were based on a theoretical, systemic understanding of the problems confronting first-generation college students.   It has been argued that the prevention of student problems requires methods for identifying where college counseling centers can best target their efforts in order to make the best use of limited resources (Newton, Angle, Schuette, & Ender, 1984). A theoretical approach that helps to explain the academic difficulties first-generation students experience when compared with nonfirst-generation students could be extremely useful in this endeavor. An applicable theoretical framework might suggest interventions that would increase academic success and retention for first-generation students and offer the possibility of a more robust set of factors for predicting the academic performance of first-generation students.

Purpose of the Study

The purpose of this study is to determine the applicability of role theory in explaining the academic difficulties experienced by first-generation college students. A theoretical framework for organizing the available information concerning both nonfirst-generation and first-generation college students would help to identify factors relevant to the success and failure of first-generation students. A number of authors have commented on the first-generation student's lack of commitment or lack of understanding of the role of a college student as a contributing factor in regard to poor performance and lack of persistence in college attendance (Billson & Terry, 1982; McConnell, 2000; Olenchak & Hébert, 2002; Ting, 2003; Tinto, 1987; York-Anderson & Bowman, 1991).

Is it possible that difficulty in mastering the role of college student is central to the academic problems and difficulty persisting in a college environment experienced by many first-generation students? The difficulty first-generation students have understanding and/or complying with what is required of them in the role of college student could be easily reconciled with a role theory perspective.

First-generation students do not have access to parental models that can demonstrate the role requirements and provide their first-generation children with support for this new role (Choy, 2001; York-Anderson & Bowman, 1991). In fact, in some cases the role of college student may run contrary to attitudes and behaviors required of family members in their roles as sons and daughters (Billson & Terry, 1982; London, 1992; Tinto, 1987). In addition, roles in peer groups developed before the student began his or her postsecondary education may also result in conflict with

the role of student (London, 1992; Olenchak & Hébert, 2002; Tinto, 1987). In discussing role conflict between the family and college and between the peer group and college, Tinto comments:

> In some situations external social systems may work counter to the demands of institutional life. When the academic and social systems of the institution are weak the countervailing external demands may seriously undermine the individual's ability to persist until degree completion. (1987, p. 108)

This problem can arise because the values of the peer group and/or the family and the values required of the role of student are in conflict as suggested by the quote from Tinto or it can be the result of insufficient time, energy and resources to meet the demands of multiple groups. Whether the problem is lack of knowledge, values conflict or insufficient time, energy and resources, the end result may well be to the detriment of a student's college career.

The intensity of involvement with a role, the amount of time spent in the role and the degree of concurrence the individual has concerning the expectations of the role with others that occupy reciprocal roles, have been identified as key measures in determining one's acceptance of a role (Newman & Newman, 1995). This is true for the role of student as with any other role. Therefore measurement of these factors as they relate to the role of student should provide insight as to how well an individual will perform in this role.

Intensity of involvement is determined by the amount of emotional commitment, energy and attention one invests in a role (Newman & Newman, 1995). The amount of

time the role requires is also important. Even if a role does not require a high degree of involvement but requires a great deal of time, there will be a corresponding reduction in time available for other roles. This can result in role overload (Michener, DeLamater, & Myers, 2004, p. 444). Under such circumstances it may be necessary to abandon a role or fail to meet the expectations of a role.

Concurrence of role expectations emphasizes the complementary nature of roles. All roles have some expectations attached to them. Even individuals in roles with less structure still require some degree of agreement with those in complementary roles regarding acceptable and unacceptable behavior.   For example, if first-generation students have expectations concerning the role of college student that are different from the expectations of faculty, administration and their fellow students, conflict and difficulties will result (Michener et al., 2004; Newman & Newman, 1995).

Application of Theory

What this study proposes to do is to determine if role theory can help explain the differences in academic performance between first-generation and non first-generation college students. There are many references within the literature that refer to constructs from role theory in an effort to explain the academic differences between first-generation and non first-generation students (Billson & Terry, 1982; London, 1992; McConnell, 2000; Michener et al., 2004; Olenchak & Hébert, 2002; Ting, 2003; Tinto, 1987; York-Anderson & Bowman, 1991). However, no one has attempted to use role theory, in its entirety, as a framework for understanding those differences.

In this study, role theory will be utilized as a theoretical framework for identifying and examining factors that would appear to be relevant in predicting persistence and

success for first-generation college students. The supposition is that first-generation students enter college with an inadequate understanding of the requirements of the "role" of college student and/or find themselves in conflict between the requirements of the role of a college student and the demands of other roles. Nonfirst-generation students begin acquiring an understanding of the behaviors, values, attitudes and knowledge needed to be successful in college before they graduate from high school. They are also less likely to experience family and peer roles that conflict with the role of a college student. If the supposition about first-generation college students is accurate, first-generation students are more likely to lack college socialization experiences and experience conflicts with other roles, and as a consequence are more likely as a group to have lower levels of academic success and/or terminate college without obtaining a degree.

Intensity of involvement, amount of time required by a role, and degree of structure required by a role have been identified as important determinants in regard to an individual's identification with and acceptance of a role (Newman & Newman, 1995). In order to determine how these concepts would be operationalized in the role of college student it is necessary to examine the expectations that accompany the role of college student (Franzoi, 1996). One effort by researchers in academia to express their expectations concerning the role of college student is embedded in the College Student Experience Questionnaire (CSEQ), a questionnaire developed by Robert Pace (Davis & Murrell, 1994).

A fundamental assumption embedded in the CSEQ is "that all learning and development requires an investment of time and effort" (Davis & Murrell, 1994, p. 1). It

has scales that assess the amount of effort the student expends in classrooms, libraries and other campus settings, and the degree to which the student participates in clubs and organizations and in contacts with faculty and other students (Davis & Murrell, 1994). Obviously the perception of the role of college student will vary from one person to another but the CSEQ provides a set of core concepts with which few students and educators would take exception. The CSEQ can then be used to assist in providing operational definitions for the intensity of involvement of the student, the amount of time invested by the student in the role and the degree of structure or concurrence with others displayed by a student while engaged in the role of student.

Using the assumptions and scales built into the CSEQ for guidance, the following operational definitions were selected for intensity of involvement, amount of time and degree of structure.   Intensity of involvement was operationally equated with the number of extracurricular college activities in which the student planned to engage. The literature suggests that participation in student-related activities can be particularly salient in determining the persistence of a student's pursuit of a college education (Tinto, 1987).

The amount of time a student planned to make available to his or her college experience was equated with the distance the student planned to commute on a daily basis. Students living on campus have more time to study and a greater opportunity to take advantage of tutoring, faculty office hours, study groups and other educational opportunities. As a student's commute lengthens, the amount of time a student has to dedicate to educational activities, which after all is at the heart of the role of a student, is proportionately decreased. Research suggests first-generation students are more likely

to commute and more likely to engage in extended commuting than nonfirst-generation students (Pike & Kuh, 2005).

Concurrence of role expectations was operationally defined in terms of the number of hours the student planned to work each week. "First-generation students who worked while enrolled (as 70 percent did) were more likely than others to consider themselves primarily employees who were enrolled in school (as opposed to being primarily students)" (Kojaku & Nunez, as cited in Choy, 2001, p. 21). Students who work more than twenty hours each week while attempting to complete twelve or more semester hours of course work were seen as having a poor understanding of the rigors of the role of college student as defined by faculty, administration and other students. In addition, it tends to suggest that employment and the role of employee is likely to take precedence over a first-generation student's fledgling understanding of the role of a college student. The greater the number of hours the student is employed, the greater the likelihood that the role of employee will interfere with the role of student, creating role conflict. This is likely to enhance the student's lack of concurrence with the role expectations of faculty, staff and students (Choy, 2001).

Research Questions

Based on the operational definitions of intensity of involvement, amount of time required and degree of role concurrence or structure expected, the first seven research questions were developed. Research questions eight and nine examined the impact of anticipatory socialization and social capital indicated from the responses to the interview questions. The nine research questions are as follows:

1. Do nonfirst-generation students express intentions to participate in more college-sponsored activities, sports and clubs than do first-generation college students?

2. Do nonfirst-generation college students plan to work fewer hours while attending college than do first-generation college students?

3. Based on their reports do nonfirst-generation college students appear less likely to commute, or commute shorter distances, than first-generation college students?

4. Do first-generation students with a cumulative GPA over two semesters of 2.0 or less plan to participate in significantly fewer college sponsored activities than do first-generation students with a cumulative GPA of 3.0 or greater?

5. Do first-generation students with a cumulative GPA over two semesters of 3.0 or greater plan to commute significantly fewer miles than do first-generation students with a cumulative GPA equal to or less than 2.0?

6. Do first-generation students with a cumulative GPA over two semesters of 3.0 or greater plan to work significantly fewer hours than first-generation students with a GPA of 2.0 or less?

7. Will the interaction of survey responses concerning participation in activities, commuting and employment result, at the end of two semesters, in significant differences in grade point averages for first-generation students corresponding to predictions derived from social role theory?

8. Will themes supporting the importance of anticipatory socialization emerge to explain the persistence and academic success of some first-generation

students from the questions asked during the qualitative portion of the study?

9. Will themes supporting the importance of social capital emerge to explain the persistence and academic success of some first-generation students from the questions asked during the qualitative portion of the study?

The central assumption of the study is that first-generation students are less likely than nonfirst-generation students to either understand or accept the role of college student. This may be because of their lack of familiarity with the requirements of the role and/or because of possible conflicts with roles they have established within their family of origin, with peer groups in their home communities and, if they are employed, in their place of employment. As a result, they are likely as a group to behave differently from nonfirst-generation students in relation to such variables as intensity of involvement with the role of college student, amount of time spent in role-related activities, and the degree of structure with which they are willing to comply. Because of these differences first-generation students are less likely to persist and more likely to experience failure in the college setting.

It is also anticipated that these same variables, long commutes, little or no campus involvement and extensive employment, can be used to distinguish between those first-generation students who are most "at risk" as opposed to those first-generation students who need little or no intervention in order to be successful. The "first-generation effect" that seems to be related to greater academic difficulty and decreased likelihood of persistence in college appears to be a continuous variable rather than dichotomous variable. Several studies have demonstrated that as levels of parental education rise the effect decreases (Choy, 2001; Nomi, 2005). Socialization

from other members of the family, school counselors, and mentors from the community may also play a role. In one study that examined first-generation students, "the students reported that they received information about college from significant others such as relatives, teachers, and peers who were able to provide them with informational cues, such as how one went to college and how one negotiated the college environment" (York-Anderson & Bowman, 1991, p. 117). Thus not all first-generation students are equally "at risk" for academic problems and early withdrawal from college.

Making use of the first seven research questions, a number of hypotheses are suggested. If the behavior of first-generation students is consistent with role theory, then their responses to the survey questions should support the following research hypotheses:

1. First-generation students will indicate on the survey questions that they intend to participate in significantly fewer college related extracurricular activities than their nonfirst-generation peers;

2. First-generation students will indicate on the survey questions that they plan to work significantly more hours each week than their nonfirst-generation peers;

3. First-generation students will indicate on the survey questions that they plan to commute significantly more miles than the nonfirst-generation students;

4. Successful first-generation students, those who have attained a 3.0 GPA or higher by the end of the second semester, will indicate on the survey questions that they plan to participate in significantly more school sponsored activities than their peers with GPA's of 2.0 or less.

5. The successful first-generation students will indicate on the survey questions that they plan to commute significantly fewer miles than first-generation students with a GPA of 2.0 or less.

6. The successful first-generation students will indicate on the survey questions that they plan to work significantly fewer hours than their peers with GPA's of 2.0 or less.

7. The interaction of various responses concerning the intent to participate in activities, commute various distances and work varying numbers of hours each week will result in significantly higher grade point averages for first-generation students who respond in a manner consistent with an understanding of the role of a student.

Definition of Terms

Amount of time: Time required to participate in a role (Newman & Newman, 1995).

Anticipatory socialization: Consists of "activities that provide people with knowledge about, skills for, and values of a role they have not yet assumed" (Michener, DeLamater, & Myers, 2004, 75).

Degree of structure: "The concurrence by the individual with role expectations as determined by the behaviors and attitudes expected of an individual in a specific role by others who are in reciprocal roles" (Newman & Newman, 1995, p. 117).

First-generation students: Students from families where neither parent has graduated from college (Willet, 1989).

Intensity of involvement: The degree to which the person invests effort or is

organismically [refers to involvement of the entire organism behaviorally, emotionally and attitudinally] engaged in role performance (Biddle, 1979).

Nonfirst-generation students: Students from families where one or both parents have graduated from college.

Person-role fit: The extent to which the individual's temperament, talents and motives match the requirements of the role (Newman & Newman, 1995).

Role: "a cluster of socially defined expectations that individuals in a given situation are expected to fulfill" (Franzoi, 1996, 52).

Role acquisition: Defined as "learning the expectations and skills associated with the new role and entry into the role" (Michener, DeLamater, & Myers, 2004, p. 75).

Role conflict: Role conflict occurs when an individual experiences stress because two or more roles he or she plays make conflicting demands (Baron, Byrne, & Johnson, 1998).

Role embracement: When an individual fully embraces a role and there is a shift in values. The individual accepts the rights and responsibilities of the role and successful performance in the role becomes an important component of the individual's value system (Billson & Terry, 1982).

Role overload: Role overload exists when the requirements of one or more roles is greater than the time, energy and resources available (Michener, DeLamater, & Myers, 2004).

Social capital: Social capital is the term that defines the "social relationships from which an individual is potentially able to derive institutional support, particularly support that includes the delivery of knowledge-based resources, for example, guidance for

college admission" (Stanton-Salazar & Dornbush, 1995, 115).

Description of Study

Responses to questions on enrollment forms were collected at the beginning of the fall 2004 semester, at Cloud County Community College in Concordia, Kansas. The questions included a request that the student indicate if he or she was a first-generation student followed by questions asking for responses on ordinal scales regarding the number of college activities, if any, in which they intended to participate; the distance they planned to commute each day; and the number of hours they expected to work each week. (The original purpose for asking the questions was to satisfy an institutional need for data in preparation for submission of a TRIO grant proposal.)

Approximately 700 participants responded to the questions including first-generation and nonfirst-generation students. The respondents ranged from freshmen who had never enrolled in a college course to sophomores who would graduate in one semester. The demographics of the participants were consistent with enrollment demographics for the College over the last ten years. Most of the students were from Kansas and the overwhelming majority were from rural communities. Less than five percent of the respondents were from minority populations. Most had recently graduated from high school or had completed high school within the previous year and few were married. Over half of the students qualified for federal financial aid based on low family income.

From the original 700 plus respondents, the responses of the first-time, full-time students were selected for analysis. This resulted in a sample pool composed almost exclusively of recently graduated high school students between the ages of seventeen

and nineteen who had enrolled in twelve or more hours at the College. In this post hoc study, a quasi-experimental design was employed. In the first statistical analysis, the independent variable was first-generation status and those students who met the TRIO definition of a first-generation student were place in the experimental group. Students who did not meet the TRIO definition were placed in the control group. Responses to the questions concerning intent to participate in activities, distances they intended to commute and the amount of time they intended to spend at work were the dependent variables. Hypothesis testing began by determining if the responses to the questions concerning participation in college activities, commuting miles and hours of work per week were responded to differently by first-generation and nonfirst-generation students. The hypothesis was that there would be a significant difference between the responses to the questions provided by the first-generation students when compared with the responses given by the nonfirst-generations students.

A second set of statistical comparisons was conducted using "at risk" first-generation students (those with cumulative grade point averages below 2.0) and first-generation students who were not "at risk" (those with grade point averages above 3.0. Again, the students' responses to number of activities, hours of employment and commuting miles were the dependent variables. First-generation students with grade point averages equal to or below 2.0 were placed in the "at risk" category, and their responses were compared with first-generation students with grade point averages equal to or above 3.0.

The final statistical analysis examined the responses of first-generation students to the questionnaire and their cumulative grade point average after two semesters. The

categories established by the ordinal scale responses to the questionnaire were used as the dependent variables and the independent variable was the two semester cumulative grade point of the respondents. Since grade point averages are interval in nature this allowed ANOVA techniques to be used.

Quantitative data provides a rich source for examining the actions of groups. However, it cannot provide descriptive detail concerning the subjective experiences of individuals. Tinto demonstrates the limitations of quantitative data in a study he cites that was conducted by Neumann (1985) in which high-risk students who had graduated were queried concerning their experiences as students.

> The question was posed whether there were any differences in the pattern of their experiences which could be said to distinguish them from similar students who did not complete their degree programs. Contrary to the conclusions of past quantitative studies of departure in nonresidential institutions, he found that social contact was a consistently expressed theme in the students' accounts of their own success. Far from being unimportant, contact with other persons, especially a member of the staff, was seen by individuals as being instrumental in their having completed their programs of study. (Tinto, 1987, p. 75)

In order to put a human face on the quantitative data that has been collected, a structured interview consisting of ten questions was also conducted. The participants were chosen from full-time first-generation students who had successfully completed twenty or more semester hours of course work with a cumulative grade point average of 3.0 or better. Their responses were examined for two specific themes. The first theme

related to anticipatory socialization and ways in which it assisted them in preparing for the role of college student. The second theme examined their opportunities to acquire social capital while attending college and examples of how that process assisted them in developing an understanding of the role of a college student upon their arrival at college. All of the questions were designed to probe for factors the students believed were important in helping them to successfully negotiate their first year in college.

Limitations of the Study

The limitations of the study are as follows:

1. Cloud County Community College is a two-year community college that serves a primarily rural constituency in north central Kansas. The results lack generalizability to more urban community colleges and four-year institutions.

2 In the host county, minorities represent approximately 1.4 percent of the population. The percentage of minorities at the College is slightly higher primarily due to athletic recruitment outside the College's catchment area. The lack of minorities makes it difficult to generalize the results to community colleges that serve minority populations.

3 Because of the sample, this study offers little insight into the complex lives of nontraditional students who are often older, married or divorced, raising children and employed full-time.

4 The survey did not contain provisions to screen for false responses.

Chapter 2

Review of the Literature

After eliminating students who appear to lack the academic abilities necessary for success in a college setting, there remain a significant number of students who still do not succeed in a postsecondary setting. They either fail to obtain the grades they appear capable of earning, or in spite of obtaining adequate grades they withdraw prior to completion of their education. A significant portion of this group consists of first-generation students (Billson & Terry, 1982; Inman & Mayes, 1999; Riehl, 1994).

Theories Regarding Academic Success and Persistence

In the literature there are a number of theoretical models offered to explain the lack of academic success and early departure of otherwise qualified students prior to graduation. According to Tinto (1987), none of these models has proven to be highly predictive nor have they offered intervention strategies that have met with great success. Tinto identifies the following groups of theoretical models:

1. Psychological models focus on such factors as intellectual ability, personality, motivation, disposition and level of social maturity.

2. Societal theories stress the importance of external forces related to social stratification; these models consider success and failure in a postsecondary setting as a continuation of a social stratification process that, depending upon the author, either resists efforts or assists efforts by individuals in lower classes to affect upward movement through education. Conflict models tend to interpret college as part of a stratification process designed to restrict opportunity, while structural and functional explanations

argue college provides an opportunity for individuals with skills and abilities to advance to higher strata.

3. Economic theories suggest persistence is largely a result of personal decisions in which the benefits of a college education are weighed against the monetary and temporal costs. As a result of this cost-benefit analysis, some individuals determine their resources could be better invested in other ways than obtaining a college education and terminate their education.

Of the three groups of theories, the social and psychological models offer the greatest potential for the development of intervention strategies for student services personnel. They also contain elements that can be easily explained and incorporated into a role theory perspective. Economic theories suggest arguments that might be presented to parents and students in regard to the financial benefits of a college education but otherwise provide little direction for more comprehensive efforts.

Social and Psychological Models

Billson and Terry (1982) argue that so many variables are involved in determining the effects of parental education on persistence and academic success of students that no one model can adequately explain all the factors involved. In an attempt to address the issues involved they invoke concepts from a number of models including social integration (Pascarella & Terenzini, 1970; Spady, 1970; Tinto, 1975), congruence (Cope & Hannah, 1975; Feldman & Newcomb, 1994), status attainment (Haller & Portes, 1973) and role embracement (Goffman, 1961).

Models employed by Billson and Terry. As a model for explaining persistence, social integration offers two possible avenues for securing student persistence:

normative congruence and structural integration. According to Billson and Terry (1982), a student is demonstrating normative congruence when she or he is primarily concerned with her or his intellectual growth and displays little interest in a college education as a vehicle for career preparation. Ostensibly this would put the student in congruence with the goal of a postsecondary liberal arts education, which stresses knowledge for knowledge's sake, as opposed to a pragmatic preoccupation with a career and employment. Structural integration is equated with involvement with campus organizations and activities. Students who display structural integration have cemented their relationship to the college through their participation in college activities and their membership in college organizations (Pascarella & Terenzini, 1970; Spady, 1970; Tinto, 1975).

Proponents of congruence as an explanation for success and persistence or the lack of it, argue that institutional characteristics of various institutions may not blend well with the personality characteristics of all students. When there is a poor fit, the student is not likely to stay (Cope & Hannah, 1975; Feldman & Newcomb, 1994).

Another explanation for persistence by some and early termination by others is status achievement. Particularly in the United States, a college education has been viewed as a vehicle for status achievement. Students who suspect there may be other avenues available to them for status achievement may be less committed to the college experience (Haller & Portes, 1973).

Role embracement and its antithesis, role distance, suggest that an individual can either choose to embrace a role with all of its rights and responsibilities or to refuse to accept the role. This final concept comes closest to overlapping with role theory, but

without the inclusion of role theory in its entirety, it becomes merely a description of the situation rather than a causal explanation (Goffman, 1961; Billson & Terry, 1982). Thus Billson and Terry's proposal does not present a unified and internally consistent model but a number of individual models patched together in an effort to explain the difficulties experienced by first-generation students. Billson and Terry resort to this combination of theories because by their own admission the individual models are not capable of offering a satisfactory explanation.

Tinto's model. Tinto (1987) argues that all of these approaches fail to consider the impact of the institution on the individual's choice to stay or remain. In their place he offers a three stage model that draws upon elements from both psychology and sociology. He refers to these stages as the stages of separation, transition and incorporation, terms he borrows from an earlier researcher, Van Gennep (Tinto, 1987). The impact of the institution becomes noticeable in the second and third stages.

In the first stage of Tinto's model, important factors include the family of origin's attitudes about obtaining a college education. The family's values, the parent's level of education, and their financial and emotional support all become important factors as the student weighs the demands of family versus the possible conflicting demands of college (Tinto, 1987). In the second stage, the student's intentions for obtaining a college education and the commitment to the institution he or she is attending become salient features. The student's intentions or goals represent what the student brings to the table during the second stage. Tinto comments that, "generally speaking, the higher the level of one's educational or occupational goals, the greater the likelihood of college completion" (Tinto, 1987, p. 40). The institution can begin to make an impact at this

time by providing opportunities for the student to clarify his or her educational and occupational goals, however there needs to be a concomitant focus on the student's commitment to reaching those goals. In some cases this is facilitated by an institution that provides policies, programs and staff that afford motivational opportunities to reinforce the student's initial commitment (1987).

The first two stages help to determine the resolution of the third stage: the extent to which the student is able to integrate socially and academically with the institution, his or her fellow students and the faculty. It is in this stage that the impact of the institution is most significant. If the student is unable to experience some degree of social and intellectual integration into the academic and social communities of the college; then the model predicts the student will leave the institution (Pratt & Skaggs, 1989, p. 31). Conversely, institutions that offer students opportunities to integrate either academically or socially into the fabric of the school are likely to see increased academic persistence in their students (Tinto, 1987). To explain this Tinto utilizes Durkheim's theory of suicide, a theory developed to explain the relative stability of suicidal behavior in various cultures, and modifies it to explain why students who are intellectually capable may fail to live up to their potential and/or terminate their college career (pp. 105-108).

Durkheim (as cited in Tinto, 1987) identified four types of suicide: altruistic, anomic, fatalistic and egotistical. Altruistic suicide describes behaviors in which an individual sacrifices his or her life in an effort to benefit others. A soldier who falls upon a hand grenade in order to save her or his companions would be one example of altruistic suicide. Anomic suicide occurs when the normal fabric of society has been disrupted by war, natural disaster and other calamities. Under such circumstances, the

normal rules individuals use to guide their behavior are ignored, increasing the probability of normally forbidden acts such as suicide. The inverse of anomic suicide is fatalistic suicide. This occurs when excessive regulation makes it impossible for the individual to aspire to any improvement in an existence perceived as devoid of happiness. Egotistical suicide describes "that form of suicide which arises when individuals are unable to become integrated and establish membership within the communities of society" (Tinto, 1987, p. 101).

Tinto applies Durkheim's concept of egotistical suicide to explain why students, who are otherwise capable, might choose to discontinue their college education. Just as suicide is more likely to occur in a society "whose social conditions are such as to constrain membership" (1987, p. 102), students are more likely to withdraw from an educational environment where they have been unable to integrate into the social and intellectual life of the institution.

Tinto acknowledges that while Durkheim's theory does provide a descriptive model for understanding lack of success and early departure, it does not provide a predictive model for explaining why specific students leave and others do not (1987). To clarify the situation Tinto introduces the impact of outside variables, such as the effect of the student's family of origin and the effect of membership in formal and informal groups within the community. Tinto's comments concerning the effects of family and peer group membership are entirely consistent with role theory. He suggests that students from first-generation families may find themselves at a disadvantage for two reasons: they have received no anticipatory socialization to prepare them for the role of student (p. 97), and they may experience role conflict that appears to force them

to choose between school and their family and friends (p. 48). Tinto's explanation also requires a psychological examination of the student's expectations and motivations that are operationally defined as the student's intentions and commitments.

It could be argued that based on the evidence, Tinto's explanation for early departure is flawed in two ways. First, it violates the Law of Parsimony. In addition to Durkheim's model for explaining egotistical suicide it also requires concepts from the social integration and congruence models. The need for additional constructs is inherent when Tinto attempts to apply it to an organizational unit smaller than society itself. Tinto acknowledges that for Durkheim, society provides the totality of the external forces that act upon the individual, and it is the individual's responses to these forces that result in the regularity of suicide within a culture. College does not provide the total stage on which a student performs. When this model is applied to explain why students choose to terminate their college careers in a postsecondary institution, it is necessary to invoke additional factors outside the postsecondary institution such as the family of origin and the student's peer group within the community. Thus, additional constructs are required in order to explain the student's early departure, constructs that lie outside of the control of a postsecondary institution. But perhaps the most telling flaw is that attempts to validate Tinto's use of Durkheim's model experimentally have not met with success (Joseph, 1995/1996).

Comparison of theories. In spite of their differences, there are elements of both Tinto's model and the integration of models proposed by Billson and Terry that offer support for the use of role theory. The concepts of student intentions and commitments discussed by Tinto could be easily reconciled with a role theory perspective since both

intentions and commitments could be seen as emerging from identification with the role of a student. However, role theory would suggest that a third concept is required when examining reasons for first-generation students to experience academic difficulty and/or early departure. Even highly committed students must have enough knowledge about the role of student to be able to direct their energies in a purposeful and effective manner. Students who choose to commute seventy miles every day do not lack commitment. They may, however, be expending energy that would be better directed towards moving onto the campus and temporarily accepting a scaled-back life-style. One analogy would be that of a drowning man. He is highly motivated to survive, but because he does not know how to employ his energy effectively his thrashing is of no avail and he drowns.

In spite of their perception that it was necessary to invoke a number of different theoretical constructs in order to explain student attrition among first-generation college students, a study conducted by Billson and Terry (1982) produced results that were consistent with role theory. The conclusions of the study were that first-generation students were more likely to find themselves at odds with their parents over value issues, and were less likely to receive parental support of an emotional, financial or logistical nature than were nonfirst-generation students. First-generation students were more likely to be employed, and when they were employed they were likely to work more hours. This creates the possibility that first-generation students may find themselves in role conflict within their family and in their place of employment. Trying to balance the often conflicting roles of student, family member and employee would stretch the resources of even the most dedicated of students.

Billson and Terry concluded that "first-generation students who drop out of higher education have less commitment to the role of student and thus do not join, do not socialize, and do not study hard....The first-generation students are telling us that in spite of their realization that education is important, they are essentially not free to throw themselves into the student role" (1982, p. 70).

Because of the difficulties discussed with these other approaches it seems fitting to explore another theoretical position. Role theory seems particularly appropriate since a number of role theory constructs can be found in the models suggested by Billson and Terry and by Tinto. It is believed role theory would better account for the observed phenomenon without requiring constructs outside the model to shore up its conclusions.

Role Theory

An alternative formulation for explaining early departure from postsecondary institutions that does not require the addition of outside constructs can be derived from role theory. In fact, Biddle specifically comments about the relevancy of role theory to education:

> Given that teaching involves role behaviors on the part of both teachers and pupils, and that teaching goes on within a context of demands and beliefs, it is possible to view much of education within a role framework. And for this reason, scores of studies have now been conducted using role concepts in education. (1979, p. 12)

A number of definitions for the concept of "role" can be found in the literature. One author defines a social role as "a cluster of socially defined expectations that

individuals in a given situation are expected to fulfill" (Franzoi, 1996, p. 97). Biddle

defines a role as "those behaviors characteristic of one or more persons in a context"

(Biddle, 1979, p. 58). Role theory, then, examines propositions in regard to the

emergence of roles, the acquisition of roles, and the expectations that maintain role

behavior within a particular context. Biddle describes roles as a means for explaining

socialization and adjustment of the individual. He suggests this is accomplished by role

playing, practicing roles performed by others, and role taking, internalizing expectations

communicated to the individual. He sees this process as continuing as the individual

assumes new identities and enters different contexts (1979).

Since there is a long history of educational researchers using constructs from

role theory to discuss the activities of students, faculty and staff in educational settings

(Biddle, 1979; Drabick, 1967; Fallon, 1997; Finlayson & Cohen, 1967; Jackson &

Moscovici, 1963; Soles, 1964), it seems particularly relevant as a theoretical construct

for understanding the relationship between and among students, family members,

faculty and staff of the student's postsecondary institution and peers from the student's

community who are not attending college, in regard to such issues as persistence and

success in the college setting. For example, in 1949 an empirical study was published

on the effect of role conflict on student adjustment in the university (Stouffer, 1949). It

was not long before experimental studies followed. One such example from the public

school system utilized four subject groups: teachers, parents, pupils and school officials,

in an effort to examine shared inaccuracies regarding the role of teacher. A series of

questions was generated regarding various school-related activities in which teachers

might be expected to participate. Participants in each group were asked to respond to

the questions on a five part scale according to the way they believed and the way they thought "people in general," "teachers," and "school officials" would respond. The measures of central tendency of the sixteen sets of responses were compared using the Mann-Whitney U with the level of significance set at $p<.05$ or less (Biddle, Rosencranz, Tomich, & Twyman, 1966). The results indicated "that shared inaccuracies were more likely to occur with immature subjects and with increased social distance between subject and object positions" (p. 310). The authors suggested that shared inaccuracies in role perception created interaction problems for those involved, and that stable but flawed patterns of interaction might continue indefinitely because of the inaccuracies (p. 310).

Even classic studies originally conducted to examine other aspects of social psychology can be recast to illustrate their connection to role theory. Biddle (1979) demonstrates this in an examination of a seminal study conducted by Rosenthal and Jacobson (1968). The experimenters began by administering an unfamiliar intelligence test to students in a primary school setting. Teachers in the primary school were told the test was designed to predict intellectual "blooming" and were given lists of the purported bloomers. In fact, the lists were a randomly generated collection consisting of one out of every five students. When the students were retested at the end of the year most students displayed normal cognitive gains but the identified "bloomers" showed greater than expected gains on the test scores (Biddle, 1979). Identified as the "Self Fulfilling Prophecy," the experiment demonstrated the interactive power of roles. Individuals with erroneous expectations in a high-status teacher role affected the behavior of those in a subservient student role (Kenrick et al., 1999).

As can be seen, the possibilities for using role theory to examine a broad array of educational issues can be readily demonstrated. This is underscored by a comment offered by Biddle and Thomas.

> Individuals in society occupy positions, and their role performance in these positions is determined by social norms, demands and rules; by the role performances of others in their respective positions; by those who observe and react to the performance; and by the individual's particular capabilities and personality.
>
> (1966, p. 4)

At the turn of the 20th century role theory began to emerge as the product of the interface between sociologists such as Durkheim, Cooley and Sumner, and psychologists such as James, Hall, Baldwin and Dewey. By the 1930s role theory was beginning to take shape in its contemporary form. Three writers in particular, Mead, Moreno and Linton, are credited with introducing the term and the concept into the discussion of human behavior. By the end of World War II role-related terms began to appear in the titles of articles in professional journals with role theory concepts gaining acceptance on the border between social psychology and sociology (Thomas & Biddle, 1966).

Currently role theory has a respected place in social psychology, and is identified with the following propositions:

1. People spend much of their lives participating as members of groups and organizations.

2. Within these groups, people occupy distinct positions (fullback, advertising executive, police sergeant, and the like).

3. Each of these positions entails a role, which is a set of functions performed by the person for the group. A person's role is defined by expectations (held by other group members) that specify how he or she should perform.

4. Groups often formalize these expectations as norms, which are rules specifying how a person should behave, what rewards will result for performance, and what punishments will result for nonperformance.

5. Individuals usually carry out their roles and perform in accordance with the prevailing norms. In other words, people are primarily *conformists*; they try to meet expectations held by others.

6. Group members check each individual's performance to determine whether it conforms to the group's norms. If an individual meets the role expectations held by others, then he or she will receive rewards in some form (acceptance, approval, money, and so on). If he or she fails to perform as expected, however, then group members may embarrass, punish, or even expel that individual from the group. The anticipation that others will apply sanctions ensures performance as expected. (Michener, DeLamater, & Myers, 2004, p. 8)

The first group an individual experiences is the family of origin, and the first role the individual experiences is the role assigned to the individual within the family. The infant quickly learns through the process of reward and punishment what is expected by

parents, other siblings and, in many cases, more extended members of the family. This is the result of a two-stage process involving first role perception and finally role enactment (Thomas & Biddle, 1966). As the child matures and comes in contact with others outside the family, the possibility of membership in other groups begins to emerge. The process is described in some detail by Biddle:

> Characteristic roles are performed in the family by fathers, mothers, older siblings, and even newborn infants. In time however, the infant learns role behaviors that are deemed appropriate for his or her sex, social class, ethnic group, and other social positions he or she is to occupy in life. He or she learns these through a variety of means, through *role playing* (that is by practicing the roles he or she sees performed by others) and *role taking* (that is by internalizing expectations that are enunciated for him or her by others). The child, thus, develops a self-concept that is composed of (among other things) a set of role expectations for him or herself as he or she assumes various identities and enters different contexts.
>
> (1979, p. 7)

This process contributes positively to the growing complexity of the individual both socially and cognitively. In fact, individuals who refuse to accept new roles with new responsibilities hinder their own personal development (Biddle, 1979; Newman & Newman, 1995; Sarbin, 1966). However, membership in additional groups requiring the acceptance of new roles is not without its perils.

Membership in additional groups requires acceptance of roles that exist outside the family constellation. A number of different kinds of problems may emerge as the

result of the individual assuming responsibility for additional roles. Biddle suggests that some roles may be very difficult to perform, requiring years of practice or innate ability not possessed by the individual. It is also possible that the role may require behavior that contradicts the individual's personal values or basic needs (1979). Another kind of problem develops when the demands of one or more roles exceeds the time and energy available to the individual attempting to meet the role requirements. This is referred to as role overload (Biddle, 1979; Michener et al., 2004). Elements within a role or aspects of two or more roles may require that the individual engage in contradictory behavior or attempt to embrace contradictory attitudes. This situation, depending upon the author, is referred to as role discontinuity (Michener et al., 2004) or role conflict (Biddle, 1979; Tinto, 1987).

<center>*Role Theory and College Success*</center>

The application of role theory to issues of persistence and failure among first-generation college students focuses primarily upon the concepts of role transition, role conflict, role overload and role embracement within the context of anticipatory socialization before entering college and the acquisition of social capital upon entering college. Through these processes role theory can explain how a student comes to separate from family and peer roles, make the transition to the role of college student, and ultimately incorporate the new role in order to persist and succeed in the college setting. Conversely, it can also offer explanations as to why this fails to occur even though the student possesses the cognitive skills to succeed in a postsecondary setting.

Role transitions require role acquisition. Role acquisition is defined as "learning the expectations and skills associated with the new role and entry into the role"

(Michener et al., 2004, p. 75). Role acquisition is facilitated by anticipatory socialization, which consists of "activities that provide people with knowledge about, skills for, and values of a role they have not yet assumed" (p. 75). Anticipatory socialization can ease the transition into new roles. It is most effective when the roles are highly visible, the roles are presented accurately, and there is certainty or agreement regarding role demands and expectations (p. 75).

Successful anticipatory socialization requires goal setting, planning and preparation for future roles.

Only by setting at least tentative occupational and family goals during our teenage years, for example, can we effectively plan our educational and social lives. Preparation occurs through part-time jobs, special courses, reading, talking with informed individuals, and so on. People also prepare for transitions by trying out elements of their anticipated roles. (Michener et al., 2004, p. 75)

Transition to college can be facilitated by initiating the process prior to graduation from high school. But anticipatory socialization is a haphazard process at best if one does not have accurate information concerning the attitudes and behaviors consistent with college success (Tinto, 1987). Thus, from the beginning, first-generation students may find themselves at a disadvantage because the processes of anticipatory socialization, to facilitate acquisition of the role of college student, are only partially available or not available at all. Parents who themselves have little experience with the college environment are not in a strong position to provide information, model

appropriate attitudes and encourage the development of skill sets necessary to succeed in a college setting.

The lack of anticipatory socialization greatly compounds the first-generation student's efforts to arrive at an understanding of the attitudes and behaviors required to successfully master the role of college student. Without assistance many students are unable to achieve full social and intellectual membership in an educational institution. This might be particularly true for first-generation college students who have little knowledge or understanding of the formal and informal mechanisms available to facilitate incorporation (Tinto, 1987).

It should be remembered, however, that not all first-generation students are denied exposure to some aspects of anticipatory socialization in the role of college student. In one study that examined first-generation students, "The students reported that they received information about college from significant others such as relatives, teachers, and peers who were able to provide them with informational cues, such as how one went to college and how one negotiated the college environment" (York-Anderson & Bowman, 1991, p. 117). In addition, not having a college degree does not necessarily imply that parents have nothing to share with their sons and daughters about the role of a college student. The TRIO definition employed by many studies treats first-generation status as a dichotomous variable. On one side are nonfirst-generation students with one or more parents who have earned a minimum of a bachelor's degree, and on the other side are first-generation students with parents who have not earned a college degree. In reality it is a continuous variable and at least some first-generation students come from families with parents who are only a few

hours away from receiving a four-year college degree. It can be surmised that such

first-generation students would not be at as great a disadvantage as students whose

parents had not graduated from high school. Parents who have completed a substantial

number of college courses would appear to be able to assist their children with some

measure of anticipatory socialization, if not to the same extent as parents who have

earned a bachelor's degree or higher. Studies sensitive to these nuances have

demonstrated evidence that the first-generation effect tends to decrease as parental

education increases in such areas as student expectations about earning a college

degree (Choy, 2001), actual enrollment in college (Choy, 2001) and provision of

substantial financial support by parents (Nomi, 2005). However, it appears that the net

effect of parents attending college courses when a college degree is not obtained has a

negligible impact on the first-generation effect. In a summary of Choy's comments

concerning the first-generation effect it appears that coming from a family where one or

both parents have achieved a college degree confers a significant advantage for

children planning to attend college themselves. Choy did not observe a similar

advantage for children from families whose parents had obtained some college

education. In fact they appeared to have no advantage over children from families with

parents who had no postsecondary education (Choy, 2001).

Compounding the problems regarding the lack of anticipatory socialization, first-

generation students commonly must deal with role conflict. In regard to role conflict in

postsecondary education, Tinto comments:

In a very real sense, such situations may be seen as a form of role conflict

in which individuals are faced with conflicting sets of expectations

regarding appropriate behavior. Those expectations, which mirror the

views of differing individuals and groups regarding the individual's

behavior, may be such as to require the person to deny one group's

expectations in order to meet those of another. The individual may be

faced with having to choose, in effect, between college participation and

participation in non-college activities. Unless such role conflicts are

resolved or at least managed by the individual, the strain they produce

may be severe enough to not only hinder performance in college, but also

undermine integration therein. (1987, p. 108)

Acquisition of new roles such as those required of a college student can require

only modest changes in attitude and behavior, or represent a major separation from

one's family of origin and home community depending upon their character. In regard

to separation, Tinto writes:

The experience of separation depends on the social and intellectual

character of past communities of affiliation, especially their views

regarding the worth of college attendance. For some the process of

disassociation may be quite difficult. For others, it may be an accepted

part of the movement that most persons are expected to make in the

course of their adult lives. Individuals from disadvantaged backgrounds

and/or from families whose members have not attended college may,

therefore, find separation more painful than would persons whose parents

are themselves college educated. For them, separation may represent a

major shift in the way they construct their daily lives. (1987, p. 96)

While Tinto's description was not written to support role theory, its applicability is

immediately obvious. Nonfirst-generation students are likely to find separation from

their family of origin, because of enrollment in college, to be much easier than their first-

generation peers. The acquisition of the role of college student is far less likely to result

in conflict with roles of son or daughter within the family of origin. In fact, in nonfirst-

generation families the new role of college student may be actively supported as

parents eagerly expect their children to join the same sororities and fraternities, and

engage in the same sports and college activities in which their parents participated.

However, Tinto (1987) cautions that even under the best of circumstances successful

transition to college requires at least partial disassociation from local high school peer

groups and from one's family of origin.

First-generation students may find their parents suspicious and rejecting of the

attitudes and behaviors expected of a college student. Because the family of origin

often acts as a portal into additional roles within the extended family, the ethnic

community, the religious community and the geographical community, the first-

generation student may find the emotional cost of college attendance is more than he or

she is willing to pay.

A powerful fictional account of role conflict is portrayed in the movie *Spanglish*.

In the movie, the protagonist is an illegal alien attempting to make a living for herself

and her daughter. Flor, the protagonist, accepts employment as a housekeeper with an

affluent family in California. The members of the family are quickly taken with Cristina,

Flor's daughter. Cristina is very bright and highly motivated, resulting in Flor's wealthy

employers paying for Cristina to attend the same exclusive private school their own

children are attending. At first Flor is flattered by the attention shown her daughter, but

quickly becomes disenchanted as she sees her daughter displaying behavior of which

she, her family and her culture would not approve. Ultimately she quits her job and

removes Cristina from the private school. In a moving and powerful confrontation

Cristina accuses her mother of ruining her life. Flor responds with a poignant and

compelling rebuttal. She asks her daughter if it would be so terrible if Cristina were to

grow up to be someone like her mother (Brooks, 2004). Perhaps in a less dramatic

fashion it is this kind of choice that first-generation students sometimes find themselves

facing.

In addition to, and interacting with, the requirements of other potentially

conflicting roles, the first-generation student must also deal with the demands of the

new role of college student. The part that anticipatory socialization plays in this effort

has already been discussed. To understand some of the forces that contribute to role

development once the student has entered college, another term, social capital, must

be introduced. Social capital is the term that defines the "social relationships from

which an individual is potentially able to derive institutional support, particularly support

that includes the delivery of knowledge-based resources, for example, guidance for

college admission" (Stanton-Salazar & Dornbush, 1995, p. 115). "An elementary

example occurs every time a citizen, instead of persevering with the independent

process of trial and error, asks another citizen for directions in the street and receives

time-saving help" (Szreter, 2000, p. 57). In a college setting the acquisition of social

capital involves information-sharing and networking as well as initiation into social norms, values, and expected behaviors for college students (Perna, 2000, p. 119). Duggan (2001, p.1) speculates that one of the reasons first-generation students have lower levels of persistence and degree attainment in college can be attributed to lower levels of social capital. He points out that because their parents have had no experience with postsecondary education, their first-generation offspring are likely to have less awareness of admission and financial aid policies and processes, putting them at a disadvantage in relationship to their nonfirst-generation peers. However, there is evidence that first-generation students benefit more from the acquisition of social capital than nonfirst-generation students. According to Pascarella, Pierson, Wolniak and Terenzini (2004) first-generation students start off with a disadvantage in regard to social capital, but they cite evidence that participation in college sponsored extracurricular activities and interaction with fellow students can increase a student's social capital. They go on to suggest that in some areas of intellectual and personal development first-generation students may benefit more from participation in activities and interaction with peers than nonfirst-generation students and actually close the gap as a result of their college experiences. Thus, those first-generation students who are able to devote the necessary time and energy to develop social networks on campus, are in a much better position to acquire social capital facilitating the development of the role of student than those who commute long distances, work excessive hours off campus and/or eschew participation in formal and informal activities on campus.

Assuming that there is a good person-role fit in that the individual has the cognitive skills and the temperament to be a scholar, the student still needs to address

the amount of time required by the role, the structure of the role as represented by the correspondence between the student's understanding of the role and others in reciprocal role relationships, and the intensity of involvement she or he is willing to commit to the role versus the degree of intensity the role requires (Newman & Newman, 1995). In the literature, intensity of involvement has been used to connect such phenomenon as hypnosis with role theory (Sarbin, 1966; Udolf, 1981). Sarbin (1966) suggests that most roles involve only minimal emotional, behavioral and cognitive involvement, and fall at the low end of the scale at level one. This level of involvement occurs when there is a clear differentiation between the self and the role. As distinctions between the self and the role begin to blur, the level of involvement increases so that at level three the individual is "living the role" (Sarbin, p. 197). It would seem reasonable to assume that this level of involvement would be required for most students to achieve success and persist as a student.

Ultimately the student must choose between some degree of role embracement and role distance. According to Goffman (as cited in Billson & Terry, 1982), when an individual fully embraces a role there is a shift in values. The individual accepts the rights and responsibilities of the role and successful performance in the role becomes an important component of the individual's value system. Students who fail to embrace the role of student are less likely to make the effort to join extracurricular activities, find or create opportunities to socialize with fellow students, and make the necessary sacrifices of time and energy to excel in their studies (Billson & Terry, 1982, p. 70).

This study makes the assumption that first-generation students are at greater risk to have a flawed understanding of the role of college student, or are not willing to make

the sacrifices the role requires. As a result a significant number of first-generation college students do not have the intensity of involvement the role requires, and/or fail to dedicate sufficient time to the role, and/or do not display an understanding of the structure and behavior required of the role. It is expected that the quantitative portion of this study will demonstrate this first by showing that there is a significant difference between first-generation and nonfirst-generation students in the operational equivalents of the variables listed above: the hours they work, the distance they commute and the number of activities they are involved in on campus. In the second part of the quantitative study it is expected that first-generation students designated "at risk" will show a significant difference on the same variables when their responses are compared against those first-generations students who are designated "not at risk."

In the qualitative portion of the study it is expected that first-generation students who are designated "not at risk" will give responses to the interview questions demonstrating the importance of anticipatory socialization and the acquisition of social capital. It is believed that themes will emerge showing the importance of one or both in the development of an effective understanding of the role of student.

Chapter 3

Method

This chapter addresses the research methods used in this study. It includes the following sections: 1) research questions, 2) institutional characteristics, 3) demographics of participants, 4) and the research design and procedure for both the quantitative and qualitative components of the study.

Research Questions

The research discussed in this dissertation consists of two components; there is a quantitative component and a qualitative component. The first seven research questions are designed to address issues from the quantitative component of the study. They were derived logically from the major premise of the study but also reflect information obtained from references in the literature.   The last two research questions address the qualitative component of the study. Suggestions as to the answers to these two questions are derived from the results of an interview designed to determine the impact of anticipatory socialization and social capital on first-generation students. In combination the questions are designed to determine the applicability of role theory in explaining the difference in academic performance and persistence between first-generation students and nonfirst-generation students. The major premise the research questions are responding to is that first-generation students perform more poorly academically in college and are less likely to remain in college because they have a poor understanding of the role of a college student and/or they are unable or unwilling to satisfy the requirements of the role.

The research questions developed for this study are listed as follows:

1. Do nonfirst-generation students express intentions to participate in more college-sponsored activities, sports and clubs than do first-generation college students?

2. Do nonfirst-generation college students plan to work fewer hours while attending college than do first-generation college students?

3. Do nonfirst-generation college students report that they are less likely to commute, or commute shorter distances, than first-generation college students?

4. Do first-generation students with a cumulative GPA over two semesters of 2.0 or less plan to participate in significantly fewer college sponsored activities than do first-generation students with a cumulative GPA of 3.0 or greater?

5. Do first-generation students with a cumulative GPA over two semesters of 3.0 or greater plan to commute significantly fewer miles than do first-generation students with a cumulative GPA equal to or less than 2.0?

6. Do first-generation students with a cumulative GPA over two semesters of 3.0 or greater plan to work significantly fewer hours than first-generation students with a GPA of 2.0 or less?

7. Will the interaction of survey responses concerning participation in activities, commuting and employment result, at the end of two semesters, in significant differences in grade point averages for first-generation students corresponding to predictions derived from social role theory?

8. Will themes supporting the importance of anticipatory socialization emerge to explain the persistence and academic success of some first-generation students from the questions asked during the qualitative portion of the study?

9. Will themes supporting the importance of social capital emerge to explain the persistence and academic success of some first-generation students from the questions asked during the qualitative portion of the study?

Institutional Characteristics

Cloud County Community College is a two-year public college with the main campus located in Concordia, Kansas. The main campus has traditionally provided services to an eleven county area including the host county, Cloud, and Clay, Dickinson, Jewell, Lincoln, Mitchell, Osborne, Ottawa, Republic, Washington and Smith counties. The service area is primarily rural in nature with one county, Jewell, registering a population density of 4.3 people per square mile. The largest city in the service area is Concordia with a population of approximately 5500.

The student body of the school is reflective of the College's service area. The majority of the students are from the middle and lower socioeconomic strata and have grown up on farms or in small farming communities. Many students did not take all the recommended college preparatory courses in high school and must complete one or more developmental courses while attending college in order to take college transfer courses. The college curriculum includes transfer and career programs as well as individual courses to facilitate in-service training for various professions. Degrees offered by Cloud County Community College include the Associate of Arts, the Associate of Science, the Associate of Applied Science and the Associate of General

Studies. In addition the College offers certificates in a variety of one and two-year vocational programs.

Demographics of Participants

As part of a process to obtain information for a TRIO grant, all students who enrolled in day classes on the main campus during the fall 2004 semester were asked to respond to a series of questions as part of the registration process. Six hundred sixty-seven students responded. From that initial pool of respondents all the first-time full-time students were included as participants in the study. The total number of first-time full-time students was two hundred fifty-seven.   One hundred eighty-two of the first-time full-time students indicated they were first-generation while another seventy-five indicated they came from families where one or both parents had received a bachelor's degree.

Tables 1 and 2 provide a breakdown of the demographic characteristics of the first-generation and nonfirst-generation students.   The two groups were fairly evenly balanced demographically. Perhaps the most significant difference was in family income. Forty-five percent of the first-generation students came from families with incomes low enough to allow them to qualify for Pell grants. Only twenty-five percent of the nonfirst-generation students qualified for Pell grants.

Table 1

First-Generation and Nonfirst-Generation Students by Age, Gender and Income

Parent	Gender		Age			Income
Education	Male	Female	17-18	19-20	21-38	Pell Grant
First-Gen	77	105	75	94	13	81
Nonfirst-Gen	40	35	36	33	6	19

Table 2

First-Generation and Nonfirst-Generation Students by Race and Marital Status

Parent	Race				Marital Status		
Education	White	Black	Hispanic	Other	Single	Married	Widowed
First-Gen	167	12	1	2	179	2	1
Nonfirst-Gen	65	3	4	3	71	4	-

Research Design and Procedure

As stated previously, this study consists of two components. The first component focuses on quantitative data that is analyzed statistically. The quantitative component addresses research questions one through seven. The second component is a qualitative study that attempts to give a voice to successful first-generation students in regard to their experiences prior to and after they started their postsecondary education. The qualitative component addresses research questions eight and nine.

Quantitative Component

This is a post hoc study involving data collected by Cloud County Community College. Prior to 2004 Cloud County Community College began making preparations to pursue a TRIO grant. For a number of years students have been asked to complete a freshman survey asking for information concerning outside employment, distance the student commutes, if any, the extent of their planned involvement in extracurricular activities, and whether their parents had completed college along with a number of other questions regarding various student demographic data. Because of the need to tie this data to outcomes, in 2004 students were also asked to provide their student identification number as well. This allowed the grant writers to associate student responses with semester grades recorded at the end of the semester in the College's computer data base.

Materials. This study focuses on responses by the students to four questions. To see a copy of the questionnaire refer to Appendix A. Possible responses to the questions were arranged in discrete categories although with the exception of the first question, the actual data lies along a continuum of possible responses constituting a

unique ordinal scale for questions two, three and four. The questions and possible responses are as follows: 1) Did either your father or your mother earn a 4 year degree? Students could respond with either a yes or a no; 2) How many hours per week do you plan to work? Responses could vary from none, one to ten hours, eleven to twenty hours, or more than 20 hours; 3) How many miles will you commute each week to attend classes? Responses included none, one to four miles, five to fifteen miles, sixteen to thirty miles, or more than thirty miles ; 4) I plan to be involved in the following number of extracurricular activities (sports, band, choir, clubs , and student government). Responses included none, one, two, three, and four or more. The data for this study consists of the responses students made to the four questions and the grade point averages earned by those students at the end of the first year.

Question one was a coding variable used to divide the student responders into two groups: those who came from families having at least one parent who graduated from college (nonfirst-generation students) and those who came from families where neither parent graduated from college (first-generation students). The two groups created by this division were then compared on the three remaining variables: involvement in activities, miles commuted and hours spent working. A second set of analyses was conducted comparing first-generation students with high grade point averages (3.0 or above) with first-generation students with low grade point averages (2.0 or below). The same dependent variables, involvement in activities, miles commuted and hours spent working were used in these analyses.

A final analysis was conducted on first-generation students who had completed two semesters at Cloud County Community College. In this analysis involvement in

activities, miles commuted and hours spent working were used as independent variables.   The responses available for each of these variables constituted various levels or categories of the three independent variables and the dependent variable was the cumulative grade point averages earned by the students. It was planned to examine the interaction of various levels of the independent variables to determine if combinations of responses on the three variables consistent with the role of college student resulted in average cumulative grade point averages significantly different from the average of all responses.

Hypotheses. In an effort to answer the research questions posed at the beginning of the chapter the following hypotheses were tested:

1. First-generation students will indicate on the survey questions that they intend to participate in significantly fewer college related extracurricular activities than their nonfirst-generation peers;

2. First-generation students will indicate on the survey questions that they plan to work significantly more hours each week than their nonfirst-generation peers;

3. First-generation students will indicate on the survey questions that they plan to commute significantly more miles than the nonfirst-generation students;

4. Successful first-generation students, those who have attained a 3.0 GPA or higher by the end of the second semester, will indicate intentions to participate in significantly more school sponsored activities than their peers with GPA's of 2.0 or less.

5. Successful first-generation students, those who have attained a 3.0 GPA or higher by the end of the second semester, will indicate intentions to commute

significantly fewer miles than first-generation students with a GPA of 2.0 or less.

6. The successful first-generation students, those who have attained a 3.0 GPA or higher by the end of the second semester, will indicate intentions to work significantly fewer hours than their peers with GPA's of 2.0 or less.

7. The interaction of various responses concerning the intent to participate in activities, commute various distances and work varying numbers of hours each week will result in significantly higher grade point averages for first-generation students who respond in a manner consistent with an understanding of the role of a student.

Statistical Analysis. Participation in school activities, commuting and work are the operational definitions of the variables of interest in the quantitative portion of the study. The research hypotheses associated with these variables are directional in nature. The first three hypotheses are that 1) first-generation students will indicate the intent to work significantly more hours than nonfirst-generation students, 2) first-generation students will indicate plans to commute significantly more miles than nonfirst-generation students, and 3) first-generation students will indicate plans to participate in significantly fewer college sponsored activities than nonfirst-generation students. The survey questions are arranged so that responses fall into one of four categories for the survey question focusing on work and one of five categories for the survey questions concerning commuting and participation in activities. The categories are directional in nature, creating data that is not interval or ratio in nature but does meet the criteria for ordinal data. Hinkle, Wiersma and Jurs discuss the appropriateness of the use of the Mann Whitney U test in such circumstances (1994)

and Gay, Mills, & Airasian identify the Mann Whitney U in Table 12.9 of their textbook as the appropriate statistic for ordinal data (2006).

Unlike the median test, which is only sensitive to differences between medians, the Mann Whitney U is sensitive to both the central tendency and the distribution of scores. The U statistic is the smaller of U1 and U2 with the following formula used to compute both:

U1=n1n2+(n1(n1+1))/2-R1

U2=n1n2+(n2(n2+1)/2-R2

Where:

n1=number of observations in group 1

n2=number of observations in group 2

R1=sum of the ranks assigned to group 1

R2=sum of the ranks assigned to group 2

The smaller number U1 or U2 becomes the U statistic, and to be significant must be smaller than the critical value found by looking for the intercept of n1 and n2 in the table. For large samples (greater than 20) the sampling distribution approaches the normal distribution and the critical value can be obtained from a table of Z values (Runyon & Haber, 1980, pp. 336-337).

However, one additional issue must be addressed. All of the research hypotheses are directional in nature. Significance that will support the hypotheses, if it occurs, will be found on only one tail of the distribution. It is possible to conduct a one-tailed analysis using the Mann Whitney U. Hinkle et al. do mention that critical values

for one-tailed and two-tailed tests are available for the Mann Whitney U but offer no discussion concerning when a one-tailed test might be appropriate (1994).

There is some controversy within the statistical community about conducting one-tailed tests of significance, but little guidance is offered concerning when a one-tailed test might be appropriate. The primary concern seems to stem from the medical community where concerns exist that a significant difference might occur on the opposite side of the distribution and not be noticed (Moyé & Alan, 2002).

Two sources (Easton & McColl, 2007; "Statistical Significance", 1997) appear to guardedly support the use of one-tailed tests depending upon what the researcher is attempting to prove. In this case there are studies going back nearly thirty years suggesting the difference, if any, would be in the direction predicted by the hypotheses. Based on the hypotheses being tested and the supporting data, it was decided to conduct a one-tailed test of statistical significance.

In the first three hypotheses, the independent variable consisted of the two levels of parent education. The dependent variables were the number of hours students in each group indicated they planned to work, the number of miles they intended to commute and the number of school related activities in which they planned to participate. It was decided to accept the experimental hypothesis for any dependent variable in which the difference between the two groups (nonfirst-generation and first-generation) was significant at or below the .05 level in the direction predicted by the experimental hypothesis ($p =< .05$) (Williams, 1991).

A separate set of analyses was conducted to examine the fourth, fifth and sixth set of hypotheses. The Mann Whitney U was again employed to determine if first-

generation students who earned a cumulative GPA of 3.0 or better responded in a significantly different way, in the direction predicted by the experimental hypothesis, than first-generation students who earned a cumulative GPA of 2.0 or less on the dependent variables of participation in school activities, commuting and work.

Analysis of variance was used to test the seventh hypothesis. The categories of possible responses to the survey questions were used as the independent variables and the dependent variable was the cumulative grade point averages of the respondents within those categories.

Because the students were asked to provide their college identification number, it was possible at the end of the second semester to access the cumulative grades that corresponded to each student's responses. At Cloud County Community College the semester grade point average represents a continuous variable ranging from a high of 4.00 to a low of 0. Students who fail all their courses or withdraw from all their courses prior to the end of the semester would receive a semester grade point average of 0. Conversely, students who made A's in all their courses would receive a semester GPA of 4.0.

Because the grade point averages of the first-generation participants were available and grade point averages are interval data ANOVA could be used to analyze the data. Analysis of variance made it possible to examine interactions among the levels of the three independent variables to determine if there were particular combinations of categories of the three independent variables that resulted in significant differences in cumulative grade point averages when compared with the cumulative grade point average for all the first-generation students in the sample. It was decided to

reject the null hypothesis and accept the experimental hypothesis for any interaction of

independent variables which resulted in a difference in the associated dependent

variable and the mean for the entire sample that was significant at or below the .05 level

(p =< .05).

Qualitative Component

The qualitative component of the study addressed research questions eight and

nine. Qualitative data provides a rich source of information concerning groups but

sometimes misses the human face of interactions at the level of the individual. In this

case it can support or refute the hypothesis that something significant occurs in the lives

of first-generation students who successfully remain in college. However, the important

details that contributed to those changes in the lives of individual students are more

likely to be revealed in a qualitative study. By definition, "Qualitative research involves

understanding the complexity of people's lives by examining individual perspectives in

context" (Heppner, Kvlighan Jr., & Wampold, 1999, p. 235). In order to investigate the

individual experiences of the first-generation student, it is planned to conduct a

qualitative study.

Methodology. There are purists who would argue that it is not appropriate to mix

quantitative and qualitative research in one research proposal, and indeed there are

methodological problems inherent in the effort (Upcraft & Schuh, 1996). In a

quantitative study, the researcher is expected to conduct a thorough research of the

literature in order to develop a hypothesis. In a qualitative study, a search of the

literature has to be approached cautiously because prior knowledge might impose

structure on the data derived from the study instead of allowing the data to define itself. In regard to this concern, Heppner, Kvlighan and Wampold comment, "a researcher's knowledge on a given topic may well bias conclusions, and such 'preconceived notions' must be acknowledged by the researcher and disclosed to the consumer of the qualitative study" (1999, p. 244). In a quantitative study, after an extensive research of the literature, the investigator may offer a hypothesis that will then be tested by aggregating the responses of a number of participants. The qualitative study uses data to arrive at conclusions rather than as a source of validation for a theory (Heppner, Kvlighan Jr., & Wampold, 1999).

However, there is a model called "grounded theory" that "allows domain-specific knowledge and theory to guide the qualitative endeavor" (Heppner et al., 1999, pp. 244-245). Thus, grounded theory allows for an integration of quantitative and qualitative research. This is the model that will be employed to develop the questions used in the interview and provide guidance in categorizing and interpreting the data derived from the interviews. In support of combining paradigms in this fashion, Locke, Spirduso, and Silverman comment "it is a fact that a growing number of published studies do include both qualitative and quantitative elements. Further there is evidence that designs employing such combinations have made important contributions to program evaluation, organizational studies, and policy development" (1993, p. 117).

A qualitative study requires a different kind of relationship towards the participants as well as the consumers of a research study. "In qualitative research, the focus of attention is on the perceptions and experiences of the participants. What individuals say they believe, the feelings they express, and explanations they give are

treated as significant realities" (Locke, Spirduso, & Silverman, 1993, p. 99). The researcher also needs to be aware of any preconceived biases, take these biases into consideration when analyzing the participants' constructs and share these biases with scholars using the results of the research (Locke, Spirduso, & Silverman, 1993). In regard to this Heppner, Kvlighan Jr., and Wampold comment, "Because constructions do not represent universal truths, the investigator and the object under investigation cannot be conceived of separately" (1999, p. 239).

Consistent with the methodology of a qualitative study I must acknowledge that I do not come to the study of first-generation students without prior assumptions. I was a first-generation student. My father completed the sixth grade and my mother completed the ninth grade. I can still remember arriving on a college campus and being overwhelmed with such terms as "credit hour" and "general education core courses." I remember several experiences that I believe were significant in my persistence in college. They included developing a network of friends who fully expected to graduate and the faith of an advisor who offered at one point to loan me money in order for me to stay in college and work fewer hours. It may be difficult for me to not see these factors as I begin to look for important constructs identified by first-generation students who have persisted past their first year of college. In addition to those experiences I am now approaching my seventh year as Director of Advisement and Counseling at Cloud County Community College. Approximately 70 percent of our student body consists of first-generation students. It would be very naïve for anyone to believe that during that time I have not formed certain assumptions about factors in retention of first-generation students. These assumptions are in line with the hypotheses stated in the study.

Participants. In order to investigate the individual experiences of first-generation students the following qualitative study was conducted. Ten first-generation students who had demonstrated academic success by earning grade point averages of 3.0 or higher at the completion of their second semester and had demonstrated persistence by completing the second semester of their education were interviewed using the questions derived for the qualitative portion of the study. Students who indicated a lack of desire to participate were passed over and sampling continued until 10 students were found who were willing to participate. Approximately fifty percent of the students who were contacted either refused to participate or failed to show up for the interview.

Materials. I used information provided by Heppner, Kvlighan Jr., & Wampold for guidance in developing the stimulus questions. The authors provided a table identifying seven types of qualitative interview questions and providing examples of each type. The seven types which they identified included background, behavioral, opinion or belief, feeling, knowledge, sensory and experiential questions (1999, p. 261). Although the stimulus questions to be used in the interview were prepared in advance, they were designed to be open-ended inviting participants to flesh out and give meaning to the nomothetic data that has already been acquired. Nor did having questions prepared in advance preclude me from asking additional questions in order to allow participants to clarify and expand upon their responses. I did not attempt to anticipate the constructs that might emerge. This is consistent with grounded theory, in which themes and relationships between themes are identified as they emerge from the observations of the participants (Heppner et al., p. 255).   I anticipated that themes would emerge that

would help to identify changes the students made in order to succeed in college, the resources they found most useful in making those changes and the obstacles which created the greatest difficulties.

This is a list of the questions that I developed for the structured interview portion of the research. They were constructed to address research questions seven and eight. Each of the questions is designed to elicit information about the possible effect of anticipatory socialization or the acquisition of social capital on the student's adjustment to college. At the same time each question is also tied to issues that various researchers have identified as being related to persistence and success in college.

Table 3

Interview Question, Reference Source and Concept

Question	Reference	Concept
When did you begin thinking about going to college, and how did you begin planning and preparing for college?	Michener, DeLamater, & Myers, 2004	Anticipatory Socialization
Who, if anyone (family, teachers, mentors, etc.) provided you with information before you went to college that helped you when you went to college and what information did they provide you?	York-Anderson & Bowman, 1991	Anticipatory Socialization
Were you encouraged to enroll in academically difficult courses while in high school and, if so, who encouraged you?	Choy, 2001	Anticipatory Socialization

Interview Question, Reference Source and Concept

Question	Reference	Concept
While your parents did not attend college, did other members of your family, such as older siblings, uncles and aunts, cousins, etc., graduate from college and, if so, what effect if any did that have on your decision to attend college?	Inman & Mayes, 1999	Anticipatory Socialization
Did you participate in any part-time jobs, special courses, transition programs or mentoring experiences that helped to prepare you for college? If so, how did those experiences assist you in adjusting to college life?	Michener, DeLamater, & Myers, 2004	Anticipatory Socialization

Interview Question, Reference Source and Concept

Question	Reference	Concept
In college where did you go to gain or locate information about course and program requirements, enrollment schedules and other college related information you needed to know as a student. Did this appear to be a reliable source of information?	Perna, 2000	Social Capital
Did you ever discuss specific courses and instructors with other students, and was their information helpful in deciding specific enrollment issues?	Pascarella, Pierson, Wolniak, & Terenzini, 2004	Social Capital
Did you participate in any college sponsored activities and, if so, did you develop any friendships from those activities?	Pascarella, Pierson, Wolniak, & Terenzini, 2004	Social Capital

Interview Question, Reference Source and Concept

Question	Reference	Concept
Did you find yourself regularly meeting with some of your fellow students in an informal setting where discussions might occur concerning homework, expectations about tests and other details of college life?	Pascarella, Pierson, Wolniak, & Terenzini, 2004	Social Capital
How did you learn about sources of information concerning graduation requirements and transfer requirements? How reliable did you find that information to be?	Stanton-Salazar & Dornbush, 1995	Social Capital

Chapter 4

Results

This study has two components; a quantitative component and a qualitative component. The first part of the quantitative component compared the responses of 75 nonfirst-generation students with the responses of 182 first-generation students to the three survey questions. The survey questions were intended to determine a student's affiliation with the role of college student. In the second part of the quantitative study "at risk" and "not at risk" respondents were extracted from the 182 first-generation students and their responses to the three survey questions were compared. In the final part of the quantitative component the cumulative grade point averages of the 182 first-generation students were used as a dependent variable and the categories of responses to the survey questions was used as the independent variables to determine if patterns indicative of an understanding of the role of a college student resulted in higher cumulative grade point averages.

The qualitative component consisted of a structured interview administered to ten first-generation students who were selected because they had completed at least twenty hours of college course work with a grade point average of 3.00 or better. Their responses were examined for patterns that might offer clues to their success. Particular attention was paid to responses suggestive of presocialization experiences prior to their arrival at college and the acquisition of social capital after their arrival at college.

Quantitative Component

Each of the three survey questions had a series of potential responses arranged on an ordinal scale. The third survey question asked students to indicate the number of

extracurricular activities in which they planned to be involved. This was the only question that resulted in a hypothesis that first-generation students would choose responses significantly lower on its ordinal scale than those chosen by nonfirst-generation students

The first survey question asked students to indicate the number of hours they planned to work each week and the second survey question asked students to indicate the number of miles they intended to commute each day to attend classes. Both of these resulted in hypotheses that first-generation students would make choices that would be significantly higher on their respective ordinal scales than those of nonfirst-generation students.

The data derived from the responses was ordinal in nature requiring the use of a statistical procedure sensitive to ordinal data. This resulted in the choice of the Mann Whitney U as the most appropriate statistical tool for analyzing the responses.

Hypothesis 1

The first research question, do nonfirst-generation students express intentions to participate in more college-sponsored activities, sports and clubs than do first-generation college students, generated the following hypothesis. First-generation students will indicate on the survey questions that they intend to participate in significantly fewer college related extracurricular activities than their nonfirst-generation peers. The data in table 4 tends to support this hypothesis since first-generation students had an average score of 1.885 on the ordinal scale for that question, indicating less than one activity per student while nonfirst-generation students had an average score of 2.093 indicating slightly more than one activity per student. Table 4 lists the

frequency of responses to this question.

Table 4

Frequency and Average of Responses for Participation in Activities for First-Generation

and Nonfirst-Generation Students

Activities	None	One	Two	Three	Four or More	
Ordinal Rating	(1)	(2)	(3)	(4)	(5)	Mean Ordinal Rating
Non-First Generation	16	41	14	3	1	2.093
First-Generation	63	82	32	5	---------	1.885

The Mann Whitney U Test was used to test for significance between the two

groups. Since a one-tailed test was performed the research hypothesis would be

accepted if the mean rank for first generation students is significantly less than the

mean rank for nonfirst-generation students (H_a: $\mu_1 < \mu_2$). If, however, the mean rank for

first-generation students is equal to or greater than the mean rank for nonfirst-

generation students ($\mu_1 => \mu_2$) then the research hypothesis would have to be rejected.

The 5% level of significance ($\alpha \leq 0.05$) was chosen to determine if the difference

between μ_1 and μ_2 was great enough to warrant acceptance of the research hypothesis.

The results of the Mann Whitney U Test are summarized in Table 5.

Table 5

- Mann-Whitney U - Wilcoxon Rank Sum W Test for Activity Participation

Responses Between First-Generation and Nonfirst-Generation Students

Group	Mean Rank	Sum of Ranks	Cases	
First-Gen	123.96	22561	182	
Nonfirst-Gen	141.23	10593	75	
			257	Total

U	W	Z	2-Tailed P
5907.5	22560.5	-1.8310	.0671

      The version of SPSS used to conduct the Mann Whitney U reports the probability

results for a two tailed test. The probability results for a one-tailed test can be obtained

by dividing the two tailed probability results by two (Runyon & Haber, 1980; Sharp,

1979) or finding the area under the normal curve past the Z-score (Runyon & Haber,

1980). Both methods result in a probability of .0336. Since .0336 is less that the

preestablished 5% level of significance it is appropriate to accept the research

hypothesis that on the survey first generation students would indicate significantly less

intention to participate in college activities than would non-first generation students.

Hypothesis 2

The second hypothesis stems from the research question, "do nonfirst-generation college students demonstrate they plan to work fewer hours while attending college than do first-generation college students?" This research question generated the following hypothesis: Nonfirst-generation students will indicate on the survey questions that they plan to work significantly fewer hours each week than their first-generation peers. Table 6 lists the frequency of responses to this question. The data in Table 6 tends to support this hypothesis since first-generation students had an average score of 2.571 on the ordinal scale for that question, indicating the intent to work close to sixteen hours each week on average while nonfirst-generation students had an average score of 2.133 suggesting the intent to work approximately eleven hours per week.

Table 6

Frequency and Average of Employment Responses for First-Generation and Nonfirst-Generation Students

Hours of Work	None	1 to 10	11 to 20	More than 20	
Ordinal Rating	(1)	(2)	(3)	(4)	Mean Ordinal Rating
Nonfirst-Gen	26	23	16	10	2.133
First-Gen	40	41	58	43	2.571

The Mann Whitney U Test was used to test for significance between the two groups. Since a one-tailed test was performed the research hypothesis would be accepted if the mean rank for nonfirst-generation students is significantly less than the mean rank for first-generation students (H_a: $\mu_2 < \mu_1$). If, however, the mean rank for first-generation students is equal to or less than the mean rank for nonfirst-generation students ($\mu_1 =< \mu_2$) then the research hypothesis would have to be rejected. The 5% level of significance ($\alpha \leq 0.05$) was chosen to determine if the difference between μ_1 and μ_2 was great enough to warrant acceptance of the research hypothesis. The results of

the Mann Whitney U Test are summarized in Table 7.

Table 7

- Mann-Whitney U - Wilcoxon Rank Sum W Test Comparing Employment Responses

Between First-Generation and Nonfirst-Generation Students

Group	Mean Rank	Sum of Ranks	Cases	
First-Gen	137.51	25027	182	
Nonfirst-Gen	108.35	8126.5	75	
			257	Total

U	W	Z	2-Tailed P
5276.5	8126.5	-2.9561	.0031

The results of the Mann Whitney U revealed a two tailed probability of 0.0031
that the difference between the means of the two groups would occur by chance. When
divided in half, a one tailed probability of 0.0016 is obtained. Since 0.0016 is less that
the preestablished 5% level of significance it is appropriate to accept the research
hypothesis that on the survey nonfirst-generation students would indicate plans to work
significantly fewer hours than would first generation students.

Hypothesis 3

The third hypothesis, non-first generation students will indicate plans to commute

significantly fewer miles than first-generation students, was generated on the basis of

the research question, do nonfirst-generation college students appear less likely to

commute, or commute shorter distances, than first-generation college students? Table 8

lists the frequency of responses to this question. The data in Table 8 tends to support

this hypothesis since first-generation students had an average score of 2.0 on the

ordinal scale for that question, indicating the intent to commute four miles each way on

average to attend classes while nonfirst-generation students had an average ordinal

score of 1.627 suggesting the intent to commute closer to half that distance each way to

attend classes.

Table 8

Frequency and Average of Commuting Responses for First-Generation and Nonfirst-
Generation Students

Commute Miles	None	1 to 4	5 to 15	16 to 30	More than 30	
Ordinal Rating	(1)	(2)	(3)	(4)	(5)	Mean Ordinal Rating
Nonfirst-Gen	46	18	5	5	1	1.627
First-Gen	91	50	8	16	17	2.000

The Mann Whitney U Test was used to test for significance between the two groups. Since a one-tailed test was performed the research hypothesis would be accepted if the mean rank for nonfirst generation students is significantly less than the mean rank for first-generation students (H_a: $\mu_{2<}\mu_1$). If, however, the mean rank for first-generation students is equal to or less than the mean rank for nonfirst-generation students ($\mu_1 =< \mu_2$) then the research hypothesis would have to be rejected. The 5% level of significance ($\alpha \le 0.05$) was chosen to determine if the difference between μ_1 and μ_2 was great enough to warrant acceptance of the research hypothesis. The results of the Mann Whitney U Test are summarized in Table 9.

Table 9

- Mann-Whitney U - Wilcoxon Rank Sum W Test Comparing Commuting Responses Between First-Generation Students and Nonfirst-Generation Students

Group	Mean Rank	Sum of Ranks	Cases	
First-Gen	134.28	24438	182	
Nonfirst-Gen	116.19	8714.5	75	
			257	Total

U	W	Z	2-Tailed P
5864.5	8714.5	-1.9473	.0515

The analysis utilizing the Mann Whitney U resulted in a two-tailed probability of 0.0515. Making the correction for a one tailed test provides a probability of 0.026 that

the difference between the two groups would occur by change. The one tailed

probability of 0.026 is less that the preestablished 5% level of significance requiring

acceptance of the research hypothesis that on the survey non-first generation students

will indicate plans to commute significantly fewer miles than first-generation students.

Hypothesis 4

The research question, "Do first-generation students with a cumulative GPA over

two semesters of 2.0 or less indicate the intent to participate in significantly fewer

college sponsored activities than do first-generation students with a cumulative GPA of

3.0 or greater", generated the fourth hypothesis.   It seemed reasonable to suspect that

successful first-generation students, those who have attained a 3.0 GPA or higher by

the end of the second semester, will have responded to the survey in a significantly

different way than first-generation students with a GPA of 2.0 or less. The fourth

hypothesis suggests that unsuccessful first-generation students (those with a GPA

equal to or less than 2.0) will indicate intentions to participate in significantly fewer

school sponsored activities than their peers with GPAs of 3.0 or more. Table 10 lists

the frequency of responses to this question. The data in Table 10 does tend to support

this hypothesis since successful first-generation students had an average score of

1.868 on the ordinal scale for that question, indicating slightly less than one activity per

student while unsuccessful first-generation students had an average ordinal score of

1.833 indicating their intent to be involved in even fewer activities.

Table 10

Frequency and Average of Activities Responses for "Successful" and "Unsuccessful"

Students

Activities	None	One	Two	Three	Four or More	
Ordinal Rating	(1)	(2)	(3)	(4)	(5)	Mean Ordinal Rating
Successful	31	42	17	1	_____	1.868
Unsuccessful	8	13	2	1	---------	1.833

The Mann Whitney U Test was used to test for significance between the two

groups. Since a one-tailed test was performed the research hypothesis would be

accepted if the mean rank for unsuccessful first generation students is significantly less

than the mean rank for successful first-generation students (H_a: $\mu_{2<}\mu_1$). If, however, the

mean rank for first-generation students is equal to or less than the mean rank for

nonfirst-generation students ($\mu_1 =< \mu_2$) then the research hypothesis would have to be

rejected. The 5% level of significance ($\alpha \leq 0.05$) was chosen to determine if the

difference between μ_1 and μ_2 was great enough to warrant acceptance of the research

hypothesis. The results of the Mann Whitney U Test are summarized in Table 11.

Table 11

- Mann-Whitney U - Wilcoxon Rank Sum W Test Comparing Activity Participation

Responses Between "Successful" and "Unsuccessful" First-Generation Students

Group	Mean Rank	Sum of Ranks	Cases
" Unsuccessful"	56.40	1353.5	24
"Successful"	58.42	5316.5	91
			115 Total

U	W	Z	2-Tailed P
1053.5	1353.5	-.2879	.7734

After making the correction from a two–tailed test to a one-tailed test a probability of 0.3867 was obtained. Since this was much larger than the predetermined 0.05 level of significance the research hypothesis could not be accepted. The data did not support the hypothesis that unsuccessful first-generation students (those with a GPA equal to or less than 2.0) will indicate intentions to participate in significantly fewer school sponsored activities than their peers with GPAs of 3.0 or more.

Hypothesis 5

The fifth hypothesis stems from the research question, "Do first-generation students with a cumulative GPA over two semesters of 3.0 or greater indicate the intent to commute significantly fewer miles than do first-generation students with a cumulative GPA equal to or less than 2.0?" The following hypothesis was formulated from this

research question.   First-generation students with GPAs equal to or greater than 3.0 will indicate intentions to commute significantly fewer miles than first-generation students with a GPA of 2.0 or less.

The data in Table 12 does tend to support this hypothesis since successful first-generation students had an average score of 1.934 on the ordinal scale, indicating the intent to commute less than one to four miles each day while unsuccessful first-generation students had an average score on the ordinal scale of 2.167 suggesting the intent to commute more than one to four miles each day.

Table 12

Frequency and Average of Responses for Commuting Distances of "Successful" and "Unsuccessful" First-Generation Students

Commute Miles	None	1 to 4	5 to 15	16 to 30	More than 30	
Ordinal Rating	(1)	(2)	(3)	(4)	(5)	Mean Ordinal Rating
"Successful"	45	29	3	6	8	1.934
"Unsuccessful"	13	4	_____	4	3	2.167

The Mann Whitney U Test was used to test for significance between the two groups. Since a one-tailed test was performed the research hypothesis would be

accepted if the mean rank for "successful" first-generation students is significantly less than the mean rank for "unsuccessful" first-generation students (H_a: $\mu_1 < \mu_2$). If, however, the mean rank for "successful" first-generation students is equal to or greater than the mean rank for "unsuccessful" first-generation students ($\mu_1 => \mu_2$) then the research hypothesis would have to be rejected. The 5% level of significance ($\alpha \leq 0.05$) was chosen to determine if the difference between μ_1 and μ_2 was great enough to warrant acceptance of the research hypothesis. The results of the Mann Whitney U Test are summarized in Table 13.

Table 13

- Mann-Whitney U - Wilcoxon Rank Sum W Test Comparing Commuting Responses by "Successful" and "Unsuccessful" First-Generation Students

Group	Mean Rank	Sum of Ranks	Cases
"Unsuccessful"	58.81	1411.5	24
"Successful"	57.79	5258.5	91
			115 Total

U	W	Z	2-Tailed P
1072.5	5258.5	-.1459	.8840

After making the correction from a two–tailed test to a one-tailed test a probability of 0.4420 was obtained. Since this was much larger than the predetermined 0.05 level of significance the research hypothesis could not be accepted. The data did not support

the hypothesis that first-generation students with a GPA equal to or greater than 3.0 will indicate intentions to commute significantly fewer miles than do first-generation students with a cumulative GPA equal to or less than 2.0.

Hypothesis 6

The sixth research question queried do first-generation students with a cumulative GPA over two semesters of 3.0 or greater indicate the intent to work significantly fewer hours than first-generation students with a GPA of 2.0 or less? The research question led to the development of the hypothesis that first-generation students with GPA's equal to or greater than 3.0 will indicate intentions to work significantly fewer hours than their peers with GPAs of 2.0 or less. The data in Table 14 does not tend to support this hypothesis since successful first-generation students had an average score of 2.670 on the ordinal scale, indicating the intent to work on average between eleven and twenty hours per week while unsuccessful first-generation students had an average score of 2.167 on the ordinal scale suggesting the intent to work on average somewhat less than the successful first-generation students.

Table 14

Frequency and Average of Weekly Employment Intended by "Successful" and

"Unsuccessful" First-Generation Students

Hours of Work	None	1 to 10	11 to 20	More than 20	
Ordinal Rating	(1)	(2)	(3)	(4)	Mean Ordinal Rating
"Successful"	14	22	35	20	2.670
"Unsuccessful"	10	4	6	4	2.167

The Mann Whitney U Test was used to test for significance between the two groups. Since a one-tailed test was performed the research hypothesis would be accepted if the mean rank for "successful" first-generation students is significantly less than the mean rank for "unsuccessful" first-generation students (H_a: $\mu_1 < \mu_2$). If, however, the mean rank for "successful" first-generation students is equal to or greater than the mean rank for "unsuccessful" first-generation students ($\mu_1 => \mu_2$) then the research hypothesis would have to be rejected. The 5% level of significance ($\alpha \leq 0.05$) was chosen to determine if the difference between μ_1 and μ_2 was great enough to warrant acceptance of the research hypothesis. The results of the Mann Whitney U Test are summarized in Table 15.

Table 15

- Mann-Whitney U - Wilcoxon Rank Sum W Test Comparing Employment Responses

Between "Successful" First-Generation and "Unsuccessful" First-Generation Students

Group	Mean Rank	Sum of Ranks	Cases
"Unsuccessful"	46.46	1115.0	24
"Successful"	61.04	5555.0	91
			115 Total

U	W	Z	2-Tailed P
815.0	1115.0	-1.9822	.0475

After making the correction from a two–tailed test to a one-tailed test a probability

of 0.0238 was obtained. However, in this case the difference was obtained on the

wrong side of the distribution for one-tailed significance. In order to accept the research

hypothesis the mean rank of the "successful" students would have to be smaller than

the mean rank of the "unsuccessful" students ($(H_a: \mu_1 < \mu_2)$. The data did not support

the hypothesis that first-generation students with a GPA equal to or greater than 3.0 will

indicate intentions to work significantly fewer hours each week than do first-generation

students with a cumulative GPA equal to or less than 2.0.

Summary of Hypotheses One through Six

The first three hypotheses: that first-generation students would indicate plans to

participate in fewer activities, commute further and work more hours per week than

nonfirst-generation students were supported by statistical analyses. This in turn supports the overall theoretical assumption that role theory can help explain the differences between the academic performance of first-generation and nonfirst-generation students. Hypotheses four, five and six compared first-generation students with grade point averages equal to or below 2.0 with first-generation students with grade point averages equal to or above 3.0 on their plans to participate in activities, commute and work. In each case the hypothesis was that higher scoring first-generation students would respond in a fashion similar to the responses of nonfirst-generation students thus differentiating them from first-generations students with lower scoring students. Statistical analysis did not support these hypotheses and in each case it was not possible to accept the research hypothesis.

Although hypotheses four, five and six could not be accepted other factors could be involved. Questionnaire responses were obtained at the beginning of the academic year while cumulative grade point averages were the result of effort throughout two semesters. First-generation students confronted with the realities of college life may over the course of the academic year have altered their behavior in a manner consistent with nonfirst-generation students. High scores at the end of the year may be the result of such behavior regardless of the way students responded to the questionnaire at the beginning of the academic year. In addition the Mann Whitney U does not provide an opportunity to examine possible interactions between activities, commuting and work.

Hypothesis 7

Can the interaction of participation in activities, differences in commuting choices and number of hours worked each week result in significant differences in

grade point averages for first-generation students at the end of two semesters in

college? More significantly, will those differences correspond to predictions derived

from role theory? Hypothesis seven puts forward that significant differences will exist

supportive of role theory. Role theory would propose that participants who understand

the role of a student would choose moderate levels of employment, moderate or no

commuting distances and moderate to medium participation in school activities.

Interaction would be probable with, for example, a reduction in work hours to

compensate for participation in a greater number of school activities. Extremes would

be avoided and students making extreme choices would be assumed to not understand

the role of a college student and consequently inclined to have lower grade point

averages.

Table 16 identifies the categories related to ordinal scale score responses for the

three variables. Figure 1 illustrates the relationship between grade point average and

the various response categories for the variables ACT, WORK and COMMUTE. Visual

inspection of the graph tends to support role theory assumptions.

Table 16

Ordinal Response Categories for ACT, WORK and COMMUTE

Ordinal Responses	(1)	(2)	(3)	(4)	(5)
ACT (# of activities)	None	1	2	3	≥4
WORK (hrs per week)	None	1 to 10	11 to 20	>20	
COMMUTE (miles per week)	None	1 to 4	5 to 15	16 to 30	>30

Figure 1
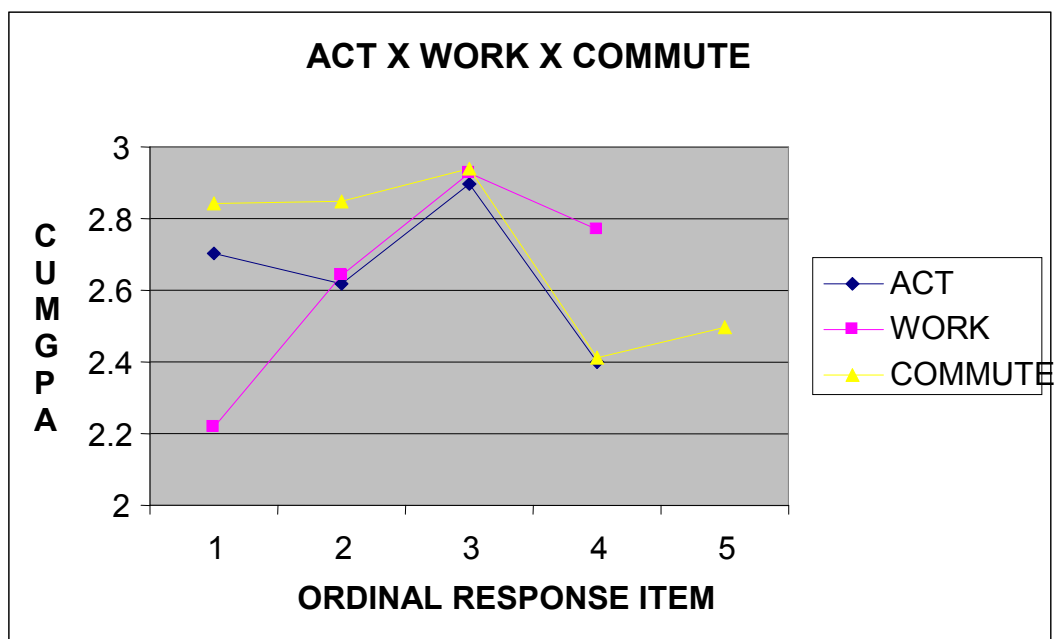
To test this research question the following hypothesis was formulated. The interaction of participation in activities, commuting distances and weekly employment will result in significant differences in grade point averages at the end of two semesters. The null hypothesis for the study is H_0 : All $(\alpha\beta\gamma)_{ijk} = 0$ and the alternative hypothesis is H_1: Not all $(\alpha\beta\gamma)_{ijk} = 0$ (Keppel, 1991, p. 218).

To test the alternative hypothesis, Analysis of Variance was employed. The 5% level of significance ($\alpha \leq 0.05$) was chosen to determine if the null hypothesis should be accepted or rejected in favor of the alternative hypothesis. The results of the Analysis of Variance Test are summarized in Table 17.

Table 17

Analysis of Variance for CUMGPA using UNIQUE sums of squares

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN+RESIDUAL	84.46	136	.62		
ACT	3.68	3	1.23	1.98	.120
COMMUTE	7.32	4	1.83	2.95**	.023
WORK	6.59	3	2.20	3.54**	.017
ACT BY COMMUTE	17.22	9	1.91	3.08**	.002
ACT BY WORK	7.58	7	1.08	1.74	.104
COMMUTE BY WORK	13.64	11	1.24	2.00 *	.033
ACT BY COMMUTE BY WORK	10.61	8	1.33	2.14*	.036
(Model)	49.04	45	1.09	1.75	.007
(Total)	133.50	181	.74		

R-Squared =   .367

Adjusted R-Squared = .158

*p < .05. **p < .025.

The ANOVA results indicates that the probability that there are no significant differences within the main effects of WORK $F_{(4,136)} = 3.54$, p = .017 and COMMUTE $F_{(3, 136)} = 2.95$, p = .023 is well below the 0.05 level of probability established as the rejection level. This is also true for the interaction of ACT By COMMUTE $F_{(9,136)} = 3.08$, p = .002, the interaction of COMMUTE By WORK $F_{(11,136)} = 2.00$, p = .033 and the interaction of ACT By COMMUTE By WORK $F_{(8,136)} = 2.15$, p = 0.036. This would suggest that the null hypothesis should be rejected for these comparisons as well.

Establishing a 0.05 level of significance creates a way of controlling for type I errors. However, the possibility of making a Type I error increases substantially if the variance of the scores in the treatment groups is not homogenous (Keppel, 1991, p.98). The results of the Cochran test in Table 18 indicate there is a strong possibility that the assumption of homogeneity of variance has been violated in the Analysis of Variance test summarized in Table 17.

Table 18

Univariate Homogeneity of Variance Tests

---

14 Cells contain only one observation, Barlett-Box test cannot be performed.

These cells are omitted from the Cochran test.

Variable .. CUMGPA

Cochrans C(4,32) =   .19177, P = .001 (approx.)

Keppel discusses several procedures for evaluating treatment means when the assumption of homogeneity has been violated but ultimately dismisses all of them as being flawed or too complicated for general use (p. 105). He suggests that one way of compensating for the lack of homogeneity is to "adopt a more stringent significance level" (p. 106). Keppel states "It is entirely possible that a nominal significance level of α = .025 will effectively achieve our goal of operating at an actual significance level of α = .05" (p. 107). However, if we adopt a significance level of α = .025 this would normally require accepting the null hypothesis for the interaction of COMMUTE By WORK $F(11,136) = 2.00$, $p = .033$ and the interaction of ACT By COMMUTE By WORK $F(8,136) = 2.15$, $p = 0.036$. Keppel suggests that under such circumstances a researcher can avoid making either a Type I or a Type II error by adding a third decision category to suspend judgment. Keppel argues that by suspending judgment "we avoid committing either type of error and simply conclude that the evidence is not sufficiently strong to justify either one of the usual conclusions" (1991, p. 182). He adds that,

> By suspending judgment on post hoc differences that would be significant
> as planned comparisons but are not sufficiently large to be significant with
> a post hoc test, we can minimize the danger of missing small but
> interesting findings discovered during the course of systematically
> combing through the data. The question of power can be dealt with later-
> by conducting future experiments that are specifically designed to study
> these post hoc findings for which judgment was suspended .(p. 183)

Further analysis can provide a clearer understanding of the nature of the interactions between ACT, COMMUTE and WORK. Based on Keppel's statements concerning the utility of three decision categories, the interactions that were significant at α = .025 and the two interactions that were identified as requiring a suspension of judgment were examined in greater depth.

Keppel describes a strategy for dealing with two-factor studies that appears equally applicable to three-factor studies. He suggests that an examination of interaction is a logical first step (Keppel, 1991, 232). It has already been determined that an interaction of interest exists among the variables of ACT, WORK and COMMUTE. "The logical step at this point is to examine the two-way interactions at each level of the third factor (Nichols, 1993, p. 8). Table 19 displays the results of the analysis of the simple interaction of ACT BY WORK at all levels of COMMUTE. The results suggest that the interaction between levels of activity and hours of employment influenced grade point average for students who were not commuting $F(9, 136) = 2.29$, $p = .020$ and those who were commuting between sixteen and thirty miles to attend classes $F(8,136) = 2.69$, $p = .009$.

Table 19

Tests of Significance for CUMGPA using UNIQUE sums of squares

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN CELLS	84.46	136	.62		
ACT BY WORK W COMMUTE (1)	12.77	9	1.42	2.29 **	.020
ACT BY WORK W COMMUTE (2)	6.75	8	.84	1.36	.220
ACT BY WORK W COMMUTE (3)	2.11	5	.42	.68	.639
ACT BY WORK W COMMUTE (4)	13.38	8	1.67	2.69**	.009
ACT BY WORK W COMMUTE (5)	6.50	6	1.08	1.74	.115

**p < .025

The results of the simple analysis in Table 19 suggested further examination should be conducted to determine the simple, simple effects of ACTIVITY at each level of WORK at levels 1 and 4 of COMMUTE. The outcome of that analysis can be found in Table 20. It suggests that variations in levels of the variable ACTIVITY had a significant influence on the combination of level one of WORK (no work) and level one of COMMUTE (no commuting) $F(3, 136) = 5.40$, $p = .002$ and on the combination of

level two of WORK (1-10 hrs/wk) and level four of COMMUTE (16 to 30 miles) F(2,

136) = 6.66, p = .002.

Table 20

Tests of Significance for CUMGPA using UNIQUE sums of squares

| Source of Variation	SS	DF	MS	F	Sig of F
WITHIN CELLS	84.46	136	.62		
ACT W WORK(1) BY COMMUTE(1)	10.05	3	3.35	5.40 **	.002
ACT W WORK(2) BY COMMUTE(4)	8.27	2	4.13	6.66**	.002

P < .025

The interaction of all levels of the variable ACT with level one of Work and level

one of commute can be observed in Graph 2. Consistent with social role theory,

students who are participating in no activities, who are not working and not commuting

appear to have a much lower grade point average than students who are participating in

one or two activities.

Figure 2

ACT W WORK(1) W COMMUTE(1)
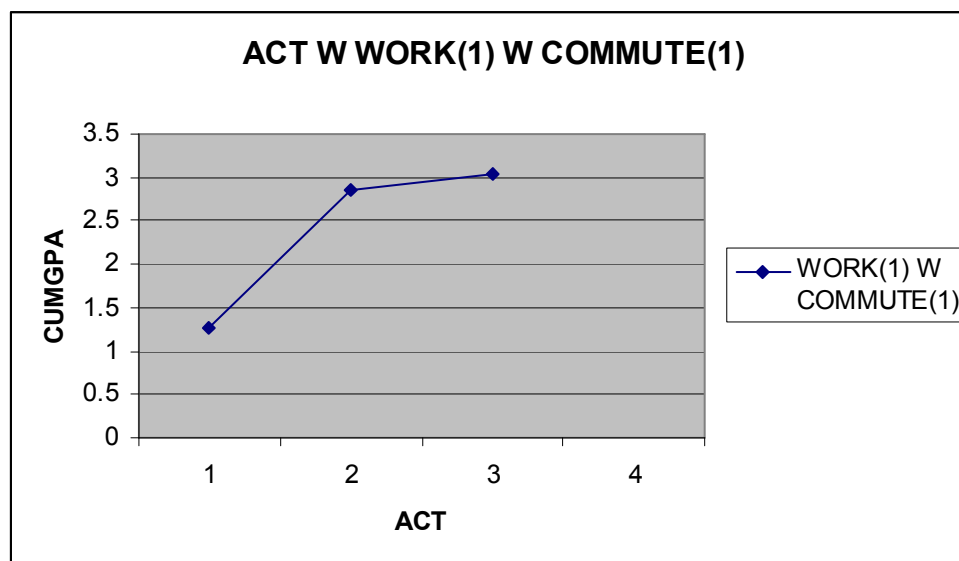
Efforts to conduct a simple, simple study of the interaction of ACT with level 2 of WORK and level 4 of COMMUTE led to questionable results. There were a number of cells that had only one entry or in a few cases no entries at all. It seems reasonable to assume that even students who do not understand the role of student would be reluctant to commute sixteen to thirty miles each way on a regular basis resulting in the sparseness of entries in some of the more extreme cells. Graph 3 does demonstrate the changes in the variable ACT as it interacts at various levels with the variable WORK while COMMUTE is held constant at level 4. Students with no employment or only limited employment who are involved in two or three activities have higher grade point averages than similarly employed students who are not involved in any activities. This is consistent with predictions from social role theory.

Figure 3

ACT BY WORK W COMMUTE(4)
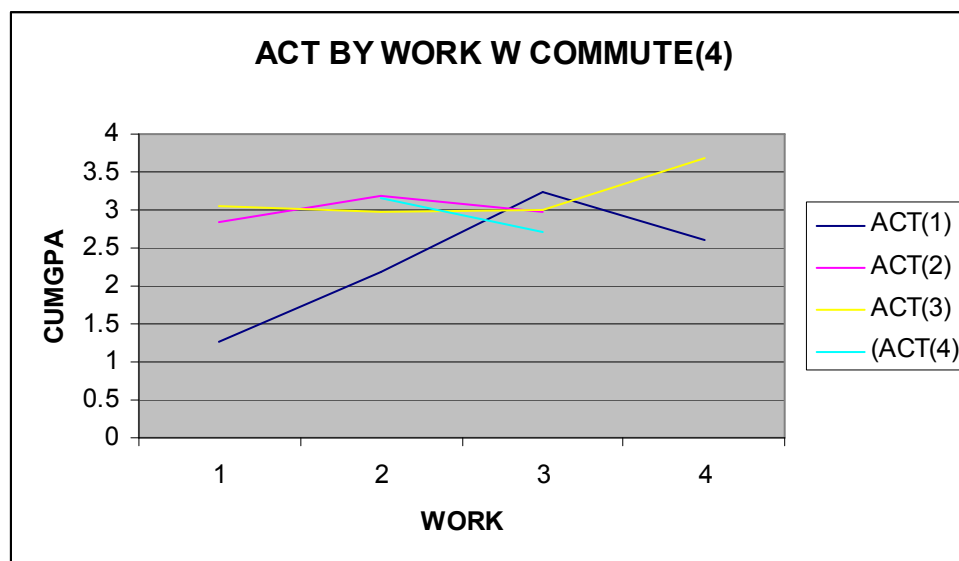
To control for type II errors it is necessary to determine the power of each analysis of variance procedure. No statistical protocol has been established concerning reasonable levels of power similar to those that exist in regard to significance levels. According to Keppel, "methodologists are beginning to agree that a power of about .80 represents a reasonable and realistic value for research in the behavioral sciences "(1991, 75). This indicates that all of the main effects and interactions between main effects that contained significant differences or differences of interest are sufficiently powerful to qualify for further examination. Levels of power for the main effects, two-way interactions and the three-way interaction are listed in Table 21.

Table 21

Effect Size Measures and Observed Power at the .0500 Level

Source of Variation	Partial ETA Sqd	Noncen- traility	Power
ACT	.042	5.929	.500
COMMUTE	.080	11.781	.778
WORK	.072	10.607	.775
ACT BY COMMUTE	.169	27.722	.969
ACT BY WORK	.082	12.202	.692
COMMUTE BY WORK	.139	21.970	.887
ACT BY COMMUTE BY WORK	.112	17.087	.834

Qualitative Component

In order to examine first-generation students from a different perspective, a list of first-generation students who had completed more than twenty hours with a cumulative grade point average of 3.00 or higher was generated. From the list ten students were randomly selected and asked to participate in a structured interview. Most of the focus on first-generation students has been on factors that might explain their lack of success. It was hoped that an examination of successful first-generation students might elicit

information useful in understanding the factors that contribute to a successful first-generation student.

Procedures

Students on the list were randomly selected and contacted by phone. If they indicated they could not or did not want to participate a new name was randomly selected from the list until ten participants were found who agreed to take part in the interviews. Approximately half of the students who were initially contacted either refused to participate or failed to keep their scheduled appointment.

The core of the structured interview consisted of ten questions. Five of the questions were designed to elicit information in regard to anticipatory socialization experiences participants might have been exposed to prior to entering college. The other five questions examined opportunities participants had after arriving at college to acquire social capital that would assist them in meeting the expectations of the role of college student.

After selection, demographics concerning the participants were obtained from school records. Nine of the ten participants would have been considered traditional students in terms of age, ethnicity and college attendance directly out of high school. One participant worked for two years after graduation from high school and then chose to come to college. All but two of the participants graduated from small high schools. The smallest of these high schools had a graduating class of six students while the largest of the small high schools had thirty-eight graduates.

Participants were interviewed individually in the Advisement Center. The average interview took approximately 45 minutes. The interviews were taped with the

permission of the participants and were subsequently transcribed. All of the participants stated they either lived on campus or within a five minute drive. Two of the respondents asserted that they had briefly considered commuting but dismissed the idea because of time considerations and expense. All of the interview participants were involved in one or more college sponsored college activities. Six participants were not currently employed while attending classes although one of these indicated they might consider employment later. Of the remaining four, two were employed ten hours per week on campus in the work-study program, one was employed twenty hours per week on campus and the final participant was employed thirteen hours per week on campus and worked an additional twenty-five hours per week at a fast food restaurant. All of the participants were involved in one or more student activities. Two students were involved in varsity athletics but an equal number participated regularly in intramural athletics. Participants prominently mentioned involvement in Great Society (a vocal music group), band, the Fellowship of Christian Athletes and the TRIO program followed by Block and Bridal, the Livestock Judging Team and the Rodeo Equestrian Team.

Anticipatory Socialization

The first five questions examined opportunities that were available for participants to benefit from anticipatory socialization prior to attending college. Although all of the participants came from families where neither parent had graduated from college, six of the ten reported receiving strong encouragement from their parents to attend college. Other sources of family support, advice and information were provided by older siblings, cousins, uncles and aunts and grandparents. In five cases the information came from family members who had graduated from college or were

currently attending college classes. The support included suggestions to enroll in more difficult college preparatory high school courses, assistance in identifying colleges and some financial support. Only one participant denied receiving any encouragement or assistance to attend college from family members while in high school. Even in that student's situation grandparents did provide assistance after graduation from high school. All of the participants could identify mentors who provided them with information and guidance about college. This ranged from issues as trivial as where to park one's car on campus to what would be the best course of study in which to major. Four of the students identified high school teachers as mentors, three students identified their high school counselor as a mentor, older friends who had graduated from high school and were attending college were mentioned by three students and in one case an employer who assisted the student in developing a college budget and helped to provide money for the student to attend college was identified as a mentor..

Interviewees also described various activities they had participated in that contributed to anticipatory socialization. Four participants described work experiences that helped to prepare them for college. Two commented on experiences in 4-H that helped them develop skills they needed in college. One unexpected source of anticipatory socialization was completion of college level courses while attending high school. Two students reported enrolling in regular college courses in the summer or at night while in high school. Seven students indicated taking courses in high school for college credit through concurrent enrollment. The students indicated these courses introduced them to the rigors of college level courses while providing them with confidence that they could handle college level work. One participant indicated he had

earned twenty hours of college credit by the time he graduated from high school. All but one of the participants appeared to have benefited from experiences that significantly assisted them in understanding and acquiring the role of a college student while in high school. An obvious example of this understanding was demonstrated by one young lady when asked if she worked while going to college. She responded that she worked three jobs during the summer so that she wouldn't have to work during the school year. She stated she had a learning disability and realized she needed more time to devote to her studies than would be available if she tried to work while attending college.

Social Capital

Because of the interviewees' exposure to so many sources of anticipatory socialization, social capital may not have played as important a role in acquiring the role of college student as it might play in the lives of other students. However, there were a number of responses suggesting the acquisition of social capital did contribute to their achieving the role of college student.

The students acknowledged making use of several official channels for acquiring information. Four students identified the college Freshman Orientation program to be of use in acquiring information while four other students found their college advisors to be the best source of information. Three students identified the staff in the TRIO program as a useful source of information. However, when questioned, all of the students quickly acknowledged a number of less official sources for information that might not be readily available through school sanctioned venues. Information about the level of difficulty of a course, the amount of homework required, the degree of assistance provided by the instructor and even the instructor's sympathy for students with personal

problems was some of the issues addressed through these informal channels. Five students stated they had acquired this kind of information in casual conversation with students who had already completed courses. Two students reported obtaining information from roommates while two other students turned to fellow students further advanced in the education process. Formal study groups were a source of assistance and advice for two students and another six students acknowledged using informal study groups for the same purpose. Nine of the ten respondents indicated school activities and sports provided opportunities for interaction and information not just about future courses but about courses in which participants were currently enrolled. This might include notes for a missed class, clarification of concepts discussed in class, assistance with homework and preparation for texts.

In addition to sources of information respondents also indicated that school activities provided an opportunity to form emotionally supportive relationships. No one proposed that the relationships formed in these activities, by themselves, were strong enough to keep a student in college but there were suggestions that they were useful in helping to deal with occasional bouts of ennui when encouragement to attend class and complete assignments was needed.

Another source of social capital that was revealed was the faculty and staff of the college. Three of the students were involved in work-study programs and developed close ties with the faculty and staff who supervised them. This often resulted in students receiving information and advice outside of the formal information system consisting of the Freshman Orientation course, the Advising Office and the TRIO program. It appears that at least for these respondents there were a number of informal

opportunities to acquire social capital which helped to facilitate their understanding of the requirements of the role of a college student.

Summary

The results of the interviews support the importance of both anticipatory socialization and social capital in the acquisition of the role of college student. Without exception all of the students who were interviewed displayed a noticeable degree of self-confidence. They had achieved academic and/or athletic success before graduating from high school and all had been challenged and encouraged by one or more mentors. Most had the support of their parents even though in a number of cases the parents could contribute little more than moral support. Many of the participants described a network of adults that included teachers, school counselors and coaches who had provided them with information about college and the preparation they needed to insure success. After school employment, participation in organizations like 4-H, and enrollment in college courses taken concurrently with high school courses or in the evening provided a rich source of material for anticipatory socialization. This meant that when they arrived on campus they already possessed many of the behaviors, attitudes and strategies necessary for success in college.

These were students who had developed good study habits, test taking skills, and competence in accessing and utilizing academic information as well as information regarding college rules and regulations. Perhaps most importantly they had learned to manage their time well.   This is illustrated by their decisions to live on campus or nearby in the community in order to increase the time available for their studies and to work in moderation while attending classes. They understood the importance of setting

aside time to study and complete homework and complete assignments. The drive to succeed that they brought with them from high school coupled with the strategies they had developed greatly facilitated their efforts to acquire the role of a college student.

In many cases the acquisition of social capital started almost as soon as the decision was made to go to college. Participants indicated that in addition to encouragement, they received advice in regard to a wide range of college issues from teachers and other school officials. The fact that many of them came from very small high schools was actually an advantage. They received much more individual attention than the one student in the study who graduated from a very large high school. Several reported using a strategy in high school that would later serve them well in college. The respondents began seeking out older students who had graduated and gone on to college for information about the colleges the respondents were planning to attend. Later, in college they continued to seek out students who were further along in their education or who had completed a particular course for advice about instructors, courses and institutional policies. This was in addition to any formal sources of information created by the institution.

These students also acquired information and assistance from other students in the classes in which they had enrolled. Discussions of course material after class, informal study sessions, speculation about test questions and clarification regarding class assignments were all methods by which the participants acquired social capital concerning the role of a student.

Three of the students obtained part-time jobs through the college's work-study program. This provided still another avenue for acquiring information informally about

the college they were attending. Faculty and staff employers often became sources of information about the college that would never be found in the college catalog. Several students indicated this was one of the reasons they had chosen a community college to begin their career because of their expectations that they could develop the kind of relationships with college instructors that they had found useful in high school.

Chapter 5

Summary, Discussion and Recommendations

This chapter includes a discussion of the purpose of the study, an overview of the methodologies employed and a discussion of the results. This is followed by recommendations for student support staff in higher education and recommendations for further research. The closing section discusses limitations of the current study.

Summary

The purpose of this study was to determine the applicability of role theory in explaining the academic difficulties experienced by first-generation college students. The importance of the study resides in the fact that a significant number of community college students are first-generation and first-generation students are less likely to complete college than their nonfirst-generation peers. Figures from the National Center for Education Statistics suggest that in 2003, 67.9 percent of the students attending public two-year postsecondary institutions met the TRIO definition of a first-generation student (Table 3.11). (National Center for Educational Statistics, 2005)

Difficulties cited in the literature include a greater likelihood to drop out during the first semester, to have lower first-semester grades and to not return at the end of the first year (Ting, 1998a). These observations were reinforced by a series of NCES studies demonstrating that first-generation students are at a disadvantage in enrolling in college, staying enrolled and successfully completing a college program, and that these disadvantages exist even when other variables such as educational expectations, academic preparation, support from parents and schools in planning for a college education and family income are statistically controlled (Choy, 2001).

This study utilizes the definition of first-generation college students employed by the United States Department of Education TRIO funding programs. This definition defines first-generation students as those whose parents have not received a college degree (Billson & Terry, 1982; Pike & Kuh, 2005; Willet, 1989). Other studies have used more stringent definitions but the data suggests that the first-generation effect exists on a continuum affecting all students from those whose parents have not graduated from college to those whose parents have never taken a college course. (Nunez & Cuccaro-Alamin, 1998).

Role Theory

In this study role theory is employed as a central construct for explaining the differences in academic performance between first-generation and nonfirst-generation college students. There are many references to role theory concepts within the literature concerning the academic difficulties of first-generation students (Billson & Terry, 1982; London, 1992; McConnell, 2000; Michener et al., 2004; Olenchak & Hébert, 2002; Ting, 2003; Tinto, 1987; York-Anderson & Bowman, 1991). It seems reasonable then to employ role theory as a framework for understanding those differences.

According to Biddle role theory is central to understanding the process of socialization and the individual's adjustment within society. Biddle suggests new roles are acquired by role playing, practicing roles performed by others and role taking, internalizing expectations communicated to the individual. He describes this as an on-going process as the individual assumes new identities and enters different contexts (Biddle, 1979).

When an individual does identify with a role, acceptance of a role is demonstrated by role behavior. Rommetveit defines role behavior as "social interaction brought about by stereotyped expectations referring to the individual who plays the role and the latter's internalization of these expectations and resultant felt obligations" (1954, p. 35). Once a person adopts a role and begins to engage in role behavior, the roles that a person adopts can influence both personality and attitudes. Both the individual's personality and attitudes may change in a fashion consistent with the demands of the new role (Banton, 1965).

The use of role theory to explain the difficulties of first-generation students is consistent with the history of role theory. Role theory has been used to examine many aspects of education. Biddle states that:

> …teaching involves role behaviors on the part of both teachers and pupils, and that teaching goes on within a context of demands and beliefs, it is possible to view much of education within a role framework. And for this reason, scores of studies have now been conducted using role concepts in education. (1979, p.12)

Role commitment. Intensity of involvement, the amount of time required by the role and the degree of structure required by the role have been identified as dimensions of one's commitment to a role (Newman & Newman, 1995, p. 117). These dimensions were operationally defined as the number of college-related activities in which the student indicated they intended to participate, the distance they intended to commute on a daily basis and the number of hours the student indicated they intended to work each week. Student intentions concerning the three behaviors were then measured using a

survey instrument as a way of determining commitment to the role of student. However, while the questions may provide a measure of commitment to the role of student, to understand how that commitment was achieved requires an examination of anticipatory socialization and the acquisition of social capital.

Anticipatory socialization. Prior to entering college nonfirst-generation students are introduced to various aspects of the role of college student through anticipatory socialization. Some of the elements of anticipatory socialization are described thusly:

> Only by setting at least tentative occupational and family goals during our
>
> teenage years, for example, can we effectively plan our educational and
>
> social lives. Preparation occurs through part-time jobs, special courses,
>
> reading, talking with informed individuals, and so on. People also prepare
>
> for transitions by trying out elements of their anticipated roles. (Michener,
>
> DeLamater, & Myers, 2004, p. 75)

However, anticipatory socialization is most likely to be successful when certain conditions are met. The role, in this case the role of college student, must be presented appropriately with a clear understanding of the demands and expectations of the role (Michener et al., 2004). "Anticipatory socialization appears to be a precursor to success in college" (Pike & Kuh, 2005, p. 1).

Nonfirst-generation students are exposed to anticipatory socialization through the activities of their parents and the environment created by their parents. This provides them with a significant advantage over first-generation students in acquiring the role of a college student. For an individual to move from one role to another is not always an easy matter. It requires that the individual know the rights and obligations of the role to

which she or he is moving and that the individual change his or her behavior accordingly. (Banton, 1965, p. 93)

York-Anderson and Bowman provide the following description of the situation in which first-generation students may find themselves in their efforts to master the role of college student. "First-generation college students' educational paths may more likely be misguided because they may have less knowledge of or fewer experiences with college-related activities, skills, and role models than do second-generation college students" (1991, p. 120).

Social capital. Coleman defined social capital (as cited in Schuller, Baron, & Field) as "the set of resources that inhere in family relations and community social organization and that are useful for the cognitive or social development of a child or young person" (2000, 6). Key components of social capital include such terms as trust, networks, norms and obligations. (Schuller, Baron, & Field, 2000, p. 14) According to Daniel, Schwier and McCalla social capital develops through interaction with others. It is derived from personal experience through interaction with others which gradually increases the knowledge level of the participants (2003). "Social capital may take the form of information-sharing channels and networking as well as social norms, values, and expected behaviors." (Perna, 2000, p. 119)

Varying degrees of social capital can be viewed as one of the results of anticipatory socialization. The more successful the anticipatory socialization, the greater the amount of social capital available to the student transitioning from high school to college. Prior to and after a student begins to attend college the social capital

they acquire first within the family and later in college facilitates the student's efforts to understand and adopt the social role of a college student.

According to Pascarella, Pierson, Wolniak, and Terenzini, first-generation students are likely to start college with less social capital because of the inadequate anticipatory socialization they experienced prior to college. They describe the situation in the following fashion:

> …first-generation students are more likely to be handicapped in accessing and understanding information and attitudes relevant to making beneficial decisions about such things as the importance of completing a college degree, which college to attend, and what kinds of academic and social choices to make while in attendance. (Pascarella, Pierson, Wolniak, & Terenzini, 2004, Theory-based expectations, ¶ 1)

However, it is possible for first-generation students to close the gap even though they start off with a disadvantage in regard to social capital. It appears that first-generation students benefit disproportionately from exposure to opportunities to acquire social capital while attending college. Pascarella et al. state that voluntary academic activities such as reading unassigned books, studying alone and in groups and other academic and classroom activities affect first-generation students in a more positive way than nonfirst-generation students (2004). The level of engagement with college social activities and with peers in college "had stronger positive effects on critical thinking, degree plans, sense of control over (and responsibility for) their own academic success and preference for higher-order cognitive tasks" (Pascarella et al., 2004, Conditional effects, ¶ 2). Interaction with peers outside of the classroom also appeared

to enhance science reasoning and writing skills (Pascarella et al., 2004, Conditional effects, ¶ 2). It would be reasonable to assume that activities such as excessive employment off campus or extensive commuting that hinders student interaction on campus would interfere with the accumulation of social capital while school-related extracurricular activities appear to facilitate the accumulation of social capital (Daniel, Schwier, & McCalla, 2003).

Overview of the Methodology

This study has two components: a quantitative component and a qualitative component. The first part of the quantitative component compared the responses of 75 nonfirst-generation students with the responses of 182 first-generation students to the three survey questions:

1) How many hours per week do you plan to work?

2) How many miles will you commute each way to attend classes?

3) I plan to be involved in the following number of extracurricular activities (sports, band, choir, clubs, student government).

The survey questions were intended to determine a student's affiliation with the role of college student. The assumption was that first-generation students would indicate the intent to participate in fewer activities, commute more miles and work more hours per week than nonfirst-generation students.

In the second part of the quantitative study "at risk" and "not at risk" respondents were extracted from the 182 first-generation students, and their responses to the three survey questions were compared. "At risk" students were designated as those first-generation students with a cumulative grade point average of 2.0 or less while "not at

risk" first-generation students were those with cumulative grade point averages of 3.0 or higher. Ninety-one first-generation students were identified as being "not at risk" and 24 first-generation students were identified as being "at risk."

In the final part of the quantitative component the cumulative grade point averages of the 182 first-generation students were used as a dependent variable. The categories of ordinal responses to the survey questions were used as the independent variables to determine if patterns of ordinal responses indicative of an understanding of the role of a college student as defined by the study resulted in higher cumulative grade point averages. It was anticipated that first-generation students who indicated an interest in participating in two or more college-related activities, who intended to do minimal commuting and who intended to work less than twenty hours per week would have grade point averages significantly higher than the mean for all first-generation students.

The qualitative component consisted of a structured interview administered to ten first-generation students who were selected because they had completed at least twenty hours of college course work with a grade point average of 3.00 or better. Their responses were examined for patterns that might offer clues to their success. A set of questions had been prepared in advance to determine the effect, if any, of anticipatory socialization and social capital. It was anticipated that themes would emerge indicating that one or both processes had played a significant part in their success involving anticipatory socialization prior to their arrival at college and the acquisition of social capital after their arrival at college.

Discussion of Results

The first component of the quantitative portion of the study addressed research hypotheses one, two and three.   Since the data provided by the responses to the scales for the survey questions was ordinal in nature the Mann Whitney U was used to analyze the responses to determine if the research hypothesis associated with each research question should be accepted or rejected in order to provide answers to the first three research questions. The research questions were formulated on the basis of the assumption that nonfirst-generation students would respond in a manner that would be expected of participants who had internalized the role of a college student and that first-generation students would respond in a manner consistent with those who had not. Since support for the hypotheses associated with the three research questions could only be obtained from one side of the statistical curve one-tailed tests of significance were employed for the three research questions with 0.05 or less set as the level of significance necessary to accept the research hypothesis for each research question.

The three research questions are a follows:

1. Do nonfirst-generation students express intentions to participate in more college-sponsored activities, sports and clubs than do first-generation college students?

2. Do nonfirst-generation college students plan to work fewer hours while attending college than do first-generation college students?

3. Based on their reports do nonfirst-generation college students appear less likely to commute, or commute shorter distances, than first-generation college students?

The results of the statistical analyses indicated that the research hypothesis should be accepted for research questions one, two and three. The probability that the responses for first-generation and nonfirst-generation students were chance variations from one statistical pool was .0336 for research question one, .0016 for research question two and .026 for research question three. The results suggest that first-generation students in the study intended to participate in fewer activities, work more hours per week and commute more miles per week than nonfirst-generation students. This is supportive of the primary assumption of the study. Role theory would predict that first-generation students would have less understanding of the requirements of the role of a student. This results in decisions that are counter-productive in a college setting placing them at a disadvantage academically and suggests that since they do not fully identify with the role of student, their affiliation with the institutions associated with that role will be more tenuous and more easily severed.

The second component of the quantitative portion of the study addressed research hypotheses four, five and six. In each case the research hypothesis was that there was a significant difference between the responses on the survey of first-generation students with cumulative grade point averages equal to or greater than 3.0 and first-generation students with grade point averages equal to or less than 2.0. As with research hypotheses one, two and three, the data provided by the responses to the scales for the survey questions was ordinal in nature. The Mann Whitney U was used to analyze the responses to determine if the research hypotheses associated with research questions four, five and six should be accepted or rejected in order to provide answers to the three research questions. The research questions were formulated on

the basis of the assumption that first-generation students with higher cumulative grade point averages would respond in a manner that would be expected of participants who had internalized the role of a college student and that first-generation students with lower cumulative grade point averages would respond in a manner consistent with those who had not. Since support for the hypotheses associated with the three research questions could only be obtained from one side of the statistical curve one-tailed tests of significance were employed for the three research questions with 0.05 set as the level of significance necessary to accept the research hypothesis for each research question.

The research questions associated with these hypotheses are:

4. Do first-generation students with a cumulative GPA over two semesters of 2.0 or less plan to participate in significantly fewer college sponsored activities than do first-generation students with a cumulative GPA of 3.0 or greater?

5. Do first-generation students with a cumulative GPA over two semesters of 3.0 or greater plan to commute significantly fewer miles than do first-generation students with a cumulative GPA equal to or less than 2.0?

6. Do first-generation students with a cumulative GPA over two semesters of 3.0 or greater plan to work significantly fewer hours than first-generation students with a GPA of 2.0 or less?

The results of the statistical analyses indicated that the research hypothesis could not be accepted for research questions four, five and six. The probability that the responses for first-generation students with cumulative grade point averages equal to or

greater than 3.0 and first-generation students with grade point averages equal to or less than 2.0 were chance variations from one statistical pool was 0.3867 for research question four and 0.4420 for research question five. The probability that the difference in responses for research question six could occur by chance was 0.02386. However, the mean rank score for first-generation students was larger that the mean rank score for nonfirst-generation students indicating that this difference occurred on the wrong side of the distribution for one-tailed significance requiring rejection of the research hypothesis for research question six as well.

The underlying assumption behind research questions four, five and six was that first-generation students who indicated intentions to participate in two or more activities, not commute or commute only short distances and not work or only work part-time would be those students who were responding in a manner indicative of their internalization of the role of a college student. This, in turn, would lead to higher cumulative grade point averages than first-generation students who indicated their intent to not participate in any college sponsored activities, commute substantial distances and work more than twenty hours per week. The average ordinal scores for the activities research question and the commuting research question showed some modest movement in that direction. The average score for first-generation students with cumulative grade point averages equal to or greater than 3.0 was 1.868 on the activities research question. This was in contrast with an average ordinal score of 1.833 for the first-generation students with a cumulative grade point average equal to or less than 2.0. In a similar vein, high grade-point-average students had an average ordinal scale score of 1.934 on the commute research question compared to 2.167 for the first-

generation students with the lower grade point averages.   But, in neither case was the difference large enough to be considered significant.

One potential confounding condition is the longitudinal nature inherent in research questions four, five and six. In each case the survey questions were administered nine months before students had completed the course work on which their cumulative grade point averages were based. Students might have initially answered the survey questions with a lack of understanding of the role of a college student but benefited from the acquisition of social capital resulting in a change in intent and behavior. This was not conceptually taken into consideration in the initial planning. It is also possible that the results obtained from survey question six were influenced by this longitudinal effect although an additional conceptual error may have been involved with that research question.   It was assumed that first-generation students who did not understand the role of a college student would err in the direction of trying to work too many hours each week (Nomi, 2005) but it also seems possible that no employment at all can also create a disadvantage. One researcher has suggested that moderate employment on campus can actually be beneficial because it allows first-generation students who are employed on campus an opportunity to acquire useful social capital (Adelman, 1999).   This may help to explain why the average ordinal scale score on the question involving employment was 2.670 for first-generation students with cumulative grade point averages equal to 3.0 or above while the average score for first-generation students with a grade point average equal to or below 2.0 was 2.167. Forty-two percent of the first-generation students with lower cumulative grade point averages indicated

they did not intend to work while only 15 percent of the first-generation students with high grade point averages indicated a similar intent.

Research question seven provided an opportunity to examine the interaction of various levels of the three ordinal scales associated with the three survey questions. With the previous research questions the number of responses to the levels of the ordinal scales for the survey questions was the dependent variable. In research question seven the levels of the ordinal scales for the three survey questions were the independent variables and the average cumulative grade point average of the students who fell into each of those levels was the dependent variable. The final research question from the quantitative portion of the study is:

7. Will the interaction of survey responses concerning participation in activities, commuting and employment result, at the end of two semesters, in significant differences in grade point averages for first-generation students corresponding to predictions derived from social role theory?

Analysis of variance was used to address the issues raised in research question seven. Originally it was decided to use .05 as the level of significance necessary to reject the null hypothesis. However, Cochran's C indicated that the assumption of homogeneity was violated and that the variance of the scores in the treatment groups was not homogenous. To compensate for the violation of homogeneity 0.025 was adopted as the nominal level of significance in order to achieve an actual significance level approximating 0.05. This action was based on Keppel's statements concerning procedures for evaluating treatment means when the assumption of homogeneity has been violated (1991, p.107).

Two main effects, commute and work, contained levels with means that differed significantly (probability less that .025) from the mean for the entire group (COMMUTE $F(3,136) = 2.95$, $p = .023$ and WORK $F(4,136) = 3.54$, $p = .017$. The analysis of variance indicated there was a significant interaction between ACT and COMMUTE ($F(9, 1.91) = 3.08$, $p = .002$). The probability of significant differences resulting from the interactions between COMMUTE and WORK was .033 and between ACT, COMMUTE and WORK was .036. Both of these probabilities exceeded the nominal level of significance of 0.025. However, rather than risk committing a Type II error it was decided to suspend judgment and examine the data for interesting findings with an eye to future experiments that could determine statistical significance. An analysis of these interactions suggested that students who are participating in no activities, unemployed and not commuting had lower grade point averages than students who were participating in one or two activities, unemployed and not commuting. Further analysis suggested that even students commuting long distances, provided they were unemployed or had limited employment, had higher grade point averages if they were involved in two or more activities than similar students who were involved in no activities. Both observations would be consistent with predictions from social role theory.

The qualitative portion of the study resulted in research questions eight and nine. Ten first-generation students who had completed twenty or more hours with a cumulative grade point average of 3.0 or higher were randomly selected and asked to participate in an interview in regard to their experiences before attending college and during their first year of college. The first five questions focused on the possible impact

of anticipatory socialization. Anticipatory socialization has been defined as "activities that provide people with knowledge about, skills for, and values of a role they have not yet assumed" (Michener, DeLamater, & Myers, 2004, p. 75). Transition to college can be facilitated by initiating the process prior to graduation from high school. But, anticipatory socialization is a haphazard process at best if one does not have accurate information concerning the attitudes and behaviors consistent with college success (Tinto, 1987). First-generation students with parents who have not graduated from college might be expected to be at a serious disadvantage because of the inability of their parents to provide them with anticipatory socialization experiences for the role of a college student. Pike accentuates this argument when he states, "Anticipatory socialization appears to be a precursor to success in college" (Pike & Kuh, 2005, p. 1).

Even before, but especially upon arrival at college, students can begin acquiring social capital. Social capital is the term that defines the "social relationships from which an individual is potentially able to derive institutional support, particularly support that includes the delivery of knowledge-based resources, for example, guidance for college admission" (Stanton-Salazar & Dornbush, 1995, p. 115). In regard to social capital Duggan speculates that one of the reasons first-generation students have lower levels of persistence and degree attainment in college can be attributed to lower levels of social capital. He points out that because their parents have had no experience with post-secondary education, their first-generation offspring are likely to have less awareness of admission and financial aid policies and processes, putting them at a disadvantage in relationship to their nonfirst-generation peers (Duggan, 2001, p. 1). Other researchers have made similar comments. For example Pascerella, Pierson,

Wolniak and Terenzini stated, "first-generation students are more likely to be handicapped in accessing and understanding information and attitudes relevant to making beneficial decisions about such things as the importance of completing a college degree, which college to attend, and what kinds of academic and social choices to make while in attendance" (2004, Theory-based expectations, ¶ 1). They go on to observe that while first-generation students start off with a disadvantage in regard to social capital, the college experience itself can increase a student's social capital. It appears possible that in some areas first-generation students may benefit more than nonfirst-generation students and actually close the gap as a result of their college experiences. (Pascarella et al., 2004, Theory-based expectations, ¶ 2)

Research Question 8 asks, will themes supporting the importance of anticipatory socialization emerge to explain the persistence and academic success of some first-generation students from the questions asked during the qualitative portion of the study?

As a group the students who were interviewed appeared to have benefited a good deal from anticipatory socialization. Six of the interviewees reported receiving strong encouragement from their parents. Support and advice was also forthcoming from older siblings and other members of their extended family. In five cases this came from family members who had graduated from college. Mentors who provided guidance to the students in high school included teachers, school counselors, older friends who were attending college and in one case an employer. Preparatory activities included summer and after school employment, participation in 4-H and enrollment in college courses in the evening and during the summer. An unexpected source of anticipatory

socialization was involvement in concurrent enrollment courses providing both high school and college credit while attending high school. Seven students earned college credit through concurrent enrollment classes.

Research Question 9 asks, will themes supporting the importance of social capital emerge to explain the persistence and academic success of some first-generation students from the questions asked during the qualitative portion of the study?

Students who participated in the interviews acknowledged the usefulness of official channels for providing information but all of the students related using unofficial channels to gain additional information and insights about classes, requirements and expectations. Five students stated they had received information informally about such issues as the difficulty of courses, the attitude of specific instructors about absences, late homework and attitude towards students that helped them in decisions about enrollment. Two students obtained information from roommates while two other students turned to older students when they had concerns about courses, regulations and expectations. Students who had already completed a class were often sought out for useful information. Advice was also obtained in both formal and informal study groups. All but one respondent indicated they had obtained useful information while participating in sports and other school-sponsored activities. Activities also provided opportunities to develop relationships that provided emotional and social support during difficult times. One unexpected source of social capital was provided to students engaged in work-study programs. This allowed for the development of informal

relationships with faculty and staff that helped them understand expectations from a different perspective.

Recommendations for Practice

In an effort to answer research questions one through seven the results of the quantitative portion of the study leads to the following recommendations:

1. First-generation students who indicate they plan to live on campus, while eschewing both employment and participation in activities should be monitored for potential academic difficulties.

2. Post-secondary institutions should create opportunities to offer ten to fifteen hours of on-campus work study to first-generation students in lieu of increased scholarships and grants.

3. First-generation students with no employment or moderate levels of employment, even if they are commuting, should be encouraged to participate in college sponsored extra-curricular activities.

Social role theory would propose that many first-generation students experience role conflict as they attempt to deal with what appears to be contradictory expectations between their family and community and the expectations of college life (Billson & Terry, 1982; Padron, 1992; Tinto, 1987). Some scholars appear to consider such conflict as unavoidable (Inman & Mayes, 1999; London, 1989; Tinto, 1987). Role theory would suggest that such conflicts would indeed make it difficult for first-generation students to transition into college. However, role theory offers options for reducing the conflict. Educators sometimes make statements that seem to imply that first-generation students, in order to be successful, must divest themselves of former roles in their

family and community. For example London suggests that first-generation students may find that assigned family roles are incompatible with college demands (1989), an observation supported by Tinto who argues that successful transition to college requires at least partial disassociation from local high school peer groups and from one's family of origin (1987). This is accompanied by suggestions that first-generation families have failed their children by not providing them with anticipatory socialization experiences necessary for success in college (Choy, 2001; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Tinto, 1987).

Under the circumstances it is not surprising that many families of first-generation students would look upon colleges with suspicion and mistrust. If academicians imply that the parents of first-generation students have failed their off spring and that some degree of dissociation from the family of origin is required if first-generation students are to be successful, it seems reasonable to assume that the college enterprise could create a permanent estrangement between parents and their first-generation children. Few parents would be comfortable with the idea that the end result of a college education would be the rejection of the parents' values, attitudes and way of life.

Application of role theory suggests there are ways to diminish or eliminate the development of a rift between first-generation students and their parents. In order to reduce role conflict, role theory would suggest the following practices be adopted by institutions of higher learning. Many of these suggestions are backed by empirical research:

1. Efforts to work with first-generation students and their parents should begin as early as the eighth grade. According to studies cited by Choy, students

begin making decisions about college attendance as soon as the 8th grade (2001).

2. First-generation students could benefit from orientation programs designed for their parents to assist the parents in understanding the college environment (York-Anderson & Bowman, 1991). Orientation programs should be culturally sensitive and stress the importance of a college education for the student, the family and the culture. Such programs might include music, food and cultural activities representative of the parents' culture while emphasizing the contributions made by earlier students who share a cultural bond with the parents.

3. Orientation programs should provide both high school students and their parents with information in regard to the importance of enrolling in academically rigorous high school courses in order to prepare for college (Adelman, 1999; Choy, 2001).

4. The cost of attending college is often a major concern for the families of first-generation students. Orientation programs should provide high school students and their parents with information about the availability of grants, scholarships and loans to attend college (Macy, 2000).

5. When the student does begin attending college, efforts should be extended to develop and maintain ties between and among the student, the parents and the college. This can be accomplished through the freshman orientation program, newsletters sent to the parents and programs that provide

opportunities for family members to visit during sporting events and cultural presentations.

6. Counseling should be available to assist first-generation students who experience role conflict between college and family demands.

In addition to suggestions concerning ways to reduce role conflict, role theory also offers ideas for facilitating an understanding and acceptance of the role of student. This includes activities that promote anticipatory socialization prior to attending college and the development of social capital both before and after arrival on a college campus. These practices and activities are listed below.

7. It has been noted that anticipatory socialization is an important element in preparing students for college (Pike & Kuh, 2005). Mentors could encourage first-generation students to consider part-time jobs, special courses, directed readings, talking with informed individuals, and other activities that would help prepare them for college.

8. "People also prepare for transitions by trying out elements of their anticipated roles" (Michener, DeLamater, & Myers, 2004). Pre-college and summer bridge programs to recruit new students and assist them in creating a link between high school and college provide one such opportunity (Hsiao, 1992). Enrollment in college courses in the evening and during the summer and enrollment in concurrent enrollment courses prior to graduation from high school are other options for becoming familiar with both formal and informal college expectations.

9. Colleges can also encourage first-generation students to participate in high school groups composed of peers who value education. Forensics, debate, science clubs and theater programs are examples of activities that typically attract college bound students (Macy, 2000).

10. Colleges can work through the high schools or directly identify members of the community who would be willing to mentor first-generation high school students interested in attending college.

11. Financial assistance should be provided to reduce the need to work excessive hours while attending college (York-Anderson & Bowman, 1991).

12. Opportunities to acquire social capital should be provided and, where possible, barriers to the acquisition of social capital should be removed. For example support throughout the college years from one or more adult mentors is desirable for first-generation students (Macy, 2000). At the same time provision of work opportunities on campus increases possibilities for interaction within the campus community and helps to keep off-campus employment from detracting from identification with the role of student (Adelman, 1999). This also helps to relieve the financial burden often experienced by first-generation students (Billson & Terry, 1982; Nomi, 2005).

13. First-generation students should be encouraged to participate in academic and social activities sponsored by the college. First generation college students often have little knowledge or understanding of the formal and informal mechanisms including policies, procedures and student services that are available to assist them (Tinto, 1987). Participation provides them

with an opportunity to interact and acquire additional social capital in the process. Not only do these activities contribute to social capital there is also reason to believe that, in general, extracurricular activities and interaction with peers have a positive effect on the intellectual and personal development of first-generation college students (Pascarella, Pierson, Wolniak, & Terenzini, 2004; Ting, 2003) by helping first-generation students develop a better understanding of what they need to do to succeed in college and benefit from their education (Pascarella, et al., 2004).

14. Other actions that can enhance the interaction of first-generation students with their peers, faculty and staff include developing learning communities, freshman seminars, college mentoring programs, intrusive academic advising (a proactive style of advising requiring regular contact and timely intervention if needed), peer tutoring (McConnell, 2000) and encouraging first-generation students to live on campus (Billson & Terry, 1982).

15. First-generation students are often overwhelmed by the scale of a university setting. They can benefit from small class size (Hsiao, 1992) and places to meet friends, study and network with other students in a setting that is scaled down to a manageable size accompanied by programs that allow for personal interaction with faculty and staff. (Richardson & Skinner, 1992)

Recommendations for Further Research

1. The attempt to test the hypotheses associated with research questions four, five and six was flawed by failing to consider the impact of the passage of two semesters between obtaining the responses to the survey questions and

the collection of the students' grade point averages. Future efforts should reword the survey questions to reflect current behavior rather than future intent. The survey questions could then be administered at the end of the second semester and then analyzed with the students' cumulative two semester grade point averages. This would eliminate the longitudinal effect that was inadvertently introduced in this study.

2. One hundred eighty-two first-generation students responded to the three survey questions. Hypothesis seven addressed the issue of whether any combination of responses to the three survey questions resulted in significant variances in average cumulative grade point from the variance of the total average cumulative grade point average for the entire group. Two of the survey questions had five possible responses and one survey question had four possible responses. The net effect was to create a total of 100 potential cells to be populated by the cumulative grade point averages of 182 students. This resulted in some of the cells having no entries and others with only one or two entries that could be seriously skewed. One solution would be to include more subjects in future efforts to replicate the study. Unfortunately the power test indicated the number of subjects was close to the optimal number and additional subjects might enhance the possibility of a Type II error. Another approach would be to reduce the number of cells by collapsing the number of options available for responding to the survey questions. Data collected from this study suggests that the responses to the survey question concerning activities could be collapsed to two responses,

maintaining the first response, combining the second, third, fourth and fifth responses without losing any appreciable sensitivity. The survey question concerning work could be collapsed to three responses by combining the second and third responses, and the survey question concerning commuting could be collapsed to three responses by combining the third, fourth and fifth responses. This would result in a total of eighteen cells to be populated by cumulative grade point averages from approximately 180 students.

Limitations of the Current Study

Concerns have been raised that the operational constructs introduced in the quantitative portion of the study do not adequately represent key components of social role theory. This would call into question whether the study supports role theory as a causative factor in the difficulties experienced by first-generation students.

In the qualitative portion of the study only a small number of "successful" first-generation students were interviewed. No interviews were conducted with nonfirst-generation students or with "unsuccessful" first-generation students to determine if the responses of the "successful" first-generation students were truly unique to their circumstances and performance in college.

In addition the study had several limitations that would make it difficult to generalize the results to the entire population of college students. The participants in the study were incoming freshmen attending a rural community college. Well over ninety percent had graduated from high school the previous spring semester.

1. The generalization of these results may be limited because the survey respondents were predominantly rural Caucasian freshmen students who had

graduated from high school the previous spring. It is problematic as to whether the results can be generalized to nontraditional students, urban students and students who belong to ethnic minorities.

2. As with all survey instruments, the three survey questions required that students self-report about their intended behavior. There is no way to determine if they were truthful in their initial responses or that they actually followed through on the intentions they expressed in the survey.

3. Because of the sample, this study offers little insight into the complex lives of nontraditional students who are often older, married or divorced, raising children and employed full-time.

4. The survey did not contain provisions to screen for false responses.

Conclusion

First-generation students are enrolling in postsecondary institutions in significant numbers. In 2002, 364,000 new freshmen students who took the Scholastic Aptitude Test were first-generation students (Ishitani, 2003). In spite of their increasing numbers little research has been done on their persistence and success (Lohfink & Paulsen, 2005), although there is a clear consensus that first-generation students as a group are unlikely to experience the academic success of their nonfirst-generation peers (Choy, 2001; Ishitani, 2003; McConnell, 2000).

There is a long tradition of conceptualizing various aspects of education within the context of role theory (Biddle, 1979). One of the earliest examples studied the effect of role conflict on student adjustment. This study was published in 1949 (Stouffer). Thus, it is surprising that more effort has not been made to apply role theory to the

circumstances in which first-generation students find themselves. It seems evident that parents who have not attended college would have difficulty assisting their children in developing the behaviors, attitudes and knowledge required for success in the role of college student. The situation also seems rife for the possibility of role conflict when the role of college student conflicts with roles within the family.

However, not only does role theory offer a way of conceptualizing the difficulties experienced by first-generation students, it also offers very clear, theory based, interventions. Application of role theory offers the possibility of proactive efforts beginning years before the first-generation student's graduation from high school, efforts that both better prepare the student for college life, and reduce or eliminate role conflict between the roles of student and son or daughter.

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Appendix A-Survey Questions

Did either your father or mother earn a 4 year degree?

☐ Yes   ☐ No

How many hours per week do you plan to work?

☐ None   ☐ 1 to 10   ☐ 11 to 20 ☐ More than 20

How many miles will you commute each way to attend classes?

☐ None   ☐ 1 to 4   ☐ 5 to 15   ☐ 16 to 30 ☐ More than 30

I plan to be involved in the following number of extracurricular activities (sports,

band choir, clubs, and student government):

☐ None   ☐ One   ☐ Two   ☐ Three   ☐ Four or more

Appendix B- Application for IRB Approval

Committee for Research Involving Human Subjects (IRB)
Application for Approval Form
Last revised on March 2007

ADMINISTRATIVE INFORMATION:

- **Title of Project:** (if applicable, use the exact title listed in the grant/contract application)
  Social role theory as a means of differentiating between first-generation and nonfirst-generation college students

- **Type of Application:**
  ☒ New, ☐ Addendum/Modification,

- **Principal Investigator:** (must be a KSU faculty member)

Name:	Fred Bradley	Degree/Title:	Professor
Department:	SpecEd Counseling & Stud Aff	Campus Phone:	785 532 5937
Campus Address:	322 Bluemont	Fax #:	
E-mail	fbradley@ksu.edu		

- **Contact Name/Email/Phone for**   Leslie L. Hemphill lhemphill@cloud.edu 785 243 1435 Ext. 275
  Questions/Problems/Emergencies:

- **Does this project involve any collaborators not part of the faculty/staff at KSU?** (projects with non-KSU collaborators may require additional coordination and approvals):
  ☒ No
  ☐ Yes

- **Project Classification** (Is this project part of one of the following?):
  ☐ Thesis
  ☒ Dissertation
  ☐ Class Project
  ☐ Faculty Research
  ☐ Other: _____

- **Please attach a copy of the Consent Form:**
  ☒ Copy attached
  ☐ Consent form not used

- **Funding Source:** ☐ Internal   ☐ External (identify source
  and attach a copy of the sponsor's grant application or
  contract as submitted to the funding agency)
      ☐ Copy attached   ☒ Not applicable   _____

- **Based upon criteria found in 45 CFR 46 – and the overview of projects that may qualify for exemption explained at http://www.ksu.edu/research/comply/irb/about/exempt.html, I believe that my project using human subjects should be determined by the IRB to be exempt from IRB review:**
  ☐ No
  ☒ Yes   (If yes, please complete application including Section XII. C. 'Exempt Projects'; remember that only the IRB has the authority to determine that a project is exempt from IRB review)

If you have questions, please call the University Research Compliance Office (URCO) at 532-3224, or comply@ksu.edu

Human Subjects Research Protocol Application Form

The KSU IRB is required by law to ensure that all research involving human subjects is adequately reviewed for specific information and is approved prior to inception of any proposed activity. Consequently, it is important that you answer all questions accurately. If you need help or have questions about how to complete this application, please call the Research Compliance Office at 532-3224, or e-mail us at **comply@ksu.edu**.

Please provide the requested information in the shaded text boxes. The shaded text boxes are designed to accommodate responses within the body of the application. As you type your answers, the text boxes will expand as needed. After completion, print the form and send the original and one photocopy to the Institutional Review Board, Room 203, Fairchild Hall.

Principal Investigator:	**Professor Fred Bradley**
Project Title:	**Social role theory as a means of differentiating between first-generation and nonfirst-generation college students**
Date:	**3/27/07**

NON-TECHNICAL SYNOPSIS (brief narrative description of proposal easily understood by nonscientists):

I. **BACKGROUND** (concise narrative review of the literature and basis for the study):
First-generation students are disproportionately represented among those who are likely to do poorly academically or discontinue their education before complwting the first year. Yet, "relatively little has been written about academic and personal characteristics of college students of first-generation and low-income families and how these characteristics may affect their success in college" (Ting, 1998, p. 16). Using social role theory, this interview protocol was developed to investigate the individual experiences of successful first-generation students prior to and during their first year of college.

II. **PROJECT/STUDY DESCRIPTION** (please provide a concise narrative description of the proposed activity in terms that will allow the IRB or other interested parties to clearly understand what it is that you propose to do that involves human subjects. This description must be in enough detail so that IRB members can make an informed decision about proposal).
A list of ten questions were developed for a structured interview to be administered to first-generation students who have successfully completed or are about to complete their first year of college. After completion of the interviews, responses of the participants will be examined for themes relating to anticipatory socialization and social capital.

III. **OBJECTIVE** (briefly state the objective of the research – what you hope to learn from the study):
It is anticipated that student responses to the interveiw questions will help to identify changes the students made in order to succeed in college, the resources they found most useful in making those changes and the obstacles which created the greatest difficulties. In turn this information may be helpful to student services personnel in constructing more effective programs for assisting first-generation students. If this should prove to be true it is planned to submit portions of the results for publication in journal articles

IV. **DESIGN AND PROCEDURES** (succinctly outline formal plan for study):
    A. Location of study: **Cloud County Community College, Concordia, Ks. 66901**
    B. Variables to be studied: **Themes and patterns emerginf from responses to the interview questions**
    C. Data collection methods: (surveys, instruments, etc –   **Structured Interview**
    PLEASE ATTACH)
    D. List any factors that might lead to a   **Inconvenience**
    subject dropping out or withdrawing from a study. These might include, but are not limited to emotional or physical stress, pain, inconvenience, etc.:
    E. List all biological samples taken: (if any)
    F. Debriefing procedures for participants: **I will meet with all participants who request a debriefing in**

2

<u>May 2007 either in person or by telephone</u>

V. <u>**RESEARCH SUBJECTS**</u>:

    A. Source: <u>**Full-time students at Cloud County Community College**</u>

    B. Number: <u>**10**</u>

    C. Characteristics: (list any   **First-generation students who have successfully completed or are** unique qualifiers desirable for **completing their first year of college** research subject participation)

    D. Recruitment procedures: (Explain how   **I will contact students personally and by phone and ask** do you plan to recruit your subjects? **them to participate** Attach any fliers, posters, etc. used in recruitment. If you plan to use any inducements, ie. cash, gifts, prizes, etc., please list them here.)

VI. <u>**RISK – PROTECTION – BENEFITS**</u>: The answers for the three questions below are central to human subjects research. You must demonstrate a reasonable balance between anticipated risks to research participants, protection strategies, and anticipated benefits to participants or others.

    A. **Risks for Subjects:** (Identify any reasonably foreseeable physical, psychological, or social risks for participants. State that there are "no known risks" if appropriate.)
        No known risks

    B. **Minimizing Risk:** (Describe specific measures used to minimize or protect subjects from anticipated risks.)

    C. **Benefits:** (Describe any reasonably expected benefits for research participants, a class of participants, or to society as a whole.)
        Improved programs, policies and procedures for increasing the academic success and retention rate of first-generation students

In your opinion, does the research involve **more than minimal risk** to subjects? ("Minimal risk" means that "the risks of harm anticipated in the proposed research are not greater, considering probability and magnitude, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.")

☐ **Yes**   ☒ **No**

VII.   **CONFIDENTIALITY:** Confidentiality is the formal treatment of information that an individual has disclosed to you in a relationship of trust and with the expectation that it will not be divulged to others without permission in ways that are inconsistent with the understanding of the original disclosure. Consequently, it is your responsibility to protect information that you gather from human research subjects in a way that is consistent with your agreement with the volunteer and with their expectations. If possible, it is best if research subjects' identity and linkage to information or data remains unknown.

Explain how you are going to protect confidentiality of research subjects and/or data or records. Include plans for maintaining records after completion.

    Where possible only aggregate information will be reported. Unusual themes may be described but devoid of any references that would allow identification of the source. Tape recordings of the interviews and the particpants consent forms will be maintained for three years in a locked file cabinet and then destroyed

VIII. INFORMED CONSENT: Informed consent is a critical component of human subjects research – it is your responsibility to make sure that any potential subject knows exactly what the project that you are planning is about, and what his/her potential role is. (There may be projects where some forms of "deception" of the subject is necessary for the execution of the study, but it must be carefully justified to and approved by the IRB). A schematic for determining when a

waiver or alteration of informed consent may be considered by the IRB is found at
http://www.ksu.edu/research/comply/irb/images/slide1.jpg and at
http://ohrp.osophs.dhhs.gov/humansubjects/guidance/45cfr46.htm#46.116. Even if your proposed activity does qualify for
a waiver of informed consent, you must still provide potential participants with basic information that informs them of their
rights as subjects, i.e. explanation that the project is research and the purpose of the research, length of study, study
procedures, debriefing issues to include anticipated benefits, study and administrative contact information, confidentiality
strategy, and the fact that participation is entirely voluntary and can be terminated at any time without penalty, etc. Even if
your potential subjects are completely anonymous, you are obliged to provide them (and the IRB) with basic information
about your project. See informed consent example on the URCO website at
http://www.ksu.edu/research/comply/irb/app.html). It is a federal requirement to maintain informed consent forms for 3
years after the study completion.

Yes   No   Answer the following questions about the informed consent procedures.

☒   ☐   a.   Are you using a written informed consent form? If "yes," include a copy with this
application. If "no" see b.

☐   ☐   b.   In accordance with guidance in 45 CFR 46, I am requesting a waiver or alteration of
informed consent elements (See Section VII above). If "yes," provide a basis and/or
justification for your request.

☒   ☐   c.   Are you using the online Consent Form Template provided by the URCO? If "no," does
your Informed Consent document has all the minimum required elements of informed
consent found in the Consent Form Template? (Please explain)

☐   ☒   d.   Are your research subjects anonymous? If they are anonymous, you will not have access to
any information that will allow you to determine the identity of the research subjects in
your study, or to link research data to a specific individual in any way. Anonymity is a
powerful protection for potential research subjects. (An anonymous subject is one whose
identity is unknown even to the researcher, or the data or information collected cannot be
linked in any way to a specific person).

☒   ☐   e.   Are subjects debriefed about the purposes, consequences, and benefits of the research?
Debriefing refers to a mechanism for informing the research subjects of the results or
conclusions, after the data is collected and analyzed, and the study is over. (If "no"
explain why.)

> * It is a requirement that you maintain all signed copies of informed consent documents for at least 3 years
> following the completion of your study. These documents must be available for examination and review by federal
> compliance officials.

IX.   **PROJECT INFORMATION:** (If you answer yes to any of the questions below, you should explain them
in one of the paragraphs above)

Yes   No   Does the project involve any of the following?

☐   ☒   a.   Deception of subjects
☐   ☒   b.   Shock or other forms of punishment
☐   ☒   c.   Sexually explicit materials or questions about sexual orientation, sexual experience or
sexual abuse
☐   ☒   d.   Handling of money or other valuable commodities
☐   ☒   e.   Extraction or use of blood, other bodily fluids, or tissues
☐   ☒   f.   Questions about any kind of illegal or illicit activity
☐   ☒   g.   Purposeful creation of anxiety
☐   ☒   h.   Any procedure that might be viewed as invasion of privacy
☐   ☒   i.   Physical exercise or stress
☐   ☒   j.   Administration of substances (food, drugs, etc.) to subjects
☐   ☒   k.   Any procedure that might place subjects at risk

□ ☒ l. Any form of potential abuse; i.e., psychological, physical, sexual
☒ □ m. Is there potential for the data from this project to be published in a journal, presented at a conference, etc?
☒ □ n. Use of surveys or questionnaires for data collection
IF YES, PLEASE ATTACH!!

X. **SUBJECT INFORMATION:** (If you answer yes to any of the questions below, you should explain them in one of the paragraphs above)

Yes No Does the research involve subjects from any of the following categories?
□ ☒ a. Under 18 years of age (these subjects require parental or guardian consent)
□ ☒ b. Over 65 years of age
□ ☒ c. Physically or mentally disabled
☒ □ d. Economically or educationally disadvantaged
□ ☒ e. Unable to provide their own legal informed consent
□ ☒ f. Pregnant females as target population
□ ☒ g. Victims
□ ☒ h. Subjects in institutions (e.g., prisons, nursing homes, halfway houses)
□ ☒ i. Are research subjects in this activity students recruited from university classes or volunteer pools? If so, do you have a reasonable alternative(s) to participation as a research subject in your project, i.e., another activity such as writing or reading, that would serve to protect students from unfair pressure or coercion to participate in this project?   If you answered this question "Yes," explain any alternatives options for class credit for potential human subject volunteers in your study.

☒ □ j. Are research subjects **audio** taped? If yes, how do you plan to protect the recorded information and mitigate any additional risks?

□ ☒ k. Are research subjects **video** taped? If yes, how do you plan to protect the recorded information and mitigate any additional risks?

XI.   **CONFLICT OF INTEREST:** Concerns have been growing that financial interests in research may threaten the safety and rights of human research subjects.   Financial interests are not in them selves prohibited and may well be appropriate and legitimate. Not all financial interests cause Conflict of Interest (COI) or harm to human subjects. However, to the extent that financial interests may affect the welfare of human subjects in research, IRB's, institutions, and investigators must consider what actions regarding financial interests may be necessary to protect human subjects. Please answer the following questions:

Yes No
□ ☒ a. Do you or the institution have any proprietary interest in a potential product of this research, including patents, trademarks, copyrights, or licensing agreements?
□ ☒ b. Do you have an equity interest in the research sponsor (publicly held or a non-publicly held company)?
□ ☒ c. Do you receive significant payments of other sorts, eg., grants, equipment, retainers for consultation and/or honoraria from the sponsor of this research?
□ ☒ d. Do you receive payment per participant or incentive payments?
e. If you answered yes on any of the above questions, please provide adequate explanatory information so the IRB can assess any potential COI indicated above.

XII. PROJECT COLLABORATORS:

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A. KSU Collaborators – list anyone affiliated with KSU who is collecting or analyzing data: (list all collaborators on the project, including undergraduate and graduate students)

Name:	Department:	Campus Phone:
Leslie L. Hemphill	SpecEd Counseling & Stud Aff	785 532-5937

B. Non-KSU Collaborators: (List all collaborators on your human subjects research project not affiliated with KSU in the spaces below. KSU has negotiated an Assurance with the Office for Human Research Protections (OHRP), the federal office responsible for oversight of research involving human subjects. When research involving human subjects includes collaborators who are not employees or agents of KSU the activities of those unaffiliated individuals may be covered under the KSU Assurance only in accordance with a formal, written agreement of commitment to relevant human subject protection policies and IRB oversight. The Unaffiliated Investigators Agreement can be found and downloaded at (http://www.ksu.edu/research/comply/irb/forms/invagree.pdf). The URCO must have a copy of the Unaffiliated Investigator Agreement on file for each non-KSU collaborator who is not covered by their own IRB and assurance with OHRP. Consequently, it is critical that you identify non-KSU collaborators, and initiate any coordination and/or approval process early, to minimize delays caused by administrative requirements.)

Name:	Organization:	Phone:

Does your non-KSU collaborator's organization have an Assurance with OHRP? (for Federalwide Assurance and Multiple Project Assurance (MPA) listings of other institutions, please reference the OHRP website under Assurance Information at: http://ohrp.osophs.dhhs.gov/polasur.htm).

☐ No
☐ Yes   If yes, Collaborator's FWA or MPA # _____

Is your non-KSU collaborator's IRB reviewing this proposal?
☐ No
☐ Yes   If yes, IRB approval # _____

C. Exempt Projects: 45 CFR 46 identifies six categories of research involving human subjects that may be exempt from IRB review. The categories for exemption are listed on the KSU research involving human subjects home page at http://www.ksu.edu/research/comply/irb/about/exempt.html. If you believe that your project qualifies for exemption, please indicate which exemption category applies (1-6). Please remember that only the IRB can make the final determination whether a project is exempt from IRB review, or not.
    Exemption Category: Two _____

XIII. CLINICAL TRIAL ☐ Yes ☒ No
        (If so, please give product.)

Post Approval Monitoring: **The URCO has a Post-Approval Monitoring (PAM) program to help assure that activities are performed in accordance with provisions or procedures approved by the IRB. Accordingly, the URCO staff will arrange a PAM visit as approprate; to assess compliance with approved activities.**

If you have questions, please call the University Research Compliance Office (URCO) at 532-3224, or comply@ksu.edu

INVESTIGATOR ASSURANCE FOR RESEARCH INVOLVING HUMAN SUBJECTS
(Print this page separately because it requires a signature by the PI.)

P.I. Name: Professor Fred Bradley

Title of Project: Social role theory as a means of differentiating between first-generation and nonfirst-generation college students

XII. ASSURANCES: As the Principal Investigator on this protocol, I provide assurances for the following:

A.   **Research Involving Human Subjects:** This project will be performed in the manner described in this proposal, and in accordance with the Federalwide Assurance FWA00000865 approved for Kansas State University available at http://ohrp.osophs.dhhs.gov/polasur.htm#FWA, applicable laws, regulations, and guidelines. Any proposed deviation or modification from the procedures detailed herein must be submitted to the IRB, and be approved by the Committee for Research Involving Human Subjects (IRB) prior to implementation.

B.   **Training:** I assure that all personnel working with human subjects described in this protocol are technically competent for the role described for them, and have completed the required IRB training modules found at: http://www.ksu.edu/research/comply/irb/training/index.html. I understand that no proposals will receive final IRB approval until the URCO has documentation of completion of training by all appropriate personnel.

C.   **Extramural Funding:** If funded by an extramural source, I assure that this application accurately reflects all procedures involving human subjects as described in the grant/contract proposal to the funding agency. I also assure that I will notify the IRB/URCO, the KSU PreAward Services, and the funding/contract entity if there are modifications or changes made to the protocol after the initial submission to the funding agency.

D.   **Study Duration:** I understand that it is the responsibility of the Committee for Research Involving Human Subjects (IRB) to perform continuing reviews of human subjects research as necessary. I also understand that as continuing reviews are conducted, it is my responsibility to provide timely and accurate review or update information when requested, to include notification of the IRB/URCO when my study is changed or completed.

E.   **Conflict of Interest:** I assure that I have accurately described (in this application) any potential Conflict of Interest that my collaborators, the University, or I may have in association with this proposed research activity.

F.   **Adverse Event Reporting:** I assure that I will promptly report to the IRB / URCO any _unanticipated_ problems involving risks to subjects or others that involve the protocol as approved.

G.   **Accuracy:** I assure that the information herein provided to the Committee for Human Subjects Research is to the best of my knowledge complete and accurate.

_____   _____
(Principal Investigator Signature)   (date)

Appendix C- Informed Consent Form

PROJECT TITLE: Social role theory as a means of differentiating between first-generation and nonfirst-generation college students

APPROVAL DATE OF PROJECT: _____   **EXPIRATION DATE OF PROJECT:** _____

PRINCIPAL INVESTIGATOR: CO-INVESTIGATOR(S):   Dr. Fred Bradley; Leslie L. Hemphill

CONTACT AND PHONE FOR ANY PROBLEMS/QUESTIONS: Dr. Fred Bradley 785 532-5937

IRB CHAIR CONTACT/PHONE INFORMATION: Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

Jerry Jaax, Associate Vice Provost for Research Compliance and University Veterinarian, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

PURPOSE OF THE RESEARCH: I would like to request your cooperation in the conduct of a study involving research designed to determine the applicability of Social Role theory in understanding retention and academic performance of first-generation college students. First-generation college students are those students who come from families where neither parent has graduated from college. You were selected because when you registered to attend classes you indicated you were a first-generation student. We hope to learn more about the experiences of first generation students prior to coming to college and during their first year since this appears to be a particularly important time in regard to retention and academic success.

PROCEDURES OR METHODS TO BE USED: You will be asked to take part in a structured interview consisting of ten questions. The first five questions focuses on activities and experiences that may have helped prepare you for college. The second five questions refer to activities and experiences during your first year as a college student that may have assisted you in making a successful adjustment to college. As the interview proceeds I may ask additional questions for clarification and better understanding of your responses to the ten primary questions.

LENGTH OF STUDY: I anticipate that the interview will take no more than sixty minutes.

RISKS ANTICIPATED: Possible risk factors are no greater than your normal school activity.

BENEFITS ANTICIPATED: Your information and experiences may help us develop student services programs that would better meet the needs of first-generation students.

TERMS OF PARTICIPATION: I understand this project is research, and that my participation is completely voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

I verify that my signature below indicates that I have read and understand this consent form, and willingly agree to participate in this study under the terms described, and that my signature acknowledges that I have received a signed and dated copy of this consent form.

(Remember that it is a requirement for the P.I. to maintain a signed and dated copy of the same consent form signed and kept by the participant

Participant Name: _____

Participant Signature: _____   **Date:** _____

Witness to Signature: (project staff) _____   **Date:** _____

INVESTIGATOR ASSURANCE FOR RESEARCH INVOLVING HUMAN SUBJECTS

(Print this page separately because it requires a signature by the PI.)

P.I. Name: Dr. Fred Bradley

Title of Project: Social role theory as a means of differentiating between first-generation and nonfirst-generation college students

XII.   <u>ASSURANCES</u>:   As the Principal Investigator on this protocol, I provide assurances for the following:

A.   <u>Research Involving Human Subjects</u>:   This project will be performed in the manner described in this proposal, and in accordance with the Federalwide Assurance FWA00000865 approved for Kansas State University available at http://ohrp.osophs.dhhs.gov/polasur.htm#FWA, applicable laws, regulations, and guidelines. Any proposed deviation or modification from the procedures detailed herein must be submitted to the IRB, and be approved by the Committee for Research Involving Human Subjects (IRB) prior to implementation.

B.   <u>Training</u>:   I assure that all personnel working with human subjects described in this protocol are technically competent for the role described for them, and have completed the required IRB training modules found at: http://www.ksu.edu/research/comply/irb/training/index.html.   I understand that no proposals will receive final IRB approval until the URCO has documentation of completion of training by all appropriate personnel.

C.   <u>Extramural Funding</u>:   If funded by an extramural source, I assure that this application accurately reflects all procedures involving human subjects as described in the grant/contract proposal to the funding agency. I also assure that I will notify the IRB/URCO, the KSU PreAward Services, and the funding/contract entity if there are modifications or changes made to the protocol after the initial submission to the funding agency.

D.   <u>Study Duration</u>: I understand that it is the responsibility of the Committee for Research Involving Human Subjects (IRB) to perform continuing reviews of human subjects research as necessary. I also understand that as continuing reviews are conducted, it is my responsibility to provide timely and accurate review or update information when requested, to include notification of the IRB/URCO when my study is changed or completed.

E.   <u>Conflict of Interest</u>:   I assure that I have accurately described (in this application) any potential Conflict of Interest that my collaborators, the University, or I may have in association with this proposed research activity.

F.   <u>Accuracy</u>:   I assure that the information herein provided to the Committee for Human Subjects Research is to the best of my knowledge complete and accurate.

_____   _____

(Principal Investigator Signature)   **(date)**

Appendix D-Interview Questions

1. When did you begin thinking about going to college and how did you begin planning and preparing for college?

2. Who if anyone (family, teachers, mentors, etc.) provided you with information before you went to college that helped you when you went to college and what information did they provide you?

3. Were you encouraged to enroll in academically difficult courses while in high school and if so who encouraged you?

4. While your parents did not attend college, did other members of your family such as older siblings, uncles and aunts, cousins etc. graduate from college and if so what effect if any did that have on your decision to attend college?

5. Did you participate in any part-time jobs, special courses, transition programs or mentoring experiences that helped to prepare you for college? If so, how did those experiences assist you in adjusting to college life?

6. In college where did you go to gain or locate information about course and program requirements, enrollment schedules and other college related information you needed to know as a student? Did this appear to be a reliable source of information?

7. Did you ever discuss specific courses and instructors with other students and was their information helpful in deciding specific enrollment issues?

8. Did you participate in any college sponsored activities and if so did you develop any friendships from those activities?

9. Did you find yourself regularly meeting with some of your fellow students in an informal setting where discussions might occur concerning homework, expectations about tests and other details of college life.

10. How did you learn about sources of information concerning graduation requirements and transfer requirements. How reliable did you find that information to be?

Appendix E-Participant Demographics

Demographic Data for First-Generation and Nonfirst-Generation Students

	Group		Age			Income
Parent						
Education	Male	Female	17-18	19-20	21-38	Pell Grant
First-Gen	77	105	75	94	13	81
Nonfirst-Gen	40	35	36	33	6	19

	Race				Marital Status		
Parent							
Education	White	Black	Hispanic	Other	Single	Married	Widowed
First-Gen	167	12	1	2	179	2	1
Nonfirst-Gen	65	3	4	3	71	4	-