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First Generation College Students At Four Year And Two Year Institutions Of Higher Learning

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FIRST GENERATION COLLEGE STUDENTS AT FOUR YEAR AND TWO YEAR INSTITUTIONS OF HIGHER LEARNING

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In Partial Fulfillment of

the requirements for

Doctor of Philosophy

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by

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August 2006

School of Graduate Studies
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CERTIFICATE OF APPROVAL

DOCTORAL DISSERTATION

This is to certify that the Doctoral Dissertation of

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First Generation College Students at Four Year and Two Year Institutions of Higher Learning

has been approved by the Examining Committee for the dissertation requirement for the

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in Counseling

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ABSTRACT

A MANCOVA was used to examine the global adjustment differences in first generation college students (FGCSs) attending a four year and a two year college. Global adjustment differences were measured by adaptation to college, global well-being, and global self-esteem. Participants were from either a medium sized public four year college in the Midwest or a medium sized public two year college in the Midwest. There were no significant differences found between the two groups in regard to overall adjustment to the college environment.

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I would first like to thank my mother who has instilled in me the importance of education. She has always encouraged me to set high goals for myself and then to take proper steps to achieve success. Most importantly, she has taught me the significance of always keeping God first in my life.

Secondly, I would like to thank the faculty in the Department of Counseling for allowing me to matriculate through the program. A special thank you goes out to my committee chair Dr. Boyer who has been instrumental in all phases of the dissertation process. Thank you to the faculty members at ISU for allowing me to come into their courses in order to collect my data. I would also like to recognize Ms. Lynn White from Vincennes University for orchestrating the data collection and making the process seamless.

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PUBLICATION READY MANUSCRIPT

Introduction

The historical trend in all Western societies has been to increase educational participation regardless of the students' social origin. The relationship between parental education attainment, socioeconomic status, and the education attainment of their offspring remains a rather universal phenomenon (Schnabel, Alfed, Eccles, Koeller, & Baumert, 2002). At the turn of the 20th century, most college students were white male adolescents and the sons of doctors, lawyers, ministers, prosperous merchants, and well-to-do farmers (London, 1992). "Since World War II, institutions of higher education are legally bound to educate the rising number of diverse students with a wide variety of backgrounds and needs" (McConnell, 2000, p.75). The contemporary student is no longer white, upper middle class, adolescent, or male; instead the proportion of ethnic minority, working class, older, and female students has increased dramatically with women undergraduates now outnumbering men (London). Pascarella and Terenzini (1998) reported that "from 1984 to 1994, the total number of European American undergraduates in institutions of higher education increased by 5.1%. During the same period, the number of Asian American, Hispanic, African American, and Native American undergraduates increased by 61%" (p. 153).

For many students, going to college holds some surprises, as well as, serves as a rite of passage from adolescence to adulthood. The move to college can facilitate important developmental tasks, including the establishment of greater autonomy and independence, the exploration of intimacy in friendships and romantic relationships, and the consolidation of a coherent sense of identity (Brooks & DuBois, 1995). Despite this potential for growth, there is a possibility that students may experience considerable

difficulty and stress adjusting to the college environment (Brooks & DuBois). The high levels of stress and susceptibility to the adjustment as a first year college student can be exacerbated by sociodemographic variables (Jay & D'Augelli, 1991). First year college students can be negatively impacted by stressful demands.

First generation college students (FGCS) have reported experiencing greater difficulties in adjustment compared to second generation college students (SGCS) or third generation college students (Orozco, 1999). FGCSs often describe their first contact to the college campus as a shock that impacted their lives for years to come (Richardson & Skinner, 1992). Students from other than the majority culture, most of whom are FGCSs, encounter cultures in college that exist in at least partial conflict with the cultures of their family and neighborhood (Weis, 1992). Their quest for individuation and autonomy can take them further away from their family, class, racial, or ethnic orbit (Richardson & Skinner). London (1992) hypothesized that some FGCSs who do not complete their courses of study are caught between two worlds: family and peer groups who often place little value on higher education, and the educational environment with its own very different cultural assumptions. Weis found that in order to be successful, the FGCS from a working-class background needed to function in two worlds simultaneously – the world of their parents and friends and the world that is similar to their more cosmopolitan middle class college student classmates. With the success of entering into the world of a middle class college student the FGCSs are usually required to renegotiate the relationship with family and friends as they begin to see themselves differently (Weis).

Statement of the Problem

To date no research has been reported on the potential differences in global adjustment among first generation college students who are attending four year and two year colleges. Researchers interested in four year and two year students primarily focus on cognitive effects and academic achievement (Pascarella, Bohr, Nora, & Terenzini, 1995). Currently researchers have only looked at FGCSs in comparison with SGCSs rather than the within group differences between FGCSs who decide to attend a four year compared to a two year college. Discerning the differences between FGCSs at four year campuses and FGCSs at two year campuses could be beneficial for psychologists and other professionals on college campuses who assist these students in their endeavor to obtain a college degree. The purpose of this study was to examine the differences in adjustment to college (adaptation to college, global well-being, and global self-esteem) among FGCSs at a four year and a two year institution.

Methodology

Participants

One hundred and thirty eight undergraduate students from a medium sized four year college and a medium sized two year college were invited to participate in the study. Due to incomplete responses, the final sample consisted of 115 undergraduate participants. Fifty-nine participants were from the medium sized four year college (n = 59) and 56 were from the medium sized two year college (n = 56). With the exception of gender the samples were similar in background demographic characteristics (Table 1). SES of the FGCSs at the four year school (M = 22.5, SD = 8.43) and at the two year school (M = 22.14, SD = 9.92) was also similar, t (3, 110) = .207, p = .836.

Instrumentation

Demographic Data Questionnaire

The demographic questionnaire included questions regarding the participants' gender, age, ethnicity, college status, marital and family status, and parental occupation.

General Well-Being Scale (GWB)

The GWB scale was developed for the National Center for Health Statistics to assess self-representations of global well-being (Maitland & Sluder, 1996). It contains scales that measure adjustment in six areas: Health Worry, Energy Level, Satisfaction, Depressed Mood, Emotional-Behavioral Control, and Anxiety which yields a total adjustment score (Jay & D'Augelli, 1991). The GWB scale has been used extensively in previous research on a variety of populations with strong evidence of convergent validity and reliability (Maitland & Sluder; D'Augelli, 1993). Test-retest reliability for the GWB total score is reported to be .85; internal consistency coefficients are .91 for males and .95 for females (Jay & D'Augelli).

There are seventeen items total. Thirteen statements are based on a 6-point scale and the final four statements are based on a 10-point scale; a lower score suggests higher levels of general well-being. GWB scale scores range from 17 to 118.

Student Adaptation to College Questionnaire (SACQ)

The SACQ is a self-report instrument designed to assess students' adaptation to college life (Beyers & Goossens, 2002). Four aspects of adjustment to college or university life are measured including: (a) Academic Adjustment, r =.87 (b) Social Adjustment , r =.89, (c) Personal-Emotional Adjustment, r = .82, and (d) Institutional

Attachment, $r = .90$. A full scale score ($r = .93$) is also computed (Beyers & Goossens; Baker, 1986).

There are 66 items, each item has a 9-point scale, anchored at one end with "applies very closely to me" and the other with "doesn't apply to me at all" (Bettencourt, Charlton, Eubanks, Kernahan, & Fuller, 1999). A lower total score indicates that the participants believe the statements apply closely to them.

Self-Perception Profile for College Students (SPPCS)

The SPPCS is used to asses the participants' levels of global self-esteem. The SPPCS contains scales that measure self-esteem in thirteen areas: Self-Worth, Creativity, Intellectual Ability, Scholastic Competence, Job Competence, Athletic Competence, Appearance, Romantic Relationships, Social Acceptance, Close Friendships, Parent Relationships, Humor, Morality. The thirteen subscales are combined for a total scale score. Cronbach's alpha ranged from .80 to .92 for the thirteen subscales (McGregor et al., 1991).

There are 54 items on which the participant indicates the portion of the two-part statement (e.g., "some students like the kind of person they are **BUT** other students wish they were different") that corresponds most closely to their feelings about themselves and how true that portion of the statement is of them (i.e., "really true for me" or "sort of true for me;" Brooks & DuBois, 1995). Higher scores suggest higher levels of global self-esteem.

Procedures

The researcher actively recruited faculty members at the four year and two year college to allow the researcher to come into the class and administer the questionnaire

packet which took approximately 35 minutes. The researcher approached faculty members who had contact with the researcher on previous occasions. Upon receiving permission from the faculty member to come into the class, the researcher invited students in the class to participate in the study. Students who were willing to participate in the study were given a questionnaire packet including a statement of informed consent.

Design and Hypotheses

The study was conducted using an ex-post facto design. No interventions were required, all participants received the same instruments, and there was no differential treatment among participants. A cross sectional method was used to collect the data. Research Question: When holding SES constant, are there overall differences in college adjustment (as measured by general well-being, adaptation to college, and global self-esteem) among FGCSs attending a four year and a two year college?

Results

A multivariate analysis of covariance (MANCOVA) was conducted with the type of college attended by the participant (four year or two year) as the independent variable, SES as the covariate, and scores on the GWB, SACQ, and SPPCS (general well-being, adaptation to college, and global self-esteem) as the dependent variables. A MANCOVA was conducted rather than separate ANCOVA's to control for the experiment wise alpha level. The main effect of university groups was not statistically significant, Pillai's Trace = .012, F (3, 110) = .437, p = .727, $\hat{\eta}^2$ = .012. Box's test of equality of covariance matrices failed to reject indicating that the assumptions of the analysis were upheld and that there was homogeneity of variance. There were no statistically significant differences

in overall college adjustment among FGCSs attending the four year and the two year college.

Discussion

This study was designed to look at overall adjustment differences between FGCSs attending a four year and a two year college. Overall adjustment was measured by general well being, adaptation to college, and global self-esteem. In this study, no differences in overall college adjustment were found for FGCSs attending the four-year and the two year college when SES was held constant. Students from the four year and two year colleges were similar concerning their general well being, adaptation to college, and self-esteem. Specifically, students reported having similar levels of moderate concern in areas such as health, worry, energy level, satisfaction, depressed mood, emotional-behavioral control, and anxiety. Additionally, students at the four year and the two year college reported having similar levels of adjustment into college life. In particular, the samples reported similar levels of adjustment in managing educational demands, interpersonal experiences with others, level of psychological distress, and level of commitment to the college. The FGCSs attending the four year and the two year college reported moderate levels of self-esteem as reflected in areas such as self-worth, creativity, intellectual ability, and scholastic competence. The FGCSs attending the four year and the two year college were alike in regard to academic adjustment, emotional-behavioral factors, and self worth.

The similarity between the FGCSs attending the four year college and the two year college could be attributed to a number of factors including similarities in the schools' philosophies, socio-demographic variables, and recent administrative decisions.

Within the Midwestern state that both of these schools are located, the two year college is unique in regard to its approach to students. Traditionally, two year colleges have two tracks for their students: technical or preparatory. Within this state, there are different types of two year colleges, those that focus heavily on technical degrees (i.e., automotive technician) and those that focus on preparing the student for a four year college. Two year colleges that focus on technical degrees offer training in trade skills and certification in tasks such as plumbing and heat or air conditioning. Two year colleges that focus on feeding into four year schools offer courses that will prepare the student for admission into a four year college. These two year colleges are usually more liberal arts oriented which might be more like the four year college than the two year college with an emphasis on technical training. Not only did the two year college have a heavy focus on preparing students for a four year baccalaureate degree, it also carried the name "university." Being labeled a university from the inception of the school rather than a college could influence the attitudes of students such that their responses were similar to those attending the four year college. Perhaps differences in FGCSs attending four year and two year colleges would be presented if the two year college within the study had been a college that was more technical in nature.

The similarities within the four year and the two year could also be attributed to sociodemographic variables. Within the study, there were no differences between the samples in regard to background information. The median age, marital status, and the number of children were all similar which was unexpected. Previous researchers have found that students attending two year colleges are usually older, not single, and have more children.

Both colleges are located in mid-sized cities on the western border of the southern section of the state, thus drawing from a demographically similar pool of applicants. Both schools have students represented from all of the counties within the state, a high percentage of out of state students, and a considerable international population. Having international students is particularly unique for the two year college because the majority of international students do not come overseas to attend a two year institution. Additionally, both schools are residential institutions, which is common for four year colleges, but especially rare for two year colleges. It is possible that residential students at the two year college are able to establish meaningful relationships that mirror those of residential students at the four year college. The students at the two year college might have the same level of investment in their school because it is considered their home rather than just a place to learn.

The similarity between the two groups could also be attributed to the two year college's recent decision to offer selected four year baccalaureate degrees. Students who would have typically gone to a traditional four year college might be attending the two year college because they were aware of the university's plan to offer baccalaureate degrees and because it would be more economical than attending a four year college within the state.

Previously, researchers focusing on collegiate trends in FGCSs have attempted to compare FGCSs with SGCSs. A review of the literature on higher education shows that there are differences between FGCSs and SGCSs in regard to preparation for college, financial stability, and knowledge of the college environment. Comparisons between FGCSs and SGCSs were only on factors such as adjustment in time management,

cognitive factors, and achievement levels. The present study contributes uniquely to this field by only focusing on within group differences among FGCSs in overall college adjustment across a wider range of socio-emotional variables (general well-being, adaptation to college, and self-esteem).

Limitations

There are several limitations associated with the present study. First, the results of this study cannot be generalized to other sets of students or to other campuses that are unlike these universities. These results are only indicative of the respondents that completed the questionnaire packet. Second, there were 154 questions in the packet which took approximately 35 minutes to complete. Although the volunteers agreed to participate in this study, some might not have understood or cared about the nature of the study thus causing some participants to answer the questions randomly. Examination of the response sheets suggests that the participants may not have paid attention to the responses or attended carefully to the instructions. For example, some participants indicated that they were classified as freshman and then later reported that the current degree sought was a Ph.D. Participants were possibly overwhelmed by the number of questions which may have contributed to fatigue and lack of attention to detail.

Data was collected using four self-report instruments. By collecting data solely through self-reports, there could be a difference between reported adjustment and actual adjustment to the college. Current assessment approaches recommend using multiple methods of assessment. Future investigation should include not only self-reports, but ratings from others such as peers and parents about the students' adjustment to college.

Recommendations

Several recommendations for conducting future research and clinical implications regarding FGCSs are discussed within this section. Future research could focus on comparing more traditional two year colleges with four year colleges within different geographical locations. These traditional two year colleges would have a mix of technical and preparatory programming. Comparisons could also be done between FGCSs attending a four year college and a two year college that has specific emphasis on technical training. Future research could focus on not only adjustment variables such as adaptation to college, but also cognitive and emotional variables.

The results of this study indicate that there were no differences in overall adjustment between FGCSs attending a four year and a two year college. In terms of clinical implications high school counselors and college advisors can recommend four year and two year colleges equally. If there are concerns about a students' adjustment into a college environment, the student could attend either type of college and achieve similar levels of adjustment.

There were no differences in terms of socio-demographic variables, which could encourage additional relationships between four year and two year colleges. Usually both types of schools have separate programs for FGCSs, but the schools may be able to pool their resources. If the two year school is a feed into the four year school then the programs could work collaboratively by combining the students together. This could be cost effective to both schools and allow the colleges to assist more students concerning adjustment variables within the college environment.

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Table 1

Demographic Characteristics

	Four Year		Two Year	
	n	%	*n*	%
Gender				
M	11	18.6	35	62.5
F	48	81.4	21	37.5
Age				
18-24	53	89.8	47	83.9
25-34	4	6.8	5	8.9
35-above	2	3.4	4	7.1
Ethnicity				
African Amer	7	11.9	4	7.1
Asian Amer	0	0.0	2	3.6
Caucasian	52	88.1	46	82.1
Hispanic	0	0.0	1	1.8
Native Amer	0	0.0	0	0.0
Other	0	0.0	3	5.4
Marital Status				
Single	44	74.6	40	71.4
Married	3	5.1	7	12.5
Divorced	1	1.7	1	1.8
Partnered	9	15.3	7	12.5
Other	2	3.4	1	1.8
Children				
0 Children	54	91.5	44	78.6
1 Child	2	3.4	7	12.5
2 Children	2	3.4	3	5.4
3 children	2	1.7	0	0.0
4 or more	0	0.0	2	3.6
Classification				
Freshman	28	47.5	38	67.9
Sophomore	17	28.8	10	17.9
Junior	4	6.8	1	1.8
Senior	10	16.9	7	12.5
Transferred				
From 4 year	1	1.7	1	1.8
From 2 year	5	8.5	4	7.1
No transfer	53	89.8	51	91.1
Years-School				
Less than 1	27	45.8	32	57.1
1 year	5	8.5	13	23.2
2 years	15	25.4	11	19.6
3 or more	12	20.3	0	0.0

Table 1

Demographic Characteristics (continued)

	Four Year		Two Year	
	n	%	*n*	%
Current Deg.				
Technical	0	0.0	1	1.8
Associates	5	8.5	49	87.5
Bachelors	50	84.7	4	7.1
Masters	3	5.1	1	1.8
Professional	1	1.7	1	1.8
Planned Deg.				
Technical	0	0.0	0	0.0
Associates	2	3.4	27	48.2
Bachelors	13	22.0	16	28.6
Masters	39	66.1	9	16.1
Professional	5	8.5	4	7.1
Siblings				
0 siblings	2	3.4	8	14.3
1 sibling	28	47.5	14	25.0
2 siblings	13	22.0	14	25.0
3 siblings	9	15.3	3	5.4
4 or more	7	11.9	17	30.4
Sibling Edu.				
Technical	3	5.1	1	1.8
Associates	1	1.7	5	8.9
Bachelors	18	30.5	4	7.1
Masters	3	5.1	3	5.4
Professional	1	1.7	1	1.8
None	31	52.5	42	75.0
Parents Edu.				
No higher ed	25	42.4	34	60.7
2 yr. no deg	6	10.2	1	1.8
4 yr. no deg	11	18.6	7	12.5
2 yr. deg	14	23.7	11	19.6
Invalid resp	3	5.1	3	5.4
Covariate				
SES	M	SD	M	SD
	22.5	8.43	22.14	9.92

APPENDIXES

APPENDIX A

Introduction

The historical trend in all Western societies has been to increase educational participation regardless of the students' social origin. The relationship between parental education attainment, socioeconomic status, and the education attainment of their offspring remains a rather universal phenomenon (Schnabel, Alfed, Eccles, Koeller, & Baumert, 2002). At the turn of the 20th century, most college students were white male adolescents and the sons of doctors, lawyers, ministers, prosperous merchants, and well-to-do farmers (London, 1992). "Since World War II institutions of higher education are legally bound to educate the rising number of diverse students with a wide variety of backgrounds and needs" (McConnell, 2000, p.75). The contemporary student is no longer white, upper middle class, adolescent, or male; instead the proportion of ethnic minority, working class, older, and female students has increased dramatically with women undergraduates now outnumbering men (London). Pascarella and Terenzini (1998) reported that "from 1984 to 1994, the total number of European American undergraduates in institutions of higher education increased by 5.1%. During the same period, the number of Asian American, Hispanic, African American, and Native American undergraduates increased by 61%" (p. 153).

For many students, going to college holds some surprises, as well as, serves as a rite of passage from adolescence to adulthood. The move to college can facilitate important developmental tasks, including the establishment of greater autonomy and independence, the exploration of intimacy in friendships and romantic relationships, and the consolidation of a coherent sense of identity (Brooks & DuBois, 1995). Despite this

potential for growth, there is a possibility that students may experience considerable difficulty and stress adjusting to the college environment (Brooks & DuBois). The high levels of stress and susceptibility to adjustment problems as a first year college student can be exacerbated by sociodemographic variables (Jay & D'Augelli, 1991). First year college students can be negatively impacted by stressful demands.

First generation college students (FGCS) have reported experiencing greater difficulties in adjustment compared to second generation college students (SGCS) or third generation college students (Orozco, 1999). FGCSs often describe their first contact to the college campus as a shock that impacted their lives for years to come (Richardson & Skinner, 1992). Students from other than the majority culture, most of whom are FGCSs, encounter cultures in college that exist in at least partial conflict with the cultures of their family and neighborhood (Weis, 1992). Their quest for individuation and autonomy can take them further away from their family, class, racial, or ethnic orbit (Richardson & Skinner). London (1992) hypothesized that some FGCSs who do not complete their courses of study are caught between two worlds: family and peer groups who often place little value on higher education, and the educational environment with its own very different cultural assumptions. Weis found that in order to be successful, the FGCS from a working-class background needed to function in two worlds simultaneously – the world of their parents and friends and the world that is similar to their more cosmopolitan middle class college student classmates. With the success of entering into the world of a middle class college student the FGCSs are usually required to renegotiate the relationship with family and friends as they begin to see themselves differently (Weis).

Statement of the Problem

To date no research has been reported on the potential differences in global adjustment among first generation college students who are attending four year and two year colleges. Researchers interested in four year and two year students primarily focus on cognitive effects and academic achievement (Pascarella, Bohr, Nora, & Terenzini, 1995). Currently researchers have only looked at FGCSs in comparison with SGCSs rather than the within group differences between FGCSs who decide to attend a four year college compared to a two year college. Discerning the differences between FGCSs at four year campuses and FGCSs at two year campuses could be beneficial for psychologists and other professionals on college campuses who assist these students in their endeavor to obtain a college degree. The purpose of this study was to examine the differences in adjustment to college (adaptation to college, global well-being, and global self-esteem) among FGCSs at a four year and a two year institution.

Research Questions

MANCOVA

1. When holding SES constant, are there overall differences in college adjustment (as measured by general well-being, adaptation to college, and global self-esteem) among FGCSs attending a four year and two year college?

ANCOVA

1. Is there a difference in general well-being among FGCSs attending a four year college and FGCSs attending a two year college?

2. Is there a difference in adaptation to college among FGCSs attending a four year and a two year college?
3. Is there a difference in global self-esteem among FGCSs attending a four year and a two year college?

Definition of Terms

For the purpose of this study the following definitions apply:

1. First Generation College Students (FGCSs) – There are three general definitions of first generation. For the purpose of this study the definition of first generation students is that neither parent has earned a college degree. A student is considered FGCS even if a sibling has attended or graduated from college (Billson & Brooks-Terry, 1982).
2. Second Generation College Students (SGCSs)- Students whose parent or parents have earned a bachelor's degree or higher (Billson & Brooks-Terry, 1982).
3. Two year college – An institution of higher learning that offers associate's degree and certificate programs but, with few exceptions, awards no baccalaureate degrees. This group includes community, junior, and technical colleges (Carnegie Foundation for the Advancement of Teaching, 2005).
4. Four year college – An institution of higher learning with major emphasis on baccalaureate programs. (Carnegie Foundation for the Advancement of Teaching, 2005).

Limitations

The following limitations are presented in the study:

1. Data from this study are based on participants' self-reports.
2. Threats to external validity may be present due to using a convenience sample, thus generalizability to other university students may not be possible.
3. Self-report measures may not be accurately filled out possibly causing a difference between reported and actual adjustment to college.

Assumptions

In the study it is assumed that:

1. Participants will understand the instruments.
2. Participants will respond open and honestly.

APPENDIX B

Literature Review

The purpose of this section is to provide an overview of previous research on FGCSs. Social cognitive career theory and its impact on goals attained are reviewed. In this section I also examined the differences between traditional and non-traditional FGCSs and characteristics of FGCSs attending a two year college. Ethnic minorities as FGCSs and family background characteristics are also highlighted. Furthermore, this section provides insight into the factors of general well being, adaptation, and self-esteem.

Social Cognitive Career Theory (SCCT)

Social cognitive theory describes psychosocial variables in terms of triadic reciprocal causation (Bandura, 1986). Wood and Bandura (1989) state that "reciprocal determinism focuses on behavioral, cognitive, and other personal factors and environmental events that function as components that influence each other" (p. 362). Specifically, this study is researching the personal factors and environmental events of FGCSs that may influence a decision to attend a four year or a two year college.

Career concerns evolve as the nature of work changes. Indicators that reveal change in worktrends include high levels of unemployment, corporate downsizing, and jobless economic recovery (Niles, Herr, & Hartung, 2002). Technological advances on the information highway and computers that perform tasks once assigned to workers are creating near workerless factories. These near workerless factories provide incentives to attend college to individuals who might not have considered education as a gateway to a career. Many adult career counseling clients express concerns related to low career self-

efficacy. "Client concerns include anxiety due to ambiguous career paths and a lack of job security, confusion over how to obtain training to update their skills, and frustration related to conflicting life role demands" (Anderson & Niles, 1995, p. 244). Many of these same concerns are expressed by FGCS as they negotiate their role in the college setting.

Social Cognitive Career Theory is an evolving theory that is designed to integrate Bandura's (1986) general social cognitive theory into career literature. SCCT was developed to complement and build conceptual linkages with existing career developmental theories (Lent & Brown, 1996). The SCCT framework focuses on three processes (a) developing academic and career interests, (b) promoting career-relevant choices based on the person's interest, and (c) changing dreams of educational and career pursuits into plans of action (Lent, Brown, Hackett, 2000). The theory has the same theoretical foundation as general social cognitive theory which focuses on a person's capacity to control and modify their own vocational environmental influences. Vocational environmental influences include socio-structural barriers and supports, culture, and disability status that serve to strengthen, weaken, or override human agency in career development (Lent & Brown, 2002). Social Cognitive theory has been effective when working with populations that are at risk for experiencing employment and career barriers (Chartrand & Rose, 1996). Resting on certain constructivist assumptions about how humans actively influence their own development and surroundings, the framework for SCCT emphasizes the dynamic processes that we believe help shape and transform occupational and academic interests, choices, and performances (Lent & Brown).

Three overlapping variables that individuals use in order to help control their own career behavior are self-efficacy beliefs, outcome expectations, and personal goals

(Gibbons & Shoffner, 2004; Lent & Brown, 2002). Collectively these variables are referred to as the triadic reciprocal model of causality. "This model holds that personal attributes (such as internal cognitive and affective states), external environmental factors, and overt behaviors operate as an interactive set of variables that mutually influence one another" (Lent & Brown, 1996, p. 312).

Self-efficacy Beliefs

"Perceived self-efficacy concerns people's beliefs in their capabilities to mobilize the motivation, cognitive resources, and course of action needed to exercise control over events in their lives" (Wood & Bandura, 1989, p.361). Furthermore, to be successful not only does a person have to possess the required skills, but also have a resilient self-belief in one's capabilities to exercise control over events to accomplish the desired goal. People's beliefs about their efficacy can be instilled and strengthened in four principal ways, (a) personal performance accomplishments, (b) vicarious learning, (c) social persuasion, and (d) physiological and affective states and reactions (Lent & Brown, 2002). The most effective way individuals develop a strong sense of efficacy is through mastery experiences. The FGCS who has had academic success in their first semester at college will most likely have higher self-efficacy than a FGCS student who did poorly their first semester due to past personal performance accomplishments. Self-efficacy is not a singular static, passive, or global trait, but rather involves dynamic self-beliefs that are linked to particular performance domains and activities such as different academic and work tasks (Lent & Brown, 1996).

Outcome Expectations

Outcome expectations are the beliefs about consequences or the outcomes of performing particular behavior (Lent, Brown, Hackett, 2000). Behavior is affected by the person's personal capabilities (self-efficacy) and by the person's beliefs about the likely effects of various actions (Lent & Brown, 1996). Outcome expectations regarding potential career paths are derived from a variety of direct and vicarious learning experiences, such as perceptions of the outcomes one has received in relevant past endeavors and the second-hand information one acquires about different fields (Lent & Brown, 2002).

Personal Goals

Goals are seen as having a primary role in behavior. People are seen as being responsible for their own behavior, with environment and genetics playing a secondary role (Gibbons & Shoffner, 2004). Goals are defined as the decision to begin a particular activity or future plan. Goals provide an important vehicle for self-empowerment. By setting personal goals, people help to organize, guide, and sustain their own efforts even over long intervals without external reinforcement (Lent & Brown, 2002).

Researchers within SCCT view goals, outcome expectations, and self-efficacy as having a constant, complex, and everchanging relationship that affects career and academic development and choice (Lent & Brown, 1996). The theory indicates the importance of social cognitive variables that enable the exercise of personal agency, and incorporates the effects of other person and environmental factors on career development outcomes (Lent & Brown, 2002). SCCT distinguishes between goals and actions or the behavior required to implements one's goals (Lent, Brown, Schmidt, Brenner, Lyons, &

Treistman, 2003; see Figure 1). It is hypothesized that people are less likely to turn their career interests into goals, and their goals into actions, when they perceive their efforts to be obstructed by negative environmental factors (e.g., poor support systems, lack of financial assistance). However, if people perceive that they have beneficial environmental factors (e.g., supportive family, financial assistance) it is predicted that the perception will aid in translating a person's interests into goals and goals into actions (Lent, Brown, & Hackett, 2000; Figure 1). FGCSs have been reported to have a lower sense of self-efficacy and lower self-esteem than students whose parents attended college.

Traditional vs. Nontraditional FGCSs

In recent years, many colleges and universities in the United States have suffered a decline in the enrollment of students of "traditional" age (17-24 years), while the enrollment of students labeled as "nontraditional" age (25 years and up) has increased (McGregor et al., 1991). Traditional FGCSs who are seeking upward mobility usually risk the disapproval of family and friends who see college attendance as being disloyal to their community (Zwerling, 1992). The student takes on new values and behaviors that are synonymous with upper middle class values. Family and friends of traditional FGCSs might discourage the student from attending college. Nontraditional FGCSs are typically influenced by educated role models in the world of work who frequently encourage nontraditional FGCSs to pursue higher education. Nontraditional FGCSs are also encouraged to attend college by coworkers and their own children and spouses (Zwerling).

Richardson and Skinner (1992) found that all students identified peer support as important, but support groups were most fully developed among traditional students from

college educated families. FGCSs may not receive sufficient familial support for attending college, know less about college life, receive less support for college attendance, and possess different values than more affluent students (York-Anderson & Bowman, 1991). SGCSs are more likely to have expectations to attend college placed on them.

FGCSs at the Community College Level

The two year community college has developed into one of the major institutional configurations in the American postsecondary educational system. The two year community college has substantially increased both the access to higher education as well as the social mobility of numerous individuals whose education would otherwise have ended with high school (Pascarella, Bohr, Nora, & Terenzini, 1995). Community colleges serve a diverse group of students who have a wide range of personal and professional needs and goals. Special populations that community colleges serve include single parents, first-generation students, and students aged 40 or older (Phillippe & Valiga, 2000). Community colleges offer credit and noncredit courses to help people learn or maintain skills critical in the information age, thus helping students bridge the digital divide (Phillippe & Valiga).

The National Center for Education Statistics found that many FGCSs start college at a two year institution rather than a four year institution with 50.2% of FGCSs starting higher education at the community college level (Bui, 2002). FGCSs tend to begin in community colleges for a variety of reasons, the most prevalent being (a) their academic preparation is not competitive enough to gain admission to a four year institution, (b) they cannot afford the tuition costs at a four year institution, or (c) they

need the flexibility of class schedules at a two year institution in order to meet their other responsibilities as workers, spouses, or parents (Bui). However, previous researchers have indicated that FGCSs have a better chance of earning a bachelor's degree if they begin postsecondary education at a four year college rather than a two year college (Bui). The National Center for Education Statistics reported that among FGCSs who started higher education in the 1989-90 academic year, less than 10% of those who started at a two year institution had earned a bachelor's degree in 1994; in contrast, more than 40% of the FGCSs who started in a four year institution had earned their bachelor's degree by 1994 (Bui).

Overall, FGCSs who begin their quest for higher education in community college have more outside responsibilities and obligations with shallow connections with the college and extensive connections with the workplace or the home (Richardson & Skinner, 1992). Many of these FGCSs do not immerse themselves in the student role. A main reason that FGCSs do not immerse themselves into the student role is because it is viewed as unacceptable within their reference group. Because of their multiple responsibilities, these students were more likely to attend college part time, transfer, and to stop one or more times. Due to their increased responsibilities FGCSs from community colleges are more likely to have (a) lived off-campus, (b) found their friends off-campus, (c) belonged to fewer college organizations, (d) worked more hours per week, and (e) suffered from lack of "structural integration" to college (Hertel, 2002).

Adachi (as cited in Hertel, 2002) studied low-income students and found that many did not attend college, those who did were more likely to drop out than other students. Additionally, low-income students were at an educational disadvantage when

compared to students having college educated parents. Low-income students were educationally disadvantaged because their high schools did not provide challenging and rigorous courses compared to high schools that were attended by the children of college educated parents. Adachi found that eighty-percent of low-income students did not go to college (Billson & Brooks-Terry, 1982). While the majority of FGCSs in four year colleges come from two year colleges, Zwerling (1992) found that minority students at community colleges accounted for only 5% to 10% of the students who transferred to four year colleges.

Ethnic Minorities as FGCSs

African Americans, Hispanics, and Native Americans were found to have decreased opportunities to attend college, less orientation to the college environment, less preparation, and decreased mode of attendance and degree attainment than their Caucasian American counterparts (Richardson and Skinner, 1991). The differences were attributed to these ethnic groups being more likely to be FGCSs. FGCSs who were ethnic minorities were found to struggle more with time management than SGCSs who were ethnic minorities. In addition, the ethnic minority FGCS did not have information readily available about sources of financial aid and had unclear expectations about budgeting money when compared to the ethnic minority SGCSs.

Bui (2002) found minority FGCSs were more likely to come from a lower socioeconomic background than SGCSs. FGCSs were also more likely to come from a lower socioeconomic background compared to students whose parents had some college experience but did not attain a degree. Minority FGCSs were more likely to report pursing higher education in order to help their family financially, and worrying about

financial aid for college than their SGCSs counterparts. The Western Interstate Commission for Higher Education research on college attrition indicates that when discrimination is "overbearing" it becomes a major reason for dropping out for a significant proportion of African American college students (as cited in Richardson & Skinner, 1992). The effects of discrimination could possibly be intensified in minority FGCSs from working class communities, because the communities and high schools are historically less diverse; thus leaving the student unprepared for racial discrimination at a predominately white university.

Bui (2002) reported that FGCSs were more likely to be ethnic minority students, come from a lower socioeconomic background, speak a language other than English at home, and score lower on the SAT than SGCSs. English as a second language would be expected among FGCSs due to the influx of international families who come to America in order to provide their child with the possibility of receiving a higher education.

There are differences among minority SGCSs and FGCSs in the importance of attending college. Minority SGCSs reported that the reasons for attending college included that their siblings or other relatives were going (or went) to college and they wanted to move out of their parents' home. Whereas minority FGCSs reported attending college in order to gain respect, bring honor to their family, and help their family out financially after they are done with college (Bui, 2002).

African American

Holmes (2000) found a significant difference between African American FGCSs and SGCSs in terms of demographic information including participants' age, class standing, parents' level of education, financial aid received, high school setting, and the

racial make-up of their neighborhood prior to matriculation at the university. Overall, African American FGCSs and African American SGCSs did not differ in their level of stress, but differed in the types of stress that they endured. African American FGCSs reported higher levels of financial stress, while African American SGCSs reported higher levels of interpersonal stress. Both groups reported similar levels of environmental stress, but African American SGCSs reported higher levels of political stress (Holmes, 2000).

Parental satisfaction with grades was the most significant family background variable associated with academic achievement in African American high school students (York-Anderson & Bowman, 1991). Parental support or nurturance was also found to be significantly related to grades. Parental encouragement was found to be significantly related to the college plans of students. However, Mallinckrodt (1988) found that perceived encouragement from family members correlated positively with student persistence for White students but correlated negatively for Black students. Perceived social support from members of the campus community correlated positively with persistence for Black students (Mallinckrodt, 1988).

Concerning career development, African Americans hold lower career expectations than their Caucasian American counterparts. The difference could be attributed to African Americans experiencing greater amounts of socio-structural barriers when picking a career goal. Researchers also found that African Americans had a wider gap between their occupational expectations and aspirations than Caucasian Americans (Lent & Brown, 2002).

Mexican American

Attinasi (1989) identified two stages of college going behavior with Mexican American students: prematriculation experiences and postmatriculation experiences. The parents' expectation for the students to go to college exerted a strong influence on the students' decision to attend college (Attinasi). Mexican American FGCSs 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 (Attinasi).

Family Background Characteristics

Nontraditional FGCSs have been described as having considerable heterogeneity in family background characteristics because the majority of these students come from blue-collar backgrounds containing lower levels of formal education (York-Anderson & Bowman, 1991). Nontraditional FGCSs like younger FGCSs confront cultural issues, but unlike their younger counterparts the nontraditional FGCSs have established independent lives which complicate their transition to college life (Zwerling, 1992). Nontraditional FGCSs can also benefit from collaborative programs between two year and four year colleges. These programs can assist the student in filling gaps in preparation as well as offering flexible course scheduling via vestibule programs that help students who do not meet regular admission standards for career development and advising (Richardson & Skinner, 1992).

General Well-Being

Well-being factors are significant predictors of full-scale college adjustment in four year college students. Characteristics include (a) self-efficacy, (b) locus of control,

(c) social support from all friends on campus and off, and (d) achievement motivation (Hertel, 2002). Variables predicting academic adjustment include (a) college self-efficacy, (b) achievement motivation, and (c) locus of control (Hertel). Social-extracurricular activities are better predictors of college adjustment than are academic measures with social adjustment being the most salient factor in first-year adjustment especially in SGCSs (Hertel).

FGCSs may not feel sufficient levels of social support on campus, thus they may not be invested in the campus for social activities or for friendships (Billson & Brooks-Terry, 1982). If FGCSs do not feel sufficient levels of social support on campus then they may have lower feelings of general well-being. Students with lower feelings of general well-being may endorse increased feelings of anxiety and depression. Having noncollege friends and living off-campus may not be able to provide adequate and sorely needed support for first-generation college students (Billson & Brooks-Terry). Valuing intellectual activities and pursuits predicted overall college adjustment significantly better for FGCSs than for SGCSs (Hertel, 2002). SGCSs attending college tend to view college as more of a social process where you receive an education and degree on the side in addition to all of the extracurricular activities, while FGCSs may magnify the value of intellectual achievement in order to remain motivated and connected with the university.

Adaptation to College

Factors that might impinge on a student's ability to adapt to the college environment include: poverty, socioeconomic status, and family structure or marital status (Gooding, 2001). Gooding reported that higher parental educational level, intact family structure, and higher income range had a positive influence on their students'

academic potential and achievement. Students from higher income ranges are less likely to be required to work while attending school. Not working may allow more time for students to familiarize themselves to the college environment.

Zhan (2002) found that single mothers' expectations had a significant impact in high school students regardless of the quantity of time spent with the student. Additionally, mothers' home ownership, savings, and education had a significant impact on students' educational achievement. Furthermore, SGCSs performed higher on standardized tests than FGCSs. FGCSs describe having feelings of being less prepared, thoughts of failing, and knowing less about the social environment at their university than SGCSs (Bui, 2002). York-Anderson and Bowman (1991) found that SGCSs reported significantly greater adjustment to college than FGCSs which could be due to SGCSs receiving more social support, being on a college track in high school, having a greater focus on college activities, and having more financial resources. FGCSs reported higher average perceived support from noncollege-enrolled friends whereas SGCSs reported higher perceived support from college enrolled friends (Hertel, 2002).

Hertel (2002) summarized FGCSs as (a) being overrepresented in students who leave college in their first year, (b) having conflicted loyalties between college and off-campus friends and family, (c) perceiving higher education as a means to a well paying job, (d) having part-time jobs which often restricted on-campus activity, (e) having conflicting views about values and attitudes of home, peers, and family, (f) possibly coming from a culture that views developmental stages differently than college educated families (e.g., starting a family vs. attending college), and (g) experiencing multiple forces that pulled them away from the college setting.

Prior to coming to college, FGCSs are most likely to come from urban public schools with poor academic programs. Students have not been exposed to college preparatory curricula that will give them the academic skills for college success (Fallon, 1997). These students have not been seen as college material, nor have they been encouraged by school counselors, teachers, or administrators to take part in courses and guidance activities that will help them successfully compete for college admission (Fallon). Nunez and Cuccaro-Almin (1998) found that FGCSs were more likely to have lower incomes, have more dependents, be married, and be older and more likely than SGCSs to enroll part time in all types of post secondary education. Terenzini et al. (1996) reported that FGCSs differed from SGCSs in both entering characteristics and college experiences. FGCSs were more likely to come from low income families; be Hispanic; be women; have weaker reading, math, and critical thinking skills; have lower degree aspirations; and be less involved with peers and teachers in high school. FGCSs also had the following characteristics: They were expected to take longer to complete their degree programs, received less encouragement from parents to attend college, spent fewer hours studying and more hours working, tended to take fewer courses in the humanities and more courses in technical and professional areas, had more dependent children, and were less likely to perceive faculty members as concerned with student development and teaching. Billson and Brooks-Terry (1982) focused on the effects of parental education on the attrition of FGCSs and SGCSs as a barrier to the students' college success. The researchers found that parents of SGCSs provided a wide range of support such as emotional, financial, and personal assistance in tasks such as homework and

transportation, whereas FGCSs perceived their parents to be only emotionally supportive (Billson & Brooks-Terry).

York-Anderson and Bowman (1991) found that FGCSs and SGCSs did not differ significantly on amount of college knowledge, but did differ on personal commitment to college and perceived family pressure for college attendance. A significant difference was found for perceived family support for college attendance. SGCSs perceived more support from their families for college attendance than did FGCSs. Students who perceived more family support for their attendance had higher college knowledge scores than students who perceived less support (York-Anderson & Bowman). Students who perceive less support from their families may be more likely to experience academic failure and either drop out or fail out of college. The higher education environment is quite unique with its own set of values, rules and regulations, and expectations for students. Even its specific vocabulary, for example, credit hours, GPA, bursar, dean, and general education requirement may be foreign to FGCSs (Fallon, 1997). York-Anderson & Bowman illustrate the difference in knowledge about college life for students whose relatives were willing to provide college information compared to those without relatives to share information. Students who had relatives willing to provide information about college are more likely to experience success in the academic career and less likely to drop out or fail out of college. Shared information includes how to select classes, plan schedules, take notes in large lecture classes, approach professors, and manage time.

Billson and Brooks-Terry (1982) hypothesized that parents who have experienced the educational process are in a better position to pass information about their college experiences to their children. Thus, FGCSs educational paths are more likely to be

misguided because they have less knowledge of or fewer experiences with college related activities, skills, and role models than SGCSs. Parents who have not had any exposure to the college environment may have unrealistic expectations about college. These parents may have stereotypical notions about the purpose of college, academic demands, and social realities because they have not experienced college, and thus want to protect their child from perceived failure (Fallon, 1997).

There appears to be a difference in the reasons why FGCSs and SGCSs attend college, which could possibly be due to SGCSs belief that college is mandatory and not a privilege. FGCSs show more gratitude for the opportunity to attend college making sure they remember the sacrifices family members have made for them to attend. Social support has been shown to correlate with academic and personal-emotional adjustment to college and appears to be an important construct in adjustment to college (Hertel, 2002). Perceived support from friends enrolled in college, even at another campus, may help make the adjustment smoother. Students who develop friendships on campus may feel more included in college life, be less stressed and more knowledgeable about college than those who do not have supportive college based friends (Billson & Brooks-Terry, 1982). During the first year of college, SGCSs made greater net gains in reading than FGCSs, however both groups gained similarly in critical thinking and math skills.

Global Self-Esteem

Self-esteem has been found to be one of the most predictive variables of college adjustment with high self-esteem being positively correlated with personal-emotional stability, academic success, social adjustment, and attachment to college (Hertel). Highest levels of self-esteem were associated with students whose parents had both attended

college, these students also scored significantly higher on dimensions of social acceptance and humor on the Self-Perception Profile for College Students (SPPCS) than students whose parents had some or no college education (McGregor, Mayleben, Buzzanga, & Davis, 1991). Furthermore, FGCSs perceived themselves as significantly less creative than students with both parents who attended college and students with parents who had some college experience (McGregor et al).

FGCSs and SGCSs reported similarities in feeling confident in making decisions related to college on their own and knowing about the academic programs at their university prior to enrollment. The groups also reported similarities in feeling comfortable in making friends at their university, enjoying being a student at their university, and feeling accepted at their university. FGCSs that have a strong desire to attend college, perceive themselves as being capable as other college students, recognize the importance of course options, and have a commitment to college equal to SGCSs (Gibbons & Shoffner, 2004).

Having support and interaction with faculty may be related to students' academic achievement and self-concept (Gerdes & Mallinckrodt, 1994). In terms of on-campus support, student-faculty interactions had a significant influence on students' academic performance as measured by students' SAT scores and freshman year cumulative GPA (Pascarella, Terenzini, & Hibel, 1978). Conversely, students who seldom met with faculty tended to achieve at lower levels than predicted. Woodside, Wong and Wiest, (1999). Students who interacted more frequently with faculty, performed better academically than what was predicted from their pre-enrollment characteristics (i.e., SAT scores), unfortunately, students who seldom met with faculty tend to achieve at lower

levels than predicted (Woodside, Wong, & Wiest). There may be a circular relationship between self-esteem and college adjustment, if a student stays in college long enough, self-esteem may increase making it more satisfying to stay in college, thus increasing the students' college adjustment levels (Hertel).

Private vs. Public Institutions

There are no differences in the amount of remedial coursework taken by FGCSs and SGCSs at public four year or public two year institutions; however, FGCSs were more apt to take remedial coursework than SGCSs at private four year institutions (Nunez and Cuccaro-Almin, 1998). At both public and private four year institutions and two year institutions FGCSs retention and graduation rates were lower than SGCSs. Even when controlling for several characteristics that distinguished FGCSs from their peers, such as socioeconomic status, institution type, and attendance status, FGCSs still maintained negative retention and graduation rates (Nunez and Cuccaro-Almin).

Part-time vs. Full-time Students

During the past twenty years, considerable growth has occurred in the number of part-time, older, and commuter students enrolled in college (Okun, Ruehlman, & Karoly, 1991). This trend is predicted to continue for some time due to demographic, social, and technological changes. Part-time and older students now constitute approximately 40% of the overall undergraduate population (Okun, Ruehlman, & Karoly). Part-time and older undergraduates prefer to enroll at two year colleges rather than at four year colleges and universities. Unfortunately part-time two year college students have a much lower probability of completing a baccalaureate degree program than do full-time, four year college students (Voorhees, 1987).

Assisting FGCSs in their Endeavors

The number of students that enroll in American colleges is progressively increasing, unfortunately the number of students that reach degree attainment is declining especially among minority students (Pascarella & Terenzini, 1998). Even though new programs have been created on four year and two year campuses to support students who are at risk for not graduating, a growing section of the college population seems to be under-prepared or inappropriately motivated (Strage, 1999). More extensive research is needed to determine the nature and type of support needed for college success and how to increase the variety of support that FGCSs receive. Preventive measures for dropping out of school that colleges and universities may want to consider include special orientation programs aimed toward the parents of incoming FGCSs in order to assist the parents in understanding their child's new environment (York–Anderson & Bowman, 1991). These programs can educate the parents on the importance of their active involvement in their child's continued education.

In order to assist in coping with the stressful university environment, programs such as Upward Bound, Jump Start, EXCEL, and Inroads have been developed at four year colleges to provide services for minorities, disadvantaged, unprepared, or nontraditional students. Programs that have been the most effective involve collaboration among four year colleges and universities, two year colleges, and public high schools to provide support by developing bridge programs and providing a systematic and comprehensive set of academic support services (Richardson & Skinner, 1992). Academic support services can include assessment and remediation, learning laboratories, tutorial services, intrusive advising, and monitoring a student's progress

(Richard & Skinner). Bridge programs have the ability to assist the student in developing a network of friends and faculty members who can provide support throughout the student's college career.

The Importance of Counseling Centers in School Adjustment

Social adjustment might be as important a factor in predicting persistence in college as academic factors (Gerdes & Mallinckrodt, 1994). Differences in social and emotional adjustment to college have been noted between students seeking counseling services and students not requesting counseling. Counseling services have been found effective in assisting student adjustment to college, improving student retention, improving academic grades, persisting in college, and in increasing graduation rates (DeStefano, Mellot, & Petersen, 2001). Students who received counseling services experienced a 14% increase in retention compared with non-counseled students (Wilson, Mason, & Ewing, 1997). Additionally, "at-risk" students who participated in brief mandatory counseling showed significant positive changes in their grade point average (GPA). The students who chose to continue counseling after the mandatory counseling sessions, experienced the greatest persistence toward graduation (Destefano, Mellot, & Petersen).

Summary of Review

In summary, an overview of Social Cognitive Career Theory (SCCT) concerning self-efficacy, goal attainment and its implications with FGCSs was presented. The review highlighted differences between FGCS's classified as traditional age and nontraditional age in regard to expectations and responsibilities. The review also discussed the role of

community colleges within the postsecondary educational system and the demographic make up of students who attend two year colleges.

Previous researchers found that FGCSs were more likely to be ethnic minority, female, older, come from lower-income families, and have more financial dependents than SGCSs. Furthermore, FGCSs were more likely to report a lower sense of general well-being, adaptation to college, and self-esteem than SGCSs. The review studies FGCSs compared to SGCSs, but it does not discuss FGCSs within groups. Little is known about this within group dynamic. In the present study, the researcher examined the differences in adjustment to college (global well-being, adaptation to college, and global self-esteem) among FGCSs at a four year and a two year college.

APPENDIX C

Methodology

Participants

In order to identify the nessesary number of participants, a power analysis was done by using Power of Hotelling's T^2 for small though large overall effect and group sizes (Stevens, 1996). Hotellings T^2 was used because the standard properties of the test include unbiasness, monotonicity, and noncentrality (Steven). In order to have sufficient power, a minimum of 73 first generation undergraduate students attending a medium-sized, four-year public university in the Mid-west and 73 first generation undergraduate students attending a small-sized two-year public college in the Mid-west were needed in this study. In congruence with other studies focusing on the differences between four year and two year college students, the effect size is expected to be small. The participants were recruited from various introductory classes on the campuses. Participants were FGCS underclassman whose parents had not completed a baccalaureate degree.

Approximately 200 students were invited to participate in this study, after examining the responses about 70 participants were eliminated because they did not meet the criteria for the study. The participants that were eliminated reported that they were SGCSs. The remaining 138 undergraduate students reported that they were FGCSs, but unfortunately due to incomplete response packets a number of participants had to be purged. The final sample consisted of 115 undergraduate participants from a medium sized 4 year college (n = 59) and a medium sized 2 year college (n = 56).

Forty-eight (81.4%) women and 11 (18.6%) men participated in the four year college sample. Twenty-one (37.5%) women and thirty-five (62.5%) participated in the two year

college sample. Demographic information for the samples is presented in Table 1. Outside of gender, there were generally no differences between the populations in regard to background information. The SES of the FGCSs at the four year school ($M = 22.5$, $SD = 8.43$) and at the two year school ($M = 22.14$, $SD = 9.92$) was similar, t (3, 110) = .207, $p = .836$. The median age, marital status, and the number of children were all similar which was unexpected because previous researchers have found that students attending two year colleges are usually older, not single, and have more children.

Instrumentation

Demographic Data Questionnaire (See Appendix G)

The demographic questionnaire included questions regarding the participants' gender, age, ethnicity, college status, marital and family status, and parental occupation. The questions provided descriptive information about the participants.

Barratt Simplified Measure of Social Status (BSMSS) (See Appendix G)

The BSMSS was developed from the Hollingshead Four Factor Index of Social Status, which is used to yield a score for professional prestige. Although professional prestige is not the sole indicator of SES, prestige is sufficient in creating SES groups based on income data collection (Barratt, 2005). Asking students to report their parent's income has been problematic since most students are unaware of parental earnings. Awareness of parental income decreases when the student is no longer living in the same home as the parents. Although students are unaware of parental income, students as young as age 13 are able to produce valid answers to questions about their parent's SES based on questions about parent occupation (Lien, Friestad, & Klepp, 2001). The BSMSS has two subscales: Level of school completed and Occupation. For the purpose of this

study only the Occupation scale was used to gain information on parental professional prestige, an indicator of social economic status (SES).

General Well-Being Scale (GWB)

The GWB scale was developed for the National Center for Health Statistics to assess self-representations of global well-being (Maitland & Sluder, 1996). It contains scales that measure adjustment in six areas: Health Worry, Energy Level, Satisfaction, Depressed Mood, Emotional-Behavioral Control, and Anxiety as well as a "total adjustment" score (Jay & D'Augelli, 1991). The GWB scale has been used extensively in previous research on a variety of populations with strong evidence of convergent validity and reliability (Maitland & Sluder; D'Augelli, 1993). Test-retest reliability for the GWB total score is reported to be .85; internal consistency coefficients are .91 for males and .95 for females (Jay & D'Augelli).

There are seventeen items total. Thirteen statements are based on a 6-point scale and the final four statements are based on a 10-point scale; a lower score suggests higher levels of general well-being. GWB scale scores range from 17 to 118. The GWB scale indicates overall well being.

Student Adaptation to College Questionnaire (SACQ)

The SACQ is a self-report instrument designed to assess students' adaptation to college life (Beyers & Goossens, 2002). Four aspects of adjustment to college or university life are measured including: (a) Academic Adjustment (r =.87) - measures how well the adolescent manages the educational demands of the university experience, (b) Social Adjustment (r =.89) - measures how well the college student deals with interpersonal experiences at the college such as making friends and joining groups, (c)

Personal-Emotional Adjustment (r = .82) - indicates whether the student experiences general psychological distress or shows somatic symptoms of distress, and (d) Institutional Attachment (r = .90) - assesses the degree of commitment the student feels towards the college or university as an institution. A full scale score (r = .93) is also computed (Beyers & Goossens, 2002; Baker, 1986).

There are 66 items, each item has a 9-point scale, anchored at one end with "applies very closely to me" and at the other with "doesn't apply to me at all" (Bettencourt, Charlton, Eubanks, Kernahan, & Fuller, 1999). Initially, the scale had a row of asterisks to represent the continuum of whether or not the item applied to the respondent. In order to decrease the possibility of confusion, the asterisks were substituted for numbers between 1 (applies very closely to me) and 9 (does not apply to me at all). A lower total score indicates that the participants believe the statements apply closely to them.

The SACQ may be used in two ways. First, it can be a source of dependent variable in studies affecting student adjustment to college as in the current study. Secondly, it could be used to identify students who are experiencing difficulty in their adjustment to college, including identification of kinds of difficulties, as preparation for more effective interventions and more efficient use of resources (Baker, 1986).

Self-Perception Profile for College Students (SPPCS)

The SPPCS is used to asses the participants' levels of global self-esteem. A self-perception score is provided in the following thirteen self-concept domains: self-worth, creativity, intellectual ability, scholastic competence, academic competence, athletic competence, appearance, romantic relationships, social acceptance, close friendships,

parent relationships, humor, and morality. In addition a global self-worth score is tabulated (McGregor, et al., 1991). Cronbach's alpha ranged from .80 to .92 for the thirteen subscales (McGregor et al.).

There are 54 items on which the participant indicates the portion of the two-part statement (e.g., "some students like the kind of person they are" **BUT** "other students wish they were different") that corresponds most closely to their feelings about themselves and how true that portion of the statement is of them (i.e., "really true for me" or "sort of true for me;" Brooks & DuBois, 1995). Instead of checkboxes for the response, the boxes were replaced with letters in order to be less confusing to the participant. Higher scores suggest higher levels of global self-esteem.

Procedures

The researcher actively recruited faculty members at the four year and two year college to allow the researcher to come into the class and administer the questionnaire packet which took approximately 35 minutes. The researcher approached faculty members who had contact with the researcher on previous occasions. Upon receiving permission from the faculty member to come into the class, the researcher invited students in the class to participate in the study. Students who were willing to participate in the study were given a questionnaire packet including a statement of informed consent. Accompanying the packet was a bubble scantron form for participants to indicate their responses to the packet.

Packets were distributed to all who were willing to participate. Although this study only focused on undergraduate FGCSs, the researcher asked all students attending the course to complete the packet. However, SGCSs and students classified other than

undergraduates who completed the packet were excluded in this particular study. In order to maintain anonymity, informed consent statements and participant responses were separated and identification codes were assigned to each participant's instruments once the researcher received the completed packets.

Overview of Data Analysis

The study was conducted using an ex-post facto design. No interventions were required, all participants received the same instruments, and there was no differential treatment among participants. In order to describe the participant sample, descriptive statistics were extrapolated from the demographic information sheet. The measures used were the GWB, SACQ, and the SPPCS. The measures yielded quantitative information about the dependent variables of general well-being, adaptation to college, and global self-esteem. The independent variable was the type of college attended which is a discrete variable since there were few possible values. In order to assess the differences on the dependent variables a MANCOVA was used. By using a MANCOVA, overall differences between the two groups were assessed.

The purpose of the study was to examine the differences in adjustment to college (global well-being, adaptation to college and global self-esteem) among FGCSs at a four year and a two year institution. Because SES has been found to affect FGCSs educational adjustment and attainment, SES was included as a covariate.

In previous studies, researchers found differences in ethnicity and college status. In this study, it was anticipated that ethnicity would not be a significant factor because of the limited ethnic diversity on both of the campuses. If there had been sufficient numbers of ethnic minority students within the sample, data analyses would have included

ethnicity as a variable. Ethnicity was not included as a variable because the ethnic population size was small.

Research Question #1: When holding SES constant, are there overall differences in college adjustment (as measured by general well-being, adaptation to college, and global self-esteem) among FGCSs attending a four year and two year college?

Research Question #2: Is there a difference in general well-being among FGCSs attending a four year college and FGCSs attending a two year college?

Research Question #3: Is there a difference in adaptation to college among FGCSs attending a four year and a two year college?

Research Question #4: Is there a difference in global self-esteem among FGCSs attending a four year and two year college?

APPENDIX D

Results

A multivariate analysis of covariance (MANCOVA) was conducted with the university attended by the participant (Indiana State University and Vincennes University) as the independent variable, SES as the covariate, and scores on the GWB, SACQ, and SPPCS (general well-being, adaptation to college, and global self-esteem) as the dependent variables (Table 2). A MANCOVA was conducted rather than separate ANCOVA's to control for the experiment wise alpha level. The main effect of university groups was not statistically significant, Pillai's Trace = .012, F (3,110) = .437, p = .727, $?^2$ = .012 (Table 3). Box's test of equality of covariance matrices failed to reject indicating that the assumptions of the analysis were upheld and indeed there was homogeneity of variance. There were no statistically significant differences in overall college adjustment among FGCSs attending the four year and the two year college.

Table 2

MANCOVA Descriptive Statistics

	School	*Mean*	*SD*	*n*
GWB	4 year	61.68	7.85	59
	2 year	61.36	8.58	56
SACQ	4 year	414.17	66.52	59
	2 year	417.32	62.09	56
SPPCS	4 year	151.34	29.47	59
	2 year	145.20	33.27	56

Table 3

MANCOVA Summary Table

Source	Dependent Variable	*SS*	*df*	*MS*	*F*
SES	GWB	23.93	1	23.93	.35
	SACQ	6292.23	1	6292.23	1.52
	SPPCS	94.79	1	94.79	.10
School	GWB	3.30	1	3.30	.05
	SACQ	340.24	1	340.24	.08
	SPPCS	1096.21	1	1096.21	1.10
Error	GWB	7609.81	112	67.95	
	SACQ	462366.29	112	4128.27	
	SPPCS	111183.27	112	992.71	
Total	GWB	7636.70	115		
	SACQ	468943.95	115		
	SPPCS	112362.09	115		

Note. $p > .05$, no statistical significance.

An ANCOVA was conducted with the university attended by the participant (four year and two year) as the independent variable, SES as the covariate, and the scores on the GWB (general well-being) as the dependent variable (Table 4). GWB scores were not statistically significant F (1,115) = .048, p = .826, $?^2$ = .00 (Table 5). There were no statistically significant differences in general well being scores among FGCSs attending the four year and the two year college.

Table 4

GWB Descriptive Statistics

School	*Mean*	*SD*	*n*
4 year	61.68	7.85	59
2 year	61.36	8.59	56

Table 5

GWB ANCOVA Summary Scale

Source	*SS*	*df*	*MS*	*F*
SES	23.93	1	23.93	.55
School	3.30	1	3.30	.83
Error	7609.81	112	67.95	
Total	442903.00	115		

Note. $p > .05$, no statistical significance.

An ANCOVA was conducted with the university attended by the participant (four year and two year) as the independent variable, SES as the covariate, and the scores on the SACQ (adaptation to college) as the dependent variable (Table 6). The interaction between the school attended on SACQ scores was not statistically significant $F(1,115) = .082$, $p = .775$, $?^2 = .001$ (Table 7). There were no statistically significant differences in adaptation to college scores among FGCSs attending the four year and the two year college.

Table 6

SACQ Descriptive Statistics

School	*Mean*	*SD*	*n*
4 year	414.17	66.51	59
2 year	417.32	62.09	56

Table 7

SACQ ANCOVA Summary Scale

Source	*SS*	*df*	*MS*	*F*
SES	6292.23	1	6292.23	1.52
School	340.24	1	340.24	.82
Error	462366.29	112	462366.29	
Total	20342106.00	115		

Note. $p > .05$, no statistical significance.

An ANCOVA was conducted with the university attended by the participant (four year and two year) as the independent variable, SES as the covariate, and the scores on the SPPCS (global self-esteem) as the dependent variable (Table 8). The interaction between the school attended on SPPCS scores was not statistically significant $F(1,115) = 1.10$, $p = .296$, $?^2 = .01$ (Table 9). There were no statistically significant differences in global self-esteem scores among FGCSs attending the four year and the two year college.

Table 8

SPPCS Descriptive Statistics

School	*Mean*	*SD*	*n*
4 year	151.34	29.47	59
2 year	145.20	33.27	56

Table 9

SPPCS ANCOVA Summary Scale

Source	*SS*	*df*	*MS*	*F*
SES	94.79	1	94.79	.10
School	1096.21	1	1096.21	1.10
Error	111183.27	112	992.71	
Total	2643176.00	115		

Note. $p > .05$, no statistical significance.

No post-hoc analyses were conducted on the MANCOVA or the three separate ANCOVAs because the results were not statistically significant. Overall, when SES was held constant, there were no differences between students attending the four year college and the two year college in regard to college adjustment measured by general well-being, adaptation to college, and global self-esteem.

APPENDIX E

Discussion

This study was designed to look at overall adjustment differences between FGCSs attending a four year and a two year college. Overall adjustment was measured by general well being, adaptation to college, and global self-esteem. In this study, no differences in overall college adjustment were found for FGCSs attending the four-year and the two year college when SES was held constant. Students from the four year and two year colleges were similar in regard to their general well being, adaptation to college, and self-esteem. Specifically, students reported having similar moderate levels of concern in areas such as health, worry, energy level, satisfaction, depressed mood, emotional-behavioral control, and anxiety. Additionally, students at the four year and the two year college reported having similar levels of adjustment to college life. In particular, the samples reported similar levels of adjustment in managing educational demands, interpersonal experiences with others, level of psychological distress, and level of commitment to the college. This suggests that both samples received similar amounts of information from family members and friends about the nature of the college setting.

The FGCSs attending the four year and the two year college reported moderate levels of self-esteem as reflected in areas such as self-worth, creativity, intellectual ability, and scholastic competence. The FGCSs attending the four year and the two year college were alike in regard to academic adjustment, emotional-behavioral factors, and self worth. Students at the four year and two year college reported similar levels of confidence in being able to acclimate to the college environment and feelings of confidence to accomplish their educational goals.

The similarity between the FGCSs attending the four year college and the two year college could be attributed to a number of factors including similarities in the schools' philosophies, socio-demographic variables, and recent administrative decisions. Within the Midwestern state where both of these schools are located, the two year college is unique in regard to its approach to students. Traditionally, two year colleges have two tracks for their students: technical or preparatory. Within this state, there are different types of two year colleges, those that focus heavily on technical degrees (i.e., automotive technician) and those that focus on preparing the student for a four year college. Two year colleges that focus on technical degrees offer training in trade skills and certification in tasks such as plumbing and heat or air conditioning. Two year colleges that focus on being a feed to four year schools offer courses that will prepare the student for admission into a four year college. These two year colleges are usually more liberal arts oriented which might be more like the four year college than the two year college with an emphasis on technical training. Not only did the two year college have a heavy focus on preparing students for a four year baccalaureate degree, it also carried the name "university." Being labeled a university rather than a college from the inception of the school could influence the attitudes of students such that their responses were similar to those who are attending the four year college. Perhaps differences in FGCSs attending four year and two year colleges would be presented if the two year college within the study had been a college that was more technical in nature.

The similiarities within the four year and the two year school could also be attributed to sociodemographic variables. Within the study, there were no differences between the samples in regard to background information. The median age, marital

status, and the number of children were all similar which was unexpected. Previous researchers have found that students attending two year colleges are usually older, not single, and have more children

Both colleges are located in mid-sized cities on the western border of the southern section of the state, thus drawing from a demographically similar pool of applicants. Both schools have students represented from all of the counties within the state, a high percentage of out of state students, and a considerable international population. Having international students is particularly unique for the two year college because the majority of international students do not come overseas to attend a two year institution. Additionally, both schools are residential institutions which is common for four year colleges, but especially rare for two year colleges. It is possible that residential students at the two year college are able to establish meaningful relationships that mirror those of residential students at the four year college. The students at the two year college might have the same level of investment in their school because it is considered their home rather than just a place to learn.

The similarity between the two groups could also be attributed to the two year college's recent decision to offer selected four year baccalaureate degrees. Students who would have typically gone to a traditional four year college might be attending the two year college because they were aware of the university's plan to offer baccalaureate degrees and because it would be more economical than attending a four year college within the state.

Previously, researchers focusing on collegiate trends in FGCSs have attempted to compare FGCSs with SGCSs. A review of the literature on higher education shows that

there are differences between FGCSs and SGCSs in regard to preparation for college, financial stability, and knowledge of the college environment. Comparisons between FGCSs and SGCSs were only on adjustment in time management, cognitive factors, and achievement levels. The present study contributes uniquely to this field by only focusing on FGCSs within group differences in overall college adjustment across a wider range of socio-emotional variables (general well-being, adaptation to college, and self-esteem).

Limitations

There are several limitations associated with the present study. First, the results of this study cannot be generalized to other sets of students or to other campuses that are unlike these universities. These results are only indicative of the respondents that completed the questionnaire packet. Second, there were 154 questions in the packet which took approximately 35 minutes to complete. Inconsistent responses were seen in a number of packets, for example, participants indicated that they were classified as freshman and then later reported that the current degree sought was a Ph.D. This lack of detail might have increased the amount of questions that were not answered or increased the amount of inconsistent responses. Third, some participants might not have understood or cared about the nature of the study thus causing some participants to answer the questions randomly. Data was collected using four self-report instruments. By collecting data solely through self-reports, there could be a difference between reported adjustment and actual adjustment to the college. Current assessment approaches recommend using multiple methods of assessment. Future investigation should include not only self-reports, but ratings from others such as peers and parents in regard to the students' adjustment to college. Fourth, although the sample size approached the minimum number needed to

obtain sufficient power, the number of participants could have affected the results that were obtained.

Recommendations

Several recommendations for conducting future research and clinical implications regarding FGCSs are discussed within this section. Future research could focus on comparing more traditional two year colleges with four year colleges within different geographical locations. These traditional two year colleges would have a mix of technical and preparatory programming. Comparisons could also be done between FGCSs attending a four year college and a two year college that has specific emphasis on technical training. Further research could focus on not only adjustment variables such as adaptation to college, but also cognitive and emotional variables. If this study is replicated, it is recommended that incentives such as gift certificates or raffle drawings be implemented. Incentives could possibly decrease the risk of random responses and incomplete packets.

The results of this study indicate that there were no differences in overall adjustment between FGCSs attending a four year and a two year college. In terms of clinical implications high school counselors and college advisors can recommend four year and two year colleges equally. If there are concerns about a students' adjustment into a college environment, the student could attend either type of college and achieve similar levels of adjustment.

. There were no differences in terms of socio-demographic variables, which could encourage additional relationships between four year and two year colleges. Usually both types of schools have separate programs for FGCSs, but the schools may be able to pool

their resources together. If the two year school transfers students into the four year school then the programs could work collaboratively by combining the students together. This could be cost effective to both schools and allow the colleges to assist more students concerning adjustment variables within the college environment.

APPENDIX F

CONSENT TO PARTICIPATE IN RESEARCH

(PLEASE RETURN)

First generation college student adjustment at four year and two year institutions of higher learning

You are asked to participate in a research study conducted by Maisha Marie Smith, M.A. and Michele C. Boyer, Ph.D., from the Department of Counseling at Indiana State University. This is a dissertation study that is being conducted in partial fulfillment of the requirement for the Doctor of Philosophy degree. Your participation in this study is entirely voluntary. Please read the information below and ask questions about anything you do not understand, before deciding whether or not to participate.

- **PURPOSE OF THE STUDY**

This study is designed to explore the differences between first generation college students at four year and two year colleges. It is not a test. If you volunteer to participate, please be as honest and accurate as possible.

- **PROCEDURES**

If you volunteer to participate in this study, you will be asked to do the following things: You will be asked to complete a packet of questionnaires. There are no right or wrong answers to the questionnaire items. The total length of time for participation should not exceed thirty-five minutes.

- **POTENTIAL RISKS AND DISCOMFORTS**

There are no known physical, psychological, or social risks to your participation in this research study. In the unlikely event of experiencing adverse reactions in completing the packet of questionnaires, the website and phone number of the student counseling center will be provided.

- **POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY**

There are no known potential benefits for your participation in this research study. However, potential benefits to society include learning about the adjustments college students face attending four year and two year colleges in order for professionals to assist in this transition.

- **CONFIDENTIALITY**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of keeping your consent form separate from your questionnaire; so you will not be identified with your answers. Data obtained will be kept for three years in a locked file cabinet in a locked room with

minimal access. The investigators will be the only ones to have access to the data. Results will only be published in a group format.

- **PARTICIPATION AND WITHDRAWAL**

You can choose whether or not to be in this study. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind or loss of benefits to which you are otherwise entitled. You may also refuse to answer any questions you do not want to answer. There is no penalty if you withdraw from the study and you will not lose any benefits to which you are otherwise entitled.

- **IDENTIFICATION OF INVESTIGATORS**

If you have any questions or concerns about this research, please contact Maisha M. Smith by phone at (812) 398-5050 ext. 3221or by email at msmith4782@aol.com, or Dr. Michele C. Boyer, Chairperson of the Department of Counseling, Indiana State University, by phone at (812) 237-7693 or by email mcboyer@indstate.edu

- **RIGHTS OF RESEARCH SUBJECTS**

If you have any questions about your rights as a research subject, you may contact the Indiana State University Institutional Review Board (IRB) by mail at 114 Erickson Hall, Terre Haute, IN 47809, by phone at (812) 237-8217, or e-mail the IRB at irb@indstate.edu. You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB is an independent committee composed of members of the University community, as well as lay members of the community not connected with ISU. The IRB has reviewed and approved this study.

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

_____
Printed Name of Subject

_____ _____
Signature of Subject Date

APPENDIX G

BACKGROUND QUESTIONNAIRE

INSTRUCTIONS: Please read and answer each question.

1. Please indicate your gender: □ Male □ Female

2. How old are you? _____

3. Please indicate your ethnic background **by circling the ONE answer** that best applies.

a. African American/Black	**d.** Hispanic
b. Asian American	**e.** Native American/American Indian
c. Caucasian	**f.** Other (describe)_____

4. Are you: □ single □married □ divorced □ partnered □ other:_____

5. How many children/dependents do you have? _____

6. Are you classified as a: □ freshman □ sophomore □ junior □ senior □ other: _____

7. Did you transfer from another school?
   - □ Yes, another four year college
   - □ Yes, a two year college
   - □ No

8. How many years have you been in college? _____

9. Are you classified as a:
   - □ Full-time student (12 or more credit hours)
   - □ Part-time student (11 or less credit hours)

10. What degree are you currently seeking at this university?

□ Technical, Non-Degree Program □ Associates Degree (A.A) □ Bachelors Degree (BA/BS)
□ Masters Degree (MA/MS) □ Professional Degree (PhD, MD, Law Degree)

11. What is the highest degree you plan on obtaining?

□ Technical, Non-Degree Program □ Associates Degree (A.A) □ Bachelors Degree (BA/BS)
□ Masters Degree (MA/MS) □ Professional Degree (PhD, MD, Law Degree)

12. How many siblings do you have? _____

13. My sibling is currently enrolled or graduated from…

□ Technical, Non-Degree Program □ Associates Degree (A.A) □ Bachelors Degree (BA/BS)
□ Masters Degree (MA/MS) □ Professional Degree (PhD, MD, Law Degree)

14. Did at least one parent attend college?

□ No, my parent did not attend college
□ Yes, a 2-year college, but did not graduate
□ Yes, a 4-year college, but did not graduate
□ Yes, a 2-year college and graduated
□ Yes, a 4-year college and graduated

15. Please place an **X** in the appropriate box for your Mother's, Father's, your Spouse/Partner's, and your occupation. If you grew up in a single parent home, use only the score from your parent. If not married or partnered circle only your score. If you are still a full-time student only circle the scores for your parents. If your parents are retired, their most recent occupation

Occupation	**Mother**	**Father**	**Spouse**	**You**
Day laborer, janitor, house cleaner, farm worker, food counter sales, food preparation worker, busboy.				
Garbage collector, short-order cook, cab driver, shoe sales, assembly line workers, masons, baggage porter.				
Painter, skilled construction trade, sales clerk, truck driver, cook, sales counter or general office clerk.				
Automobile mechanic, typist, locksmith, farmer, carpenter, receptionist, construction laborer, hairdresser.				
Machinist, musician, bookkeeper, secretary, insurance sales, cabinet maker, personnel specialist, welder.				
Supervisor, librarian, aircraft mechanic, artist and artisan, electrician, administrator, military enlisted personnel, buyer.				
Nurse, skilled technician, medical technician, counselor, manager, police and fire personnel, financial manager, physical, occupational, speech therapist.				
Mechanical, nuclear, and electrical engineer, educational administrator, veterinarian, military officer, elementary, high school and special education teacher,				
Physician, attorney, professor, chemical and aerospace engineer, judge, CEO, senior manager, public official, psychologist, pharmacist, accountant.				

APPENDIX H

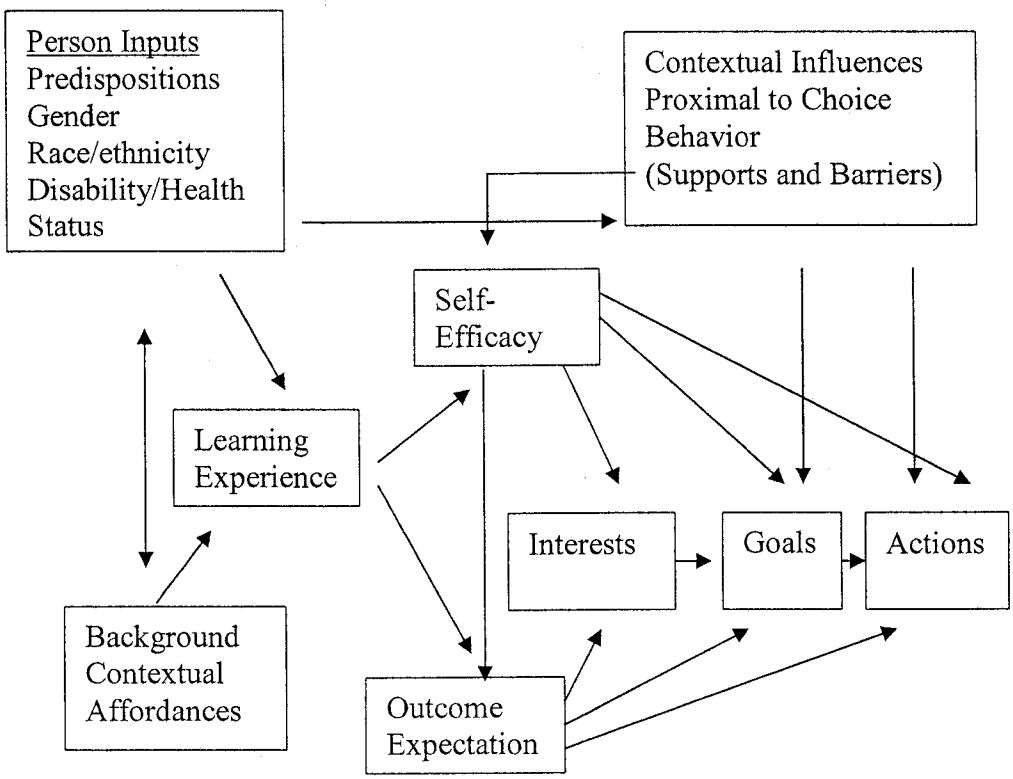

Figure 1

Model of social cognitive influences on career choice behavior

APPENDIX I

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