

ABSTRACT

Title of Document: THE RELATION OF SELF VARIABLES TO
TRANSFER STUDENT SUCCESS AS
MEASURED BY ACADEMIC,
PSYCHOLOGICAL, AND CAREER
FUNCTIONING

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Research has suggested that transfer students experience difficulty in many domains however limited research has examined the variables associated with transfer student success. The present study examined transfer student success using a sample of first-year transfer students at a large mid-Atlantic university. Independent variables examined were academic self-efficacy, career self-efficacy, and sense of belonging/social integration. Transfer student success was assessed through academic performance, psychological functioning, and career functioning. Using canonical correlation, two patterns of associations were found to explain transfer student functioning in a new institution. Implications of these two patterns of associations are discussed.

THE RELATION OF SELF VARIABLES TO TRANSFER STUDENT SUCCESS
AS MEASURED BY ACADEMIC, PSYCHOLOGICAL, AND CAREER
FUNCTIONING

By

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Dedication

As I completed this study, many of the participants informally shared their stories about their transfer student experiences. The transfer student experience is a unique and valuable one. Too often transfer student voices are lost in the larger sea of issues faced by counselors and universities.

This thesis is dedicated to transfer students at all universities around the country. Keep reaching for that voice in the university!

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Chapter 1: Introduction to the Problem

Transition occurs when an individual experiences change (Schlossberg, 1995). This change may be expected or unexpected and can occur at any point in life. Transition can be defined as an event or non-event that changes relationships, routines, roles and assumptions (Schlossberg, 1995). While transition can be viewed as positive, many transitions are experienced as negative, painful, or tragic (Brammer, 1992a). As a result, transition can be challenging for individuals and can result in both positive and negative consequences. This study examined self variables (i.e., academic self-efficacy, career decision-making self-efficacy, college self-efficacy, stage of career development, sense of belonging) and their relation to the healthy transition to college among a group of at-risk students who are rarely studied in psychology, college transfer students. The purpose of this study was twofold. First, this study advances our understanding regarding the experiences of transfer students. The second purpose of this study was to investigate healthy functioning among transfer students in academic (i.e., grade point average, retention), psychological (i.e., freedom from depression, self esteem), and career domains (i.e., career functioning). In addition, this study examined the relation of self variables to college success as measured by academic, psychological, and career variables.

Individuals in transition experience positive or negative consequences depending on perceptions of the transition, type of transition, adequacy of coping resources, and environmental influences (Schlossberg, 1995). Transition has been linked to tension, fatigue, and psychological deterioration (Schlossberg, 1995). Schlossberg (1995) identified four factors that affect the type of consequences an

individual in transition experiences: Situation, Support, Self, and Strategies (i.e., the 4 S's). Whether an individual has strengths and assets in each of these areas affects his or her ability to adapt to the transition. Schlossberg (1995) stated that individuals need to assimilate transition into their lives to avoid remaining preoccupied with the experience. Since transition may result in problematic outcomes, it is important that the transitional experiences of various populations be studied.

Transfer students in universities and colleges are one such population who experience transition and also are a special group of at-risk students. At-risk students may face many challenges including academic difficulties (Heisserer & Parette, 2002). At-risk students have high rates of attrition from school which may lead to difficulty in the work force when attempting to find employment (Heisserer & Parette, 2002). Furthermore, at-risk students may have lower academic expectations and difficulty adjusting to college life (Heisserer & Parette, 2002). Heisserer and Parette (2002) contended that at-risk students feel isolated and unvalued in the college setting and suggested that at-risk students need to feel a sense of belonging.

In addition, studies have shown that many at-risk students have difficulty with the process of career development (Jackson & Healy, 1996; Schnorr & Ware, 2001). In one study, Jackson and Healy (1996) concluded that at-risk students would benefit from career development activities and are in need of more knowledge about the world of work. Similar findings by Schnorr and Ware (2001) examining academically at-risk students concluded that peer influence and personal expectations were related to students' stage of career development.

Transfer Students. While there is an established literature built around college students and at-risk students, the literature around transfer students is comparably in its infancy. Transfer student research has traditionally focused on the differences between transfer students and non-transfer (native) students. This literature has identified many unique issues transfer students face. The most common finding in transfer student literature is a concept of ‘transfer shock’ (e.g., Davies & Casey, 1999; Glass & Harrington, 2002; Zhai & Newcomb, 2000). Transfer shock refers to the phenomenon that transfer students experience in the first semester/year after transferring into a new university. Transfer shock is typically accompanied by a drop in grade point average and an increase in the drop out rate in the first semester/year after transferring when compared to native students (Glass & Harrington, 2002). Fortunately this drop in grade point average subsides over time (Glass & Harrington, 2002). Research indicates that transfer students’ GPA increased after a time and by graduation had comparable GPA’s (Glass & Harrington, 2002). However, the first semesters are a crucial period for transfer student success. Researchers also have found that transfer students have lower rates of retention than native students (Glass & Harrington, 2002). However, this only holds true during the transfer shock period. Glass and Harrington (2002) found that the longer a student persisted at the university, the fewer differences there were between transfer students and native students. As a result, it is crucial that institutions identify variables related to dropping out during the first year of study.

Transfer shock has been identified consistently in studies on transfer students but few studies have examined the variables related to this phenomenon. Davies and

Casey (1999) suggested that transfer shock may be related to what they termed 'campus culture shock'. Campus culture shock is defined as the difficulty an individual experiences adjusting to the climate of a new institution coupled with a lack of a helpful and friendly faculty, staff, and few resources for transfer students. Other research has corroborated this link. For example, Wawrzynski and Sedlacek (2003) found that transfer students experienced a climate of fewer services and resources at the university. Moreover, Eggleston and Laanan (2001) suggested that the adjustment of transfer students could be eased through programs and resources designed for transfer students.

Looking at issues that transfer students face through the lens of comparison to native students allows us to identify salient concerns; however it is inappropriate to limit research to comparisons of the two groups (Laanan, 2001). By examining transfer students as a separate entity, a more comprehensive understanding of transfer students can be reached. One limitation to the current research is related to the variables associated with transfer student success. Whereas research has identified the many issues transfer students face, researchers have only begun to examine the variables related to transfer student success.

Academic self-efficacy. Since research has yet to examine the correlates of transfer student success, one must turn to the literature on predictors of non-transfer college student success to identify possible correlates of transfer student success. Academic self-efficacy is a variable that has been related to college student success. Academic self-efficacy has been defined as confidence in one's ability to succeed academically and research has found that strong levels of academic self-efficacy

correlated with academic success. Specifically, research has shown a positive relationship between academic self-efficacy and grade point average (Chemers, Hu, & Garcia, 2001; Elias & Loomis, 2000; Wood & Locke, 1987). Students with high academic-self efficacy also tend to perform well on class exams (Vrugt, Langereis, & Hoogstraten, 1997). In addition, academic self-efficacy was related positively to self-set academic goals (Wood & Locke, 1987). One specific area of academic self-efficacy where studies have shown a clear link with college success is mathematics self-efficacy. Math self-efficacy has been linked to the avoidance and exploration of careers in sciences (Betz & Hackett, 1986; Hackett, 1985). This finding is relevant since college students who limit their options may have more difficulty with career development than those students who consider a range of options.

Career decision-making self-efficacy. Another variable related to college student success is career decision-making self-efficacy. Career decision-making self-efficacy is defined as an individual's confidence in his or her ability to perform the tasks and behaviors necessary for effective career decision-making (Taylor & Betz, 1983). Career decision-making self-efficacy has been shown to be related to college major selection (Lent & Hackett, 1987) and career indecision (Taylor & Betz, 1983). Individuals with higher levels of career decision-making self-efficacy were more likely to consider non-traditional career options in addition to traditional career options (Betz & Hackett, 1986). On the other hand, individuals with low levels of career decision-making self-efficacy were less likely to make healthy career decisions which may limit the development of their career interests (Betz & Hackett, 1986; Rotberg, Brown, & Ware, 1987). Career decision-making self-efficacy also was

linked to academic success. For example, Lent and Hackett (1987) found that career decision-making self-efficacy was related to both academic persistence and career decidedness.

College self-efficacy. College self-efficacy is a third variable related to college student success. College self-efficacy is defined as an individual's confidence in their ability to adjust to the college environment (Solberg, O'Brien, Villarreal, Kennel, & Davis, 1993). Using Hispanic students, Solberg and colleagues (1993) found that college self-efficacy could be measured through three constructs: course efficacy, social efficacy, and roommate efficacy. These three constructs assessed confidence in assimilating into the college environment. The researchers suggested that college self-efficacy related to adjustment to school as well as persistence in school (Solberg et al., 1993). Other research has supported the link between college self-efficacy and persistence (e.g., DeWitz & Walsh, 2002; Solberg & Villarreal, 1997; Torres & Solberg, 2001). College self-efficacy also has been related to better health (Torres & Solberg, 2001) and greater college satisfaction (DeWitz & Walsh, 2002). In addition, college self-efficacy was correlated with lower levels of stress and distress (Solberg & Villarreal, 1997). Since college self-efficacy partially captures the academic and social integration of college students, it seems likely that students with high levels of college self-efficacy will persist in school.

Stage of career development. In addition to self-efficacy, stage of career development is another variable related to college student success. In this study, career development was defined by stage of development according to Marcia's model of identity status (Marcia, 1980, 1996). This model examines identity in both

ideological domains (e.g., occupation, politics, religion) and interpersonal domains (e.g., friendship, sex roles, recreation). With regard to stage of career development, Marcia's model identified four statuses of career development: foreclosure, diffusion, moratorium, and achieved. These statuses are not ordered stages but a framework for understanding individual's career development. In addition, these statuses are complex categories and can include both pathological and healthy components. In other words, it is important to consider identity statuses as including many aspects which can influence how a person experiences a particular status. The moratorium status is where an individual is actively exploring career options but has not yet made a decision. The moratorium status can include flexibility or rigidity, and can be sensitive or anxiety-ridden. In the foreclosure status, an individual has made a vocational commitment without exploring a range of options. Foreclosure can be externally imposed or internally supported by an individual. In diffusion, an individual has not gone through a career exploration process and has no set career direction. Marcia (1980) describes diffusion as where an individual does not experience commitment to a career. Individuals in diffusion may experience anxiety or ease about their status. Finally, achievement is where an individual has explored career options and made a commitment to a career option. While the achieved identity status is seen as self-directed and adaptive, Marcia (1980) has suggested that there may be a premature identity achievement that is problematic.

Research has shown that college students may decide on a career without exploring their career options. In other words, using Marcia's model of career development, their career decision may be foreclosed. Transfer students' may

struggle with the career development process since they are a group that is both at-risk as well as transitioning. Several studies have found that stage of career development is linked to GPA through several mechanisms including career development skills and career anxiety (e.g., Healy & Mourton, 1987; Healy, Mourton, Anderson, & Robinson, 1984; Healy, O'Shea, & Crook, 1985). Furthermore, stage of career development has been related to psychological well-being (Arnold, 1989). Currently, there is a dearth of literature describing the stage of career development of transfer students. Since this subpopulation faces unique issues, it is possible that the process of career development also may be related to transfer student success.

Sense of Belonging. Sense of belonging has been linked to college student success. Sense of belonging represents interactions of self with outside influences. Sense of belonging may be defined as the level of academic and social integration in the university setting (Tinto, 1993). Tinto (1998) posited that student involvement in the college community related positively to student persistence. This theory has been supported by numerous studies (e.g., Pascarella & Chapman, 1983; Pascarella & Terenzini, 1980, 1983; Terenzini, Pascarella, Theophilides, & Lorang, 1985). The first year at a university or college is especially important since almost half of all students who depart do so before the start of their second year (Heisserer & Parette, 2002; Tinto, 1998). Tinto (1998) suggested that universities take measures to increase sense of belonging such as clustering classes, encouraging interaction with faculty and staff, and setting up an environmental structure where students can become actively involved in classroom learning outside of the classroom setting.

To date, college student success has been operationalized using several different constructs. In this study, college student success will be measured using academic, psychological, and vocational variables.

Grade Point Average. Academically, college student success can be measured using grade point average (GPA). Since transfer shock is typically accompanied by a drop in GPA, high GPA's are an indication of academic success (Glass & Harrington, 2002).

Retention. Similarly, retention has been used as an indicator of academic success. Retention of transfer students has been related to academic integration (e.g., Pascarella & Chapman, 1983; Tinto, 1998). As previously mentioned, a characteristic of transfer shock is an increase in the drop out rate (Glass & Harrington, 2002).

Freedom from depression. Psychological variables can be measured as freedom from depression, and level of self-esteem in adjusting to school. Freedom from depression has been linked to healthy college adjustment (Mattanah, Hancock, & Brand, 2004). From the transition literature, it follows that individuals who are able to adjust will have positive transitions.

Self-esteem. Level of self-esteem in adjusting to school is another indicator of psychological well-being. Self-esteem has been related to both life stress and psychological symptoms (Curbow & Somerfield, 1991). Individuals with high levels of self-esteem are likely to thrive given adverse experiences (Masten & Coatsworth, 1998). Since transition to a new institution can be viewed as both a life stress and adverse experience, level of self-esteem is important to consider.

Career Functioning. Finally, career functioning includes decidedness and information. Students who gain information about choices, explore options, resolve indecision and successfully navigate the career development process are thought to be less at-risk and have more positive outcomes than students who struggle in their career development process.

Studies have examined how students have a need for information about career choices. For example, Kelly and Lee (2002) studied career decision problems of undergraduate students and found that lack of information accounted for a majority of variance in career decidedness (Kelly & Lee, 2002). Research by Gaffner and colleagues (2002) has corroborated this link suggesting that information about career choices was important to healthy career functioning.

Research has been conducted on the degree to which college students have made healthy career decisions. For example, Nauta, Kahn, Angell, James, and Cantarelli (2002) found that the career-interests of college students was related to their self-efficacy. In addition, Orndoff and Herr (1996) found that students who had declared a major had spent more time clarifying their values, interests, and abilities than their undeclared counterparts. Research has also examined the relationship between career indecision and ego identity development (Cohen, Chartrand, & Jowdy, 1995). Cohen and colleagues (1995) examined 423 students (275 women and 102 men, 277 Caucasian, 60 African American, 24 Asian, 10 Other, and 6 Hispanic) in undergraduate psychology courses at five southeastern universities and found that students with more successful resolution across the psychosocial stages were also more ready to decide on a career.

To summarize, the present study contributes to the literature on transition by examining transfer students. Transfer students typically have been viewed as second class citizens in colleges and universities. They are seen as less important and less valuable than students who began their academic careers at a given university (Townsend, 1993). As a result, transfer students may face an environment of fewer resources and supports (Kodama, 2002). In fact, some universities do not take steps to ensure the success of transfer students and in some cases create an environment that makes it difficult for transfer students to succeed (Kodama, 2002; Townsend, 1993). Consequently, it is important to study the unique challenges faced by transfer students to inform policy decisions. While the literature on transfer students has identified the many problems that transfer students face, relatively little research has examined the variables related to the success of transfer students as a unique population in the university setting. In the case of stage of career development, transfer students may be in need of assistance since their process of career development has been interrupted by a transition. Much is known on how the variables described above relate to these constructs of college student success; however, there is a paucity of information regarding the relations among these variables for the transfer student population.

Thus, the purpose of this study was to learn more about transfer students and what relates to their success in the university. Similar to previous work by Zamostny, O'Brien and Tomlinson (2002), the present study examined the relations among self variables (i.e., academic self-efficacy, career decision-making self-efficacy, college self-efficacy, stage of career development, sense of belonging), and college success as

measured by academic (i.e., grade point average, retention), psychological (i.e., freedom from depression, self esteem), and career variables (i.e., career functioning). In doing so, this study provided descriptive information on the stage of career development, the sense of belonging, and various levels of self-efficacy among transfer students. The study also determined how these variables relate to healthy functioning and investigate the need for allotting resources and funding to improve the success of transfer students.

Chapter 2: Review of the Literature

The present study contributes to the literature on transition by examining transfer students. To begin exploring the academic, psychological and career variables related to transfer student success, it is important to review the current literature on the constructs of transfer student success and the self variables thought to be related to transfer student success. It is important to note that most of the research in these areas was conducted on primarily on white samples. Nonetheless, the research provides a base from which to build further research. The following section defines the various populations of relevance to the present study and summarizes the studies on each of these populations. Included in this section is a summary of studies that have examined transition, at-risk college students, and transfer students. Following this review of relevant populations, the literature on academic, psychological, and vocational variables is summarized. In addition, this review presents a review of the relevant literature on self variables including academic self-efficacy, college self-efficacy, career development, and sense of belonging. Those studies that integrate multiple self variables will also be reviewed. This review of literature will conclude with research questions pertaining to the success of transfer students.

Transition

Transition occurs when a person experiences change (Brammer, 1992b; Schlossberg, 1981, 1995). This change can be expected or unexpected and occur at any point in a person's life. However, in all cases, transition is a sharp change in a person's typical life routines (Brammer, 1992b). In this sense, transition excludes

events such as the adolescence and includes events such as separation, unemployment, or change in residence (Brammer, 1992b). Transition can be defined as an event or nonevent that changes relationships, routines, roles, and assumptions (Schlossberg, 1995). It is an interactive process that incorporates the way a person views the transition, the nature of the transition, the coping resources a person has, and the person-environment interaction (Schlossberg, 1981). Transition tends to make new demands of individuals and may place them at risk for a variety of consequences (Brammer, 1992b). While some transitions can be seen as positive, many transitions are viewed as negative, painful, or tragic (Brammer, 1992b).

Perhaps one of the most recognized conceptualizations of the transition process is “Schlossberg’s 4 S’s.” Schlossberg (1995) identified four factors that affect the type of consequences an individual in transition experiences: Situation, Support, Self, and Strategies (i.e., the 4 S’s). Situation refers to the type of transition a person is experiencing. This includes whether the individual views the transition as voluntary or involuntary, expected or unexpected, and positive or negative. Self refers to the characteristics an individual brings to the transition situation. Examples of “Self” include whether the individual has made a similar transition previously, and the individual’s predisposition to dealing with transitions. Support refers to the social network a person has in dealing with the transition. For example, does the individual experiencing transition have friends, family, or other persons they can rely on for assistance through their transition? Finally, Strategies refers to the approach an individual has for coping with the transition. Schlossberg posited that whether an individual has strengths and assets in each of these areas affects his or her ability to

adapt to transition. Schlossberg (1995) stated that individuals need to assimilate transition into their lives to avoid remaining preoccupied with the transition experience.

Transition can affect individuals and their performance. Indeed, empirical research has shown that transitions of all types results in a variety of consequences (e.g., Beeber, 1999; Fisher & Hood, 1987; Zirkel, 1992). Transition can have effects on an individual's academic performance. Nowhere is this seen more than in transitions to a new academic environment. Transition to college has been found to produce academic pressure to succeed (Beeber, 1999). In the transfer student literature, the concept of "transfer shock" is well established (e.g., Davies & Casey, 1999; Glass & Harrington, 2002; Zhai & Newcomb, 2000). Transfer shock occurs when a transfer student enters the university and is typically accompanied by a drop in grade point average and an increase in the drop out rate in the first semester/year after transferring (Glass & Harrington, 2002). Transfer shock will be further discussed in a subsequent section of this review of literature.

Psychologically, transition creates an atmosphere of chaos where a person feels that they have little or no control over their lives (Skar, 2004). Transition has also been linked to depression (Beeber, 1999; Fisher & Hood, 1987). Specifically, researchers have found that the transition process results in an increase in level of depression. To explain the development of depressive symptoms in transition to college, Beeber (1999) examined 213 women (89% white, 5% black, and 6% other) experiencing a first time transition to a university setting. Beeber (1999) measured stressful life events, self-esteem, and depressive symptoms and found that as

individuals experienced an increase in stressful life events, they also experienced an increase in depressive symptoms and a decrease in self-esteem. Another study found similar results using a coeducational group (Fisher & Hood, 1987). Fisher and her colleagues (1987) examined variables related to the stress of the transition to a university with 100 first year students (36 women and 64 men). Results of the study indicated that depressive symptoms associated with transition were related to lower levels of control. Depressive symptoms related to transition also may have resulted because an individual's old behaviors were inappropriate to the new circumstances of the transition (Fisher & Hood, 1987). Transition also has been connected with lower levels of self-esteem (Beeber, 1999; Fisher & Hood, 1987) as well as an increase in anxiety (Zirkel, 1992). Using a group of students transitioning to a university setting, Zirkel (1992) found that students developed various types of anxiety about their emerging independence.

Transition can also have vocational consequences (Armstrong-Stassen, 1994). One study examining 200 technical employees (151 men and 49 women) who were downsized found transition negatively affected job performance, and organizational commitment (Armstrong-Stassen, 1994).

Although transitions can have negative consequences, there are several variables that mediate the negative effects of transition. Several researchers have found optimism to be related to successful transitions (Armstrong-Stassen, 1994; Brisette, Scheier, & Carver, 2002; Kwan, Love, Ryff, & Essex, 2003). To understand how optimism functions in a successful life transition, Brisette and colleagues (2002) examined first year college students transitioning into the university setting. They

sampled 89 students (46 women and 43 men) and found that greater optimism was related to having greater increases in perceived social support and lower levels of depression (Brisette et al., 2002). Another study by Kwan and colleagues (2003) examined 266 women (98% white) who experienced residence relocation. Results of the study showed that positive view of self was associated with psychological well-being and reduction of depressive symptoms (Kwan et al., 2003). Finally, using 200 technical employees (151 men and 49 women), Armstrong-Stassen (1994) found that optimism was related to an individual's ability to control their situation.

A person's perceived control over his or her life also has been found to affect the type of consequence he or she experiences (Armstrong-Stassen, 1994; Brammer, 1992b; Fisher & Hood, 1987). For example, Fisher and Hood (1987) found that loss of control resulting from transition created the conditions for depression and helplessness.

Researchers have identified transition as having academic, psychological, and vocational consequences for individuals. These consequences are found with samples of student populations as well as samples drawn from other populations. Fortunately, researchers also have identified several constructs that may mediate the negative consequences of the transition process.

At-Risk Students

Transfer students in universities and colleges are one population who experience transition and are also a special group of at-risk students. To understand how transfer students are a subgroup of at-risk students, the following section will examine the literature on at-risk college students. The term "At-risk students" has

been used with many definitions. For example, Heisserer and Parette (2002) defined at-risk students as students who are “ethnic minorities, academically disadvantaged, disabled, of low socioeconomic status, and probationary students” while Levin and Levin (1991) characterized at-risk students as “underprepared.”

Despite the inconsistency in definitions, when researchers use the term “at-risk student”, they commonly refer to those students who are at-risk for academic failure (Abrams & Jernigan, 1984; Heisserer & Parette, 2002). This can include students enrolled in developmental classes (Higbee & Dwinell, 1990), students with deficiencies in basic skills (Abrams & Jernigan, 1984), and students underprepared for college (Peterson, 1993). Two common indices of academic failure among at-risk students are grade point average (Abrams & Jernigan, 1984; Nagle, 1976; Nisbet, Ruble, & Schurr, 1982) and retention (Levin & Levin, 1991).

Several studies have examined the predictors of grade point average and retention (Abrams & Jernigan, 1984; Higbee & Dwinell, 1990; Nagle, 1976; Nisbet et al., 1982; Stallworth-Clark & Scott, 1996). Abrams and Jernigan (1984) examined the effects of a reading and study skills program on a group of 219 at-risk provisionally admitted college freshman (60% men, 40% women; 70% Caucasian, Hispanic, and Asian, 30% black). The program was mandated for the participants and results of the study indicated that although the participants did not possess strong academic skills, number of hours in the program were correlated positively with grade point average (Abrams & Jernigan, 1984). Stallworth-Clark and Scott (1996) found similar effects of a reading/study skills course with a group of 837 at-risk college students (248 women and 154 men; 48.3% black, 50% white, and 1.7 percent other).

In addition to risk of academic difficulty, at-risk students also experience a variety of psychological consequences. For example, at-risk students may feel they are not part of the college community or have feelings of being rejected (Heisserer & Parette, 2002). Heisserer and Parette (2002) also suggested that at-risk students who develop a strong relationships with significant members of the college community are less likely to drop out. Using a group of at-risk college first-year students, Sher (1996) found that at-risk students reported psychological distress however this psychological distress declined over time.

Another area of difficulty for at-risk students is career functioning (Jackson & Healy, 1996). Using 142 college students (56 men and 86 women; 43% African American and 57% Latino) in a voluntary remedial-development program, Jackson and Healy (1996) found that at-risk students could be divided into four groups with regard to career development and despite differences, all groups would have benefited from more knowledge about the world of work. Schnorr and Ware (2001) concluded that peer influence and personal expectations were related to student's stage of career development.

At-risk students face the possibility of negative outcomes in the academic, psychological, and vocational areas. They are more likely to have lower grade point averages, drop out of school, have more psychological issues, and have difficulty with career functioning. One subgroup of at-risk students is transfer students. The following section will discuss the literature on transfer students including the wide range of concerns that transfer students face.

Transfer Students

Transfer students can be defined as students who did not begin their college education at the university but rather transferred from another institution (Johnson, 1987; Keeley & House, 1993). Although traditionally students begin and complete their education at the same institution, students' often take other paths to achieving their degrees. As transferring schools becomes an option many students choose to achieve their educational goals, it is increasingly important that the experiences of transfer students be examined (Alpern, 2000).

Transfer student research traditionally has focused on the differences between transfer students and non-transfer (native) students (Miville & Sedlacek, 1995; Wawrzynski & Sedlacek, 2003). This literature has identified many unique issues faced by transfer students. One well documented finding regarding transfer students is the concept of "transfer shock" (e.g., Davies & Casey, 1999; Glass & Harrington, 2002; Nolan & Hall, 1978; Zhai & Newcomb, 2000). Transfer shock is the phenomenon that transfer students experience in the first semester/year after transferring to a new university (Glass & Harrington, 2002). Cejda (1997) described "transfer shock" as a decline in grade point average during the first semester after transferring to a new institution. Transfer shock also includes an increase in the drop out rate however most research only examines GPA when looking at transfer shock (Glass & Harrington, 2002). Research has shown that native students have stronger academic performance than transfer students (Porter, 2003). Sheehan and Reti (1974) examined the academic records of four years of transfer students and found that transfer students did not succeed as well academically as native students.

Several studies have shown that although transfer shock occurs for a majority of transfer students, it does not have the same effect on all students (e.g., Cejda, 1997; House, 1989; Keeley & House, 1993). To determine whether students in various academic disciplines experience transfer shock differently, Cejda (1997) examined 100 transfer students and found that there were differences between majors. For example, students majoring in the fine arts and humanities, education, and social sciences actually experienced an increase in grade point average while students majoring in business and mathematics and sciences experienced a drop in GPA (Cejda, 1997). Another study conducted by Keeley and House (1993) examined a cohort of sophomore and junior transfer students at Northern Illinois University and found that while all students experienced transfer shock, minority transfer students and transfer students under age 25 seemed to be the most affected by transfer shock. House (1989) examined the student records of 14,689 students at a large Midwestern university and found that transfer students who transfer as first-year students and sophomores exhibited lower GPA's, graduation rates, and higher dismissal rates than transferring students at the junior and senior level. Best and Gehring (1993) found similar results using a sample of 472 students (275 transfer students and 197 native students). Fortunately, overall the drop in grade point average associated with transfer shock subsided over time (Glass & Harrington, 2002). Using a sample of 100 community college transfer students (49 men and 51 women) and 100 native students (gender was not reported for the native students), Glass and Harrington (2002) found that the longer a student persisted at the university, the fewer the differences there

were between transfer students and native students. Nonetheless, the first semesters were crucial for the success of transfer students.

Research also has examined the retention of transfer students. To determine what variables were related to transfer student retention, Johnson (1987) examined 497 transfer students at a large, urban commuter university (138 women and 359 men; 100% white). Results of the study found that academic integration, academic self-concept, the perception of the value of education to one's future, and intent to continue one's education were related to transfer student persistence (Johnson, 1987). Alpern (2000) examined 541 transfer students and found that persistence in the university was related to expectations about the transfer process and career and educational goals. Interestingly, one study examined 8,059 undergraduate students at a large southwestern state university (53% men, 47% women; 94% white, 1% black, 5% Mexican-American) and found that the graduation rates of transfer students were not different from native students (Holahan, Green, & Kelley, 1983).

Transfer students also face psychological issues. Davies and Casey (1999) suggested that transfer shock may be related to what they termed "campus culture shock." Campus culture shock is the difficulty an individual experiences adjusting to the climate of a new institution coupled with the lack of helpful and friendly faculty, staff, and resources for transfer students. Research has supported this theory. For example, Kodama (2002) studied 168 transfer students (52% men and 48% women; 53% white, 17% black, 14% Asian, 16% other) and 141 native students (42% men and 58% women; 47% white, 7% black, 26% Asian, 20% other) to better understand the experiences of commuter transfer students. Results of the study indicated that

transfer students had few sources of support on-campus and this deficiency contributed to feelings of marginality. To determine the concerns of transfer students, Wawrzynski and Sedlacek (2003) examined 2,492 incoming transfer students (53% women, 47% men; 15% African American, 13% Asian, 63% white, 5% Hispanic, 4% other) and found that transfer students experienced a climate of fewer services and resources at the university. Davies and Casey suggested (1999) that transfer students who experienced campus culture shock would have negative college experiences.

In addition to academic and psychological consequences, transfer students may also face vocational issues. Since transfer students have lower rates of retention, they also have a reduced chance of completing their undergraduate education (Astin, 1977; House, 1989). Glass and Bunn (1998) found transfer students took longer to graduate than native students. Astin (1977) stated that transfer students were less likely than native students to achieve their career plans. However, Smart and Ethington (1985) used national survey data from 1,609 students who had completed their undergraduate education to explore the differences in job status, stability, and satisfaction and found no differences between native students and transfer students on measures of career outcomes. The national dataset was representative of the non-institutionalized civilian segment of young people living in the U.S.

As can be seen, transfer students face many challenges in entering a new institution. Transfer students can be viewed as a special group of at-risk students because they are at-risk for academic failure and also are undergoing a transition. Transfer students experience transfer shock, an unfriendly campus climate that may lead to psychological consequences, and reduced chances of completing their degrees.

Drawing on the literature on at-risk students and transfer students, transfer student success can be examined through several variables including academic, psychological, and vocational variables. The following sections will review devote attention to the literature on academic, psychological, and vocational variables.

Academic Variables

Academic success can be represented through grade point average and retention. Grade point average is a measure of the academic performance of a student. Similarly, retention is also representative of academic success as students who drop out are no longer in the academic environment.

Grade Point Average. Grade point average has been used consistently in the literature to represent academic success (e.g., Elliott, Godshall, Shrouf, & Witty, 1990; Meeker, Fox, & Whitley, 1994; Pritchard & Wilson, 2003; Sowa, Thomson, & Bennett, 1989; Strage et al., 2002; Ting, 1997; Ting & Robinson, 1998). Grade point average is particularly relevant to transfer students because transfer shock is characterized by a drop in grade point average (Glass & Harrington, 2002). Transfer students consistently have lower GPA's than native students (Porter, 2003; Sheehan & Reti, 1974). Research has found many factors related to GPA. Several studies have shown that GPA is linked to substance use where students with low GPA's had higher levels of substance use than those with high GPA's (Pritchard & Wilson, 2003; Svanum & Zody, 2001). For example, Svanum and Zody (2001) examined 412 undergraduate students (300 women and 112 men; 80% Caucasian, 12% African American, 8% other) in an introductory psychology course at a large, Midwest urban university. The researchers found low grade point average was associated with

substance use disorders (Svanum & Zody, 2001). Results of the study also indicated that anxiety disorders were related positively to grade point average however this link was weak and the researchers found no relationship between GPA and depression (Svanum & Zody, 2001). Pritchard and Wilson (2003) examined a sample of 218 students (126 women and 92 men; 88% white American, 5% African American, 2% white European, 1% Asian American, 1% Arab, 1% other) at a private Midwestern university and also found low grade point average was related to emotional and social factors such as high stress, alcohol consumption, and low self-esteem.

Grade point average also has been related to social integration (Pritchard & Wilson, 2003; Ting, 1997; Ting & Robinson, 1998). Ting and Robinson (1998) examined 3,216 first year students (58% men and 42% women; 86% Caucasian, 8.5% African American) at a Southeastern university to determine the predictors of academic success. The researchers found that although high school GPA was the strongest predictor of college GPA, other variables also contributed to GPA (Ting & Robinson, 1998). These included involvement with organized campus activities, peers, faculty, and university staff. Pritchard and Wilson (2003) also found that involvement in organizations was related to high GPA.

In addition, researchers have examined the predictors of GPA in college students. Several studies have shown that GPA is related to the confidence of an individual to succeed academically. GPA has been associated with self-appraised problem solving ability (Elliott et al., 1990) and academic self-concept (Gerardi, 1990). One study by Strage and colleagues (2002) examined 1,379 college students (two-thirds women, one-third men; 33.7% white, 17% Hispanic, 6.9% African

American) to determine the actions and beliefs associated with academic success. Results of the study indicated that students with high GPAs were able to identify in which courses they felt they could get a good grade (Strage et al., 2002). Furthermore, these students also indicated they enjoyed being academically challenged (Strage et al., 2002). Finally, GPA has been connected to career outcomes. McKinney and colleagues (2003) examined data from 548 job postings in a college recruitment program and found that both in-major and overall GPA was related to being hired.

Retention. Retention is often used as a measure of academic success (e.g., Hanson & Taylor, 1970; Kahn, Nauta, Gailbreath, Tipps, & Chartrand, 2002; Woosley, 2003). Retention is defined as whether students drop out or persist at the university. Students who persist in their education are able to reach the goal of achieving a degree whereas students who drop out of the academic environment no longer have the opportunity to reach this goal. Like GPA, retention is also a characteristic of transfer shock (Glass & Harrington, 2002). Indeed, studies have found that retention and GPA tend to correlate (e.g., Johnson, 1997; Kahn et al., 2002; Metzner, Lauer, & Rajewski, 2003).

Retention of transfer students also has been related to academic integration (e.g., Pascarella & Chapman, 1983; Tinto, 1998). In other words, transfer student retention was found to be connected to integration and satisfaction with the academic program (Johnson, 1987). The effect of academic integration on transfer students will be discussed in more detail in a subsequent section of this review of literature.

The link between academic integration and retention also has been found for other populations (e.g., Johnson, 1997; Nora, 2002). One such population is

commuter students. Commuter students have higher drop-out rates than resident students (Skahill, 2003). To determine what factors predict commuter students dropping out, Johnson (1997) followed 171 undergraduate commuter college students (two-thirds women, one-third men) at a northeastern university over six years. Results of the study indicated that academic climate was especially important in predicting the retention of students (Johnson, 1997). The researcher defined academic climate as including faculty- and staff-student interactions and connections (Johnson, 1997). Johnson (1997) also found that dropping out was related to beliefs about college education and gender. Women were more likely to drop out than men and drop-outs were more likely to feel that college did not make you better prepared for life (Johnson, 1997).

Summary. Both GPA and retention have been used in the literature as measures of academic success. Students who drop-out may feel less connected to the institution (e.g., Johnson, 1997; Nora, 2002; Pascarella & Chapman, 1983; Tinto, 1998). Low grade point average has been shown to be related to a variety of undesirable outcomes. These include substance abuse and reduced likelihood to be selected for a job (McKinney et al., 2003; Pritchard & Wilson, 2003; Svanum & Zody, 2001). As a result of the outcomes of dropping out and low GPA, it is important to examine both of these constructs as indices of academic success.

Psychological Variables

Psychological well-being can be measured using self-esteem and freedom from depression and both of these constructs have been widely used.

Self-Esteem. Self-esteem can be defined as a positive or negative orientation towards oneself (Rosenberg, 1989). Self-esteem has been related to life stress and psychological symptoms (Curbow & Somerfield, 1991; Hudd, Dumlao, & Erdmann-Sager, 2000). Individuals with appropriately high levels of self-esteem are likely to thrive given adverse experiences (Masten & Coatsworth, 1998). Since transition to a new institution can be viewed as both a life stress and adverse experience, level of self-esteem is important to consider.

Appropriately high levels of self-esteem are associated with desirable outcomes. Self-esteem has been related to better academic and social adjustment (Grant-Vallone, Reid, & Umali, 2003). Mooney, Sherman, and Lo Presto (1991) examined college adjustment with a sample of 88 predominately white, undergraduate women at a small, mid-Atlantic university and found that self-esteem was one of the factors related to college adjustment. Specifically, high levels of self-esteem were associated with academic, personal, and social adjustment as well as attachment (Mooney et al., 1991). The researchers also found that an internal locus of control was associated with high self-esteem (Mooney et al., 1991). It also appears that self-esteem is related to social connectedness. Lee and Robbins (1998) examined social connectedness and its relation to self-esteem using two studies of college women at a large, urban southeastern university and found that social connectedness was positively related to self-esteem.

In addition, self-esteem has been related to stress (Hudd et al., 2000) and alcohol consumption (Glindemann, Geller, & Fortney, 1999). Hudd and colleagues (2000) collected survey data from 145 students (44.8% men and 55.2% women;

61.4% white, 20% Asian, 5.5% black, 6.2% Hispanic, 5.5% other) at an Ivy league institution and found that students under stress had low self-esteem. Glindeman and colleagues (1999) conducted a field study on the relationship between self-esteem and alcohol consumption. The researchers collected data from 44 students (15 women and 29 men) attending a fraternity party at a large university in Southwestern Virginia. The researchers measured level of self-esteem during the party and measured blood alcohol content (BAC) when participants exited the party. Results of the study indicated that individuals with low self-esteem consumed more alcohol as indicated by their BAC (Glindemann et al., 1999).

Depression. Depression is another common measure of psychological well-being which is defined as experiencing a majority of the following symptoms during the same two week period: depressed mood, diminished interest or pleasure in activities, significant weight loss, gain, or change in appetite, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness or inappropriate guilt, impaired ability to concentrate or indecisiveness, or recurrent suicidal thoughts (American Psychiatric Association, 1993). The experience of these symptoms must affect a person's previous level of functioning (American Psychiatric Association, 1993). Depression is a mental-health problem that has been linked to healthy college adjustment (Mattanah et al., 2004). Depression, negative life events, and low self-esteem have been related to the transition process (Beeber, 1999).

Research on depression has found that depression is linked to many undesirable outcomes including career indecision, low self-esteem, low GPA, low

persistence, and neuroticism (Kling, Ryff, Love, & Essex, 2003; Smith & Betz, 2002; Vredenburg, O'Brien, & Krames, 1988). To examine how efficacy and esteem relate to depression, Smith and Betz (2002) examined 405 students (32% men and 68% women; 83.7% Caucasian, 7.4% African American, 5.7% Asian, 2% Hispanic, 0.7 Native American) at a large Midwestern university using surveys. The researchers found that depression was associated with low self-esteem and career indecision. Smith and Betz (2002) also found that depression was related to career and social self-efficacy. Another study by Mahalik and Kivlighan (1988) examined a sample of 52 participants (14 men and 38 women) from an introductory psychology course and found similar results on generalized self-efficacy. The researchers examined the effects of a self-help treatment for depression, but also found that depression was related to generalized self-efficacy such that those with high self-efficacy were more likely to experience a change in their depression (Mahalik & Kivlighan, 1988).

Vredenburg and colleagues (1988) sampled 74 introductory psychology students (41 men and 33 women) at a university in Toronto. The data indicated that depressed students were less assertive, exhibited a higher level of dysfunctional attitudes, and a lower degree of persistence (Vredenburg et al., 1988). The data also revealed that depressed students had a harder time making friends and were less confident in their decision to attend the university (Vredenburg et al., 1988).

Summary. While high self-esteem and freedom from depression are inherently important to psychological well-being, they also have been linked to many desirable academic and vocational outcomes. Students who have high levels of self-esteem may have an easier time adjusting to college (Mooney et al., 1991) and feel more

connected to the university (Lee & Robbins, 1998). Similarly, students who are free from depression may persist in their academic endeavors and have an easier time making friends (Vredenburg et al., 1988).

Vocational Variables

Career Functioning. Career functioning can be defined as the amount of information a student has gained about various career choices and the level of career indecision a student experiences. Career indecision is the inability to make a decision about the career one wishes to pursue (Guay, Senecal, Gauthier, & Fernet, 2003). Although career functioning includes both information and decidedness, the literature focuses on career decidedness when referring to career functioning. Students who gain information about choices, explore options, resolve indecision and successfully navigate the career development process are thought to be less at-risk and have more positive outcomes than students who struggle in their career development process.

It is important that students be exposed to a variety of career options prior to deciding on a major however many students do not explore their career options and instead choose a major without understanding its implications for future career (Gaffner & Hazler, 2002; Orndoff & Herr, 1996). Research has found that this may be due to a lack of information about career options (Arnold, 1989; Kelly & Lee, 2002). Kelly and Lee (2002) studied the career decision problems of 434 first year undergraduate students (229 women and 205 men, 90.6% Caucasian) at a Midwestern university. Results of the study indicated that lack of information accounted for a majority of variance in career decidedness (Kelly & Lee, 2002). Research by Gaffner

and colleagues (2002) has corroborated this link suggesting that information about career choices was important to healthy career functioning.

Career indecision also has been linked to psychological well-being. Arnold (1989) examined the relationship between career indecision and psychological well-being with a sample of two cohorts of undergraduate and recent college graduates. In total, data were collected from 281 students in the UK. Arnold (1989) found a significant link between career indecision and psychological well-being. Specifically, a link was found between life satisfaction, adjustment, and self-assurance which included self-esteem and self-confidence (Arnold, 1989). Additionally, Zamostny and colleagues (2002) found career decidedness was related to anxiety, interpersonal problems, depression, self-esteem problems, academic difficulties, suicidal ideation, and family problems.

Research has examined the how various factors relate to career indecision. Guay and colleagues (2003) examined the ability of parental and peer interactions to predict career indecision using a sample of 834 French-Canadian college students (236 men and 581 women). Results of the study indicated that the parental and peer support of autonomy predicted students' perceptions of their self-efficacy and autonomy towards career decision making (Guay et al., 2003). This in turn was related to students' level of career decidedness (Guay et al., 2003). Further, research also found that level of comfort and readiness is related to career decision (Gaffner & Hazler, 2002; Savickas & Carden, 1992). Having a model from which to organize the career decision process may also be helpful to making a career decision. Tracey and Darcy (2002) examined the relation of Holland's RIASEC model of organizing career

interests to career indecision. The researchers examined 162 college students (38% men and 62% women; 17% African American, 5% Asian, 4% Hispanic, 1% Native American, 71% Caucasian, 2% other) at a large Midwestern university and found that students' level of career decidedness was related to their use of a normative model in thinking about their career (Tracey & Darcy, 2002).

Another study by Cohen and colleagues (1995) examined the link between career indecision and ego identity development with a sample of 423 students (73% women and 27% men; 73% Caucasian, 16% African American, 6% Asian, 2% Hispanic, 3% other) in undergraduate psychology courses from five Southeastern universities and colleges. The researchers found that career decision was most related to resolution in the stages of ego identity development while career indecision was related to having the least successful resolution (Cohen et al., 1995). The researchers concluded that it is possible to influence career indecision by focusing on an individual's ego identity status (Cohen et al., 1995).

Career indecision also has been linked to whether a student has declared a major. Orndoff and Herr (1996) examined 189 freshman and sophomore students at Pennsylvania State University to determine whether having declared a major was related to career indecision. The researchers found that students who had chosen a major were more certain about their career and lower levels of career uncertainty (Orndoff & Herr, 1996). Further, Orndoff and Herr (1996) found that students who had spent time exploring career options before making a commitment to a career option (i.e. career achieved) had spent more time clarifying their values, interests, and abilities than their counterparts who had not spent time exploring career options.

Since academic, psychological, and career variables have been used as indices of success for college students, they also may be important as measures of transfer student success. Academic, psychological, and career variables have been shown to relate to self variables for several populations. The next section will devote attention to these self variables.

Self Variables

In this review of literature, several self variables will be discussed including several types of self-efficacy and career development. These constructs have been shown to be related to student success and the following will highlight key findings. Self-efficacy is defined as the one's belief in their ability to perform and succeed at a given task (Chemers et al., 2001) and has been shown to be related to academic performance (Bandura, 1986) and career decidedness (Lent, Brown, & Larkin, 1987; Luzzo, Hasper, Albert, Bibby, & Martinelli, 1999).

Academic self-efficacy. The link between academic self-efficacy and academic success has been well established in the literature (e.g., Chemers et al., 2001; Elias & Loomis, 2000; Hackett, Betz, Casas, & Rocha-Singh, 1992; Pinquart, Juang, & Silbereisen, 2003; Wood & Locke, 1987). Academic self-efficacy is defined as confidence in one's ability to organize and execute actions to succeed academically (Bandura, 1977). The link between academic-self efficacy and academic performance has been well established (e.g., Elias & Loomis, 2002; Hackett et al., 1992; Wood & Locke, 1987). For example, academic self-efficacy has been related to self-set academic goals and academic performance as measured by grade point average (Wood & Locke, 1987). To determine the predictors of academic achievement,

Hackett and colleagues (1992) examined 197 engineering students (76% men and 24% women; 63% Caucasian, 21% Mexican American, 5% African American, 11% Asian) at a midsized West Coast university. The researchers found that the strongest single predictor of academic achievement was academic self-efficacy (Hackett et al., 1992). Results of the study also showed that faculty encouragement was related to academic success (Hackett et al., 1992). More recently, Elias and Loomis (2002) looked at the academic self-efficacy of 138 students (38% men and 62% women; 73.9% Caucasian, 8.7% Mexican American, 5.8% African American, 3.6% Spanish American, 2.2% Asian American, 0.7% American Indian) in an introductory psychology course and found that academic self-efficacy was a significant predictor of grade point average (Elias & Loomis, 2002).

Academic self-efficacy also has been linked with persistence in school (Brown, Lent, & Larkin, 1989; Elias & Loomis, 2000). In one study, a relation was found between academic self-efficacy and students' major persistence and grade point average (Elias & Loomis, 2000). In other words, students with high levels of academic self-efficacy were more likely to persist with their major and have high GPA's (Elias & Loomis, 2000). Similar results were found in another study linking academic self-efficacy with academic performance and persistence (Brown et al., 1989).

Researchers also have found that academic self-efficacy is related to test performance. Capa and Loadman (2001) looked at how self-efficacy was related to test anxiety with a sample of 29 undergraduates (55% men and 45% women) at a Midwestern university. They found that test anxiety was associated with low

academic self-efficacy (Capa & Loadman, 2001). When academic self-efficacy was combined with previous test performance, the researchers were able to explain 40 percent of the variance in test anxiety (Capa & Loadman, 2001). Another study by Vrugt and colleagues (1997) looked at the predictors of test performance and found that academic self-efficacy was predictive of actual exam performance both directly and indirectly. The benefits of appropriately high academic self-efficacy even extend into classroom achievement where students with high academic self-efficacy also have high classroom achievement and classroom engagement (Warkentin & Griffin, 1994).

One possible explanation of why academic self-efficacy is related to so many positive outcomes was posited by Chemers and colleagues (2001) who found that students with high academic self-efficacy viewed the university experience as a challenge and not a threat.

Academic self-efficacy also has been linked to performance outside the academic environment. Piquart, Juang, and Silbereisen (2003) followed 391 sixth graders through age 21 and found that academic self-efficacy was related to job satisfaction and employment status.

Career decision-making self-efficacy. Career decision-making self-efficacy is another construct that has been related to many desirable outcomes. Career decision-making self-efficacy is defined as confidence in one's ability to perform the tasks and behaviors necessary for effective career decision-making (Betz, 2000; Taylor & Betz, 1983). Research has documented a relationship between career decision-making self-efficacy and academic outcomes. For example, Sandler (2000) examined how career

decision-making self-efficacy was related to student persistence using a sample of 937 undergraduate students (71.2% women and 28.8% men; 51% white) at a private urban university. Results of the study indicated that career decision-making self-efficacy was directly related to perceived stress and the institutional commitment of students and indirectly related to student persistence (Sandler, 2000). Another study by Lent and Hackett (1987) found that career decision-making self-efficacy was related to both academic persistence and career decidedness.

Many studies have found a link between career decision-making self-efficacy and career decidedness (e.g., Brown, George-Curran, & Smith, 2003; Chung, 2002; Gianakos, 1999; Rotberg et al., 1987). High career decision-making self-efficacy was related to low levels of career decidedness (Betz & Hackett, 1986; Gianakos, 1999). In other words, the presence of career decision-making self-efficacy may prompt individuals to engage in career exploration (Gianakos, 1999). On study by Rotberg and colleagues (1987) examined the predictors of perceived range of career options for community college students. Using a sample of 152 community college students (64% women, 36% men; 78% white, 22% black) in North Carolina, the researchers found that career self-efficacy was related to a perceived wide range of career options (Rotberg et al., 1987). Similar results were found by Brown and colleagues (2003) who used a sample of 288 college students (57% men and 43% women; 70% Caucasian, 11% Asian, 6% African American, 3% Hispanic, 1% Native American) from a Midwestern university to determine how emotional intelligence or one's ability to understand and regulate their emotions was related to career commitment and career decision-making. They found that career decision-making

self-efficacy was related to vocational exploration and commitment (Brown et al., 2003). Put another way, those with low career decision-making self-efficacy avoided the tasks of decision making (Brown et al., 2003). Brown and colleagues (2003) also found that career decision-making self-efficacy was related to emotional intelligence.

Several other studies have noted relationships between career decision-making self-efficacy and psychological outcomes (e.g., Betz & Klein, 1996; Gianakos, 2001; Lucas, Skokowski, & Ancis, 2000). For example, career decision-making self-efficacy has been correlated with general self-efficacy (Betz & Klein, 1996). A qualitative study by Lucas and colleagues (2000) looked at 18 female students (8 white, 4 Asian, 3 African American, 3 Hispanic) at a university counseling center at a large mid-Atlantic university. Clients in this study had career issues and indicated on a checklist that they had depressive symptoms (Lucas et al., 2000). Results of the study showed that career decision-making problems occurred in an environment of strained relationships with parents and significant others (Lucas et al., 2000). This environment of parental criticism and imposed high expectations was thought to be related to feelings of depression, anxiety, and low self-esteem (Lucas et al., 2000). Another study examined 209 college students (73% women, 27% men; 88.5% Caucasian, 4.8% African American) at a large Midwestern university and found that career decision-making self efficacy was related to self reliance and independence from others (Gianakos, 2001).

Career decision-making self-efficacy also has been linked to career goals and perceived career options. Chung (2002) examined 165 undergraduate students (70% women and 30% men; 42% white, 37% black, 12% Asian, 4% Hispanic, 2% mixed,

2% other) from a large Southern university and found that strong levels of career decision-making self-efficacy was related to high commitment to career planning and goal setting. Betz and Hackett (1981) found that career decision-making self-efficacy correlated with the exploration of nontraditional careers. They concluded that career self-efficacy was predictive of a wide range of career options (Betz & Hackett, 1981).

Finally, career decision-making self-efficacy has been linked to comfort with the career exploration process. Luzzo (1993) examined 233 undergraduate students (70% women, 30% men; 80% white, 7% Asian, 5% Hispanic, 4% African American) at a large Midwestern university and found that career decision-making self-efficacy was related to overall feelings about the career decision making process. In other words, appropriately high levels of career decision-making self-efficacy were related to comfort with actually exploring careers and making a decision about a career (Luzzo, 1993).

College self-efficacy. A final type of self-efficacy related to positive outcomes is college self-efficacy. College self-efficacy is defined as an individual's confidence in their ability to adjust to the college environment (Solberg et al., 1993). College self-efficacy can be thought of as a combination of three types of efficacy. Using Hispanic students, Solberg and colleagues (1993) found that college self-efficacy was composed to three constructs: course efficacy, social efficacy, and roommate efficacy. Solberg and colleagues (1993) examined 311 Hispanic undergraduate students (74% women and 26% men) at a large West coast university to develop a measure of college self-efficacy. They found that college self-efficacy was related to

persistence in school (Solberg et al., 1993). Other research has corroborated this link (e.g., DeWitz & Walsh, 2002; Solberg & Villarreal, 1997; Torres & Solberg, 2001).

College self-efficacy has been connected to other outcomes. For example, Solberg and Villarreal (1997) examined the predictors of psychological and physical distress using a sample of 311 Hispanic, undergraduate students (121 women and 43 men) at a large West coast university. This was the same sample that participated in a previous study by the same researcher (Solberg et al., 1993). The researchers found that college self-efficacy and social support were related to the amount of physical and psychological distress participants reported (Solberg et al., 1993). Furthermore, the researchers found that social support can moderate the link between stress and distress (Solberg et al., 1993). This finding supports the importance of sense of belonging which will be discussed in a later section of this review. In total, stress, college self-efficacy, social support, gender, and acculturation accounted for 46% of the variance in college distress (Solberg et al., 1993).

Another study by Torres and Solberg (2001) examined how college self-efficacy, stress, and social integration were related to persistence. Results of the study indicated that college self-efficacy was related directly to the amount of social integration students experienced and predicted their persistence (Torres & Solberg, 2001). In other words, students with appropriately high college self-efficacy were likely to feel connected to the university and expect to finish their educations (Torres & Solberg, 2001). The researchers also found that college self-efficacy was indirectly predictive of physical and psychological health as operationalized by college distress (Torres & Solberg, 2001).

Finally, Dewitz and Walsh (2002) examined the effects of college self-efficacy on student satisfaction using a sample of 312 undergraduate students (61% women and 39% men; 76% Caucasian, 10.6% African American, 6.7% Asian, 1.3% Hispanic, 3.8% multiracial or other) at a large Midwestern university. The researchers found that college self-efficacy was related to college satisfaction such that students with high college self-efficacy reported high satisfaction with college (DeWitz & Walsh, 2002). These students felt they were compensated adequately for their academic work and were happier with their social lives (DeWitz & Walsh, 2002). They reported more opportunities for making friends, dating, and being involved in campus (DeWitz & Walsh, 2002). Students with high college self-efficacy also reported high satisfaction with their physical surroundings and acceptance from their peers and the faculty (DeWitz & Walsh, 2002).

Career development. In addition to self-efficacy, stage of career development is another variable that has been related to college student success. Career development is defined by stage of development according to Marcia's model of identity status (Marcia, 1980, 1996). This model examines identity in three domains: sexual orientation, values and ideals, and vocational direction. Marcia (1980) posited that development requires a decision making period or crisis and an investment in the decision or a commitment. Using crisis and commitment, Marcia came up with four identity statuses of development: achieved, foreclosed, diffusion, and moratorium. These four statuses are not ordered stages but serve as a framework for understanding an individual's career development. The achieved status refers to individuals who have gone through a decision-making process or exploration process and arrived at a

decision. In other words, crisis and commitment have occurred. The foreclosure status refers to when an individual has arrived at a decision and not experienced a decision making process (i.e., commitment without crisis). In the diffusion status, individuals may or may not have experienced a career decision making process but have not made a decision (i.e., no commitment). Finally, in the moratorium status, is where an individual has not arrived at a decision but is in the decision making process (i.e., crisis without commitment). In moratorium, individuals hold off on making a decision.

This conceptualization of identity is commonly referred to as ego identity statuses and measures of ego identity status have been widely studied (e.g., Adams, 1998; Bennion & Adams, 1986; Grotevant & Adams, 1984; Johnson, Buboltz Jr., & Seemann, 2003; Melgosa, 1987). Although Marcia's (1980, 1996) model refers to general identity development, it can also be used to measure vocational identity development or career development. Many studies have used this model to frame career development (e.g., Blustein, Devenis, & Kidney, 1989; Boyd, Hunt, Kandell, & Lucas, 2003; Lucas, 1997).

Additional studies have examined the career development of college students. Lucas (1997) examined gender differences on ego identity, career development, and psychological separation from parents using a sample of 247 college students (52% men and 48% women; 47% Caucasian, 26% African American, 19% Asian, 5% Hispanic, 2% other) at a large mid-Atlantic university. Lucas (1997) found several gender differences with regard to career development. For example, the study found that women scored higher on the identity achieved status than men (Lucas, 1997).

However, women scored lower on measures of functional and emotional independence (Lucas, 1997). While women viewed themselves as needing functional support from their parents and in need of emotional support, this did not affect their identity development (Lucas, 1997).

Using a different model of career development, Niles and colleagues (1997) examined career development and found that students fell into clusters with regard to their career development, career decision-making self-efficacy and decision making styles. Specifically, students who relied on internal decision making tended to be less advanced in their career development (Niles et al., 1997). Niles and colleagues (1997) also found that their stage of career development was related to career decision-making, and career self-efficacy. This finding is of importance because stage of career development also has been linked to persistence and supports/barriers to a career choice (Schaefer, Epperson, & Nauta, 1997).

Career development also has been linked to academic performance (e.g., Healy & Mourton, 1987; Healy et al., 1984; Healy et al., 1985). Healy and colleagues (1985) examined the career development of 158 college students (103 women and 55 men) at a metropolitan California state university. They found that career development was related to both grade point average and number of months employed (Healy et al., 1985). Subsequent research by Healy and Mourton (1987) examined 212 community college students (84 women and 62 men) to determine the relationship between career development, grade point average and college jobs. Results of this study found that high levels of anxiety limited the development of

career development skills which in turn negatively affected grade point average and ability to obtain a high-level job (Healy & Mourton, 1987).

Finally, research has looked at how different identity statuses relate to various outcomes (e.g., Blustein, Devenis et al., 1989; Boyd et al., 2003). Blustein and colleagues (1989) studied 99 college students (52% women and 48% men; 76% Caucasian, 11% black, 6% Hispanic, 3% Native American, 3% Asian) at a large northeastern university and found that individuals in the moratorium and achieved statuses had low commitment to a career choice and high career exploration activities while students in the diffusion status had low career exploration activities (Blustein, Devenis et al., 1989). Another study by Boyd and colleagues (2003) examined the link between identity processing style and academic success. The study consisted of 2,818 first year students (51% men and 49% women; 13% African American, 14% Asian American, 5% Hispanic, 65% Caucasian, 3% other) at a large east coast public research university. The researchers found that students in the diffused status were more at-risk academically than students in other statuses (Boyd et al., 2003). For men, being in the diffused status was related to dropping out and not ending the semester in good standing while for women these links were not found (Boyd et al., 2003). The researchers also found that students in the foreclosed status were more likely to change their major than students in the other statuses (Boyd et al., 2003).

While research has examined career development with regard to college students, relatively few studies have looked at the career development of transfer students. Transfer student's career development process may be different since they are at-risk as well as transitioning. Similar to research on college students, transfer

student's stage of career development may be related to their college success.

Understanding this relationship may allow practitioners to assist transfer students navigate the transition to a new institution.

Sense of Belonging. Sense of belonging has been linked to college success. Sense of belonging is perceived by the self and it represents interactions of self with outside influences. Sense of belonging is defined as the level of academic and social integration at the start into the university setting (Tinto, 1993). Sense of belonging also has been referred to in the literature as institutional integration. Tinto (1975) stated that students who do not feel integrated into the academic and/or social system will withdrawal from the academic system. This hypothesis has been examined by several researchers (e.g., Pascarella & Chapman, 1983; Pascarella & Terenzini, 1980; Robbins et al., 2004; Robinson, 2003). For example, Pascarella and Terenzini (1980) examined the relationship of student dropout and persistence to institutional integration. Results of the study indicated that students who felt a lower sense of belonging were more likely to dropout (Pascarella & Terenzini, 1980). Robinson (2003) found similar results on both long-term and short-term persistence.

Pascarella and Terenzini (1980) noted that students tended to feel less integrated at large universities. Summers and her colleagues examined students at a large research university and found that students at this large university felt high levels of institutional integration (Summers, Svinicki, Gorin, & Sullivan, 2002). However, the researchers noted that some subgroups of students felt higher levels of integration than others (Summers et al., 2002). Wolfe (1993) examined variables related to institutional integration using 629 students at a predominately white, mid-

Atlantic university. The researchers found that living on campus contributed to feelings of integration. Specifically, on campus students felt high social integration (Wolfe, 1993).

Sense of belonging also has been linked to depression (Hagerty & Williams, 1999) as well as grade point average (Robbins et al., 2004). Robbins and colleagues (2004) conducted a metaanalysis on the predictors of college outcomes and found that institutional integration in combination with other variables were predictive of retention as well as academic achievement as measured by grade point average.

A related area that can be draw upon to understand institutional integration is the perception of group climate in therapy. Several studies have examined this construct. Kivlighan and Lilly (1997) looked at 84 group members (29 men and 55 women) in a group process class at a large Midwestern university. Results of the study indicated that an initial climate of low conflict was essential to establish group cohesion (Kivlighan & Lilly, 1997). Another study examining 233 group members (44.2% men and 55.8% women; 46% Caucasian, 34% African American, 8% Native American, 3% Hispanic, 1% Asian American) found similar results (Kivlighan & Tarrant, 2001). Kivlighan and Tarrant (2001) also found that group leaders played an important role in building a safe environment. Taken together, these results demonstrate the importance of environment and the importance of individuals outside of the group in having group members feel safe and supported. Relating this to the campus environment, it may be important for students to experience the same type of environment through the transition process.

The first a year a student is at a university is especially important since almost half of students who depart do so before the start of their second year (Heisserer & Parette, 2002; Tinto, 1998). Seeing as the link between sense of belonging and student persistence has been so well established, it is important that this variable be considered for transfer students.

Multiple Self Variables

Several studies have examined the combined effects of several self variables. One finding in the literature is that that self-efficacy is related to integration. For example, Torres and Solberg (2001) found that college self-efficacy was associated with social integration however was not associated with persistence. Career decision-making self efficacy has been linked with institutional integration (Peterson & DelMas, 2002).

The combination of self and environmental variables has been connected to psychological well being. For example, one study surveyed 164 Mexican American and Latin American undergraduates (121 women and 43 men) at a large West coast university (Solberg & Villarreal, 1997). Results of this study found that college self-efficacy and social support were related to lower psychological and physical distress (Solberg & Villarreal, 1997).

Finally, Peterson (1993) examined the career decision-making self-efficacy and institutional integration of 418 academically underprepared students (47.7% men and 52.3% women; 70.3% Caucasian, 12.6% African American, 7.6% Asian, 5% Native American, 4.5% Hispanic) at a non-degree granting unit of the University of Minnesota. The researcher found that career decision-making self-efficacy was

related to academic and social integration (Peterson, 1993). Further, Peterson (1993) found that the combination of career decision-making self-efficacy and institutional integration was predictive of persistence.

Summary

Transition is a process that occurs for many individuals and the literature has identified the many difficulties that can arise as a result of a transition. At-risk students face a myriad of issues related to academic success. Transfer students are faced with the effects of experiencing a transition as well as having at-risk status. Compared to the literature on college students, the literature on transfer students is in its infancy yet there is solid evidence of the many undesirable outcomes faced by the transfer student population. While the literature on college students addresses how self variables relate to college student success in academic psychological and vocational domains, the literature on transfer students is lacking in research on strengths and positive functioning. The following section will further elaborate on this deficiency in the literature.

Chapter 3: Statement of the Problem

Transition by definition occurs when a person experiences change (Schlossberg, 1995). Transition occurs in many settings and can be a challenging process for many individuals. Persons in transition may experience negative consequences in academic, psychological and vocational domains. Transition is often characterized by the unlearning of old schemas and learning of new schemas. Through this process, some individuals are able to adapt to the changes they experience.

Transfer students in universities and colleges are a special group of at-risk students who experience transition (Holahan et al., 1983; Kodama, 2002). Studies have shown that at-risk students experience academic struggles (Heisserer & Parette, 2002; Schnorr & Ware, 2001) and have difficulty with the process of career development (Jackson & Healy, 1996; Schnorr & Ware, 2001). While there is an established literature built around at-risk students, the literature around transfer students is comparably still in its infancy. Research on transfer students typically focuses on the differences between transfer students and native students. Researchers have found that transfer students have lower rates of retention (Glass & Harrington, 2002). In addition, some transfer students typically experience a reduction in grade point average (GPA) shortly after transferring. This concept of 'transfer shock' is well established in the literature (Davies & Casey, 1999; Glass & Harrington, 2002; Zhai & Newcomb, 2000). Although research indicates that students' GPA increased after a time, they never reached their original levels. Transfer students also reported

experiencing a negative climate with access to fewer resources and services (Davies & Casey, 1999; Eggleston & Laanan, 2001; Wawrzynski & Sedlacek, 2003).

Whereas research has identified the many issues transfer students face, researchers have yet to examine the variables related to transfer student success. Transfer student success can be measured through academic variables, psychological variables, and vocational variables. Academic variables include academic performance or GPA and retention. Psychological variables include freedom from depression, and high self-esteem. Finally, career variables include career functioning.

The success of transfer students has been linked to self variables such as academic self-efficacy, career decision-making self-efficacy, and college self-efficacy. In addition, an environmental variable such as the sense of belonging created by the institution has been related to college student success. It is possible that some of the variables related to college student success also affect transfer student success. The present study investigated the relations among self variables on college success of transfer students as measured by academic, psychological, and career variables.

Hypotheses

Research Questions. Research has shown that at-risk college students have difficulty with the process of career development (Jackson & Healy, 1996; Schnorr & Ware, 2001). However, studies have yet to examine variables of importance for transfer students as a special group of at-risk students. Thus, this research identified where a sample of transfer students fall on a number of salient variables related to transfer student success. The research question was what are the levels of academic

self-efficacy, career decision-making self-efficacy, college self-efficacy, career development, sense of belonging, GPA, retention, freedom from depression, self-esteem, and career functioning in this sample of transfer students?

Hypotheses. It was hypothesized that scores on multiple independent variables and dependent variables would group together to form variable sets (see Figure 1).

Within the independent variables, subscale scores would group together as follows. The first hypothesis was that the Self-Efficacy for Broad Academic Milestones Scale (Lent, Brown, & Gore, 1997), the Course Efficacy Subscale of the College Self-Efficacy Instrument (Solberg et al., 1993), and the Interactions with Faculty, Faculty Concern for Student Development and Teaching, Academic and Intellectual Development, and Institutional and Goal Commitments subscales of the Institutional Integration Scale (Pascarella & Terenzini, 1980) would group together to form Academic Self Variables. These subscales measure aspects of whether a student is successful academically in an institution.

A second hypothesis was that the Career Decision Making Self-Efficacy Scale – Short Form (Betz, Klein, & Taylor, 1996; Betz & Taylor, 2000) and the Occupational Identity Subscale of the Extended Version of the Objective Measures of Ego Identity Status (Bennion & Adams, 1986) would group together to form Career Self Variables. These subscales pertain to career issues that transfer students face.

A third hypothesis was that the Roommate Efficacy and Social Efficacy Subscales of the College Self-Efficacy Instrument and the Peer Group Interactions Subscale of the Institutional Integration Scale would group together to form Sense of

Belonging/Social Integration Self Variables. These subscales pertain to whether a student feels socially accepted and connected to the university environment.

With regard to dependent variables, it was hypothesized the measures will group as follows. A fourth hypothesis was that grade point average and retention or second semester registration status would group together to form Academic Functioning. It was further hypothesized that scores on the Rosenberg Self-Esteem Scale (Rosenberg, 1989) and the Center for Epidemiologic Studies Depression Scale (Radloff, 1977) would group to form Psychological Functioning. Finally, it was hypothesized that the subscales of the Career Factors Inventory (Chartrand, Robbins, Morrill, & Boggs, 1990) and the subscales of the Commitment to Career Choices Scale (Blustein, Ellis, & Devenis, 1989) would group together to form Career Functioning.

Although it was believed that all independent variables and dependent variables would be positively related, the strongest relations would be as follows. It was hypothesized that the Academic Self Variables would be most strongly related to Academic Functioning. It was also hypothesized that the Career Self Variables would be most strongly related to Career Functioning. Finally, it was hypothesized that Sense of Belonging/Social Integration Self Variables would be most strongly related to Psychological Functioning.

Chapter 4: Method

Design

The present study examined the relationships among self variables and academic, psychological, and career functioning. The design of the present study was based in part on a previous study by Zamostny and colleagues (2002). Self variables were classified as independent variables while academic, psychological, and career variables were classified as criterion variables (see Figure 1). Self variables included measures of academic self-efficacy, career decision-making self-efficacy, college efficacy, and sense of belonging.

The dependent variables assessed academic, psychological, and career functioning. Academic variables were measured using grade point average and retention. Psychological variables were measured using the Center for Epidemiologic Studies Depression Scale and the Rosenberg Self-Esteem Scale. Finally, career functioning was measured using the Career Factors Inventory and the Commitment to Career Choices Scale. Surveys were completed by transfer students after the midpoint of their first semester, while GPA and retention were collected at the end of semester in which data were collected from students. The data were collected during transfer students' first year because transfer shock typically occurs early after transferring to a new institution (Glass & Harrington, 2002).

Participants

Participants in this study were 163 undergraduate transfer students at a large mid-Atlantic university. This sample size was similar to other studies on college students (e.g., Glass & Harrington, 2002; Orndoff & Herr, 1996; Rotberg et al., 1987;

Zhai & Newcomb, 2000) and also represented the sample size needed for power of .80, an alpha rate of .01, and a small effect size of .25.

Transfer students were defined as students who transferred to the university and were enrolled in their first year. Participants were sampled from the incoming transfer student population to collect a representative sample with regard to socioeconomic status and age. Surveys were administered to 167 transfer students and were returned by 163 of the participants, resulting in a 97.6% return rate.

The mean age of the participants was 20 years ($SD = 2.33$), ranging in age from 18 to 33 years old, with a majority of participants between the ages of 18 and 25 (97.55%). More than half of the participants were women (57.7%) and the remaining were men (42.3%). Participants were asked to include their race/ethnicity by checking all the racial/ethnic categories that applied to them. Approximately half of the participants identified as White (50.9%). Additionally, 19.6% of the participants identified as African America, 17.8% as Asian, 3.7% as Hispanic, 2.5% as International, and 5.5% as Other.

In examining the participants' transfer student standing, half of the participants indicated they transferred from a two-year institution (50.3%) and half indicated they transferred from a four-year institution (49.1%). The mean number of credits transferred was 43.1 ($SD = 21.64$) with the number of credits transferred to their new institution ranging from 0 to 121. It should be noted that some students may not have been successful in transferring all or some of their their credits to the new institution. Additionally, the mean GPA of 3.13 ($SD = .49$) from the previous institution ranged from 1.41 to 4.00.

Participants also were asked to indicate their majors. Approximately one fifth of participants were psychology majors (19%), 16.6% were undecided, 12.9% indicated majors in the humanities, 10.4% reported majors in the computer, mathematical, or physical sciences, 8.6% were business majors, 8% reported majors in social sciences, 7.4% reported majors in life sciences, 6.7% were engineering majors, 4.3 % were education majors. The remaining participants reported majors in architecture (1.8%), journalism (1.2%), and health fields (3.1%).

Measures

Academic Self-Efficacy. The Self-Efficacy for Broad Academic Milestones Scale (SE-Broad, Lent et al., 1997) was used to measure Academic Self-efficacy (see Appendix D). This scale was developed and based after the Self-Efficacy for Academic Milestones Scale (ER-S, Lent, Brown, & Larkin, 1986) but included generic academic behaviors as opposed to academic behaviors specific to the science and engineering fields on the ER-S. The SE-Broad consisted of 12 generic behaviors and asked participants to rate their confidence in performing them (e.g., “Complete the requirements for your academic major with a grade point average of at least a 3.0”). Items were rated from 0 to 9 with 0 indicating “no confidence” and 9 indicating “complete confidence.” Scores for each item were summed and divided by the total number of items to yield a possible total score between 0 and 9 with 0 indicating low Academic Self-efficacy and 9 indicating high Academic Self-efficacy. The SE-Broad does not contain subscales. The internal consistency reliability of the SE-Broad was found to range between .88 and .94 with undergraduate students (Kahn & Nauta, 2001; Lent et al., 1997). Lent and colleagues (1997) found scores on the SE-Broad

were correlated with the Academic Self-Concept Scale (ASCS, Reynolds, 1988) and the Academic Adjustment Scale (AAS, Baker & Siryk, 1986). The SE-Broad also had been used as a measure of academic self-efficacy to successfully predict first-year college persistence (Kahn & Nauta, 2001).

Career Decision-Making Self-Efficacy. The Career Decision Self-Efficacy Scale-Short Form (CDSES, Betz et al., 1996; Betz & Taylor, 2000) is one of the most widely used measures of career decision-making self-efficacy (see Appendix E). This scale included 25 items in which participants' rate their confidence with regard to the various aspects of selecting a career. Items were rated from 0 to 5 with 0 representing "no confidence" and 5 representing "complete confidence" (e.g., "How much confidence do you have that you could choose a career that will fit your preferred lifestyle").

The CDSES was scored by summing the ratings for each item. Higher scores indicated higher levels of Career Decision-Making Self-Efficacy. The total score reliability of the CDSES ranged between .92 and .97 (Nilsson, Schmidt, & Meek, 2002) and the reliability of the five subscales of the CDSES ranged from .69 to .94 (Betz et al., 1996; Betz & Klein, 1997). Support for the validity of the CDSES had been demonstrated through comparisons with other measures of vocational identity and career indecision (Betz et al., 1996; Betz & Klein, 1997).

The CDSES was divided into five subscales and each subscale contained five items. The first subscale was a self-appraisal (e.g., "How much confidence do you have that you could accurately assess your abilities"). The second subscale was occupational information (e.g., "How much confidence do you have that you could

find information in the library about occupations you are interested in”). The third subscale was goal selection (e.g., “How much confidence do you have that you could select one major from a list of potential majors you are considering”). The fourth subscale was planning (e.g., “How much confidence do you have that you could make a plan of your goals for the next five years”). The final subscale was problem solving (e.g., “How much confidence do you have that you could determine the steps to take if you are having academic trouble with an aspect of your chosen major”). Since the factor structure of the CDESES was marginally supported, the total score of the CDESES was used in this study (Betz et al., 1996).

College self-efficacy. College self-efficacy was measured using the College Self-Efficacy Instrument (see Appendix F). The College Self-Efficacy Instrument (CSEI, Solberg et al., 1993) measured students’ confidence in their ability to perform college related tasks such as researching papers, taking class notes, or managing time effectively. The CSEI consisted of 19 items scored from 0 to 10 with 0 representing “no confidence” and 10 representing “extreme confidence.” The CSEI was scored by summing the scores on the 20 items. Higher total scores indicated higher levels of college self-efficacy.

The CSEI was divided into three subscales. The first subscale was course efficacy which included items on writing papers and exam performance (e.g., “How confident are you that you could research a term paper?”). The second subscale was social efficacy and included items on making friends and joining a student organization (e.g., “How confident are you that you could make new friends at college?”). The final subscale was roommate efficacy which included items such as

getting along with your roommate and dividing living space (e.g., “How confident are you that you could get along with roommate(s)?”). The CSEI was found to have an internal consistency reliability of .93 for the whole instrument and .88 for each of the three subscales with a sample of 311 second and third year students at a large West-coast university (Solberg et al., 1993). Using the same sample, Solberg and colleagues (1993) found support for the convergent validity of the CSEI when this instrument was correlated with measures of adjustment including the Brief Symptom Inventory (BSI, Derogatis & Cleary, 1977), the College Stress Scale (CSS, Solberg, Valdez, Villarreal, & Falk, 1991), the Social Support Scales from the Social Provision Scale (SPS, Cutrona & Russell, 1987), and the Acculturation Rating Scale for Mexican Americans (Cuellar, Harris, & Jasso, 1980). In this study, the three subscale scores were used.

The course efficacy subscale accounted for 44.8% of the estimated common variance of the CSEI, the social efficacy instrument accounted for 7.2% of the estimated common variance, and the roommate efficacy subscale accounted for 11.8% of the common variance (Solberg et al., 1993).

Career Development. Stage of career development was measured using the Occupation Identity Subscale of the Extended Version of the Objective Measures of Ego Identity Status (see Appendix G). The Extended Version of the Objective Measure of Ego Identity Status (EOM-EIS, Bennion & Adams, 1986) examined individuals' identity status on eight identity scales. The four identity statuses were identity achieved, moratorium, diffused, or foreclosed and the eight identity scales were occupation, religion, politics, philosophical lifestyle, friendship, dating, sex

roles, and recreation. The EOM-EIS consisted of 64 questions scored on a 6-point Likert scale. The internal consistency reliability of the subscales of the EOM-EIS ranged from .66 to .90 with a sample of 106 college students at a large Midwest university (Bennion & Adams, 1986). Bennion and Adams (1986) also reported support for the convergent and discriminant validity of the EOM-EIS. The items were summed on each identity status with high scores representing the presence of the identity status. In this study, only one subscale of the EOM-EIS, the Occupational Identity Scale, was used.

The Occupation Identity Scale of the EOM-EIS consisted of 8 items (e.g., “I just can’t decide what to do for an occupation. There are so many possibilities”) (Adams, 1998). The occupation subscale along with the religion and politics subscales were grouped together as “Ideological Identity” or “Ideological Issues.” Several studies have shown adequate psychometric properties for the “Ideological Identity” of the EOM-EIS (e.g., Adams, Shea, & Fitch, 1979; Grotevant & Adams, 1984; Johnson et al., 2003).

Sense of Belonging. Sense of belonging was measured by the Institutional Integration Scale (IIS, Pascarella & Terenzini, 1980) (see Appendix C). The instrument developed by Pascarella and Terenzini (1980) measured academic and social integration. The scale consisted of 30 items scored on a five-point Likert scale. The instrument was divided into five subscales: peer-group interactions (e.g., “The student friendships I have developed at this university have been personally satisfying”), interactions with faculty (e.g., “My non classroom interactions with faculty have had a positive influence on my personal growth, values, and attitudes”),

faculty concern for student development and teaching (e.g., “Few of the faculty members I have had contact with are generally interested in students”), academic and intellectual development (e.g., “I am satisfied with my academic experience at this university”), and institutional and goal commitments (e.g., “It is likely that I will register at this university in next fall”). Ten of the 30 items were reverse scored and the total score for the IIS was calculated by summing the ratings for each of the items to yield a total score. Scores also can be calculated for each of the subscales. In this study, subscale scores were used.

The scale had adequate internal consistency reliability ranging from .71 to .92 (e.g., French & Oakes, 2004; Pascarella & Terenzini, 1980). In addition, there was support for the predictive validity of the IIS in that it was shown to differentiate between students who persisted from those who dropped out (Pascarella & Terenzini, 1980; Terenzini, Lorang, & Pascarella, 1981). Pascarella and Terenzini (1980) used principal component factor analysis, multivariate analysis of covariance, and discriminate analysis to verify the predictive validity of the IIS. Other researchers have found support for the validity of the IIS (Bers & Smith, 1991; Terenzini et al., 1981).

Academic Success. Grade point average has been used to measure student academic success (e.g., Chemers et al., 2001; Glass & Harrington, 2002; Zhai & Newcomb, 2000). With students’ permission, semester GPAs were obtained from official university records. In addition, course registration for the subsequent semester was used to determine retention rates. Students who registered for a subsequent semester at the end of the semester in which data were collected were considered to

have persisted, while those not registered for a subsequent semester were assumed to have discontinued their studies at the university. GPA was between 0.0 and 4.0 and retention was coded as 1 for students who registered for the subsequent semester and 2 for students who did not register in the subsequent semester. Therefore higher GPA suggested greater academic success and lower scores on retention indicated enrollment. Participants were asked for permission to access their GPA and registration status in subsequent semesters in the event a follow-up study is conducted.

Psychological Well-Being. Level of depression was measured using the Center for Epidemiologic Studies Depression Scale (CES-D, Radloff, 1977) (see Appendix H). The CES-D was a 20-item measure of current level of depression. The instrument was designed to be used with a non-clinical population and participants were asked to rate how frequently they have experienced each of the twenty events in the past week. The instrument was scored on a 4-point scale from “rarely or none of the time” to “most of the time.” Four of the 20 items on the CES-D were reverse scored and scores for each item were summed to yield a total score between 0 and 60 with higher numbers indicating higher levels of depression. The CES-D has no subscales. The CES-D was shown to be a reliable measure for assessing depressive symptoms with a variety of populations (e.g., Knight, Williams, McGee, & Olaman, 1997; Radloff, 1977; Roberts, Vernon, & Rhoades, 1989). The internal consistency reliability of the CES-D ranged from .85 to .90 across various studies (Radloff, 1977). Furthermore, Radloff (1977) reported support for the concurrent validity and construct validity of the CES-D. The CES-D had been shown to relate to the Symptom Checklist-90 (SCL-

90, Derogatis, Lipman, & Covi, 1973), another measure of depression (Radloff, 1977).

Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSE, Rosenberg, 1989) (see Appendix I). The RSE was one of the most widely used self-esteem measures in social science research. The RSE was a 10-item measure scored on a 4-point Likert scale with 1 representing “strongly disagree” and 4 representing “strongly agree.” Five of the 10 items were reverse scored and scores on each of the items were summed to yield a total score ranging from 10 to 40 with higher numbers representing higher levels of self-esteem. The RSE has no subscales, its internal consistency reliability ranged from .74 to .87, and test-retest reliabilities ranged from .63 to .91 (Blascovich & Tomaka, 1993; Rosenberg, 1986; Wylie, 1989). In addition, the RSE was correlated negatively with scores of depressive affect, anxiety, and psychosomatic symptoms (Wylie, 1989), thus providing initial support for construct validity.

Career Functioning. The Career Factors Inventory (CFI, Chartrand et al., 1990) was a multi-dimensional measure of career indecision which consisted of 21 items scored on a 5 point scale. The CFI measured four factors. Two of these factors were information/self-knowledge factors and the other two were decision making factors. Total scores for each of the four factors and the overall instrument were calculated by summing the scores on each item. Higher numbers indicated higher levels of career indecision, need for career information, distress in making a career choice, and difficulty making decisions in life. The CFI has been shown to have a test-retest reliability of .80 and an internal consistency reliability of .87 with a sample

of 409 college students from a large western university (Chartrand et al., 1990). In addition, support for the convergent and discriminant validity of the CFI was found using the same sample (Chartrand et al., 1990). There were relations in the expected direction between the CFI and the Trait Anxiety Subscale of the State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), the Goal Instability Scale (Robbins & Patton, 1985), and the Vocational Identity Scale (Holland, Daiger, & Power, 1980). The subscale scores of the CFI were used in this study.

The Commitment to Career Choices Scale (CCCS, Blustein, Ellis et al., 1989) measured confidence in committing to a career choice and the willingness of an individual to consider more than one occupation (see Appendix J). The CCCS consisted of 28 items scored on a seven-point Likert scale ranging from never true about me to always true about me. Examples of items included, “I need to learn about myself before committing” and “I am suited for only one occupation”. The CCCS consisted of two subscales: The tendency to foreclose scale and the vocational exploration and commitment scale. Together, these two subscales captured two parts of the commitment process. In this study, the two subscale scores were used. Six of the 28 items on the CCCS were reverse scored. The total score for the CCCS was calculated by summing the scores on each item. The internal consistency of the CCCS ranged from .78 to .92 with a sample of 137 students from a northeast university (Blustein, Ellis et al., 1989). Using the same sample, support for the predictive validity of the CCCS was shown in its ability to differentiate between participants on the basis of their class level and had been cross-validated (Blustein, Ellis et al., 1989).

The tendency to foreclose subscale included nine items that measure the tendency for an individual to commit to a career choice without going through a process of career exploration. The tendency to foreclose subscale was found to have an internal consistency of .83, a two-week test-retest reliability of .82 and a four-week test-retest reliability of .84 with a sample of 137 students from a northeast university (Blustein, Ellis et al., 1989). Higher scores on the tendency to foreclose scale indicated more foreclosure behaviors. It is important to note that the tendency to foreclose subscale did not measure whether foreclosure was experienced positively or negatively by respondents.

The vocational exploration and commitment subscale included 19 items that measured where an individual falls on a continuum from uncommitted to a career to highly committed to a career. The vocational exploration and commitment subscale was found to have an internal consistency of .91, a two-week test-retest reliability of .90 and a four-week test-retest reliability of .92 with a sample of 137 students from a northeast university (Blustein, Ellis et al., 1989). Higher scores on the vocational exploration and commitment scale indicated that a difficulty in making a career decision and a lack of knowledge to make a healthy career decision.

Procedure

Participants were recruited from multiple sources at the university. Examples of sources included students using their academic advising offices, students in psychology courses, and students in a course designed for first semester transfer students. Participants who were in their first year at the university were considered eligible to participate and data were collected from students after mid-way through

their first semester. This allowed the researcher to collect data after participants had been exposed to the new university and had begun the transition/integration process. Furthermore, collection of data in the students' first year allowed for a snapshot of transfer students who were early in their transition to the university (i.e., the "transfer shock period). Participants were contacted through multiple methods and invited to participate in the study. Methods of contacting participants included in-person, through a university sponsored website designed to recruit research participants, and in classrooms.

Data were collected in a variety of settings both in groups and individually. Before collecting data, the researcher explained the purpose of the study, requirements of participation, consequences of participation, confidentiality issues, and obtained informed consent (see Appendix A and Appendix M). Participants were asked to complete a packet of measures as well as give permission for the researcher to check their registration status and GPA in subsequent semesters. In most cases, participants completed the survey while the researcher waited. In small number of cases, participants completed the survey on their own and returned it to the researcher. Upon completion of the packet of measures, participants were asked to read a debriefing letter that explained the purpose of the study in more detail (see Appendix L). The letter also provided contact information so participants were able to ask any follow up questions as well as a list of campus resources that may be relevant to transfer students. For their participation, the participants were entered into a raffle which was drawn at the end of the study (see Appendix K and Appendix N). In

addition, students enrolled in psychology classes received one credit toward their class requirement.

At the end of the semester in which data were collected from participants, the researcher obtained students' GPA and registration status for the following semester from official university records. Data were entered into a database and analyzed using SAS.

Data for this study were collected over three semesters. Roughly half of the data were collected in Fall 2005 (49.7%), 33.1% were collected in Spring 2005, and 17.2% were collected in Fall 2004. In total, over two-thirds of participants were recruited from psychology courses (70.6%), 27% of participants were recruited from a course designed for first semester transfer students, and 2.5% of participants were recruited from other sources.

Analysis

Descriptive statistics were computed for the sample. This allowed for an analysis of the demographics of the population. In addition, correlations were calculated among all the variables to determine how they related to one another. Further, a series of MANOVAs were calculated to determine if differences in the independent variables and dependent variables existed with regard to race/ethnicity, location of data collection, time of data collection, gender, and previous institution (i.e., 2-year versus 4-year). To investigate relationships among the independent and dependent variables, canonical correlation analysis was used. Canonical correlation allowed for a multivariate approach and reduced the possibility of Type I error. This analysis provided a means of determining how the various independent and

dependent variables grouped together as well as whether self variables (i.e., academic self-efficacy, career decision-making self-efficacy, college self-efficacy, stage of career development, sense of belonging) were associated with college success as measured by academic (i.e., grade point average, retention), psychological (i.e., freedom from depression, self esteem), and career variables (i.e., career functioning). Canonical functions were examined to gain a greater understanding of these relationships as well as to test the hypotheses. A significance level of $p < .01$ was used in this study to allow multiple analyses to be run while controlling for alpha inflation.

Chapter 5: Results

This chapter describes and summarizes the statistical analyses used to evaluate the research question and hypotheses posited in Chapter 3. This chapter first discusses the preliminary analyses which were conducted to determine whether the independent and dependent variables differed across demographic variables. Second, the psychometric properties of the scales are presented as well as a discussion of how missing data were handled. Next, the descriptive data for the study variables are described. Fourth, the intercorrelations of the study variables are reported. Finally, the results of the canonical correlation analysis are presented.

Preliminary Analyses

Before examining the research question and hypotheses, preliminary analyses were performed to assess whether differences existed among the participants on five dimensions; location of data collection, time of data collection, race/ethnicity, gender, and previous institution (i.e., 2 year versus 4 year). For each of these dimensions, a series of three multivariate analyses of variance (MANOVAs) were performed to determine any mean differences with regard to the academic variables, the career variables, and the psychological and sense of belonging/social integration variables. The first set of MANOVAs examined location of data collection. Participants were recruited from psychology courses, a course designed for first semester transfer students, and academic advising offices. No significant differences were found among these groups on any of the independent or dependent variables. In addition, a similar series of MANOVAs were performed to assess whether any differences existed among participants who were recruited in Fall of 2004, Spring of 2005, and Fall of

2005. Again, no significant differences were found for the semester the data were collected. Third, three MANOVAs were performed examining possible race/ethnicity differences. As with location and time of data collection, no significant differences on the independent or dependent variables were found for race/ethnicity. The same set of MANOVAs using gender and previous institution as the group variable found no significant differences with one exception with gender. It was found that Grade Point Average (GPA) differed by gender with women achieving higher GPAs than men ($F(1, 149) = 10.18$). However, this was not unexpected given the research that has shown women consistently achieve higher GPAs than men (e.g., Bridgerman & Wendler, 1991; Chee, Pino, & Smith, 2005; Rech, 1996). Consequently, the data were collapsed for the remaining analyses.

Psychometric properties of the study variables

Missing Data. Missing data were determined to occur in less than 5% of the total data. As a result, missing data were imputed using a linear trend at point method at the item level. This method allowed for missing values to be replaced with their predicted values using a linear regression to determine the predicted value at the missing data point.

Internal Consistency Reliability. To assess the reliability of the measures used, internal consistency reliability estimates were obtained for each of the scales by calculating alpha coefficients (see Table 1). Overall, 20 of the scales 22 scales used in the study had adequate reliability. Estimates of internal consistency were examined for the academic independent variables. Coefficient alpha for the Self-efficacy for Broad Academic Milestones scale was calculated at .93. This was comparable to the

range of .88 to .94 found by other studies (Kahn & Nauta, 2001; Lent et al., 1997). The coefficient alpha for the College Self-Efficacy Instrument, Course Efficacy Subscale was found to be .84. Similarly, Solberg and colleagues (1993) reported an alpha coefficient of .88. With regard to the Institutional Integration Scale, coefficient alphas for the Interactions with Faculty Subscale and the Academic and Intellectual Development Subscale were calculated at .81 and .75 respectively. Pascarella and Terenzini (1980) reported alpha coefficients for these scales as .83 and .74.

Internal reliability estimates also were examined for career independent variables. Coefficient alpha for the Career Decision Making Self-Efficacy scale was .93 which was consistent with findings of .92 to .97 in another study (Nilsson et al., 2002). Coefficient alphas for the Extended Version of the Objective Measure of Ego Identity Status (EOM-EIS) were as follows: .64 for the Diffusion identity status, .73 for the Moratorium identity status, .75 for the Foreclosure identity status, and .87 for the Achievement identity status. Similarly, Bennion and Adams (1986) reported alpha coefficients ranging from .66 to .90 for the EOM-EIS.

Coefficient alphas also were calculated for the sense of belonging/social integration independent variables. Consistent with findings by Pascarella and Terenzini (1980) of .84, The Institutional Integration Scale, Peer Group Interactions Subscale were calculated as .83. For the College Self-Efficacy Instrument, the coefficient alpha of the Social Efficacy Subscale was .89 and the coefficient alpha of the Roommate Efficacy Subscale was .90. These findings were similar to findings of .88 in another study (Solberg et al., 1993).

For the psychological dependent variables, coefficient alphas were calculated as .90 for the Center for Epidemiologic Studies Depression Scale (CES-D) and .89 for the Rosenberg Self-Esteem Scale (RSE). Previous studies found somewhat comparable values. Radloff (1977) has found the internal consistency reliability of the CES-D to range from .85 to .90. Various studies have found the coefficient alpha to range from .74 to .87 for the RSE (Blascovich & Tomaka, 1993; Rosenberg, 1986; Wylie, 1989).

Among the career dependent variables, internal consistency reliabilities for the Career Factors Inventory were as follows: .75 for the Need for Information Subscale, .84 for the Need for Self-Knowledge Subscale, .86 for the Career Choice Anxiety Subscale, and .68 for the General Indecisiveness Subscale. Previous research reported the coefficient alpha of the Career Factors Inventory to be .87 (Chartrand et al., 1990). Internal consistency reliability for the Commitment to Career Choices Scale was found to be .79 for the Tendency to Foreclose Subscale and .93 for the Vocational Exploration and Commitment Subscale. Internal consistency reliabilities were .83 and .91 respectively in previous research (Blustein, Ellis et al., 1989).

Due to low reliability, two of the scales were eliminated from the analyses. The first subscale was the Institutional Integration Scale, Faculty Concern for Student Development and Teaching Subscale (Pascarella & Terenzini, 1980). The alpha coefficient for this scale was .48 for participants in this study. The second subscale was the Institutional Integration Scale, Institutional and Goal Commitments Scale (Pascarella & Terenzini, 1980) and the alpha coefficient for this scale was .47 in this investigation. While the Institutional Integration Scale had demonstrated

psychometric support in other studies, it was not as widely used as other scales in this study and as a result, its psychometric properties had not been replicated fully.

Descriptive Statistics for the Study Variables

To understand how participants in the study responded to the group of inventories in the study, the mean, standard deviation, and range were calculated for each of the scales and grade point average (see Table 1). In general, the respondents used the entire range of possible responses when completing the measures and fell into the full range of possible grade point averages.

The mean for the Self-Efficacy for Broad Academic Milestones Scale ($M = 7.22$, $SD = 1.34$) was comparable to the mean reported by Lent and colleagues (1997) ($M = 7.44$, $SD = .97$). However, the mean for the College Self-Efficacy Instrument (CSEI), Course Efficacy Subscale ($M = 7.07$, $SD = 1.50$) seemed to differ from that reported by Solberg and colleagues (1993) ($M = 2.83$, $SD = .61$). This difference also seemed to exist when comparing the Social Efficacy Subscale ($M = 7.75$, $SD = 2.00$) and the Roommate Efficacy Subscale ($M = 7.32$, $SD = 1.86$) of the CSEI with previous findings ($M = 3.08$, $SD = .70$ and $M = 2.39$, $SD = .75$ respectively) (Solberg et al., 1993). Higher scores on these measures indicated higher levels of self-efficacy. Overall, transfer students in this sample reported high levels of academic self-efficacy and college self-efficacy.

With regard to the Institutional Integration Scale (IIS), the means and standard deviations were calculated for the Interactions with Faculty Subscale ($M = 14.62$, $SD = 3.84$), the Academic and Intellectual Development Subscale ($M = 23.73$, $SD = 4.58$), and the Peer Group Interactions Subscale ($M = 23.09$, $SD = 5.81$). The item

means were calculated as 2.92 for the Interactions with Faculty Subscale, 3.39 for the Academic and Intellectual Development Subscale, and 3.30 for the Peer Group Interactions Subscale. While Pascarella and Terenzini (1980) did not report overall means and standard deviations for the IIS, these findings were comparable to data reported by French and Oakes (2004) who reported average item means for these three subscales ($M = 3.33$, $SD = .91$; $M = 3.66$, $SD = .78$; and $M = 3.84$, $SD = .73$ respectively). Since higher scores on the IIS scales represented greater integration in a new institution, these means indicated that this sample of transfer students reported moderate levels of faculty interaction, high levels of academic and intellectual development, and high levels of peer group interactions.

Transfer students in this study reported high levels of career decision-making self-efficacy. With higher scores indicating greater self-efficacy, the mean of the Career Decision Making Self-Efficacy Scale (CDESES) ($M = 94.08$, $SD = 14.69$) was comparable to those reported by previous research. Betz and colleagues (Betz et al., 1996) scored the CDESES using a 10 point scale and reported means on each of the five subscales ranging from 34.00 to 38.40 and standard deviations ranging from 6.60 to 7.10. By scoring these in a similar fashion to the present study would yield a mean ranging from 85.00 to 96.00.

Finally, the means and standard deviations for the subscales of the Extended Version of the Objective Measure of Ego Identity Status were as follows: $M = 4.45$, $SD = 2.29$ for Diffusion, $M = 6.16$, $SD = 2.71$ for Moratorium, $M = 3.20$, $SD = 1.77$ for Foreclosure, and $M = 7.75$, $SD = 2.70$ for Achievement. This translates into item means of 2.23, 3.08, 1.60, and 3.88. These were comparable to item means reported

by Adams and colleagues (1979) of 2.60, 2.82, 2.71, and 4.40. Higher scores on this measure indicated an endorsement of the four identity statuses. Overall, this sample of transfer students reported low levels of diffusion and foreclosure, moderate levels of moratorium, and high levels of achievement.

Descriptive statistics for the dependent variables also were calculated. With regard to grade point average, a mean of 2.72 was found with a standard deviation of .30 on a 0 to 4 point scale. Higher grade point average represented greater academic success. With regard to enrollment, 87.50% of the sample enrolled in the following semester while 12.50% did not ($M = 1.13$, $SD = .76$). Since lower scores on the enrollment variable represented subsequent semester enrollment, this suggested that students in this sample were enrolling in a subsequent semester.

Higher scores on the Center for Epidemiologic Studies Depression Scale indicated more depressive symptoms and as expected, the mean for the Center for Epidemiologic Studies Depression Scale ($M = 16.89$, $SD = 10.14$) was found to be lower than means with clinical populations ($M = 20.91$ to 39.11 , $SD = .74$ to 1.73) (Radloff, 1977). Higher scores on the Rosenberg Self-Esteem Scale represented greater levels of self-esteem. The Rosenberg Self-Esteem Scale was found to have a mean of 31.82 and a standard deviation of 5.24. This translates into an item mean of 3.18 which is similar to previous findings ($M = 3.05$ to 3.67) (Zimprich, Perren, & Hornung, 2005). In other words, this sample of transfer students reported very low levels of depression and very high levels of self-esteem.

For career dependent variables, two instruments were used. For the Career Factors Inventory, means were as follows: $M = 22.83$, $SD = 4.14$ for the Need for

Information Subscale, $M = 15.58$, $SD = 3.43$ for the Need for Self-Knowledge Subscale, $M = 16.44$, $SD = 5.13$ for the Career Choice Anxiety Scale, and $M = 14.80$, $SD = 3.55$ for the Generalized Indecisiveness Subscale. High scores on the first two subscales indicated a greater level of need for career information and need for information about self related to career. High scores on the latter two subscales indicated greater anxiety and indecisiveness with regard to career. In other words, transfer students in this sample reported high levels of needing career information and needing self-knowledge and moderate levels of career choice anxiety and generalized indecisiveness. These means were similar to those found by Chartrand and colleagues (1990). For the Commitment to Career Choices Scale, descriptive statistics were as follows: $M = 30.80$, $SD = 8.47$ for the Tendency to Foreclose Subscale and $M = 64.63$, $SD = 21.01$ for the Vocational Exploration and Commitment Subscale indicating that transfer students in this sample reported moderate levels of vocational exploration and commitment and tendency to foreclose. Higher scores on the tendency to foreclose scale indicated more foreclosure behaviors and higher scores on the vocational exploration and commitment scale indicated that a difficulty in making a career decision and a lack of knowledge to make a healthy career decision. Again, these means were comparable to previous findings (Blustein, Ellis et al., 1989).

Intercorrelations of Study Variables

To determine how the independent variables and dependent variables were related, intercorrelations were calculated among the variables (see Table 2). Overall, 52.11% of the variables were correlated with each other at the $p < .01$ level. In addition, correlations were not above .70. Since no two variables shared more than

49% of the variance, the results were not likely affected by multicollinearity (Pedhazur, 1997). Overall, all correlations were in the expected direction.

With regard to the independent variables, the academic variables were intercorrelated with correlations ranging from .24 to .65. Academic self-efficacy variables were related positively to academic institutional integration. The career independent variables also were intercorrelated with correlations ranging from -.23 to .63. As expected, career decision making self-efficacy was related negatively to the diffusion, moratorium, and foreclosure occupational identity status and it was related positively to the achievement occupational identity status. Likewise, correlations ranged from .31 to .50 for the sense of belonging/social integration variables. Roommate efficacy was found to be related positively to peer group interactions and social efficacy at the institution.

With regard to the dependent variables, Grade Point Average and enrollment were correlated in the expected direction with the psychological well-being variables. However the academic dependent variables were not correlated with the career dependent variables. This may have occurred because these students had not yet begun focusing on their career functioning in their first year at the new institution.

The Center for Epidemiologic Studies Depression Scale and the Rosenberg Self Esteem Scale were correlated negatively with a correlation of -.69. This was expected since individuals experiencing depressive symptoms would not be expected to have high self-esteem. In addition, grade point average was correlated negatively with enrollment ($r = -.31$) suggesting that high grade point average was associated with enrolling in the subsequent semester.

With regard to the career variables, approximately half of the intercorrelations among the career dependent variables were significant. This was expected given that the variables measured both developmentally appropriate needs as well as problematic career issues. The significant correlations were between the need for self-knowledge and need for career information scales ($r = .52$). The generalized indecisiveness scale also was correlated with the career choice anxiety scale ($r = .46$). Finally the vocational and exploration commitment scale was correlated with the need for information scale ($r = .33$), the career choice anxiety scale ($r = .55$), as well as the generalized indecisiveness scale ($r = .43$).

With regard to correlations between the independent and dependent variables, academic independent variables were related positively to self-esteem and related negatively to depression. Additionally, they were related to academic dependent variables. However, there were fewer relationships to career dependent variables. Career independent variables were correlated in the expected directions with psychological variables and career dependent variables but were not related to academic dependent variables. Finally, sense of belonging/social integration variables were related negatively to depression and related positively to self-esteem. They also were related positively to academic dependent variables. However, there were fewer correlations with career dependent variables.

Canonical Correlation Analysis

To investigate the relationships between the set of independent variables and the set of dependent variables, canonical correlation analysis was utilized using SAS. The independent variables were construed as academic self-efficacy, course self-

efficacy, interactions with faculty, academic and intellectual development, career decision making self-efficacy, the four occupational identity statuses of the Extended Version of the Objective Measure of Ego Identity Status, peer group interactions, social efficacy, and roommate efficacy. The dependent variables were grade point average, freedom from depression, self-esteem, career functioning as measured by need for career information, need for self-knowledge, career choice anxiety, generalized indecisiveness, tendency to foreclose, and vocational exploration and commitment. Since enrollment status for the following semester was skewed with a majority of participants having registered in the subsequent semester, enrollment was not interpreted in the canonical analysis.

The canonical correlation analysis indicated that the independent variables were related to the dependent variables, Wilk's $F(120, 1015.9) = 3.38, p < .0001$. Ten canonical variate pairs were created in the canonical correlation analysis. The first canonical correlation was .84 reflecting 70.98% overlapping variance for the first pair of canonical variates. The second canonical correlation was .69 reflecting 47.73% of the overlapping variance for the second pair of canonical variates. Dimension reduction analyses indicated that the first two canonical variate pairs accounted for the relationships between the independent and dependent variables and the remaining 8 canonical pairs were not significant.

A total of 41.45% of the variance in the independent variables was explained by the first (26.31%) and second (15.14%) linear combinations of the independent variables (i.e., canonical variates). Redundancy data indicated that a total of 25.90% of the variance in the dependent variables was explained by the first (18.68%) and

second (7.23%) linear combinations of the independent canonical variates. In addition, a total of 40.12% of the variance in the dependent variables was explained by the first (23.51%) and second (16.61%) dependent canonical variates. Redundancy data also indicated that these canonical variates explained 16.69% and 7.93% of the variance in the independent variables, respectively.

To determine the factor loadings for the canonical variates, loadings larger than .30 were examined (Tabachnik & Fidell, 1996). Correlations between the variables and canonical variates, as well as standardized canonical coefficients, are presented in Table 3. Nine independent variables correlated with the first canonical variate and five dependent variables were correlated with the first canonical variate. For the first canonical variate, academic self-efficacy, course self-efficacy, interactions with faculty, career decision making self-efficacy, achieved occupational identity status, peer group interactions, roommate self-efficacy, and self-esteem were correlated positively with the variate. Diffusion and moratorium occupation identity status, depression, career choice anxiety, general indecisiveness, and vocational exploration and commitment were correlated negatively with the first canonical variate. In other words, this first pair of canonical variates suggested a pattern of correlations where transfer students had confidence in their ability to succeed academically (i.e., obtain good grades and persist), confidence in their ability to succeed in their coursework, and perceived an ability to gain access to faculty. These students also felt valued by faculty. They expressed confidence in their ability to make career decisions, low levels of anxiety surrounding making a career choice, low levels of general indecisiveness surrounding their career, and low levels of difficulty

with exploring career options. These students tended to report an achieved occupational identity status and were not likely to report moratorium or diffused occupational identity statuses. Additionally, they had positive satisfaction with the friends they made at their new institution and had confidence in their ability to get along with roommates. Finally, these students reported high self-esteem and low levels of depression.

Six independent variables and six dependent variables were correlated with the second canonical variate. Academic self-efficacy, course self-efficacy, academic and intellectual development, moratorium occupational identity status, roommate self-efficacy, grade point average, self-esteem, need for career information, and need for self-knowledge were correlated positively with the second canonical variate. Foreclosure occupational identity status, depression, and tendency to foreclose were correlated negatively with the second canonical variate. In other words, the second pair of canonical variates suggested a pattern of correlations where transfer students had confidence in their ability to succeed academically (i.e., obtain good grades and persist), confidence in their ability to succeed in their coursework and felt their academic experience had been intellectually stimulating. These students had high grade point averages. They also reported confidence in their ability to make career decisions, desire to explore careers and gain career information, and need for self-discovery related to exploring their career. They tended to report moratorium occupational identity status and were not likely to report foreclosure occupational identity status. These transfer students also exhibited confidence in their ability to get along with roommates, low levels of depression, high levels of self-esteem.

Overall, canonical correlation analysis revealed that there were two patterns of associations among the variables examining the experiences of transfer students in their transition to the new environment.

Chapter 6: Discussion

This chapter will discuss the findings and implications of the results presented in Chapter 5. First, the findings of the main analysis will be examined in reference to the possible explanation of the findings as well as the convergence or divergence with previous literature. Next, implications for counselors will be presented. Finally, limitations of this study will be described and suggestions for future research will be made.

Discussion of the Results

The main purpose of the present study was to investigate healthy functioning among transfer students in academic, psychological, and career domains. The research question asked the levels of academic self-efficacy, career decision-making self-efficacy, college self-efficacy, career development, sense of belonging, GPA, retention, freedom from depression, self-esteem, and career functioning in this sample of transfer students? In general, this sample of transfer students reported high academic self-efficacy, high career-decision making self-efficacy, high college self-efficacy, low levels of diffusion and foreclosure, moderate levels of moratorium, high levels of achievement, a high level of sense of belonging, moderate GPA's, high levels of retention, positive psychological functioning, and healthy levels of career functioning. These findings indicated that overall, this sample of transfer students exhibited healthy levels on the study variables.

Canonical analyses indicated that two patterns of correlations emerged to explain the connection between the independent and dependent variables. The first pattern that emerged was associated with transfer students endorsing being achieved

with regard to their vocational identity status and not endorsing foreclosure or diffusion. This grouping was associated with strong levels of academic efficacy, confidence in their abilities to complete coursework, and positive interactions with faculty. Positive psychological health and confidence with making career decisions also were associated with this pattern. Not surprisingly, this grouping included low levels of career indecisiveness and ease with exploring career options. Students demonstrating these correlations were also confident regarding their roommate and peer interactions.

This pattern suggested that students who were confident in their academic abilities and felt connected to peers and roommates were psychologically healthier, exhibited less anxiety about their career and felt able to explore career options. It is important to note that this pattern may illustrate healthy or problematic adjustment. While it was possible that transfer students in this study were able to successfully navigate the transition process, it was also possible that this pattern reflected overconfidence. Since the levels of variables reported by transfer students in this study suggested healthy functioning, this pattern might suggest overconfidence in the transition process. In other words, transfer students in this sample might have been unable to accurately describe their experiences, exhibiting defensiveness, or they may have been responding in a socially desirable manner. If transfer students were responding in a defensive or socially desirably manner, the achievement pattern of experiences begs the question of whether previous institutions have adequately prepared students for experiences at a new institution.

The second pattern that emerged was consistent with students endorsing being in moratorium with regard to their vocational identity status. This pattern showed a need for career information and self-knowledge. Strong levels of academic efficacy and academic performance were associated with this grouping. Students demonstrating this pattern seemed psychologically healthy and confident regarding their roommate interactions. However, competence in career-related tasks was not associated with these interrelations. While enrollment was associated with this pattern, it was not included in the interpretation because the data was skewed such that a majority of participants enrolled in the subsequent semester.

In other words, this pattern suggested students who reported confidence in their academic abilities and connection to roommates were psychologically healthier, persisted and achieved academically, and reported exploring career options and self as related to career. As with the first pattern of associations, this pattern also may illustrate healthy or problematic adjustment. It is possible that these students were in denial or defensive about their transition experience and thus reported positive patterns.

An interesting association with the second pattern suggested that high moratorium status was associated with a low tendency to foreclose and a low moratorium status was associated with a high tendency to foreclose. While this initially runs contrary to intuition, it was possible that these transfer students were experiencing external barriers forcing them to commit to career paths or were unable to select their desired career paths. For example, transfer students in this sample were required to select majors after 60 credits regardless of whether they had appropriately

explored career options. In addition, transfer students in this sample may not have been able to select their desired majors because of barriers regarding entrance requirements to the major.

In short, the two canonical variates suggested that patterns of transfer student experiences were different with regard to the canonical variates. The achievement pattern differed from moratorium in that the pattern of experiences was associated with feeling connected to faculty and valuing their friendships in college. On the other hand, the moratorium pattern differed from the achievement pattern in that peer and faculty interactions were not as important and the pattern of experiences suggested need for information about career options and themselves. Moreover, the pattern related to moratorium showed no association with confidence in career decision-making tasks. In understanding these patterns of associations, it is important to acknowledge the complexity of these canonical variates. In depth examination of the variates are necessary to understand the pattern of associations between the independent and dependent variables.

With regard to testing the hypotheses, the first hypothesis stated that the Self-Efficacy for Broad Academic Milestones Scale (Lent et al., 1997), the Course Efficacy Subscale of the College Self-Efficacy Instrument (Solberg et al., 1993), and the Interactions with Faculty, Faculty Concern for Student Development and Teaching, Academic and Intellectual Development, and Institutional and Goal Commitments subscales of the Institutional Integration Scale (Pascarella & Terenzini, 1980) would group together to form Academic Self Variables. Indeed these scales

were highly correlated with each other and were grouped together in the canonical analysis thus the first hypothesis was supported.

The second hypothesis stated that the Career Decision Making Self-Efficacy Scale – Short Form (Betz et al., 1996; Betz & Taylor, 2000) and the Occupational Identity Subscale of the Extended Version of the Objective Measures of Ego Identity Status (Bennion & Adams, 1986) would group together to form Career Self Variables. As expected, these scales were grouped together in the canonical analysis as well as highly correlated with each other, supporting the second hypothesis.

The third hypothesis also was supported as demonstrated by the associations in the canonical analysis between the Roommate Efficacy and Social Efficacy Subscales of the College Self-Efficacy Instrument and the Peer Group Interactions Subscale of the Institutional Integration Scale. As was expected, these variables grouped together to form Sense of Belonging/Social Integration Self Variables.

Canonical analysis also supported the fourth hypothesis which stated that grade point average and retention or second semester registration status would group together to form Academic Functioning.

A fifth hypothesis was that scores on the Rosenberg Self-Esteem Scale (Rosenberg, 1989) and the Center for Epidemiologic Studies Depression Scale (Radloff, 1977) would group to form Psychological Functioning. As expected, these two scales were grouped in the canonical analysis.

A sixth hypothesis stated that the subscales of the Career Factors Inventory (Chartrand et al., 1990) and the subscales of the Commitment to Career Choices Scale (Blustein, Ellis et al., 1989) would group together to form Career Functioning. Few of

these scales were found to be correlated nor were they grouped together in the canonical analysis, thus the sixth hypothesis was not supported.

It was hypothesized that multiple independent and dependent variables would group together to form variable sets. The canonical correlation analysis found that independent and dependent variables grouped as hypothesized within the two canonical variates. It also was found that independent variables did not work in isolation but rather worked in combination across domains to relate to outcomes. In other words, transfer student dependent variables were related to several independent variables. Thus, the hypothesis that all independent and dependent variables would be positively related was supported.

Overall, the findings of the canonical correlation analysis indicated that there were different patterns of associations that were experienced by transfer students.

Implications for Counselors

A strength of this study was that it examined transfer students in-depth. Most research on transfer student has compared outcomes of transfer students with those of native students (Miville & Sedlacek, 1995; Wawrzynski & Sedlacek, 2003). While this provides information about transfer student deficiencies, it does not allow for a detailed examination of the transfer student experience. By taking an in-depth approach to examine the variables associated with transfer student success, the present study determined that there were multiple patterns of experiences among transfer students. This was of particular importance since research had not previously identified these multiple patterns.

These findings, if replicated, suggest that counselors should provide differing interventions with transfer students to influence different pattern of experiences. With both the achieved and moratorium pattern, counselors can use a core intervention which includes increasing confidence in academic success and making career decisions. Interventions should teach transfer students how to relate to their roommates and address psychological well-being. Counselors are in a unique position to provide interventions for transfer students and refer them to appropriate resources. For example, counselors should refer transfer students to academic support centers where students can gain confidence in their academic performance. They can also set up support groups for transfer students to help them with the transition. Specifically, these groups could focus on getting along with roommates and assisting with the career decision making process. Furthermore, universities can intervene with transfer students during orientation programs. Orientation programs should include teaching students how to relate to roommates and giving students information about where they can go if they have difficulty deciding on a career.

In addition to the core intervention, there are minor differences on how interventions should be designed for transfer students demonstrating the moratorium pattern. While students demonstrating the achieved pattern would benefit from the core intervention, for transfer students in the moratorium pattern, counselors and universities could include an additional component. Interventions should include helping transfer students gain career information and learn about themselves. An example of an intervention might be a career exploration class taught by a counselor. This class could include topics such as how to select a career and where to go for

career information. It could educate students about the various on-campus and off-campus resources that are available to students. To help explore self and gain information about careers, this course could include a service learning component where transfer students would be asked to gain experience through working in the community in career fields that reflect their interests. Any interventions that counselors undertake should be a joint effort with other offices on campus. For example, it would be beneficial to work with the campus career center or the academic advising community to help students answer specific questions they may have about particular careers. This also would help with the completion of career-related tasks including developing a resume tailored to their career area or preparing for on-campus job fairs.

Although the patterns of associations for both canonical variates were positive, the inverse patterns suggested that transfer students who have academic, psychological, and vocational difficulties might benefit from interventions that enhance academic confidence, promote positive interactions with peers, roommates, and faculty members, increase psychological health, and assist with the career development process. This is of particular importance if transfer students responded to the survey in a defensive or socially desirable manner. Counselors should take particular care to intervene with transfer students who are experiencing difficulties with the process of career development and experiencing psychological problems. Since academic self-efficacy is associated positively with psychological well-being, counselors should take steps to ensure that transfer students feel they can succeed in the new institution. Specifically, counselors should refer transfer students to

university resources which are set up to assist students academically such as study skills classes, tutoring services, and workshops on how to succeed in particular classes. Furthermore, universities can take steps to ensure that these programs are in place, well funded, and well supported by college personnel. For instance, counselors may encourage and participate in the development of a class designed for transfer students which addresses transfer student confidence in their ability to achieve high grades, and explore and decide on a career.

The present study examined multiple variables related to transfer student success. Previous research has not examined the wide range of variables used in this study in combination. The results of this study clearly demonstrated the contribution of multiple variables to transfer student experiences. Fortunately, since there is an abundance of variables which are related to academic, psychological, and career achievement, it is likely that many interventions currently in use are able to assist transfer students make a successful transition to some degree. However, it also is likely that few interventions are comprehensively assisting transfer students. Therefore, it is important for counselors to intervene with transfer students on many variables. For example, a counselor may consider referring a transfer student to an academic support group in addition to career testing to reduce career anxiety.

It also should be noted that it may be difficult to design an intervention specifically targeting a single transfer student outcome. This study demonstrated that transfer student experiences are multifaceted and it is likely that effective interventions will be holistic.

In short, it is important to note that there is no one single intervention that will be effective with all transfer students. By focusing on a single intervention for all transfer students, counselors are not attending to the diversity of transfer student experiences. Since this study suggested that there are multiple patterns of experiences among transfer students, design of interventions should be targeted to these patterns. Specifically, it is suggested that counselors design a core intervention that is adjusted for different types of transfer students. Moreover, all interventions should be evaluated to assess effectiveness and to determine which components are most helpful in promoting the academic, psychological, and vocational health of transfer students.

Limitations

As with all studies, this study has several limitations. First, although the sample for this study was drawn from a large university, it is unknown whether the sample was representative of transfer students nationwide or even at the university. Many universities (including the university used for the present study) do not report detailed descriptions of its transfer student population. While the study sample was representative of the university with regard to gender and previous institution, it is unknown whether the sample was representative on other dimensions.

Second, the use of self-report measures always introduces the possibility of bias. While efforts were made to assure participants of the confidentiality of their responses, the issue of answering in a socially desirable manner may have affected responses. This is of particular importance since several items on the questionnaire asked sensitive questions about psychological well-being and social adjustment. It

should be noted that several participants were particularly concerned about the confidentiality of their responses and expressed fear of the university viewing their responses individually. Further research in this area may be strengthened by including measures that assess for tendencies to respond in a socially desirable manner.

Another limitation was the method used to recruit transfer students. A majority of the transfer students in this study were recruited through a university sponsored website designed to recruit research participants and a course designed for first semester transfer students. In both cases, participants received course credit for their participation. This procedure may have had effects on the motivation of participants. For example, participants may have been focused on receiving the course credit and rushed through the survey. It is also possible that the method used to recruit transfer students motivated more well-adjusted transfer students to participate. It is possible that these students were more focused on succeeding in their coursework and thus more likely to volunteer for extra credit opportunities.

It also is important to note that these results were based on correlational data. Although canonical correlation was utilized, the relationships inferred from the data do not constitute causality as in an experimental design. With the exception of grade point average and enrollment, all variables were collected simultaneously. Thus, causal inferences and conclusions cannot be drawn from this study.

Directions for Future Research

This study is one of the first to examine the transfer student experience in-depth independent of native students. While this study begins to address the complex story of success in transfer students, additional research is still needed. According to

the results, transfer students may have two distinct patterns of experiences. However, these findings bear further confirmation. Replication should occur at colleges and universities of different sizes and in different locations. This would allow for the determination of whether this dual pattern of transfer student experiences is seen independent of school size and location.

Second, more research is needed on identifying categories of transfer student experiences. While the present study has determined that these two patterns were related to slightly different independent variables, it did not examine how these groups could be identified. Future research could examine the characteristics of transfer students that fall into each pattern.

Third, more research is needed on how to influence transfer student success accounting for the two patterns of transfer student experiences found in the present study. If these patterns were to be replicated in future studies, researchers may want to develop and test potential interventions. A study where transfer students are experimentally assigned to various interventions or a control group would assist transfer students as well as add significantly to the literature.

Finally, future researchers should be prepared to attend to the challenges in accessing this population. The transfer student population is not a homogeneous population and researchers may have difficulty identifying transfer students. Due to this difficulty, data collection may take longer than researchers anticipate.

Conclusion

Over the course of completing this study, it became apparent that the transfer student experience is a topic of interest for students, university staff, and counselors.

Participants would often ask “what do we know about transfer students?” and almost all of the participants in this study requested a summary of results to be sent to them. While interest on transfer students appears to be high, a number of participants noted that “the university hasn’t helped me feel welcome.” It is hoped that this study will assist counselors and universities attend to the needs of transfer students. Counselors face many challenges in assisting students in universities, but we cannot afford to lose sight of an important part of any university population: transfer students. Too often transfer students are lost in the larger sea of issues faced by counselors and universities. This is a cause for concern since transfer students often compose a significant percentage of the university.

Findings from this study revealed that there is not one single pattern of transfer students and that while some transfer students may be faring quite well, others may face academic, psychological, and vocational challenges. Not surprisingly, this suggested there is no one clear intervention to ensure success for all transfer students.

Although there is much research on the issues faced by transfer students, what counselors and universities need to do to address the needs of these students is still unclear. The challenge will be to find creative approaches and effective interventions for this population. Should these results be replicated, counselors could work with orientation programs to include sessions in orientation such as connecting with faculty, relating to roommates and peers, succeeding in class, and exploring careers. By doing so, we then offer transfer students the best chance of succeeding and matriculating in a new institution.

Appendices

APPENDIX A

DESCRIPTION OF WHAT WILL BE COVERED IN THE INTRODUCTION

We are currently interested in studying the experiences of recent transfer students at the University of Maryland, College Park. As a transfer student in their first year, we invite you to participate in this survey. Compared to the rest of the university population, relatively little is known about transfer student experiences and we are attempting to contribute much needed information by engaging in this program of research.

In exchange for your assistance, we will enter your name in a drawing for one of four gift certificates for \$25.00 to be used at the University of Maryland Bookstore or Maryland Book Exchange. Once data collection is completed, four postcards will be randomly selected. If you are selected, the gift certificate will be mailed to you at that time.

Should you feel uncomfortable with the questions being asked of you at any time during this research, you may end your participation without penalty.

Please be assured that your name will not be associated with your answers on the questionnaire. All of your responses will be kept strictly confidential.

Following your participation, I will be available in-person or by e-mail to answer any questions or concerns you may have.

APPENDIX B

**Demographic Form
(Please Print)**

Survey #:	
University ID Number:	
Primary Major:	
Transferred from:	<input type="checkbox"/> 2-Year School (e.g., community college) <input type="checkbox"/> 4-Year School (e.g., another university)
Race/Ethnicity:	<input type="checkbox"/> Caucasian <input type="checkbox"/> African-American <input type="checkbox"/> Asian <input type="checkbox"/> Hispanic <input type="checkbox"/> International <input type="checkbox"/> Other
Gender:	<input type="checkbox"/> Male <input type="checkbox"/> Female
Age:	
# of Credits transferred to UMD:	
GPA at previous institution:	

Your previous institution GPA and number of credits transferred will be confirmed with information from your transcript.

APPENDIX C

Institutional Integration Scale (IIS)

		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
<i>Peer-Group Interactions</i>						
1	Since coming to this university I have developed close personal relationships with other students	5	4	3	2	1
2	The student friendships I have developed at this university have been personally satisfying	5	4	3	2	1
3	My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values	5	4	3	2	1
4	My interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas	5	4	3	2	1
5	It has been difficult for me to meet and make friends with other students	5	4	3	2	1
6	Few of the students I know would be willing to listen to me and help me if I had a personal problem	5	4	3	2	1
7	Most students at this university have values and attitudes different from my own	5	4	3	2	1
<i>Interactions with Faculty</i>						
8	My nonclassroom interactions with faculty have had a positive influence on my personal growth, values and attitudes	5	4	3	2	1
9	My nonclassroom interactions with faculty have had positive influence on my intellectual growth and interest in ideas	5	4	3	2	1
10	My nonclassroom interactions with faculty have had positive influence on my career goals and aspirations	5	4	3	2	1
11	Since coming to this university I have developed a close, personal relationship with at least one faculty member	5	4	3	2	1
12	I am satisfied with the opportunities to meet and interact informally with faculty members.	5	4	3	2	1
<i>Faculty Concern for Student Development and Teaching</i>						
13	Few of the faculty members I have had contact with are generally interested in students	5	4	3	2	1
14	Few of the faculty members I have had contact with are generally outstanding or superior teachers	5	4	3	2	1
15	Few of the faculty members I have had contact with are willing to spend time outside of class to discuss issues of interest and importance to students	5	4	3	2	1
16	Most of the faculty I have had contact with are interested in helping students grown in more than just academic areas	5	4	3	2	1
17	Most faculty members I have had contact with are genuinely interested in teaching	5	4	3	2	1
<i>Academic and Intellectual Development</i>						
18	I am satisfied with the extent of my intellectual development since enrolling in this university	5	4	3	2	1
19	My academic experience has had a positive influence on my intellectual growth and interest in ideas	5	4	3	2	1

20	I am satisfied with my academic experience at this university	5	4	3	2	1
21	Few of my courses this year have been intellectually stimulating	5	4	3	2	1
22	My interest in ideas and intellectual matters has increased since coming to this university	5	4	3	2	1
23	I am more likely to attend a cultural event (for example, a concert, lecture, or art show) than I was before coming to this university	5	4	3	2	1
24	I have performed academically as well as I anticipated I would	5	4	3	2	1
<i>Institutional and Goal Commitments</i>						
25	It is important for me to graduate from college	5	4	3	2	1
26	I am confident that I made the right decision in choosing to attend this university	5	4	3	2	1
27	It is likely that I will register at this university next fall	5	4	3	2	1
28	It is not important to me to graduate from this university	5	4	3	2	1
29	I have no idea at all what I want to major in	5	4	3	2	1
30	Getting good grades is not important to me	5	4	3	2	1

APPENDIX D

Self-Efficacy for Broad Academic Milestones Scale (SE-Broad)

Assuming you were motivated to do your best, please indicate how much confidence you have that you could each of the following at UMD.

		No Confidence at all		Very Little Confidence		Some Confidence		Much Confidence		Complete Confidence	
		0	1	2	3	4	5	6	7	8	9
1	Complete the written communication general education requirements (e.g., courses in writing skills) with grades of at least 3.0	0	1	2	3	4	5	6	7	8	9
2	Complete the arts and humanities general education requirements (e.g., courses in literature, history) with grades of at least 3.0	0	1	2	3	4	5	6	7	8	9
3	Complete the biological, physical, and mathematical sciences general education requirements (e.g., courses in biology, geology) with grades of at least 3.0	0	1	2	3	4	5	6	7	8	9
4	Complete the social and behavioral sciences general education requirements (e.g., courses in political science, sociology) with grades of at least 3.0	0	1	2	3	4	5	6	7	8	9
5	Earn a cumulative grade point average of at least 2.0 after two years of study	0	1	2	3	4	5	6	7	8	9
6	Earn a cumulative grade point average of at least 2.0 after three years of study	0	1	2	3	4	5	6	7	8	9
7	Gain admission to your first choice major	0	1	2	3	4	5	6	7	8	9
8	Complete the requirements for your academic major with a grade point average of at least 3.0	0	1	2	3	4	5	6	7	8	9
9	Excel at UMD over the next quarter	0	1	2	3	4	5	6	7	8	9
10	Excel at UMD over the next two quarters	0	1	2	3	4	5	6	7	8	9
11	Excel at UMD over the next three quarters	0	1	2	3	4	5	6	7	8	9
12	Graduate from UMD	0	1	2	3	4	5	6	7	8	9

APPENDIX E

Career Decision Self-Efficacy Scale – Short Form (CDESES)

Instructions: For each statement below please read carefully and indicate how much confidence you have that you could accomplish each of these tasks by marking your answer according to the key. Mark your answer by circling the correct number.

		No confidence at all	Very little confidence	Moderate confidence	Much confidence	Complete confidence
1	Find information in the library about occupations you are interested in.	1	2	3	4	5
2	Select one major from a list of potential majors you are considering.	1	2	3	4	5
3	Make a plan of your goals for the next five years.	1	2	3	4	5
4	Determine the steps to take if you are having academic trouble with an aspect of your chosen major.	1	2	3	4	5
5	Accurately assess your abilities	1	2	3	4	5
6	Select one occupation from a list of potential occupations you are considering	1	2	3	4	5
7	Determine the steps you need to take to successfully complete your chosen major	1	2	3	4	5
8	Persistently work at your major or career goal even when you get frustrated	1	2	3	4	5
9	Determine what your ideal job would be	1	2	3	4	5
10	Find out the employment trends for an occupation over the next ten years.	1	2	3	4	5
11	Choose a career that will fit your preferred lifestyle.	1	2	3	4	5
12	Prepare a good resume.	1	2	3	4	5
13	Change majors if you did not like your first choice.	1	2	3	4	5
14	Decide what you value most in an occupation.	1	2	3	4	5
15	Find out about the average yearly earnings of people in an occupation.	1	2	3	4	5
16	Make a career decision and then not worry about whether it was right or wrong.	1	2	3	4	5
17	Change occupations if you are not satisfied with the one you enter.	1	2	3	4	5
18	Figure out what you are and are not ready to sacrifice to achieve your career goals.	1	2	3	4	5
19	Talk with a person already employed in the field you are interested in.	1	2	3	4	5
20	Choose a major or career that will fit your interests.	1	2	3	4	5
21	Identify employers, first, institutions relevant to your career possibilities.	1	2	3	4	5
22	Define the type of lifestyle you would like to live.	1	2	3	4	5
23	Find information about graduate or professional schools.	1	2	3	4	5

APPENDIX F

College Self-Efficacy Instrument (CSEI)

How confident are you that you could successfully complete the follow tasks...

Not at all confident												Extremely Confident
		0	1	2	3	4	5	6	7	8	9	10
1	Research a term paper	0	1	2	3	4	5	6	7	8	9	10
2	Write course papers	0	1	2	3	4	5	6	7	8	9	10
3	Do well on your exams	0	1	2	3	4	5	6	7	8	9	10
4	Take good class notes	0	1	2	3	4	5	6	7	8	9	10
5	Keep up to date with your schoolwork	0	1	2	3	4	5	6	7	8	9	10
6	Manage time effectively	0	1	2	3	4	5	6	7	8	9	10
7	Understand your textbooks	0	1	2	3	4	5	6	7	8	9	10
8	Get along with your roommate(s)	0	1	2	3	4	5	6	7	8	9	10
9	Socialize with your roommate(s)	0	1	2	3	4	5	6	7	8	9	10
10	Divide space in your apartment/room	0	1	2	3	4	5	6	7	8	9	10
11	Divide chores with your roommate(s)	0	1	2	3	4	5	6	7	8	9	10
12	Participate in class discussions	0	1	2	3	4	5	6	7	8	9	10
13	Ask a question in class	0	1	2	3	4	5	6	7	8	9	10
14	Get a date when you want one	0	1	2	3	4	5	6	7	8	9	10
15	Talk to your professors	0	1	2	3	4	5	6	7	8	9	10
16	Talk to university staff	0	1	2	3	4	5	6	7	8	9	10
17	Ask a professor a question	0	1	2	3	4	5	6	7	8	9	10
18	Make new friends at college	0	1	2	3	4	5	6	7	8	9	10
19	Join a student organization	0	1	2	3	4	5	6	7	8	9	10

APPENDIX G

Occupation Identity Scale of the Extended Version of the Objective Measures of Ego Identity Status (EOM-EIS)

Read each item and indicate to what degree it reflects your own thoughts and feelings. If a statement has more than one part, please indicate your reaction to the statement *as a whole*.

Strongly Disagree	Moderately Disagree	Disagree	Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6

1	I haven't chosen the occupation I really want to go into, and I'm just working at whatever is available until something better comes along.	1	2	3	4	5	6
2	I'm still trying to decide how capable I am as a person and what jobs will be right for me.	1	2	3	4	5	6
3	I might have thought a lot about different jobs, but there's never really any question since my parents said what they wanted.	1	2	3	4	5	6
4	I'm not really interested in finding the right job, any job will do. I just seem to flow with what is available.	1	2	3	4	5	6
5	It took me a while to figure it out, but now I really know what I want for a career.	1	2	3	4	5	6
6	My parents decided a long time ago what I should go into for employment and I'm following through their plans.	1	2	3	4	5	6
7	It took me a long time to decide but now I know for sure what direction to move in for a career.	1	2	3	4	5	6
8	I can't decide what I want to do for an occupation. There are so many that have possibilities.	1	2	3	4	5	6

APPENDIX H

Center for Epidemiologic Studies Depression Scale (CES-D)

Below is a list of the ways you might have felt or behaved. Please rate how often you have felt this way during the past week.

		Rarely or none of the time (less than 1 day)	Some or a little more of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1	I was bothered by things that usually don't bother me.	0	1	2	3
2	I did not feel like eating; my appetite was poor.	0	1	2	3
3	I felt that I could not shake off the blues even with help from my family or friends.	0	1	2	3
4	I felt that I was just as good as other people.	0	1	2	3
5	I had trouble keeping my mind on what I was doing.	0	1	2	3
6	I felt depressed.	0	1	2	3
7	I felt that everything I did was an effort.	0	1	2	3
8	I felt hopeful about the future.	0	1	2	3
9	I thought my life had been a failure.	0	1	2	3
10	I felt fearful.	0	1	2	3
11	My sleep was restless.	0	1	2	3
12	I was happy.	0	1	2	3
13	I talked less than usual.	0	1	2	3
14	I felt lonely.	0	1	2	3
15	People were unfriendly.	0	1	2	3
16	I enjoyed life.	0	1	2	3
17	I had crying spells.	0	1	2	3
18	I felt sad.	0	1	2	3
19	I felt that people disliked me.	0	1	2	3
20	I could not get going.	0	1	2	3

APPENDIX I

Rosenberg Self-Esteem Scale (RSE)

Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle 1. If you agree with the statement, circle 2. If you disagree, circle 3. If you strongly disagree, circle 4.

		Strongly Agree	Agree	Disagree	Strongly Disagree
1	On the whole, I am satisfied with myself	1	2	3	4
2	At times, I think I am no good at all.	1	2	3	4
3	I feel that I have a number of good qualities.	1	2	3	4
4	I am able to do things as well as most other people.	1	2	3	4
5	I feel I do not have much to be proud of.	1	2	3	4
6	I certainly feel useless at times.	1	2	3	4
7	I feel that I'm a person of worth, at least on an equal plane with others.	1	2	3	4
8	I wish I could have more respect for myself.	1	2	3	4
9	All in all, I am inclined to feel that I am a failure.	1	2	3	4
10	I take a positive attitude toward myself.	1	2	3	4

APPENDIX J

Commitment to Career Choices Scale (CCCS)

In the items that follow, please indicate the appropriate number using the scale below that most accurately reflects the extent to which you agree or disagree with the statement. If you do not currently have a specific career goal, respond to the following items in a way that would reflect your behavior and attitudes if you did have an occupational preference.

Never true about me	Almost never true about me	Usually not true about me	No opinion / Not sure	Usually true about me	Almost always true about me	Always true about me
1	2	3	4	5	6	7

1	I believe that a sign of maturity is deciding on a single career goal and sticking to it.	1	2	3	4	5	6	7
2	Based on what I know about my interests, I believe I am suited for only one specific occupation.	1	2	3	4	5	6	7
3	The chances are excellent that I will actually end up doing the kind of work that I most want to do.	1	2	3	4	5	6	7
4	I may need to learn more about myself (i.e., my interests, abilities, values, etc) before making a commitment to a specific occupation.	1	2	3	4	5	6	7
5	It is hard for me to decide on a career goal because it seems that there are too many possibilities.	1	2	3	4	5	6	7
6	I have a good deal of information about the occupational fields that are most interesting to me.	1	2	3	4	5	6	7
7	I have thought about how to get around the obstacles that may exist in the occupational field I am considering.	1	2	3	4	5	6	7
8	I think that a wavering or indecisive approach to educational and career choices is a sign of weakness; one should take a stand and follow through with it no matter what.	1	2	3	4	5	6	7
9	I believe that no matter what others might think, my educational and career decisions will either be right or wrong.	1	2	3	4	5	6	7
10	Based on what I know about my abilities and talents, I believe that only one specific occupation is right for me.	1	2	3	4	5	6	7
11	While I am aware of my educational and career options, I do not feel comfortable committing myself to a specific occupation.	1	2	3	4	5	6	7
12	I feel uneasy about committing myself to a specific occupation because I am aware of alternative options in related fields.	1	2	3	4	5	6	7
13	I find myself changing academic majors often because I cannot focus on one specific career goal.	1	2	3	4	5	6	7
14	I do not know enough about myself (i.e., my interests, abilities, and values) to make a commitment to a specific occupation.	1	2	3	4	5	6	7
15	I like the openness of considering various possibilities before committing myself to a specific occupation.	1	2	3	4	5	6	7
16	Based on what I know about the world of work (i.e., the nature of various occupations), I do not believe that I should seriously consider more than a single career goal at a time.	1	2	3	4	5	6	7
17	It is hard to commit myself to a specific career goal because I am unsure about what the future holds for me.	1	2	3	4	5	6	7
18	I find it difficult to commit myself to important life decisions.	1	2	3	4	5	6	7
19	I feel uneasy in committing myself to a career goal because I do not have as much information about the fields that I am considering as I probably should.	1	2	3	4	5	6	7
20	I have difficulty in making decisions when faced with a variety of options.	1	2	3	4	5	6	7

21	I feel confident in my ability to achieve my career goals.	1	2	3	4	5	6	7
22	Based on what I know about my values (e.g., the importance of money, job security, etc.), I believe that only one single occupation is right.	1	2	3	4	5	6	7
23	I feel uneasy in committing myself to a specific career plan.	1	2	3	4	5	6	7
24	I think that I know enough about the occupations that I am considering to be able to commit myself firmly to a specific career goal.	1	2	3	4	5	6	7
25	I worry about my ability to make effective educational and career decisions.	1	2	3	4	5	6	7
26	I am not very certain about the kind of work that I would like to do.	1	2	3	4	5	6	7
27	I would change my career plans if the field I am considering became more competitive and less accessible due to a decline in available openings.	1	2	3	4	5	6	7
28	I believe that there is only one specific career goal that is right for me.	1	2	3	4	5	6	7

APPENDIX K

____ Please enter me in the drawing for the \$25.00 gift certificate to the University of Maryland Bookstore or Maryland Book Exchange .

If I win the drawing, please send me a gift certificate to: (please check one)

____ The University of Maryland Bookstore

____ Maryland Book Exchange

Name: _____

Address: _____

____ I would like to receive a summary of the results of the study. Please know that the results will be mailed several months from now due to lengthy data analyses.

E-mail: _____

THANKS AGAIN FOR YOUR PARTICIPATION IN THIS STUDY!

Thomson Ling, Doctoral Student, Counseling Psychology Program, Univ. of Maryland

APPENDIX L

DEBRIEFING FORM

Dear Participant,

Thank you for participating in the study on Transfer Student experiences. Your participation has contributed much needed information about the variables that are related to transfer student success.

The purpose of this study is to identify the variables related to transfer student success as measured by academic, psychological, and vocational functioning. Specifically, we are looking at how transfer students feelings of belonging in the university, academic self-efficacy, college self-efficacy, career decision-making self-efficacy, and stage of career development are related to success in the transition to a new university. We are examining success in several ways including academic success which will include your final semester GPA and your enrollment status for the following semester. We are also interested in psychological well-being as measured by self-esteem and depressive symptoms. Finally, we are interested in transfer student success in terms of career functioning. In comparison to the research conducted on college students, the research on transfer students is small. Further, the research that is conducted on transfer students tends to emphasize the problems that transfer students' experience. This study examines transfer student strengths and ultimately, this study will provide colleges and universities with additional information about the success of transfer students.

By discussing these important issues, you may have experienced a variety of feelings about your transfer student experience. Attached is a Resource List which provides contact information for several on-campus offices you may find useful as a transfer student. In addition, if you have questions or concerns, please do not hesitate to contact me.

We very much appreciate your time and effort in assisting us with this important study!

Sincerely,

Thomson Ling, Doctoral Student
Counseling Psychology Program
Department of Psychology
University of Maryland
College Park, MD 20742
301-405-5241
tling@psyc.umd.edu

Dr. Karen O'Brien
Associate Professor
Department of Psychology
University of Maryland
College Park, MD 20742
301-405-5812
kobrien@psyc.umd.edu

University of Maryland Resource List

COUNSELING CENTER	314-7651
Shoemaker Building	
Learning Assistance Services	314-7693
Disability Support Services	314-7682
TRANSFER CREDIT CENTER	tccinfo@deans.umd.edu
OFFICE OF COMMUTER AFFAIRS	314-5274
OFFICE OF CAMPUS PROGRAMS	314-8495
HEALTH CENTER	
Appointments	314-8180
Social Services	314-8142
CAREER CENTER	314-7225
Third Floor Hornbake Library – South Wing	
Appointments	314-1966
HUMAN RELATIONS PROGRAM	405-2838
Hornbake Library	
UNDERGRADUATE STUDIES	405-7225
1119 Main Administration Building	

APPENDIX M

INFORMED CONSENT FORM

Project Title:
**The Relation of Self Variables to Transfer Student Success as Measured by
 Academic, Psychological, and Career Functioning**

Statement of Age:	I am at least 18 years of age.
Statement of willingness to participate:	I have freely volunteered to participate in the research project conducted by Thomson Ling and Dr. Karen O'Brien at the University of Maryland College Park Department of Psychology. I have been informed in advance, as to what my tasks will be, and what procedures would be followed, both for the project and to protect my confidentiality.
Purpose of research:	This project will examine the variables related to transfer student success.
Procedures:	<p>The procedures involve filling out a questionnaire packet which will take approximately 60 minutes to complete and granting access to my previous institution grade point average, number of hours transferred, and University of Maryland grade point average and registration status in subsequent semesters (i.e., my academic transcript). In return for completing the questionnaire, my name will be entered in a drawing for one of four \$25.00 gift certificates to the University of Maryland Bookstore or Maryland Book Exchange.</p> <p><i>Examples of questions I will be asked include:</i></p> <ul style="list-style-type: none"> • How confident are you that you could get along with roommate(s)? • Please rate whether you agree or disagree with the following statements- <ul style="list-style-type: none"> -The student friendships I have developed at this university have been personally satisfying. -I just can't decide what to do for an occupation. There are just so many possibilities -I feel I have a good number of qualities. • Rate your confidence in your ability to complete the requirements for your academic major with a grade point average of at least 3.0. • How much confidence do you have that you could select one major from a list of potential majors you are considering? <p>How often during the past week have you felt you had trouble keeping your mind on what you were doing?</p>

INFORMED CONSENT FORM

Project Title:
**The Relation of Self Variables to Transfer Student Success as Measured by
 Academic, Psychological, and Career Functioning**

Statement about confidentiality:	All the information collected during this study will be held in the highest standard of confidentiality. I understand my name will not be associated with my responses on the questionnaire, my grade point average, or registration status at any time. I understand that all of the information that I provide will be kept in a locked cabinet accessible only by the principal investigator.
Risk/Benefit Statement:	I acknowledge that there are no known risks to participation in this project. Although the project is not designed to help me directly, my participation will allow the researchers to gain important knowledge about the variables related to transfer student success.
Statement about freedom to decline to answer any of the questions:	I understand that I may decline to answer any of the questions in the questionnaire packet and will not be penalized in any way for not answering questions.
Statement about freedom to ask questions without penalty:	I have been given an opportunity to ask questions and have had my questions answered to my satisfaction. Following my participation, the principal investigator will be available to answer any questions or concerns and I will be given a brief explanation of the project in which I have participated.
Statement about freedom to withdraw from participation at any time without penalty:	I have the right to discontinue my participation at any time, without penalty.
How to contact the chair of the Human Subjects Committee for any questions regarding the rights of a research participant:	If I have questions about my rights as a research participant or wish to report a research-related injury, please contact: Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) irb@deans.umd.edu ; (telephone) 301-405-4212

INFORMED CONSENT FORM**Project Title:**

**The Relation of Self Variables to Transfer Student Success as Measured by
Academic, Psychological, and Career Functioning**

Principal Investigator Contact Information:	<p>Thomson Ling, Doctoral Student Counseling Psychology Program Department of Psychology University of Maryland College Park, MD 20742 301-405-5241 tling@psyc.umd.edu</p> <p>Dr. Karen O'Brien Associate Professor Department of Psychology University of Maryland College Park, MD 20742 301-405-5812 kobrien@psyc.umd.edu</p>
--	--

I am willing to participate in the research project described above which is being conducted at the University of Maryland at College Park, Department of Psychology. My signature below may be taken as affirmation of all of the above, prior to participation.

Participants Name (please print): _____

Participants Signature: _____ Date: _____

Participants University ID Number: _____

APPENDIX N

NOTIFICATION OF GIFT CERTIFICATE

Dear Participant:

Congratulations! In return for your participation in the study on transfer student experiences, you have won a \$25.00 gift certificate to (fill in UMBC Book Store or Maryland Book Exchange)!

Your participation has contributed much needed information about the variables related to the success of transfer students. We very much appreciate your time and effort in assisting us with this important study!

Again, thank you for your participation. If you have any questions of concerns, please do not hesitate to contact me.

Sincerely,

Thomson Ling
Counseling Psychology Program
Department of Psychology
University of Maryland
College Park, MD 20742
301-405-5241
tling@psyc.umd.edu

Table 1

Descriptive Data for Study Variables

	Mean	SD	Range	Possible Range	Alpha
Independent Variables					
Academic Variables					
1. Self-Efficacy for Broad Academic Milestones Scale	7.22	1.34	2.83 - 9.00	0.00 - 9.00	0.93
2. College Self-Efficacy Instrument, Course Efficacy Subscale	7.07	1.50	2.86 - 10.00	0.00 - 10.00	0.84
Institutional Integration Scale					
3. Interactions with Faculty Subscale	14.62	3.84	5.00 - 24.00	5.00 - 25.00	0.81
4. Academic and Intellectual Development Subscale	23.73	4.58	8.00 - 33.00	7.00 - 35.00	0.75
Career Variables					
5. Career Decision Making Self-Efficacy Scale	94.08	14.69	59.00 - 125.00	25.00 - 125.00	0.93
Extended Version of the Objective Measure of Ego Identity Status, Occupational Identity Status					
6. Diffusion	4.45	2.29	2.00 - 11.00	2.00 - 12.00	0.64
7. Moratorium	6.16	2.71	2.00 - 12.00	2.00 - 12.00	0.73
8. Foreclosure	3.20	1.77	2.00 - 11.00	2.00 - 12.00	0.75

	Mean	SD	Range	Possible Range	Alpha
9. Achievement	7.75	2.70	2.00 - 12.00	2.00 - 12.00	0.87
Sense of Belonging/Social Inegration Variables					
10. Institutional Integration Scale, Peer Group Interactions Scale	23.09	5.81	10.00 - 35.00	7.00 - 35.00	0.83
College Self-Efficacy Instrument					
11. Social Efficacy Subscale	7.75	2.00	0.00 - 10.00	0.00 - 10.00	0.89
12. Roommate Efficacy Subscale	7.32	1.86	0.75 - 10.00	0.00 - 10.00	0.90
Dependent Variables					
Academic Variables					
13. Grade Point Average	2.72	0.75	0.30 - 4.00	0.00 - 4.00	-
14. Enrollment	1.13	0.76	1.00 - 2.00	1.00 - 2.00	-
Psychological Variables					
13. Center for Epidemiologic Studies Depression Scale	16.89	10.14	0.00 - 50.00	0.00 - 60.00	0.90
14. Rosenberg Self-Esteem Scale	31.82	5.24	17.00 - 40.00	10.00 - 40.00	0.89
Career Variables					
Career Factors Inventory					
15. Need for Career Information Subscale	22.83	4.14	11.00 - 30.00	6.00 - 30.00	0.75

	Mean	SD	Range	Possible Range	Alpha
16. Need for Self-Knowledge Subscale	15.58	3.43	4.00 - 20.00	4.00 - 20.00	0.84
17. Career Choice Anxiety Subscale	16.44	5.13	6.00 - 28.00	6.00 - 30.00	0.86
18. Generalized Indecisiveness Subscale	14.80	3.55	7.00 - 25.00	5.00 - 25.00	0.68
Commitment to Career Coices Scale					
19. Tendency to Foreclose Subscale	30.80	8.47	11.00 - 54.00	9.00 - 56.00	0.79
20. Vocational Exploration and Commitment Subscale	64.63	21.01	20.00 - 117.00	19.00 - 133.00	0.93

Note. n=163

Table 2

Intercorrelation matrix for all Study Variables

Variable	1	2	3	4	5	6	7	8
Independent Variables								
Academic Variables								
1. Self-Efficacy for Broad Academic Milestones Scale	-							
2. College Self-Efficacy Instrument, Course Efficacy Subscale	.65*	-						
Institutional Integration Scale								
3. Interactions with Faculty Subscale	.24*	.16	-					
4. Academic and Intellectual Development Subscale	.48*	.30*	.39*	-				
Career Variables								
5. Career Decision Making Self-Efficacy Scale	.52*	.55*	.32*	.29*	-			
Extended Version of the Objective Measure of Ego Identity Status, Occupational Identity Status								
6. Diffusion	-.26*	-.22*	-.10	-.16	-.47*	-		
7. Moratorium	-.21*	-.23*	-.18	-.08	-.49*	.63*	-	

Variable	1	2	3	4	5	6	7	8
8. Foreclosure	-.13	-.18	.00	-.12	-.23*	.25*	.19	-
9. Achievement	.17	.20	.04	.07	.33*	-.32*	-.35*	.00
Sense of Belonging/Social Inegration Variables								
10. Institutional Integration Scale, Peer Group Interactions Scale	.21*	.11	.35*	.38*	.22*	-.15	-.10	-.05
College Self-Efficacy Instrument								
11. Social Efficacy Subscale	.29*	.33*	.08	.04	.29*	-.02	-.03	-.10
12. Roommate Efficacy Subscale	.52*	.59*	.27*	.35*	.59*	-.22*	-.22*	-.23*
Dependent Variables								
Academic Variables								
13. Grade Point Average	.46*	.41*	.01	.29*	.18	-.16	-.05	-.12
14. Enrollment	-.22*	-.24*	-.23*	-.34*	-.12	.01	-.03	-.03
Psychological Variables								
15. Center for Epidemiologic Studies Depression Scale	-.33*	-.30*	-.17	-.34*	-.29*	.24*	.18	.18
16. Rosenberg Self-Esteem Scale	.39*	.38*	.31*	.39*	.51*	-.35*	-.35*	-.29*

Variable	1	2	3	4	5	6	7	8
Career Variables								
Career Factors Inventory								
17. Need for Career Information Subscale	.04	.03	-.03	.11	-.10	.21*	.31*	.02
18. Need for Self-Knowledge Subscale	.18	.10	-.05	.10	.02	.07	.18	-.04
19. Career Choice Anxiety Subscale	-.23*	-.26*	-.18	-.14	-.47*	.43*	.54*	.19
20. Generalized Indecisiveness Subscale	-.25*	-.24*	-.23*	-.09	-.37*	.27*	.39*	.11
Commitment to Career Choices Scale								
21. Tendency to Foreclose Subscale	-.14	-.17	.23*	-.08	-.01	-.07	-.27*	.17
22. Vocational Exploration and Commitment Subscale	-.31*	-.35*	-.30*	-.14	-.59*	.58*	.72*	.20*

Variable	9	10	11	12	13	14	15	16
9. Achievement	-							
Sense of Belonging/Social Inegration Variables								
10. Institutional Integration Scale, Peer Group Interactions Scale	.13	-						
College Self-Efficacy Instrument								
11. Social Efficacy Subscale	.17	.15	-					
12. Roommate Efficacy Subscale	.32*	.31*	.50*	-				
Dependent Variables								
Academic Variables								
13. Grade Point Average	.08	.11	.09	.28*	-			
14. Enrollment	-.12	-.30*	-.20	-.27*	-.31*	-		
Psychological Variables								
15. Center for Epidemiologic Studies Depression Scale	-.05	-.35*	-.21*	-.43*	-.30*	.27*	-	
16. Rosenberg Self-Esteem Scale	.13	.36*	.18	.51*	.21*	-.19	-.69*	-

Variable	9	10	11	12	13	14	15	16
Career Variables								
Career Factors Inventory								
17. Need for Career Information Subscale	.04	-.02	-.06	.11	.14	.02	.06	-.05
18. Need for Self-Knowledge Subscale	.02	-.01	.01	.13	.13	-.02	.14	-.06
19. Career Choice Anxiety Subscale	-.32*	-.15	-.22*	-.32*	-.01	.05	.28*	-.40*
20. Generalized Indecisiveness Subscale	-.21*	-.12	-.15	-.30*	-.03	-.04	.26*	-.34*
Commitment to Career Choices Scale								
21. Tendency to Foreclose Subscale	.10	.11	-.17	-.10	-.16	.00	.13	-.08
22. Vocational Exploration and Commitment Subscale	-.26*	-.22*	-.14	-.35*	-.06	.09	.30*	-.44*

Variable	17	18	19	20	21
Career Variables					
Career Factors Inventory					
17. Need for Career Information Subscale	-				
18. Need for Self-Knowledge Subscale	.52*	-			
19. Career Choice Anxiety Subscale	.19	.14	-		
20. Generalized Indecisiveness Subscale	.11	.11	.46*	-	
Commitment to Career Choices Scale					
21. Tendency to Foreclose Subscale	-.02	.08	-.01	-.08	-
22. Vocational Exploration and Commitment Subscale	.33*	.15	.55*	.43*	-.15

Note. * p<.01

Table 3

Correlations and Standardized Canonical Coefficients for Predictor and Criterion Variable Variates

Variable	First canonical variate		Second canonical variate	
	r	Coefficient	r	Coefficient
Independent Variables				
1. Self-Efficacy for Broad Academic Milestones Scale	0.46	0.01	0.67	0.45
2. College Self-Efficacy Instrument, Course Efficacy Subscale	0.47	0.08	0.57	0.21
Institutional Integration Scale				
3. Interactions with Faculty Subscale	0.43	0.15	-0.07	-0.29
4. Academic and Intellectual Development Subscale	0.30	0.00	0.52	0.27
5. Career Decision Making Self-Efficacy Scale	0.75	0.23	0.23	-0.10
Extended Version of the Objective Measure of Ego Identity Status, Occupational Identity Status				
6. Diffusion	-0.68	-0.12	0.01	-0.10
7. Moratorium	-0.87	-0.61	0.33	0.54
8. Foreclosure	-0.28	-0.04	-0.32	-0.21

Variable	First canonical variate		Second canonical variate	
	r	Coefficient	r	Coefficient
9. Achievement	0.37	-0.04	0.03	-0.03
10. Institutional Integration Scale, Peer Group Interactions Scale	0.39	0.14	0.22	0.03
College Self-Efficacy Instrument				
11. Social Efficacy Subscale	0.24	0.03	0.29	-0.11
12. Roommate Efficacy Subscale	0.50	0.09	0.60	0.37
Dependent Variables				
13. Grade Point Average	0.21	0.16	0.67	0.39
14. Enrollment	-0.16	-0.02	-0.30	-0.11
15. Center for Epidemiologic Studies Depression Scale	-0.40	0.08	-0.46	-0.17
16. Rosenberg Self-Esteem Scale	0.64	0.32	0.44	0.29
Career Factors Inventory				
17. Need for Career Information Subscale	-0.29	-0.06	0.43	0.12
18. Need for Self-Knowledge Subscale	-0.12	0.01	0.46	0.38
19. Career Choice Anxiety Subscale	-0.68	-0.21	0.07	0.10

Variable	First canonical variate		Second canonical variate	
	r	Coefficient	r	Coefficient
20. Generalized Indecisiveness Subscale	-0.50	-0.06	-0.05	-0.07
Commitment to Career Choices Scale				
21. Tendency to Foreclose Subscale	0.22	0.16	-0.54	-0.44
22. Vocational Exploration and Commitment Subscale	-0.92	-0.62	0.15	0.15

Figure Caption

Figure 1. Design of the present study and the measures associated with each variable.

Independent Variables (IV)

Academic IV:

Academic Self-Efficacy

-Self-Efficacy for Broad Academic Milestones Scale (SE-Broad); Lent, Brown, & Gore, 1997

College Self-Efficacy

-College Self-Efficacy Instrument (CSEI); Solberg, O'Brien, et. al., 1993

-Course Efficacy Subscale

Sense of Belonging

-Institutional Integration Scale (IIS); Pascarella & Terenzini, 1980

-Interactions with Faculty Subscale

-Faculty Concern for Student Development and Teaching Subscale

-Academic and Intellectual Development Subscale

-Institutional and Goal Commitments Subscale

Career IV:

Career Decision Making Self-Efficacy

-Career Decision Self-Efficacy Scale - Short Form (CDSES); Betz, Klein, & Taylor, 1996; Betz & Taylor, 2000

Career Development

-Extended Version of the Objective Measures of Ego Identity Status (EOM-EIS); Bennis & Adams, 1986

-Occupational Identity Scale (Identity Status Scores)

Sense of Belonging/Social Integration IV:

Sense of Belonging

-Institutional Integration Scale (IIS); Pascarella & Terenzini, 1980

-Peer Group Interactions Subscale

College Self-Efficacy

-College Self-Efficacy Instrument (CSEI); Solberg, O'Brien, et. al., 1993

-Social Efficacy Subscale

-Roommate Efficacy Subscale

Dependent Variables (DV)

Academic DV:

Academic Success

-First semester Grade Point Average

-Second Semester Registration status

Psychological DV:

Freedom from Depression

-Center for Epidemiologic Studies Depression Scale (CES-D); Radloff, 1977

Self-Esteem

-Rosenberg Self-Esteem Scale (RSE); Rosenberg, 1965

Career DV:

Career Functioning

-Career Factors Inventory (CFI); Chartrand, Robbins, Morril, & Boggs, 1990

-Need for Career Information Subscale

-Need for Self-Knowledge Subscale

-Career Choice Anxiety Subscale

-Generalized Indecisiveness Subscale

Career Functioning

-Commitment to Career Choices Scale (CCCS); Blustein, Ellis, & Devenis, 1989

-Tendency to Foreclose Subscale

-Vocational Exploration and Commitment Subscale

Figure 1

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