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Where Is the Student?

Linking Student Behaviors, College Choice, and College Persistence

Frances K. Stage and Don Hossler

Research conducted in the past twenty years has examined student persistence in college extensively (Attinasi 1989; Cabrera, Stampen, and Hansen 1990; De Los Santos, Montemayor, and Solis 1980; Bean and Metzner 1985; Nora 1987; Olivas 1986; Pascarella and Terenzini 1977, 1991; Stage 1989; Terenzini and Pascarella 1980; Tinto 1975, 1987, 1988; Tracey and Sedlacek 1987). Throughout the 1980s and 1990s increasingly sophisticated statistical techniques and ethnographic approaches have been more widely used (Pascarella and Terenzini 1983, 1991). Out of that period of study grew assuredness regarding factors that were key in the persistence of many college students, such as relationships with faculty and positive academic and social experiences on campus (Terenzini et al. 1995; Tinto 1987).

Additionally, during roughly the same time period but in a separate line of inquiry, researchers turned increasingly sophisticated analytic skills toward explanation of students' decisions to attend and choice of colleges (Carpenter and Fleishman 1987; Chapman 1981; Ekstrom 1985; Hossler, Braxton, and Coopersmith 1989; Litten 1982; McDonough 1997; Ortiz 1986; Paulsen 1990; Solomon and Taubman 1973; Trent and Medsker 1967). In the past decade researchers developed models to explain those decision processes. Some of those models demonstrated overlap with the sociologically based status attainment models (Chapman 1981; Hossler and Gallagher 1987). Studies of college choice employed a number of theoretical

approaches to develop models and to conduct research. For example, Jackson's (1982) model of college choice and Hossler and Gallagher's (1987) model draw heavily on status attainment research. Hearn's (1984) work on college choice also relies upon variables and constructs derived from the status attainment tradition. However, studies of college choice have also been conducted using economic theory (Manski and Wise 1983), Bourdieu and Passeron's (1977) concept of cultural capital (McDonough 1997), and consumer behavior (Young and Reyes 1987).

In his study of the college entrance and subsequent persistence of Mexican American college students, Attinasi (1989) provides a link between research on student college choice and the study of persistence. He also provides theoretical leads for connecting these two lines of research when he describes students going through "getting ready" behaviors and, later, "getting in" behaviors. His student respondents ascribed their eventual success in college to these earlier behaviors. In addition, Braxton, Vesper, and Hossler (1995) found that when the expectations formed by prospective students prior to matriculation were met, they were more likely to be committed to graduating from the college in which they had enrolled. The authors posit that the expectations students form of the collegiate experience (which are in part shaped by the admissions and recruitment process that is part of the college choice process) in turn influence their subsequent assessments of whether or not the campus academic and social communities fulfill their expectations. These assessments in turn influence plans to persist. Hamrick and Hossler (1996) learned that high school students who had greater access to information about colleges later reported greater satisfaction with the colleges in which they had enrolled. Also, Williams (1996) found a positive relationship between lack of information prior to enrollment in college and subsequent disillusionment with college choice.

Other researchers have called for an examination of college choice and college persistence as one process. Stage and Rushin (1993) presented and tested a combined model based on a model of college choice and college persistence using the High School and Beyond data set. Parental encouragement to attend college while a senior in high school was a significant predictor of graduation from college within six years of high school graduation. More recently St. John, Paulsen, and Starkey (1996) observed that variables and constructs derived from status attainment theory are used to frame both persistence and college choice research. In addition, St. John and Hossler (1998) have conceptualized the process of student college

choice and student persistence decisions as a sequence of student choices. They posit a sequence of student choices including formation of postsecondary aspirations, the opportunity to attend (access), choice of college, choice of major, persistence, and graduate education as a sequence of interrelated student choice options that are influenced by many of the same variables. Paulsen and St. John (forthcoming) have further explored the connections among these student choices. But to date no one has presented a comprehensive model that links the processes of student college choice and college persistence.

We view the similarities across both processes as important rather than incidental. We further propose that college preparation and college choice, to the degree that the student actively engages in them, provide an important actual and conceptual basis for later college success. This chapter reviews higher education literature focusing on student college choice and college student experiences leading to persistence. Common constructs from these areas of research are used to link the concepts into one causal process. But we wish to focus beyond the educational experiences of students, which are commonly emphasized in many retention studies. Therefore, we draw on Bandura's (1997) construct of self-efficacy to discuss the ways students develop their sense of being college students and on Fishbein and Ajzen's (1975) Behavioral Model of Intention to describe the development of educational intentions and attendant behaviors of students. Using both theories we focus on students as active agents as opposed to passive recipients of experiences. We suggest the use of measures of activities and behaviors engaged in by students themselves as they make their way through the educational process. Our model, based on student behaviors, focuses on traditional-age high school and college students. Clearly the decisions involved in college choice and college departure processes differ for nontraditional students (Bean and Metzner 1985; Valadez 1996). The theory presented in this chapter traces the educational process from predisposition to college attendance through college, and to college persistence or dropout. Finally, we make suggestions for refinement, measurement, and testing of the model.

Context

Background for this model combines over two decades of research on both status attainment and college student persistence and over one decade of research on college choice. The model is also informed by conceptual work by

Braxton, Sullivan, and Johnson (1997), Tierney's (1992) criticism of college student persistence research, and Tinto's (1987) reflections on his initial model. DiMaggio's (1982) work on cultural capital informs conceptualizations regarding family background of students. Key to our model is the description of students' behaviors in the educational process; students are viewed as active rather than passive participants.

Conceptualizations that focus on precollege students' activities such as "getting ready" (Attinasi 1989; Hossler and Maple 1993) and those that focus on college students rather than institutions as actors (Pace 1979, 1997) inform the process aspects of the model. We incorporate literature that relates student academic behaviors to success in college, referring in particular to Fishbein and Ajzen's (1975) model that relates behaviors to intentions and to Bandura's (1986, 1997) model of self-efficacy as a regulator of motivation.

Behaviors and Self-efficacy

Key to our model is the psychological concept of human agency—persons, in this case students, exercising control over what they do. "Based on their understanding of what is within the power of humans to do and based on their own capabilities, people try to generate courses of action to suit given purposes" (Bandura 1997, p. 3). The key feature of personal agency in this case is the power within the student to generate actions that will result in his or her success. Often that power is called motivation. We acknowledge that students are not the sole controllers of their behavior; they must interact with individuals, groups, and institutions. Fishbein and Ajzen's (1975) discussion of the role of social pressures in influencing motivation enriched the combined model we advance in this chapter.

Fishbein and Ajzen (1975) developed a basic behavioral intention model to demonstrate that behaviors of individuals are preceded by intentions to perform those behaviors. Behavioral intentions are influenced by attitudes toward those behaviors and by subjective norms concerning the behaviors. The attitude component is comprised of the beliefs of respondents about performing the acts and is a function of the acts' perceived consequences. Fishbein and Ajzen, however, do not assert that behavioral intentions alone account for the actions of individuals. They note that the behaviors are influenced by norms present in the social environment. The normative component deals with the influence of the social environment on behavior. For example, in their study of college choice in Australia,

Carpenter and Fleishman (1987) also drew upon Fishbein and Ajzen's work. The empirical model they tested included students' perceptions of community social norms toward college attendance as one of the predictor variables.

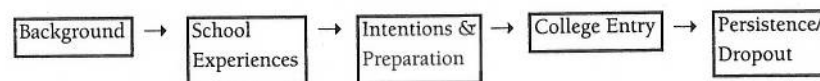
In over two decades of research Bandura (1986, 1994, 1997) refined the relationship of beliefs about self to motivation. He described self-efficacy as individuals' "beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura 1994, p. 71). Self-efficacy is related to motivation in that if an individual believes he or she has the capability to perform a task and that performance will then lead to a positive result, the individual will be motivated to perform (Bandura 1977). Presumably what Fishbein and Ajzen describe as intention is based on the self-efficacy of the individual in question; absent a belief in ability, no intention would be formulated and no action taken. Beliefs about one's capabilities influence motivation through attributions, expectancy-values, and goals. Self-efficacy influences academic achievement through several mechanisms; it affects an individual's thoughts about, emotional approach to, selection of, and persistence at a task (see Bandura 1998).

Self-efficacy to achieve in college can be positively influenced through activities that provide opportunities for students to (1) experience mastery, (2) watch others like themselves succeed and thus experience success vicariously, (3) be persuaded by others to engage in challenging activities, and (4) develop positive emotional reactions to college situations and expectations (Stage et al. 1998). College search and preparatory behaviors described by Attinasi (1989) and by Hamrick and Hossler (1996), as well as successful academic and personal investment of time and energy once a student arrives at college, lead to an increasing belief in self-efficacy. Accordingly, a student's expectations are enhanced, intentions are developed, goals are established, and the student's motivation increases.

For successful movement into college and persistence through college, student intentions and behaviors influence and are influenced by the behavioral norms in the collegiate environment, which in turn lead to increasingly positive, or negative, expectations, goals, and beliefs about college and the ability to be successful in college. Student behaviors that provide positive academic and social results lead to increasingly positive expectations, goals, and beliefs about college and the ability to perform. We posit that the development of positive motivations (or intentions) and goals leads to educational activities and achievements (behaviors) that begin early in

the educational process to persistence through or dropout from college. Key constructs of the model span a time period long before college entry. Language and the limitations of the two-dimensional presentation format require us to present our model in a manner that appears more discrete than we believe it to be. The processes and related intentions and behaviors we describe are not isolated, disjoint steps. Rather, they are cyclical and are more like a spiral than a linear progression (see figure 1).

Figure 1. Key Elements of a Student-Centered Model



The elements and processes presented in figure 1 play an important role in our behavioral model and are described briefly below.

1. Background consists of family experience including cultural and economic capital factors, student ability, and parental encouragement. These shape student beliefs and aspirations (or intentions) as well as subsequent behaviors.
2. School experiences from both middle and high school; encouragement or lack thereof from teachers, peers, and counselors; parental support; and interactions with family background create the beginnings of predisposition or intentions for postsecondary education and influence student behavior.
3. Intentions lead to a range of behaviors, seeking advice, enrolling in college preparatory classes, engaging in volunteer service, exploring career options, and college searching. Successful participation in these activities exerts a strong influence upon post-high school goals such as entering the military, work, or college matriculation. Preparation follows from the influence of family resources, student experiences, and intentions. As students prepare to select

colleges, they increasingly engage in getting-ready behaviors such as visiting college campuses and talking to peers about specific colleges. They attempt to envision new lives in new environments.

4. College entry initiates student behaviors that will determine success or dropout. Students enroll in appropriate-level courses, engage in intellectual and social activities, and establish study patterns as active or passive students. Influenced by family and school background and capitalizing on prior "getting-ready" behaviors, students enter college with motivations and goals, engage in new behaviors, engage with faculty and with their course work, and engage in the social fabric of campus.

5. Students ultimately persist or depart.

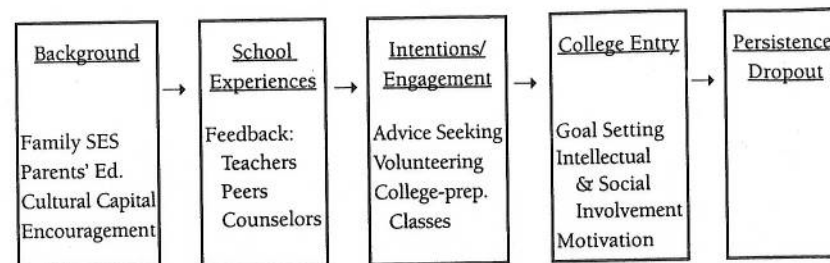
As the student moves through the educational process, he or she is at first more of a passive recipient of parental and school effects and experiences. If the previous experiences in the process were positive and developmental, the student will have strong beliefs in his or her future efficacy as a college student. Accordingly the student will formulate goals and intentions and engage in behaviors that will result in a greater likelihood of persisting. According to the model, in late grade school and early college the student assumes a more active role, and those actions and behaviors ultimately lead to success and persistence or dropout.

A Student-Centered Theory of College Completion

To move beyond current research and writing on college predisposition and college persistence as two discrete processes, we capitalize on overlapping influences to create a conceptual link. Figure 2 presents a proposed behavioral theory combining elements of college predisposition models (Hossler, Braxton, and Coopersmith 1989; McDonough 1997; Paulsen 1990) as well as college persistence models (Pascarella and Terenzini 1983; Bean 1980; Tinto 1987). Within this model, as within most college predisposition and persistence models, background characteristics of students are viewed as external. In other words, they are viewed as factors whose cause is unexplained within the model but that continue to influence later elements of the model. In this initial theoretical presentation we discuss only direct effects in a linear fashion but recognize that indirect effects as well as other

direct effects such as from Background to Persistence/Dropout would be important elements of an empirical model.

Figure 2
A Student-Centered Theory of Persistence



The difference between this persistence theory and others is that the combination of background characteristics includes parental encouragement, student involvement in high school, and modeling or getting-ready behaviors, which are common to some college-choice studies but not typical to persistence studies. The remaining parts of the theory resemble mainstream college student persistence research, but here we emphasize the role of the individual's psychological characteristics and include the importance of the roles of intention, expectation, goal setting, and behaviors in the college student experience. The level of commitment to goals leads (as within most college student persistence models) to a certain level of academic and social involvement in the campus environment. Unique to our description of the process is the way that we envision the measurement of the variables. In all cases we focus on activities undertaken by students to accomplish specific tasks related to the concepts at hand. Thus, we purposely use the word *involvement* rather than *integration* to emphasize the importance of personal agency on the part of students. Student-initiated activities contrast with active efforts of institutions to "integrate" students and are the results of students' beliefs about their potential success in college and their intentions to succeed. These active experiences might include study behaviors, attendance at cultural activities and academic lectures, and engagement in intellectual discussions with other students. These active measures contrast with those that characterize many studies of college student persistence

(students' estimated intellectual gains or students' estimated academic growth). Results of these actions can lead to changes in self-beliefs about ability (Bandura 1997) and intentions and behaviors (Fishbein and Ajzen 1975) that ultimately lead to persistence or attrition. Finally, the theory allows for the inclusion of the influence of outside demands on commitments, activities, and persistence, similar to other persistence studies.

Below we discuss the relationships among these constructs and suggest examples of the many research questions that might be used to further develop the theory. Each question should be examined separately by racial-ethnic groups, by gender, and for socioeconomic strata to identify important differences.

Family Background and Cultural and Economic Capital Factors

In both literatures—college predisposition and college student persistence—sociodemographic variables play an important role. Few major theoretical models ignore the probable influences of factors such as family education, status, income, and student ability. These factors continue to be reliable indicators of status attainment, educational intentions, and success in college even when later experiences and behaviors are taken into account.

In general, status attainment models focus on relationships among parental education and income, family structure, and ultimate status as an adult mediated by educational achievements. Downey (1992) and Downey and Powell (1993) reported that levels of social and economic capital provided within families of eighth graders were positively related to grades and predisposition to college. Several studies found that parental education and encouragement to attend colleges and universities were strongly associated with students' intentions to attend such institutions (Carpenter and Fleishman 1987; Gaier and Watts 1969; Hossler and Stage 1992; Sewell and Shah 1978; Stage and Hossler 1989). In a nine-year longitudinal study Hossler, Schmit, and Vesper (1998) found that students who consistently reported plans to attend colleges and universities between ninth and twelfth grade were more likely to actualize their intentions and enroll. McDonough (1997) conducted case studies of women high school seniors and described cultural capital in terms of social norms within high schools and their influence on channeling lower SES students away from college or toward colleges of low prestige.

Similarly, within the college student persistence literature, parents' higher educational levels and incomes are strongly related to successful

involvement in college and, indirectly, to persistence (Astin 1975; Anderson 1987; Braxton, Sullivan, and Johnson 1997; Chapman and Pascarella 1983; McDonough 1997; Pascarella, Smart, and Ethington 1986; Pavel 1991; Stage 1989; Tinto 1987; Williamson and Creamer 1988).

However, few persistence studies have examined encouragement factors in relation to persistence. An exception is Attinasi's (1989) ethnographic study of Chicana and Chicano students. A factor termed "getting ready" as well as a second factor, "familial" modeling, were described as important influences on students' success. In a quantitative test of the factors within a model of student persistence, parental encouragement was positively related to initial commitment to college and getting-ready behaviors were significantly and positively related to academic involvement and initial commitment (Nora, Attinasi, and Matonak 1990). However, getting-ready behaviors were negatively related to persistence. In general, ethnic minority students were less likely to choose to attend college (Freeman 1997; Hossler and Stage 1992; Ortiz 1986). And while typically there is not a difference across gender, black women are far more likely to attend than black men (Washington and Newman 1991). However, women in general receive less family support for their college-going plans (Stage and Hossler 1989), although they have higher aspirations than men (Hossler and Stage 1992).

In studies of persistence, minority students, particularly at predominantly white institutions, are less likely to succeed (Chacon, Cohen, and Strover 1986; Kobrak 1992; Robinson 1990) and demonstrate differing experiences and behaviors leading to persistence than their white peers (Chacon, Cohen, and Strover 1986; Hood 1992; Nora 1987; Nora and Cabrera 1996). Finally, recent work suggests that measures of academic and social integration constructs typically employed within persistence studies need to be reconceptualized for minority college students (Hurtado and Carter 1997; Kraemer 1997).

Most college persistence models emphasize college experiences, but parents' financial contributions and educational measures maintain strong influence despite the immediacy of the college experience (Stage 1989). In addition Bean and Vesper (1992) found that parental support and encouragement was the strongest predictor of persistence at a small liberal arts college that enrolled high numbers of first-generation college students. Often these factors, along with student ability, significantly influence college experiences and successes, thus indirectly influencing college persistence as well. Frequently such factors have significant direct influences on persistence.

Sample research questions from this part of the theory include:

Do cultural capital variables influence later constructs in the theory (school experiences, intentions and engagement, college entry, and persistence)?

To what extent are measures of cultural capital significantly related to later constructs in the theory (school experiences, intentions and engagement, college entry, and persistence)?

To what extent do parental encouragement and economic status influence school experiences, intention, and engagement as a college student, and persistence?

To what extent do parental and student factors interact to influence later constraints in this model?

Do cultural capital experiences initiated by students have a greater positive effect than those initiated by parents for students?

Student Ability

Measured abilities and high school experience factors are nearly as popular as socioeconomic status in attempts to explain students' predisposition to and persistence in college. For the purposes of our behavioral model, student ability effects are complex. Student ability influences both motivation and intention of students and is also a product of behavior. Grade point average, for example, is the product not only of innate ability but also of student effort. As their grade point averages rise, students receive more parental and teacher encouragement to continue to perform well in school and to consider continuing their formal education after high school. Additionally, they receive reinforcement for their beliefs that they might be successful in college and, corresponding with Bandura (1997) and with Fishbein and Ajzen (1975), accordingly plan and undertake paths that will result in college matriculation. Researchers have also found that students of high ability are more likely to apply for admission to colleges (Carpenter and Fleishman 1987; Hause 1969; Sewell and Hauser 1975; Hossler and Stage 1992; Manski and Wise 1983). Carpenter and Fleishman (1987) found that high school grades and test scores influenced students' self-

assessments of their ability to "get in" to colleges and universities. Thus grades and test scores influence students' intentions and their sense of self-efficacy.

In the college student persistence literature the role of student ability is complex. Student ability has been measured variously as high school grade point average (GPA), high school rank, and SAT scores (Chapman and Pascarella 1983; Pascarella and Terenzini 1983; Terenzini et al. 1985). Most campus-based studies show that college grade point average has a direct effect upon student persistence but that high school grades and other measures of ability are not good predictors of persistence (Nora and Cabrera 1996; Okun, Benin, and Brandt-Williams 1996; Stage 1989). However, national studies that are not limited to single institutional studies usually show that high school grades are predictors of persistence (Astin 1975; Williams 1996; Williamson and Creamer 1988).

Sample research questions from this part of the theory include:

What are the relationships among student grades, test scores, and rank and intentions toward postsecondary education?

What are the relationships among student grades, test scores, rank, students' beliefs about ability, and college search behaviors?

What are the relationships among student grades, test scores, and rank; students' beliefs about ability; subsequent engagement in college search behaviors; and persistence in college?

School Behaviors and Experiences

The second part of the theory focuses on school behavioral measures as well as education-related experiences of students. Research on this area is somewhat limited in the college-choice literature. Some research uncovered a relationship between high school "ability tracks" in which students are enrolled and their educational aspirations (Alexander and Eckland 1977; Falsey and Heyns 1984; McDonough 1997). School tracks are not solely a function of student ability because both the extent of tracking and the impact of school guidance counselors influence the course-taking patterns and aspirations of students within high schools. McDonough's (1997) recent ethnographic work on the college decision-making process indicates that the high school context, images of "acceptable" colleges within various

high schools, and the interactions among students, teachers, and counselors can have a powerful impact on which colleges students consider attending.

In addition, the activities that students are involved in can have an impact on the college plans of students. Hearn (1984) and Hossler and Stage (1992) report that the degree of involvement in high school activities was related to intentions to attend college. Additionally, Marsh (1992), Camp (1990), and Spady (1971) found, in general, positive relationships between several measures of activity participation and achievement and college aspirations. However, Lisella and Serwatka (1996) found a negative relationship between high school activity participation and achievement levels for minority men but not for women. Additionally, Hamrick and Stage (1998) analyzed a model of predisposition to college and found that for minority students in poor schools, high school activities were not good predictors of predisposition. We draw special attention to the effects of student involvement on college choice decisions and later college student involvement and persistence. In our review of student persistence research many of the measures of academic and social integration are behavioral measures that also assess levels of student involvement. However, persistence studies have not included measures of students' high school involvement as predictor variables.

Sample research questions from this part of the theory include:

How do teacher (counselor) attitudes and feedback (unrelated to student ability) influence students' college search behaviors?

What kinds of school activities and experiences are associated with students' intentions to attend college, college search behaviors, and subsequent experience in college?

Student Information-Gathering Activities/Search for College

In addition to student and family factors and secondary-school experiences, research suggests that the extent to which students actively engage in searching for colleges and gather information about educational options influences their choice of colleges, subsequent satisfaction, and possibly ultimate persistence. Although the link to student retention may not immediately be apparent, student information gathering and searching for important college characteristics are consistent with Tinto's early theory of student departure (1975) and later emphases on student involvement (Astin 1985; Kuh et al.

1991; Pace 1990; Pascarella and Terenzini 1991). Tinto (1975) notes that a theoretical model of persistence must take into consideration the "expectational and motivational attributes of students" (p. 93). The degree to which students engage in these activities can be viewed as an indicator of intent. In addition, the extent of students' involvement in their education has consistently been validated as a primary determinant of educational outcomes (Astin 1985; Pace 1990; Pascarella and Terenzini 1991). Information gathering and search activities are early manifestations of students' motivation and their involvement in their education.

Schmit (1991) identifies a number of important factors associated with student information-gathering activities. Hamrick and Hossler (1996) and Williams (1996) report that students who engaged in more information-gathering activities about college and who reported knowing more about postsecondary educational institutions were more likely to report being enrolled in their first-choice institutions and to be satisfied with those institutions. As of yet, however, no empirical tests between information gathering and persistence have been found.

Sample research questions from this part of the theory include:

To what extent do students' beliefs about their likely success as college students influence involvement in information gathering and active searching for college?

Are students who have spoken to family members and older friends about college more likely to engage in their own independent college search activities?

Are students who engage in their own independent college search activities more likely to envision themselves in the role of college students?

To what extent are students who engage in their own independent college search activities more likely to engage in college experiences and to persist in college?

College Behaviors and Experiences

As students move through late high school and into college, ideally we would see a shift from dependence to independence in initiation of

behaviors. Student intentions and some behaviors form the foundation of most campus-based research on student persistence. In examining constructs of Tinto's theory of student departure, behavioral measures of academic and social integration provide a robust anchor for the model. In a recent modification of that model Tinto (1997) adds greater emphasis to student-initiated efforts. The degree of interaction with faculty, peers, and other socializing agents of universities is frequently the best predictor of student persistence (Braxton, Sullivan, and Johnson 1997; Hurtado and Carter 1997; Pascarella and Terenzini 1977). We assert that student-initiated interactions are even more predictive than those in which the student engages more passively. Tinto's theory also posits that goal commitment and institutional commitment as well as attitudinal intention are important constructs to understanding student departure. In 1980 Bean incorporated Fishbein and Ajzen's (1975) construct of intention and demonstrated that by late spring semester, intent to reenroll the following semester was a robust predictor of fall reenrollment. Tinto incorporated this concept of intention into a revised theory of student departure in 1987. Here we use Fishbein and Ajzen's construct to focus on student intent and then behavior as played out in students' everyday lives. Choices students make on a daily basis and then the ways they follow through on those choices with actions that lead to success are predictors of overall success.

Additionally, students' views of self play a role in their degree of active, self-initiated participation in their education. Various measures of self-efficacy have consistently demonstrated to have positive relationships to student behaviors and to global measures of academic success (Forsyth and McMillan 1991; Hackett et al. 1992; Lucas 1990; Sexton and Tuckman 1991; Zimmerman and Bandura 1994). Simmons (1996) examined the effects of low-achieving college students' beliefs and attitudes on their approaches to learning and their use of study and learning strategies. Students with a strong sense of academic self-efficacy were more likely to pursue learning goals that emphasized subject mastery and to use learning strategies to effectively manage their learning. Students who were more confident of their academic competence were also more certain of their academic majors than were those with lower levels of self-efficacy. Finally, in an ethnographic study of college students with learning disabilities, Stage and Milne (1996) found that students' beliefs about their abilities to succeed were important to them in explaining their study behaviors and their success at the college level.

Sample research questions from this part of the theory include:

What is the relationship between intention or commitment to various goals (earning a good grade in a class, getting to know an interesting professor, socializing with fellow students) and engaging in activities that promote those goals?

Can an institution have an influence on student intention, thereby promoting positive behaviors on the part of students?

Do students who have strong beliefs about their abilities as college students also have strong intentions and therefore engage in behaviors that will likely lead to college success?

Academic Involvement

The term *involvement* emphasizes the importance of behavior rather than perception and of student-initiated rather than institution- or class-initiated activity. Past examination of students' academic success incorporated not only grades but a host of other variables as well (Astin 1975; Ballesteros 1986; Pascarella and Terenzini 1983). Although many of the measures of the academic experience of college students are behavioral, they are rarely measured this way in college student persistence research. These behavioral measures include the utilization of academic support facilities (Churchill and Iwai 1981; Leon 1975), contacts with faculty members (Feldman and Newcomb 1969; Pascarella 1978; Pascarella and Terenzini 1983; Stage 1989; Terenzini and Pascarella 1980), participation in academic activities (Pascarella and Terenzini 1983; Stage 1989), effort put forth both inside and outside the classroom (Sailes 1990; Simmons 1996; Stahl and Pavel 1992), and other academic realms (Pace 1984; Tinto 1997). Often these factors have proven significantly influential singly as well as in combination with other measures in models of persistence behavior.

In the college persistence literature student behaviors, especially those related closely to academic interests of students, are strong predictors of academic success and retention (Camp 1990; Lisella and Serwatka 1996; Marsh 1992; Terenzini et al. 1995; Tinto 1997). However, much of this research employs more passive measures of academic integration such as students' perceptions of academic development or the degree to

which they believe they are achieving academic goals. These more abstract measures could account for the relative weakness of academic integration in many college student persistence models (Braxton, Sullivan, and Johnson 1997).

Sample research questions from this part of the theory include:

Do student-initiated academic activities (getting to know faculty members, attending lectures or concerts, visiting art museums) relate positively to persistence?

Are student study behaviors positively related to persistence?

Are students who have stronger beliefs about themselves as college students more likely to engage in self-initiated academic activities and study behaviors?

Are student-initiated activities better predictors of persistence than student perceptions of academic growth and intellectual development?

Social Involvement

Again, our use of the term *involvement* emphasizes the importance of behavior rather than perception and of student-initiated rather than institution- or class-initiated activity. Recent longitudinal studies of college student persistence included social integration as an important factor in influencing students' satisfaction with institutions as well as persistence. In general, students who felt they were socially well integrated persisted (Pascarella 1978; Pascarella and Terenzini 1983). In contrast with academic integration measures many measures of social integration are behavioral, and that behavioral emphasis may be the reason social integration has proven to be a strong element of persistence studies (Braxton, Sullivan, and Johnson 1997). For example, living on campus, most often a student choice, was positively correlated with persistence (Astin 1975; Stage 1989). Additionally, development of informal relationships with faculty, often student initiated (Pascarella 1978; Pascarella and Terenzini 1977), and participation in social activities are frequently found to be positively related to persistence (Rendón 1994; Tinto 1997).

Sample research questions from this part of the theory include:

Do student-initiated social activities (informal contact with faculty members, joining clubs, going on weekend field trips) relate positively to persistence?

Are students' socializing behaviors positively related to persistence?

Are students who have stronger beliefs about themselves as college students more likely to engage in self-initiated social activities and behaviors?

Are student-initiated activities better predictors of persistence than student perceptions of friendship development and integration?

Discussion

In an examination of initial differences among students by major field groups, Feldman and Weiler (1976) spoke of the "accentuation effect" of college. They found that initial differences by major across student groups were accentuated across the four college years. Similarly, in an analysis of College Student Experiences Questionnaire (CSEQ) data from two hundred institutions, Pace (1997) found that measures of academic and intellectual growth and satisfaction with college were more strongly related to type of major than to college type. Referring to Holland personality type, Pace suggests that students bring important differences with them to college and that those differences influence students' college experiences and should not be ignored. Essentially, modeling college persistence from earliest influences—family factors and intentions to attend college through graduation—focuses on a similar, though more general, effect. Do students whose backgrounds, attitudes, and behaviors suggest an early predisposition to college attendance also have a greater probability of graduating? In other words, do the differences in background and experiences that exert influence on the college enrollment decisions of students also affect the college experience? Do they have an accentuation effect on the probability of persistence of college students?

Much of the work here is based on Bandura's (1994, 1997) work on individuals' beliefs in their own efficacy in certain life roles. We suggest that students' experiences in high school in preparation for college can help them with their efficacy (1) by creating successes in collegelike courses; (2)

by allowing them to view siblings and friends like themselves who have succeeded in college; (3) through persuasion of counselors, teachers, friends, and family that they will be successful in college; and (4) by developing positive rather than fearful feelings about the college experience (Stage et al. 1998). Through these positive experiences and activities students gain confidence, set higher goals, and work to achieve those goals. Of course, negative experiences in any of these realms will have the opposite effect.

In this review we focused on (1) precollege characteristics, attitudes, experiences, and behaviors; (2) college experiences and behaviors; and (3) their interactions that result in college success. Characteristics that were already in place, such as family status, money, and ancestral postsecondary experience, continue to influence students throughout college. Linking these two lines of inquiry has the potential for helping scholars focus more productively on the unfolding of the status attainment process. Although many studies have used status attainment models to study educational aspirations, few studies have systematically examined the variables and experiences associated with enacting the educational plans of students. To test this behavioral model, longitudinal data sets that permit the linking of college choice processes with student persistence and that measure students' activities in college at the level sought here are needed.

The evidence presented here suggests that, rather than being the great equalizer, in many instances the entire process of developing college aspirations, getting ready to go to college, and the college experience accentuates differences among students. Based on the theory offered in this chapter, students of lower socioeconomic status, those whose parents have not attended college, and those who are minority are not likely to consider college as an option early in their educational process and are also less likely to persist if they enroll. While these statements might seem obvious, they require empirical testing. We suggest the need for a fundamental change in the way many researchers construct their studies. A sample for a college student persistence analysis that includes *all* students electing to go to a given college would only reinforce the existing research already described here. In addition, research questions should focus on specific populations of interest. To answer the question "What leads to college graduation for first-generation college attenders?" one must select only first-generation attenders for study. To identify factors that help more minorities be successful in college, we would select minority students and ask, "What

helps this particular type of student to attend *and* succeed in college?" Fortunately, large longitudinal databases now give us that luxury. Such analysis would allow us to base our interventions and programs on knowledge gained from the experiences of the students whom we seek to aid in their educational attainment.

Answers to these questions might provide suggestions to administrators who hope to attract and educate traditionally disenfranchised students. Research that treats the decision to go to college and the decision to persist as a continuous process may lead to precollege interventions beyond academic preparation that may enhance student-institution fit and student persistence. In this chapter we focus on the individual experiences of students, specifically related to their own activities both before and during college. We hope that as we learn more about students' individual experiences and activities, we can move from broad prescriptive notions of what it means to be a successful college student and learn more about the college student of today. By changing perspectives and focusing on behavioral measures that are more directly observable, perhaps we can provide answers for some of the critical issues of access and achievement that we currently face on college campuses.

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