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Student engagement in college : concept and assessment/

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STUDENT ENGAGEMENT IN COLLEGE:

CONCEPT AND ASSESSMENT

A Dissertation Presented

By

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Several people warned me that writing a dissertation is one of the most self–absorbing activities that a person can endure. But, what has most impressed me, is the amount of emotional and social support from others that self–absorption requires.

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Finally, this dissertation is dedicated to my two life partners — Sandra Mary Haifleigh Borden and Zachary Haifleigh Borden — and to the memory of Baer. As proud as I am of this accomplishment, it is insignificant next to my pride in our family. We made it.

ABSTRACT

STUDENT ENGAGEMENT IN COLLEGE:

CONCEPT AND ASSESSMENT

May 1987

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A student engagement model is proposed to provide a conceptual framework for understanding the bond between student and college. The impetus for developing this model originated from examining the literature on college student attrition; a literature that is diffuse and negative. The present model focuses attention away from attrition *per se* and toward a broader array of college outcomes. It also provides a rationale and a method for measuring student engagement. The validity of the model is examined in a study that tracks entering students through their first year in college.

The model has two components. First, the engagement schema depicts students' psychological attachment to college. Second, the social context denotes social factors that influence psychological attachment. Four dimensions of engagement are described to facilitate measurement.

The study employed available data for the 1984 and 1985 entering first–year classes at the University of Massachusetts at Amherst. The primary source of data was the Cooperative Institutional Research Program's entering student survey — the Student Information Form (SIF). The SIF data were linked to data from administrative records and from the University's yearly Cycles survey of student life.

Although the study was limited by the available data, several findings supported the validity of the model. Two contrasting engagement orientations were discovered. Students who were initially more oriented toward college as an educationally enriching experience were more likely to desire making a significant contribution to society and they later performed slightly better academically. Students who were initially more interested in college for increasing their job prospects were more likely to desire personal gain after college and, on the average, they later performed less well academically. Students with the most conventional engagement orientations were less likely to withdraw from college during the first year or to change their majors or living arrangements. However, the more conventional students also tended to perform less well academically than those with more atypical motivations.

The student engagement model provides a systematic perspective for examining college student life but comprehensive longitudinal data are needed to fully assess its validity. Further research is suggested to explore changes in engagement over the entire course of a student's years in college.

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CHAPTER I

INTRODUCTION

Statement of Purpose

A student engagement model is proposed to provide a conceptual framework for understanding the bond between student and college. The model focuses on a student's motivation for attending college, the tension that derives from conflicting motivations, and the social context of the student–college bond. The validity of this model is examined in a study that tracks entering students through their first year in college.

Attending college is a significant period of one's life. Choosing which college to attend and successfully progressing through that college places heavy emotional demands on a student. Being admitted to a college is based mostly on academic credentials. For many students, the emotional adjustments are overwhelming; their performance in college depends largely on how they cope with these adjustments. It is not surprising, then, that research has not demonstrated a strong association between high school academic performance and college academic performance.

Researchers often acknowledge that motivational and social factors strongly influence the quality of student life. There have been few successful attempts, however, to identify and measure such factors. Thus the present

engagement model is set forth with two broad objectives: first, to identify important motivational and social determinants of the student–college bond, and second, to provide a framework for measuring these determinants.

Problem Definition

The impetus for developing this conceptual model originates from examining the literature on college student retention and attrition. The vast literature on this topic leads first to the conclusion that college student attrition is a significant problem; administrators at institutions of higher education are concerned about students leaving their institution without earning a terminal degree.

Upon reviewing the literature, however, it becomes apparent that student attrition is not, in itself, the main problem. Unfortunately, the attrition literature is extremely diffuse and often negativistic. Although there have been a few consistent research findings, they are often obscured by an obsession with retention until graduation as the single most important outcome.

Researchers have applied several theoretical perspectives to the study of student attrition. These perspectives help focus attention toward a more holistic view of student life. However, they have generally not stimulated a systematic program of research, either because the perspectives are not comprehensive enough, or they do not facilitate the measurement of the conceptual attributes they describe.

Literature Review

The Problem of Student Attrition

The number of 18 – 22 year olds was expected to decline 25% between 1980 and 1990 (Breneman, 1982). The impact of this decline on college enrollments has not been as severe as originally expected, but the warnings came following the recession of the late 1970's when many colleges were already battling for economic survival. As a result, there arose a renewed interest in retaining students through graduation in order to maximize tuition revenues and avoid the increasing costs of attracting new students from a dwindling population.

Well before the demographic projections renewed interest in the issue, student attrition was a popular subject of study. Summerskill (1962), for example, reviewed the extensive literature going back to the late 1920's. The American Association of University Professors' (1926) bibliography on the subject traces studies back to 1901.

Apparently attrition is considered to be an important issue. It has primarily been viewed as a waste of student talent and college resources. Yet despite this long history of research, national attrition rates remain high and remarkably constant. Figure 1–1 displays the national four–year baccalaureate degree completion rate over the last 100 years. With the exception of the period immediately surrounding World War II, that rate hovers close to 55 percent. In other words, attrition appears to be an intractible problem.

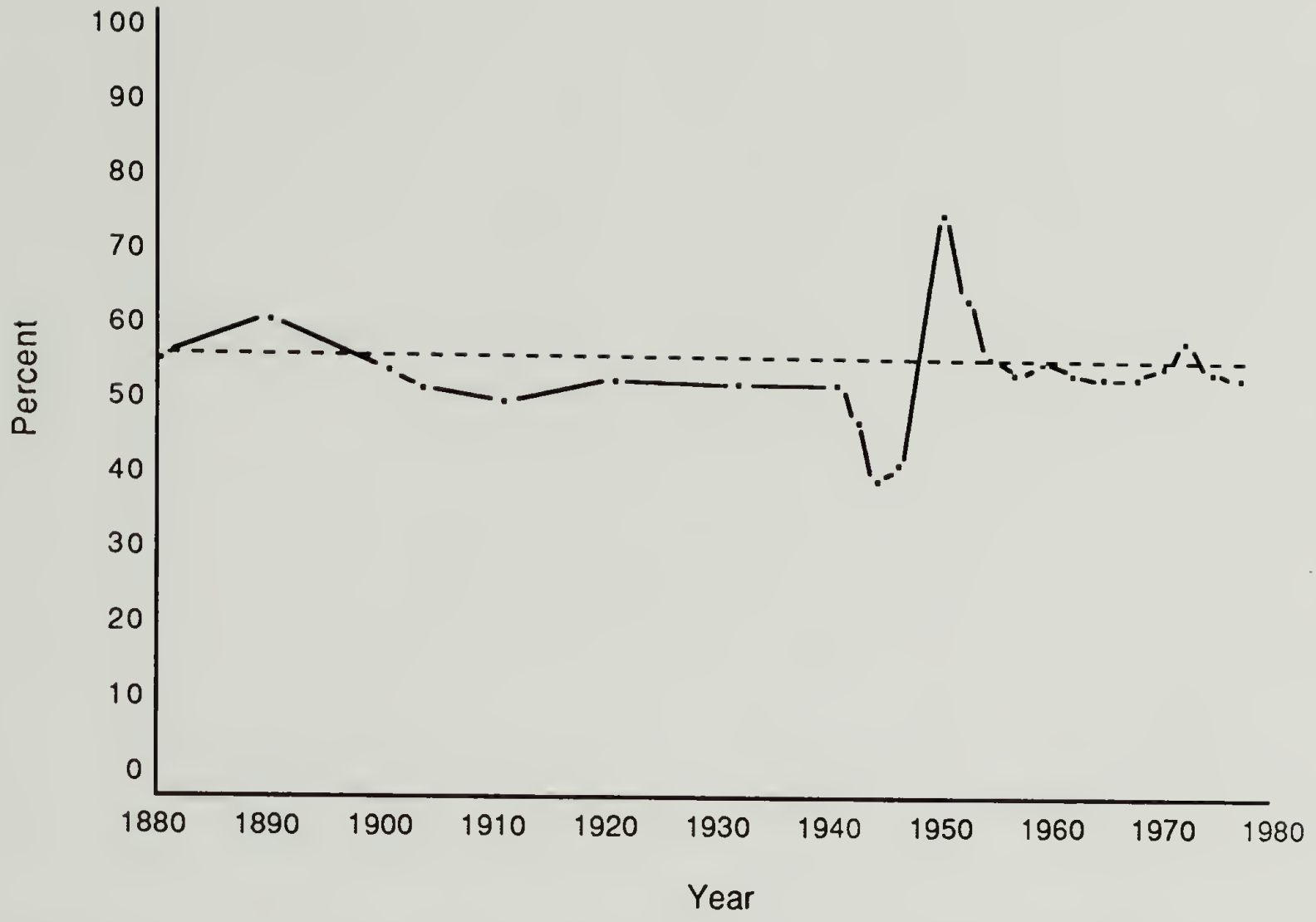

Figure 1–1. National four–year baccalaureate degree completion rates, 1880 – 1980 (Tinto, 1982, p. 694).

One reason for the continued interest, despite this constancy, is the variability of attrition rates among different institutions. Table 1–1 shows that attrition rates differ widely among different types of postsecondary institutions. As Tinto (1975) points out, the stability of the national attrition rate "does not rule out the possibility that an individual institution can do much to influence the rate of dropout among its own students" (p. 696).

Table 1–1. Four–Year Retention Rates by CollegeType and Selectivity

College Type By Selectivity	Four–Year Retention Rate	
	Graduated	Graduated or Still Enrolled
Private 4–year colleges		
nonselective	37.9%	50.2%
moderately selective	52.7	65.3
selective	58.4	64.1
highly selective	80.8	84.6
Public 4–year colleges		
less selective	24.3%	35.7%
more selective	39.6	46.5
Private universities		
less selective	42.6%	53.2%
more selective	53.6	59.6
Public universities		
less selective	44.2%	67.3%
more selective	58.7	71.5

Note. Extracted from Cooperative Institutional Research Program (1983), Table 2.

The size of the problem. In their extensive review of the literature, Pantages and Creedon (1978) reported that 40 percent of American college freshmen graduate from the college they originally enter in four years, and that another 10 percent graduate from that college in a somewhat longer time.

Panos and Astin (1968) reported that, in their large multi-institutional sample, 65 percent of the students either had graduated or were "still active" (in some college) after four years. Summerskill (1962) reported that typically 50 percent of all college students withdraw at some time after entry.

These differing findings do not conflict, but represent different ways of viewing students' withdrawal from or persistence in postsecondary institutions. Since such different rates focus on different aspects of retention or attrition, they can be misleading. For example, the fact that half of all students withdraw from college at some time obscures another fact that three-quarters of all students eventually receive a baccalaureate degree.

Table 1–2 summarizes contrasting rates compiled from several popular sources (Astin, 1975; Beal & Noel, 1979; Cope & Hannah, 1975; Iffert, 1957; Knoell, 1960; Panos & Astin, 1968; Pantages & Creedon, 1978; Summerskill, 1962). Note that one-half of all student withdrawal occurs during or immediately after the first year. Furthermore, students who leave before the second year often do so for "personal" reasons and have no plans for their immediate future. Students who leave in subsequent years often do so to transfer to another college or to engage in some other specific activity (e.g., to travel). Consequently, the first year in college has been the focus of many retention efforts.

Table 1–2. Contrasting Retention and Attrition Rates

Type of Rate	Rate
Graduation:	
Graduate from college of entry in four years of less	40%
Graduate from any college in four years of less	45
Eventually graduate from college of entry	60
Eventually graduate fromany college	75
Retention:	
Reenroll in college of entry for sophomore year	75%
Reenroll in college of entry for junior year	55
Active in or graduate from college of entry at end of fourth year	60
Active in or graduate from any college at end of fourth year	70
Attrition:	
Withdraw at some time from college	50%
Withdraw from and later reenroll in same college	10
Transfer to another college	40
Never earn baccallaureate degree	25

Summerskill (1962) found attrition rates that varied from as low as 12% to as high as 82% among the studies he reviewed. He attributed a significant portion of this variability to the use of differing measures, but there remained a significant portion of "true" variability. From their review of the literature, Panos and Astin (1968) concluded that different attrition rates among institutions are "more a function of differences in their entering students than of differences in measurable characteristics of the environment" (p. 69). In contrast, Astin (1975) subsequently found significant differences among institutional rates even when controlling for the "dropout proneness" of entering students.

The nature of the problem. There is no question that a significant number of students leave college before graduating. There is a question, however, as to the precise nature of the problem this may entail. For college administrators, the problem is students withdrawing from their particular college. For agents of the American Council of Education, the problem is students dropping out from the higher education system. For professional counselors and the students themselves, the problem is not attrition or retention *per se*, but how either relates to individual maturation.

Approaches to the problem. Most early approaches to the study of attrition were aimed at identifying differences between students who persist in college and those who withdraw. Ramist (1981) provided an excellent review of this literature. He organized research findings into general categories including demographic, motivational, academic, or personality characteristics of students, and the environmental and programmatic characteristics of colleges. It is apparent from his and other reviews (e.g., Pantages & Creedon, 1978; Sexton, 1965; Summerskill, 1962) that colleges and their student populations differ so much as to make generalization of research results difficult at best.

More recent approaches have gone in either of two directions. On the one hand, researchers have adopted conceptual approaches, basing their empirical studies on a popular theoretical framework. Tinto's (1975) theory of student integration has probably generated the most research, but these conceptually based efforts have met with limited success. On the other hand,

administrators have adopted a "business-like" approach known as enrollment management to ensure "the steady supply of qualified students to maintain institutional vitality" (Kemerer, Baldridge, & Green, 1982). Enrollment management considers student matriculation from the point when students first inquire about a college until the time they graduate. It does not go very far, however, in helping us to understand why students are attracted to a college and why they persist or withdraw. Furthermore, there are few data on the effectiveness of these management techniques.

It is difficult, if not impossible, to specify any single general attrition problem. It may just be that attrition *per se*, is not a problem but a symptom of other problems. Why, then, has it had such a long history in the literature of higher education research?

The Diffuseness of the Attrition and Retention Literature

After over eighty years of published research, the literature on student attrition and retention remains in great disarray. There are some very fine writings on the topic, but the literature as a whole is characterized by a negative outlook, many unresolved issues, and, above all, an inappropriate focus.

A negative outlook. Writings on retention and attrition have often been characterized by negativity. For example, Cooper (1928) labelled first-year attrition "freshman elimination"; Iffert (1957) referred to students' "survival status"; Slocum (1956) studied "academic mortality rates"; Knoell (1960) and Terenzini (1982) called a survey of withdrawn students an "autopsy design";

Spady's (1971) and Tinto's (1975) conceptual models are based on Durkheim's (1897/1951) theory of suicide. Even the commonly used term "dropout" denotes failure.

In contrast, several influential writings contain more neutral views. Ford and Urban (1966) argued that withdrawal from college represents failure for some students but success for others:

> On the one hand, one may infer that college dropouts represent a loss of potential talent to our society, and therefore a phenomenon to be changed. However, one can as readily consider the possibility that students are moving toward more effective use of their talents when they drop out, and thus represent a benefit to our society rather than a loss. (p. 83)

On the basis of data comparing the occupational success of college graduates and dropouts, Pervin (1966) concluded that "deans and university counselors are justified in regarding dropping out as a potentially profitable experience in the education of some students" (p. 62).

Probably the most influential work to question the negative outlook on attrition was Cope and Hannah's (1975) book, Revolving College Doors. In it, they argue that experiences in a non–academic setting help students form clearer goals and objectives. Therefore, "[c]olleges must make it easier to enter and exit, at least facilitating, if not encouraging stopping out" (p. 104).

Despite these more neutral views of attrition, the prevailing attitude is that withdrawal tends to indicate a failure of some kind. Chickering and Hannah (1969) provided evidence that freshman withdrawal is often accompanied by

negative feelings about self and college. They conclude that instances of withdrawal as a positive step "seem neither frequent nor evident" (p. 551). Such negative feelings do not necessarily indicate, however, that continued enrollment would be more beneficial to the student or the institution.

Unresolved issues. There are many unresolved issues in the attrition literature; probably the most fundamental one concerns the definition of attrition and retention. Two major controversies characterize this issue. First, there has been disagreement about the distinction between academic dismissal and "voluntary" withdrawal. In his popular student integration theory, for example, Tinto (1975) considered only "voluntary" withdrawal. Pantages and Creedon (1978) strongly argued that excluding dismissal from consideration "ignores the factors that have caused poor academic performance ... [which also] ... influence the decision to dropout" (p. 52); many voluntary dropouts are avoiding outright dismissal. Furthermore, colleges presumably accept only students who are capable of meeting the minimum acacemic standards.

The second major controversy concerns withdrawal followed by subsequent reenrollment, a behavior known as "stopping out." Unfortunately, a stopout cannot be clearly distinguished from a dropout until he or she reenrolls. Pantages and Creedon (1978) argued that a ten-year period is required to adequately account for all stopouts. But, as Panos and Astin (1968) stated, the only way to correctly identify all stopouts is to "wait ... until all the subjects in the study have either completed their education or died" (p. 70).

Another controversy in the literature concerns whether students' stated reasons for withdrawing actually indicate the factors that influence withdrawal. First, withdrawal is often based on many reasons; the stated reason may merely be the most convenient. Second, as Hackman and Dysinger (1970) note, "almost all of the problems reported as reasons for withdrawal by students who leave college are shared by large numbers of students who do not withdraw" (p. 312). Third, stated reasons are subject to attribution biases. In an interesting study, Marks (1967) asked matriculating students what they thought caused other students to withdraw from college, and what could cause them personally to withdraw. He found that students were likely to attribute another's withdrawal to personal weaknesses, but their own withdrawal mainly to problems with the college environment or other external factors.

An inappropriate focus. I argue here that the literature has failed to resolve issues because attrition is an inappropriate focus. Researchers cannot agree as to what constitutes attrition or retention. But, even if there were general consensus, attempting to identify all the causes of attrition would be a misguided effort. Withdrawal from college can result from a vast variety of circumstances; a specific circumstance that leads one student to withdraw may not lead another student to the same action. This point is parallel to that drawn by Shibutani's (1968) systems theory perspective on human motivation:

> Each act moves in a general direction, but the specific details depend upon the exigencies of the situation. Thus pragmatists emphasize a point somewhat akin to the principle of "equifinality"

> in general systems theory. In an open system the final state (overt response) may be reached from different initial conditions and in different ways. (p. 332)

Focusing on the Student–College Bond

There have been several consistent findings in the attrition literature, some of which focus on the relationship between a student and an institution of higher education. Unfortunately, the most consistent finding — a strong positive correlation between grade–point average and persistence — is not very informative. Researchers have not clearly established the determinants of grade–point average.

Persistence in college has been positively associated with participation in extracurricular activities, employment on campus, living in a campus dormitory, having friends at college, and maintaining a full-time course load. Conversely, withdrawal has been associated with involvement in few social activities, employment off campus, living off-campus (especially as a commuter), having significant relationships with individuals at other locations, and being enrolled as a part-time student. Finally, it is much more common for students to withdraw between semesters, when they are away from college, than during semesters. All these findings concern the degree to which students' lives revolve around the college environment.

These findings have led researchers to apply several relationship–oriented perspectives to the study of student attrition. Two perspectives have been most popular: "student–college correspondence" (Astin & Holland, 1961;

Holland, 1973; Moos, 1973; Pace, 1969; Pace & Stern, 1958; Stern 1970) and "student integration" (Spady, 1971; Tinto, 1975). Recently, Astin (1985) suggested another perspective called "student involvement."

Student–college correspondence. Murray (1951) viewed human behavior as an interaction between "need states" of the individual and "environmental presses." A need state is an individual's tendency to perform a particular behavior directed toward fulfilling a specific desire. An environmental press is the opportunity to behave in a manner that fulfills a particular need state. Thus behavior is determined by how one's need states coincide with the environmental press, and satisfaction depends on the degree to which one's needs match the environmental press.

From Murray's need-press model, Pace and Stern (1958) developed a set of scales for assessing students' need states (the Activities Index [AI]) and the college environment's press (the College Characteristics Index [CCI], revised, by Pace (1969), as the College and University Environmental Scale [CUES]). These instruments measure students' perceptions of the activities that are common at their campus.

Based on Linton's (1945) view that personality is transmitted through culture, Astin and Holland (1961) developed a different measure of student–college correspondence — the Environmental Assessment Technique (EAT). The EAT characterizes a college according to the typical characteristics of its student body along eight dimensions: institutional size, intelligence level,

and six personality dimensions (realistic, investigative, social, conventional, enterprising, and artistic). A student's correspondence is assessed by his or her similarity to a typical student in the same program of study.

> For example, if a person's [vocational] choice is engineering, which falls in the Realistic class, we would expect him to possess some of the characteristics of the model Realistic orientation; masculine, physically strong, unsociable, aggressive, etc. (Astin & Holland, 1961, p. 309)

Holland (1973) reasoned that people search for environments that "fit" their personality so as to attain predictable outcomes with respect to satisfaction and personal development. Furthermore, students who think that the college does not suit their personality are likely to withdraw.

Astin (1968) moved from Holland's personality orientation and toward Pace and Stern's (1958) activity orientation when he developed the Inventory of College Activities (ICA). The ICA measures the frequency with which students engage in specific activities. Correspondence is thus viewed as how a student's preferred activities compare to those of typical students.

Barker and Gump (1964) pointed out a significant limitation to characterizing correspondence according to activity preferences. They coined the term "redundancy" to refer to situations where overcrowding limits access to popular behavioral choices, thereby limiting any particular individual's chances for satisfying experiences. Thus, students with less common activity preferences may be more satisfied because they have the opportunity to engage in those activities, but students with common preferences may be

dissatisfied if access to those activities is limited because of overcrowding. Chickering (1969) argued that redundancy creates problems particularly among students who are least capable.

> For as redundancy sets in, the activities and responsibilites of those who do participate become more specialized and those with marginal qualifications are more quickly and more completely left out. (p. 147)

Moos (1973, 1974) employed a personality orientation similar to those of Stern (1970) and Holland (1973); he argued that environments can be described much as one would describe an individual's personality. Moos found three common dimensions across several different social environments: (1) relationship describes the extent to which people support one another; (2) personal development describes the opportunities for growth and for the enhancement of self-esteem; and (3) system maintenance and change describes the degree of order, clarity, and responsiveness to change characteristic of the environment. Based on these formulations, Moos and his colleagues developed several scales to measure social climates. Among those relevant to colleges and universities are the University Residence Environment Scale (URES) (Moos & Gerst, 1976) and the Classroom Environment Scale (CES) (Moos & Trickett, 1976).

Student–college correspondence theories have provided some of the best assessment techniques in higher education research. And, this body of theory has been characterized as "[o]ne of the best theoretical frameworks for

understanding the causes of attrition" (Pantages & Creedon, 1978). In spite of this, few published studies have shown a strong association between correspondence and retention.

Student integration. The basic premise of student integration is that "the successful assimilation of college students into the full life of their institiution [is] problematic, rather than . . . given" (Spady, 1971, p. 38). Spady's (1971) and Tinto's (1975) models are both based on Durkheim's (1897/1951) concept of social integration, as opposed to normlessness.

There are three important similarites between Spady's and Tinto's models. First, students' backgrounds are viewed as the primary determinants of their initial experiences in a college's social and academic milieus. Second, integration occurs through interaction with other students and through performance in the classroom. Third, successful integration results in commitment to the institution and in persistence.

Spady's model places more emphasis on students' academic potential and their subsequent grade performance as determinants of their integration and institutional commitment. Tinto's model distinguishes between academic integration as a precursor to goal commitment, and social integration as a precursor to instititutional commitment.

Neither Spady nor Tinto describe how one might operationalize the conceptual attributes they identify. As a result , studies based on these models have met with limited success. Spady (1971) accounted for 31% of the

variation in withdrawal behavior among the men of his sample and 39% among the women. Using Tinto's model, Pascarella and Chapman (1983) accounted for 12% of the variation in withdrawal behavior and Pascarella and Terenzini (1983) accounted for 20%.

Student integration models were specifically intended to explain why students withdraw from or persist in college. Although they attend to the student–college bond, they focus merely on attrition and retention, ignoring a broader and important array of student outcomes.

Student involvement. As noted above, Astin (1985) has proposed a "student involvement" concept that focuses on the student–college bond and its implications for a broad array of outcomes. According to Astin, "student involvement refers to the amount of physical and psychological energy that the student devotes to the educational experience" (p. 134). Astin states his theory quite simply: "Students learn by becoming involved" (p. 133).

Although withdrawal is not his primary focus, Astin does cite several of the research findings discussed earlier as evidence for the validity of his theory. The lower attrition rates associated with living on campus, participating in extracurricular activities, and working in a part-time campus job are all attributed to the high involvement that these activities allow.

Astin's concept of student involvement focuses especially on the student–college bond. Its focus moves away from attrition since a wide variety of student outcomes can be related to involvement. The concept is limited,

however, by its concentration on only the internal environment of a college, and ignores the fact that students' involvement in a college is influenced in important ways by the external environment. This includes the influence of their families, as well as alternative opportunities outside of college.

Social cohesion. Lewin (1951) characterized motivation as consisting of psychological forces that move individuals through their life space. He identified two general kinds of forces in the psychological field: driving forces, which either attract individuals toward or repel them away from objects or regions of the psychological field, and restraining forces that derive from barriers around or between regions, which impede one's progress through the field. Following this framework, Festinger (1950) defined social cohesion as "the resultant of all forces acting on members to remain in the group" (p. 275).

Levinger (1965, 1976) drew on this conception of social cohesiveness to analyze the determinants of marital stability and dissolution. Figure 1–2 displays his intersection schema for representing marital cohesion. The arrows marked "+" indicate driving forces toward further intimacy; those marked "-" indicate driving forces toward separation. The arrows marked "b" indicate the barriers (restraining forces) that inhibit pair members from breaking off their relationship. Furthermore, he suggested that the positivity of a Person–Other (P–O) relationship may by weighed against that of alternative P–O' or P–O" possibilities.

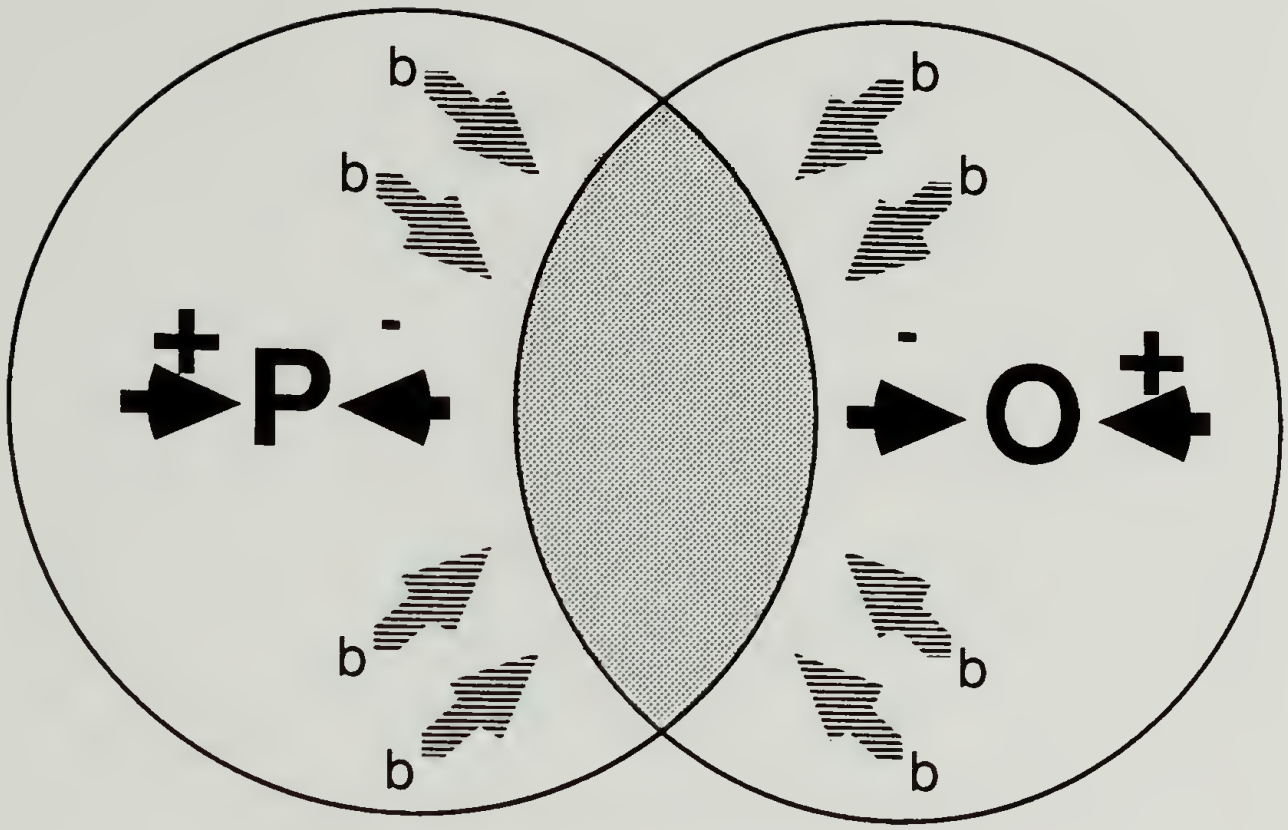

Figure 1–2. The intersection schema of a marital relationship between Person P and Other O (Levinger, 1976, p. 24).

Levinger's schema, then, does not assume that marital stability is necessarily associated with strong positive feelings about the relationship. Even if one feels negatively about one's partner, one's poor alternatives or barriers may keep one in the marriage. Similarly, students who continue to stay in college need not necessarily be satisfied with their college experience; they may simply have no alternatives or face strong barriers to leaving (e.g., fear of dealing with their parents' objections). The intersection schema provides a starting point for the present model of student engagement in college.

CHAPTER II

CONCEPTUALIZING STUDENT ENGAGEMENT

The term engagement was chosen to characterize the student–college bond so as to emphasize students' psychological and social commitments to a college. Psychologically, students commit their emotional and behavioral energies to college life for a significant period of time. Socially, students make commitments to remain in a college to their families, teachers, and friends. The student engagement model is proposed as a framework for understanding the basis of these commitments and how exposure to a college's social environment subsequently influences them.

The Student Engagement Model

The engagement model is composed of two components. The engagement schema, derived from Levinger's (1976) intersection schema, depicts students' psychological attachment to a college. The social context, derived from social correspondence and student integration theories, denotes the social factors that influence psychological attachment. The two components each yield two dimensions of engagement. The four resulting dimensions facilitate the measurement of student engagement in college.

The Engagement Schema

Following Levinger's intersection schema, students' psychological commitment to a college is here viewed according to driving and restraining forces. Figure 2–1 displays the engagement schema. The arrows marked "f^+" indicate forces toward further engagement and those marked "f^-" reflect forces toward disengagement. The arrows marked "b" represent the barriers or restraining forces. The present engagement schema makes two modifications in Levinger's schema; one pertains to driving forces and the other to barriers.

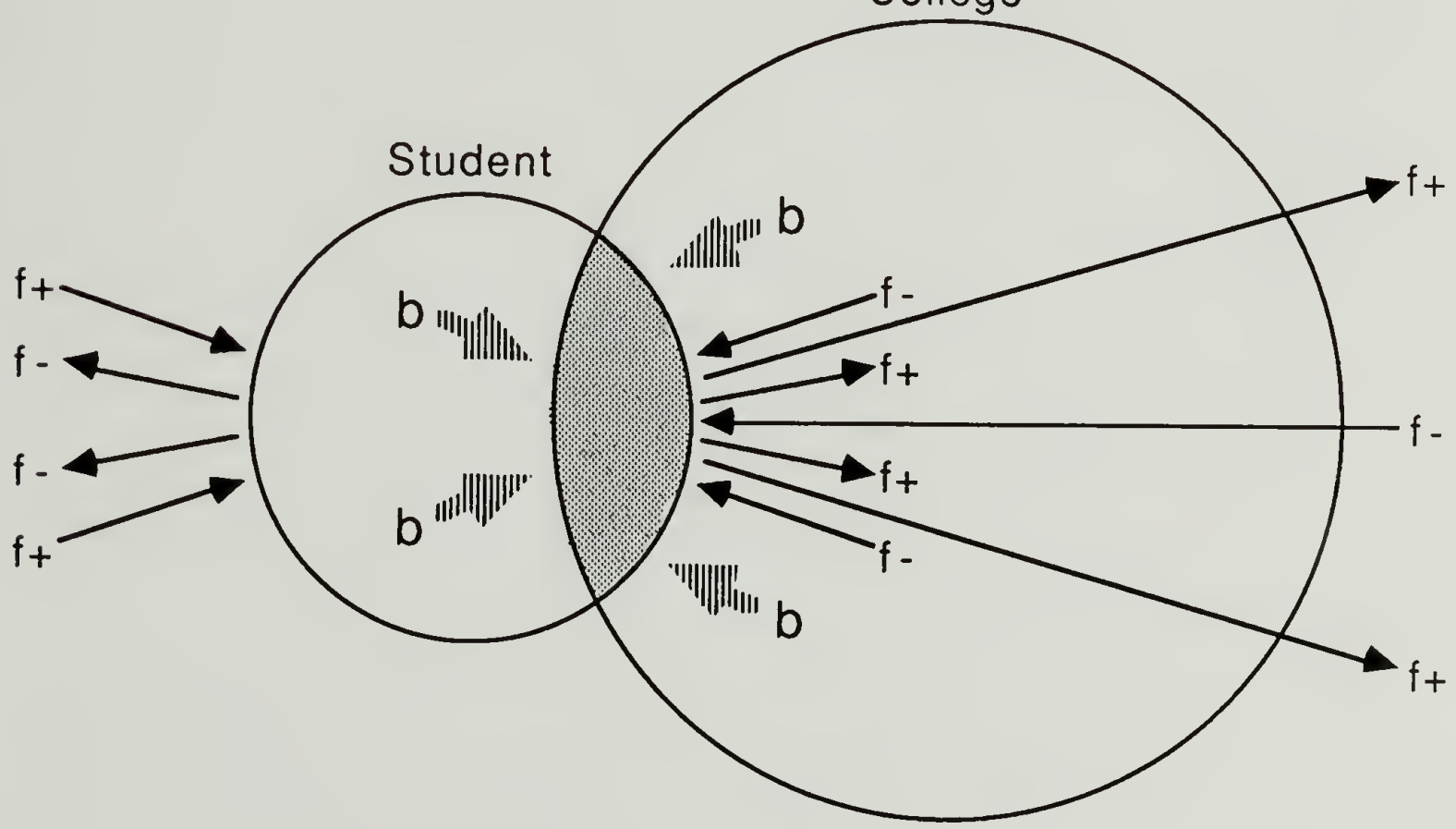

Figure 2–1. The engagement schema.

Driving forces. Like Levinger's model, the engagement schema characterizes forces according to their direction — toward either engagement or disengagement — and their source — either internal or external. To reflect the instrumental value of a college education, the engagement schema further distinguishes between current and prospective external forces. Current external forces reflect students' alternative options, which may promote either engagement or disengagement. Prospective external forces reflect the perceived instrumental value of a college education; they represent attractions to elements external to college, that one can only approach by going through college. They generally heighten engagement, but can possibly work in the opposite direction, as when a student fears making the career choices that a college education affords. Table 2–1 provides examples of driving forces, categorized according to their source and direction.

Barriers. According to Levinger's intersection schema, barriers restrain movement mainly in one direction — against the dissolution of a relationship. In the engagement schema, barriers can restrain movement toward either disengagement or engagement. Table 2–2 presents examples of barriers categorized according to the direction in which movement is being restrained.

Table 2–1. Examples of Driving Forces That Affect Student Engagement

	Direction	
Source	Toward Engagement	Toward Disengagement
Current External Environment	Parents' wishes Lack of job opportunities No affordable place to live Advice of a teacher	Opportunity to travel Friends at home Program at another college Job opportunity
Internal Environment	Quality of academic program Athletic program Intimate friend Social activities	Large student body Bureaucracy Rowdy students Lousy food
Prospective External Environment	Access to higher paying job Access to certain careers Social status	No training for some vocations Fear of increased responsibilities

Table 2–2. Examples of Barriers That Affect Student Engagement

Restraining Disengagement	Restraining Engagement
Having to inform parents	Paying the semester bill
Moving all possessions	Passing a language requirement
Withdrawal process	Registering for desired courses
Leaving friends	Finding part-time work

Psychological dimensions of engagement. A student's psychological attachment to a college results from the impact of all relevant engagement forces. This impact can be described in two ways: depth and intensity of engagement.

Depth of engagement. The degree of meshing between student and college. Represented by the shaded area of Figure 2–1, it is the net sum of all engagement forces, taking their direction into account.

In one sense, depth of engagement reflects the "intimacy" of the student–college bond. Alternatively, it may be thought of as the degree to which the student's life revolves around the college environment. A student who is very deeply engaged has few interests outside the college environment.

As in Levinger's (1965, 1976) analysis of marital cohesiveness, deep engagement does not necessarily imply high satisfaction. Dissatisfied students can be highly engaged if they continue to perceive strong barriers to leaving or poor alternatives. Conversely, a highly satisfied student may be influenced to leave by alternative attractions, such as an opportunity to travel abroad.

Intensity of engagement. The tension that arises from conflicting forces. It is the absolute sum of all engagement forces, regardless of direction.

The first year in college often requires important psychological adjustments by students. Intensity of engagement portrays one important aspect of this adjustment — i.e., coping with opposing attractions and repulsions, and with barriers that restrain movement in either direction. Whereas depth of engagement indicates the intimacy of the student–college bond, intensity indicates the passion — i.e., the total amount of emotional energy that is associated with the relationship.

The Social Context of the Student-College Bond

The motivational forces that compose a student's relationship with a college are likely to be significantly influenced by his or her subsequent collegiate interactions. Students enter college with some ideas about why they attend and what they hope to accomplish. They soon discover whether their new socal environment supports their initial ideas.

The correspondence theories reviewed earlier provide different ways to characterize social support in terms of the "fit" between a student and an institution of higher education. The approaches differ according to what they compare among students, for example, their attitudes, personality traits, preferences, or behaviors. For the student engagement model, we are interested in comparing students according to the types and relative strengths of forces that affect their engagement.

Social dimensions of engagement. The consequences of good or bad fit are indicated by two social dimensions: normative congruence and normative consistency.

> **Normative congruence**. The typicality of a student's engagement forces. It refers to the similarity between a student's forces and the average engagement forces among students in a college.

In his student integration model, Spady (1971) suggested that normative congruence refers to "the general degree of compatibility between the dispositions, interests, attitudes, and expectations of the student and the set of

behaviors, expectations, and demands to which he may be exposed as a result of interaction with a variety of individuals in the college environment" (Spady, 1971, p. 39, footnote 4). Spady argued that students whose own norms are more congruent with the dominant norms will "perceive a greater degree of affinity and identity with the college, be more likely to establish close relationships with others, achieve intellectual and academic success, and feel more tightly integrated into the fabric of campus life" (p. 42).

The present definition of normative congruence is more specific; it only refers to congruence among engagement forces. Nevertheless, it is expected that such congruence indicates potential social support for students' motivational orientations to college.

> **Normative consistency**. The consistency among a student's engagement forces, where consistency refers to social standards about what forces are seen as compatible as opposed to contradictory.

College students differ in their motivational orientations to college. There may be some norms that are more dominant than others, but there are many "acceptable" reasons for attending college. Clark and Trow (1966) suggest that, among heterogenous student populations, the main source of social support comes from "student–subcultures," or "pockets" of students with similar interests. Normative consistency indicates the degree to which a student's engagement forces reflect identifiable social norms, although not necessarily the dominant ones.

Measuring Student Engagement

Measuring engagement requires, first of all, identifying the forces that determine engagement. The engagement model provides a framework for generating such a list. Specifically, questions can be posed to elicit forces that reflect the three sources — i.e., current external, internal, and prospective external environments — two directions — i.e., attractions and repulsions — and the two types — i.e., driving forces and barriers. Tables 2–1 and 2–2, presented earlier, show how engagement forces can be arrayed according to these classification criteria. Once identified, students' ratings of the engagement forces provide the basic elements for deriving measures of the dimensions of engagement.

As an exploratory study, the present one employs extant data from a national survey of entering college students, conducted by the Cooperative Institutional Research Program (CIRP). Two sections of this survey ask students about their reasons for attending college. The items from these two sections will serve as measures of engagement forces. Research questions for testing the validity of the engagement model are presented in the remainder of this chapter. In several instances noted below the questions are limited by the availability of the data.

Depth of Engagement

Depth of engagement could be measured most simply by adding together all the forces toward engagement, along with the barriers against

disengagement, and subtracting from that sum the forces toward disengagement and the barriers against engagement. Alternatively, clusters of interrelated forces could be identified. These subcomponents would likely represent different motivational orientations to attending college.

> **Research Question 1**. Is depth of engagement characterized by subcomponents? How do these subcomponents relate to the conceptual distinction among the current external, internal and prospective external sources of engagement forces?

The data from the CIRP survey pertain only to forces toward engagement. Thus the components can not reflect differences in forces according to direction.

Intensity of Engagement

Intensity of engagement is the sum of all forces regardless of their direction (i.e., the sum of the absolute values). Intensity can be measured separately for each subcomponent of depth allowing one to examine which subcomponent promotes the largest degree of conflict. Unfortunately, intensity is the one dimension that can not be measured in the present study since the available data pertain only to forces toward engagement.

Normative Congruence

Normative congruence is the distance of a student's forces from the population mean forces. For example, using factor scores to represent clusters of engagement forces, the distance formula would be the following:

$$(f_{ij} - f_{i\bullet})' \; S_f^{-1} \; (f_{ij} - f_{i\bullet})$$

where S_f is the sample covariance matrix for the factor scores, f_{ij} represents the factor score of the j^{th} subject on the i^{th} depth factor, and $f_{i\bullet}$ is the sample mean for the i^{th} factor score. The resulting score could then be "reversed" (e.g., multiplied by –1) so that higher scores indicate a smaller distance and therefore a higher degree of normative congruence.

The vector of the average factor scores thus represents the dominant social norms. The vector of a student's factor scores represents their personal norms. Normative congruence is represented by how close a student's own norms are to the most dominant population norms.

> **Research Question 2**. Which depth components are most strongly associated with normative congruence?

The association between normative congruence and an engagement depth component indicates the strength of the social norm regarding that component.

Normative Consistency

Social standards about compatible versus contradictory forces can be measured with regression analysis. A regression analysis reveals the associations among forces; i.e., the value that would be expected for one force given the values for several others. The regression equation indicates what a

student's norm for a particular force would be if it were compatible with his or her norms for other related forces

Given clusters of interrelated forces (i.e., the depth components), we would expect that a force is most compatible with other forces in the same cluster. Normative consistency could then be measured by regressing each variable against all other variables in the same component. From the resulting regression equations, 95 percent confidence intervals could be established for a student's predicted scores on each force item. A value of one would be assigned when the observed item score lies within the predicted range, otherwise zero would be assigned. The final measure is obtained by summing the assigned ones and zeros for all predicted items.

Research Question 3. Which depth components are most strongly associated with normative consistency?

The association between a specific depth component and normative consistency reveals the degree to which students adopt clear positions with respect to that factor. This allows us to identify "pockets" of students with similar motivational orientations toward attending college.

Correlates of Student Engagement

In addition to measuring engagement, the present study seeks to explore the validity of the model by examing associations between the engagement measures and several anticipated correlates. The correlates described below are organized according to their temporal relation to initial engagement in

college: antecedents represent potentially important conditions that precede initial engagement in college; concomitants represent associated student attributes concurrent to engagement; consequences represent student outcomes that can be affected by initial engagement.

Antecedents

Students' background, as it affects initial engagement in college, is categorized into three general areas: academic, economic, and social.

> **Research Question 4**. How do students' academic, economic, and social backgrounds influence their initial enagement in college?

Academic background indicates the success of a student's past academic experience and thus may affect motivation for continued academic pursuit. Economic background indicates how well a student and family can afford a college education, and thus may foreshadow obstacles to continued engagement. Social background indicates family values, such as the value of a college education, and thus may affect the reasons why a student attends college.

Concomitants of Engagement

Whereas engagement is a motivational construct, it is likely to be related to other concurrent aspects of students' motivations.

> **Research Question 5**. Are the forces that characterize student engagement associated with specific expectations for college performance, or with specific long–term goals?

It would be expected that highly engaged students are generally ambitious about their immediate and long–term prospects. But, the differing motivational orientations identifed in the depth components might be associated with differing types of expectations or goals.

Consequences of Engagement

The engagement model can be related to a broad array of student outcomes. In the present study we consider its relation to academic performance, persistence in college, curricular and residential stability, and satisfaction with college life.

> **Research Question 6**. Does initial engagement predict subsequent academic performance? Does it improve the prediction of academic performance beyond academic background?

Academic performance has usually been viewed as the result of an interaction between ability and effort (Ames & Ames, 1984). Whereas engagement reflects students' motivations for attending college, we would expect it to foreshadow the effort that students would apply to their studies. Students academic background indicates both their academic abilities and the results of their earlier effort. The present study will evaluate if engagement indicates specific effort for college performance beyond that which is reflected in students' past academic record.

> **Research Question 7**. Are highly engaged students more likely to remain enrolled in college than less engaged ones?

Although depth of engagement is likely to influence persistence, the degree of such influence should differ according to students' motivational orientations. For example, we would expect that students who are attracted to many specific features of a college would be more likely to stay than those who are more generally attracted to a college education; this latter group could go elsewhere and still be satisfied.

> **Research Question 8**. If they do stay in college, will students with less engagement, or with less congruent or consistent forces, otherwise seek changes within their college environment?

Students can change their college environment without actually leaving college. In the present study, we will consider changes in students' programs of study (i.e., majors) and residential arrangements.

> **Research Question 9**. Does engagement generally lead to satisfaction in college? Or, does satisfaction depend more on the basis of engagement or on adherence to the social norms?

On the one hand, students who are more deeply engaged in college may become more involved in college activities. On the other hand, engagement does not necessarily require attraction to the specific college. Finally, the similarity between a student's own norms and the typical social norms, presage social support, which, in turn, may foster satisfaction.

The above nine research questions provide an initial basis for evaluating the validity of the engagement model. The study described in the following two chapters was conducted on students from only one institution of higher

education: the University of Massachusetts at Amherst. Thus the results may not reflect the patterns of relationships one would discover at other institutions. The engagement model is intended, however, as a framework for exploring the unique character of engagement among differing student populations. Hopefully, the present study will demonstrate the usefulness of this model for stimulating research across a variety of institutions.

CHAPTER III

ASSESSING STUDENT ENGAGEMENT: METHOD

The present study explores engagement among entering first–year students. The first year in college requires the greatest psychological and social adjustment. This is evidenced by the fact that half of all students who voluntarily withdraw from college do so before beginning their second year. For new students, the college environment is usually vastly different from any previous environment. Going to college marks their first time away from daily parental guidance. Since the engagement model focuses on a student's affective ties to college, entering students are a particularly appropriate population for study.

Extant data were used in this exploratory study as an economical resource that would also be readily available to researchers at other colleges. Thus the present study tests not only the engagement model, but the limits of the data as well.

The Present Study

Sample

The sample was drawn from the Fall 1984 and Fall 1985 entering first–year classes at the University of Massachusetts at Amherst. Although some data described below were available for all students, survey data were available only for portions of the two entering classes.

The Data

The primary source of data on students' engagement, background, expectations, and goals was the Cooperative Institutional Research Program's (CIRP) Student Information Form (SIF), an entering student survey. Additional background data, and all outcome data were taken from administrative records. Satisfaction data were available from the University's annual "Cycles" survey of student life.

The entering student survey. The SIF (see Appendix A) is a four page multiple-choice survey sponsored by the American Council on Education (ACE) as part of an ongoing longitudinal study of college students. The SIF has been administered yearly since 1966 at approximately 500 institutions of higher education throughout the United States. The University of Massachusetts at Amherst has participated in the program since 1975.

The SIF survey provides institutions with a detailed profile of their incoming first-year class. It yields a broad range of information about students' demographics (e.g., parental income, occupation, and education), secondary school background, and means for financing college. Other sections of the survey pertain to students' aspirations (educational, vocational, and personal), expectations, attitudes, and values. Most relevant to the engagement model are its questions about students' reasons for attending college: Question 26 presents 11 reasons for going to college in general; Question 32 presents 15 reasons for going to the specific college. A final item asks students for

permission to use their responses in anonymous follow-up research.

The SIF is intended to serve two functions. First, it yields yearly research data for a longitudinal study of college students. The results of this research have been reported in several books, articles, and reports; most notably in Astin's (1977) book entitled Four Critical Years. More recently, Astin, Green, and Korn (1987) authored The American Freshman: Twenty Year Trends, 1966-1985, to mark the survey's twentieth anniversary. Second, the SIF provides a description of each year's entering college students. The survey is unparalleled in this regard; it continues to be the most useful source of information on entering students' backgrounds, interests, aspirations and attitudes. Unfortunately, its role as a mainly descriptive instrument has not stimulated research regarding its reliability and validity as a measurement instrument.

Table 3–1 shows the rates of participation for the 1984 and 1985 entering classes at the University of Massachusetts at Amherst. The table also indicates the proportion of students whose responses could be linked to the other data described below.

Students' administrative records. The University of Massachusetts at Amherst maintains computerized records pertaining to several aspects of its students and their progress through college. Although the data are contained in an array of different systems, they can be linked together. Data were obtained on academic background, from the admissions system; on financial

aid packages, from the financial aid system; and on students' outcomes, from the Undergraduate Registrar's student data base. Data were available for all members of the two entering classes.

Table 3–1. Participation in the CIRP Entering Student Survey

	Fall 1984		Fall 1985	
	N	%	N	%
Total Entering Class	4,067	100.0	4,258	100.0
Survey Participants:				
Total	3,567	87.7	3,936	92.4
Permit follow-up	2,045	50.3	2,166	50.9
Permit follow-up and provide valid ID no.	1,567	38.5	1,764	41.4

The Cycles Survey. Each spring, since 1975, the University's Student Affairs Research and Evaluation Office (SAREO) has conducted a "Cycles" survey to assess several aspects of undergraduate life. Among other things, Cycles measures students' satisfaction with general and specific aspects of college life (see Appendix B).

In the Spring of 1985, 1,219 (35.2%) of the 3,461 distributed surveys were completed. One–quarter of the respondents (300) were first–year students. In the Spring of 1986, 1,363 (43.6%) of the 3,133 distributed surveys were

completed. Slightly less than one–quarter (320) of the respondents were first–year students and 40% of this group (125) could have their Cycles responses linked to their SIF responses.

Procedure

Initial factor analysis of items from the SIF and Cycles surveys indicated that the data did not adequately fit a common–factor model; these factorial analytic methods produced many negative eigenvalues and occasional Heywood cases, and iterative procedures exhibited poor rates of convergence. Therefore, principal component analysis was used to derive measures based on multiple items: measures of depth of engagement; of academic, economic, and social background; and of expectations and goals.

Data from the 1984 entering class were used initially to formulate measures of engagement and its anticipated correlates. Data from the 1985 class were used to examine the reliability of the measures and to answer the research questions. Thus only students from the 1985 sample were tracked through their first year of college.

Comparing Trackable Participants with Other Entering Students

Only the responses of permission–granting students from the 1985 sample could be linked to other data, but this "trackable" group could be compared with other first–year students. First, the trackable participants can be compared to untrackable SIF participants for differences in their responses. Second, the trackable participants could be compared to all other first–year students

(untrackable participants combined with non–participants) in the data from their administrative records. Whereas the vast majority of entering students participated in the SIF survey, the two comparison groups are very similar. Figure 3–1 portrays the composition of the comparison groups.

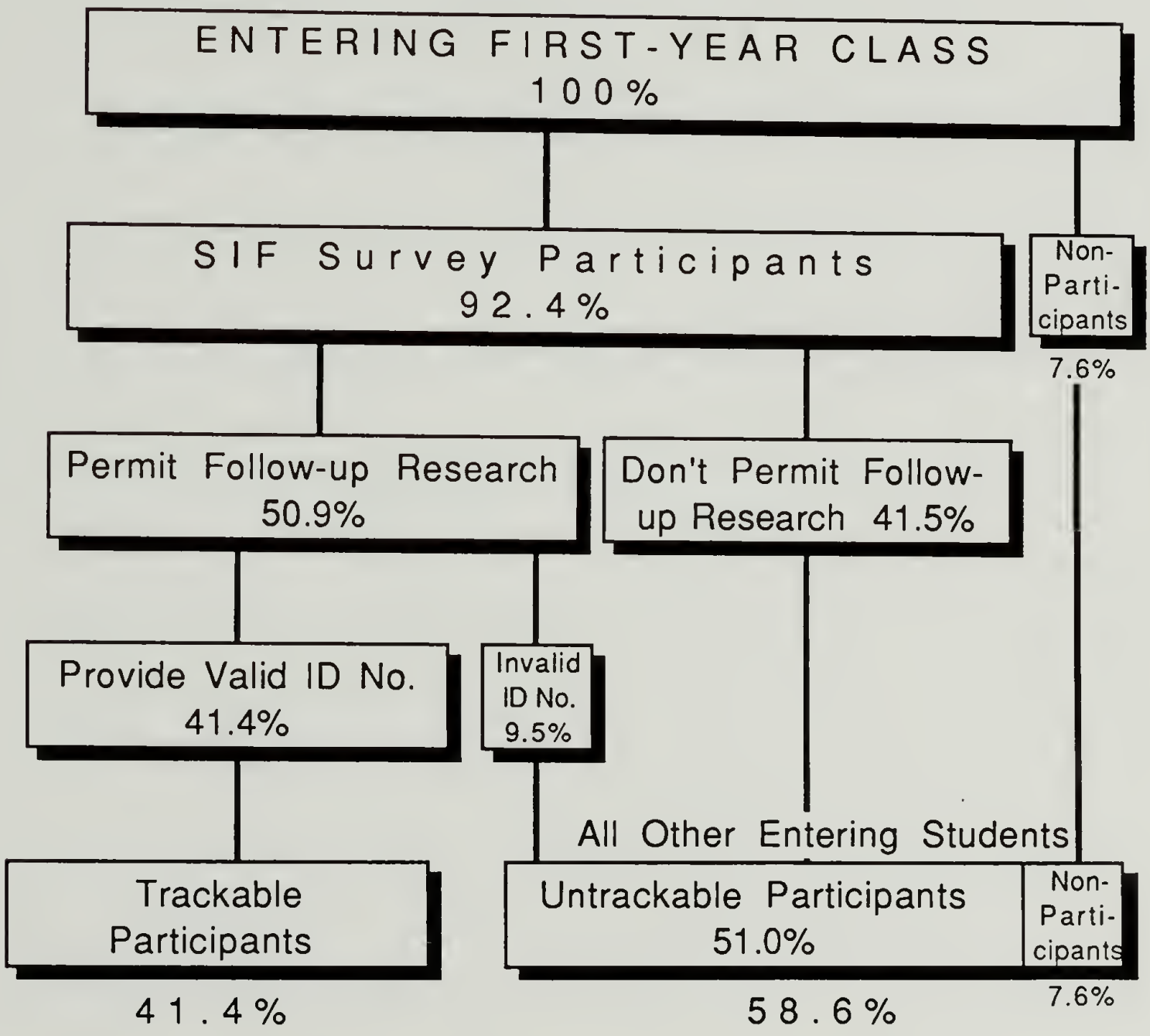

Figure 3–1. 1985 comparison group composition.

Several significant differences were found between the 1985 trackable participants and other first–year students. Table 3–2 shows that the trackable participants had significantly higher mean verbal and math SAT scores and higher high school class rankings.

Table 3–2. Differences in College Entry Characteristics

Characteristic	Trackable Participants Mean	(N)	All Others Mean	(N)	
Verbal SAT Score	481.4	(1,757)	473.5	(2,466)	**
Math SAT Score	534.3	(1,757)	522.8	(2,466)	****
High School Rank[a]	74.4	(1,559)	72.5	(2,089)	***

** $p < .01$
*** $p < .001$
**** $p < .0001$
[a]Percentile ranking in high school class, where 1 is the lowest and 100 the highest percentile rank.

The trackable participants also differed from the others in ethnicity. Table 3–3 shows that the trackable participants include proportionately more white and fewer minority students.

The trackable participants also included more students who entered applied majors; the remainder of the entering class included more Arts and Science and undeclared majors. Table 3–4 shows the distribution of these two groups according to area of study.

Table 3–3. Differences in Ethnicity

Ethnicity	Trackable Participants Percent	All Others Percent
White	55.5	52.6
Minority	7.0	9.8
Foreign	0.3	2.1
Unknown	37.2	35.5

$\chi^2 = 33.61$; df=1; $p < .001$

Table 3–4. Differences in Area of Study

Area of Study	Trackable Participants Percent	All Others Percent
Undecided	31.4	37.6
Arts & Sciences	28.9	32.1
Engineering	15.6	11.1
Food & Natural Resources	7.8	6.5
Professional School	16.3	12.8

$\chi^2 = 41.93$; df=1; $p < .001$

The differences in area of study largely account for the differences in SAT scores and high school class rank. Table 3–5 shows that the effect of SAT score on participation status is not significant when area of study is taken into account

in a two–factor analysis of variance. Verbal SAT score still has a significant effect, but it is smaller than when area of study is not taken into account (as shown in Table 3–2).

Table 3–5. Mean SAT Scores by Area of Study and Participation Status

	Math SAT Scores			Verbal SAT Scores		
Area of Study	TP	AO	Total	TP	AO	Total
Undecided	508	498	502	458	449	452
Arts & Sciences	529	521	524	504	497	500
Engineering	598	595	597	494	485	490
Food & Natural Resources	495	504	500	474	462	468
Professional School	551	545	547	478	480	479
Effects	**F**	**df**		**F**	**df**	
Area of Study	134.54****	4		51.37****	4	
Participation	1.20	1		4.75*	1	
Interaction	0.84	4		0.49	4	

* $p < .05$
**** $p < .0001$
TP = Trackable Participants.
AO = All Other First-Year Students.

Thus the trackable students are not entirely representative of the entering first–year class. They overrepresent students who pursue vocationally oriented areas of study. They are also a more academically selective group of students,

primarily because students who pursue the applied areas of study tend to have higher academic credentials. This is particularly true among students who enter engineering and business fields, the majority of applied majors.

The Reliability and Validity of SIF Responses

Before formulating engagement measures, we can examine the reliability and validity of the SIF responses for any anomalies. Some information captured in the survey is also available in students' administrative records. For some of this information — such as high school class rank, financial aid awards, and parental income — the administrative records include the "true" values; comparing these with students' self-reports thus indicates the validity of the SIF responses. For other information — such as age, sex, and ethnicity — the administrative records represent students' self-reports, as do the corresponding SIF items; comparing these items assesses the reliability of these responses.

The reliability of SIF demographics. Five of the 1,765 trackable students had a different sex listed on their administrative record than in their SIF response. This represents a 99.7% rate of agreement, but it is noteworthy to find any differences at all. In comparing reports of ethnicity, several categories on the SIF had to be combined to reflect the administrative categories. Furthermore, almost all students indicated their ethnicity on the SIF whereas over one–third did not indicate their ethnicity for their administrative records. Among those who reported in both instances, 95.8% indicated the same ethnicity.

Comparing age between the two data sources reveals some inaccuracies. The administrative record contains the exact date of birth; the corresponding SIF response format is in categories and students complete the survey at different times during the summer. Comparing calculated age (as of September 1, 1985) to categorized age (rounding to the nearest category) yielded a 80.4% agreement rate. Comparing self–reports of high school class rank (provided in five percentile categories; top fifth, second fifth, etc.) to actual class rank yielded a 71.2% rate of agreement. Inspection of incorrect responses indicated that many students used the scale in the reverse direction.

Thus there is a fairly reasonable level of agreement between the SIF responses and the information found on students' administrative records. The lower agreement for age is understandable, given the different ways in which people round their current age; if the category below or above actual age is also considered to be in agreement, the rate of agreement increases to 99.2%.

The validity of SIF financial data. Table 3–6 compares students' reports of their financial aid awards and their estimates of parental income on the SIF, with the rewards actually received and their parents' actual income. For this analysis, students' actual awards and their parents' incomes were translated into the SIF categories before the correlations and agreement rates were calculated (see questions 19 and 29 in Appendix A for category ranges).

Table 3–6. SIF Financial Data Compared to Administrative Data

Financial Source	Correlation	% in Same Category	% Within one Category
Pell Grant	.69****	75.0	84.4
SEOG	.33****	70.6	82.0
Work-Study	.46****	69.1	86.1
State Schol. or Grant	.39****	69.4	79.9
College Schol. or Grant	.40****	52.0	66.7
FGSL	.40****	44.9	57.2
NDSL	.25****	66.0	75.2
Other Loan	.07	84.7	87.1
Parent's Income	.35*	26.8	45.5

* $p < .05$
**** $p < .0001$
SEOG = Supplemental Educational Opportunity Grant.
FGSL = Federally Guaranteed Student Loan.
NDSL = National Defense Student Loan.

The second column of Table 3–6 displays the percentage of students whose actual awards were within the category indicated in the SIF. The third column shows the percentage of students whose actual awards were in either the category they indicated, or in one category immediately below or above. It should be noted that the correlations shown in the first column are attenuated if few students receive aid from that source. This is particularly evident for the

"other loan" category, where over 80% of the students accurately report that they receive no financial support from this source; the lack of variation in responses yields a low correlation in spite of a high rate of concordance.

The rates of agreement for the financial data are much lower than for the demographic data and they vary considerably among the different items. However, these lower agreement rates do not necessarily indicate that students are ill–informed or do not accurately report such information. First, students participated in the survey up to 10 weeks before their financial aid packages were finalized. Second, financial aid packages are often complex; for example, students may not be able to identify accurately an element of their package as being a State scholarship or grant versus a college scholarship or grant (especially when they attend a state college). Students' SIF estimates of their parents' income appear even less valid. Either they do not know their parents' actual income, or they know it roughly and report it accurately, but are unaware of large year–to–year fluctuations, or they know it and distort it intentionally.

Thus the reliability and validity of the SIF responses are somewhat questionable, especially among the financial items. Many of the items analyzed in the next chapter differ from those considered above; they reflect students' current attitudes. The reliability among the attitudinal items is examined in the next chapter when formulating measures of engagement and the anticipated correlates of engagement.

CHAPTER IV

ASSESSING STUDENT ENGAGEMENT: RESULTS

In this chapter, the validity of the student engagement model is examined via the nine research questions posed in Chapter II. The first three questions pertain to measuring the depth, normative congruence, and normative consistency dimensions of engagement, respectively. As stated earlier, the current data cannot be used to measure the intensity dimension. The remaining questions pertain to the anticipated correlates of student engaement; i.e, its antecedents (question 4), concomitants (question 5) and consequences (questions 6, 7, 8, and 9) as described in Chapter II.

Measuring Engagement

Research Question 1: Is depth of engagement characterized by subcomponents? How do these subcomponents relate to the conceptual distinction among current external, internal, and prospective external forces?

Initially, all items from Questions 26 and 32 of the SIF were entered into a principal component analysis. Items with either low communality or low "sampling adequacy" (Kaiser & Cerny, 1977) were eliminated, leaving nine of the 26 items to measure depth of engagement.

A principal component analysis of these nine items yielded three components that accounted for over 60% of the total variation (65% for the 1984 sample; 62% for the 1985 sample). The components were rotated by the

PROMAX method (Hendrickson & White, 1964). Table 4–1 displays the resulting component patterns. Although comparing principal components between two samples is not a powerful test (Mulaik 1972, p. 357), the similarity between the two sets of loadings indicates no important differences.

Table 4–1. The Depth of Engagement Measures

	Component Loadings					
	Educational Enrichment		Job Prospects		College's Credentials	
Item	1984	1985	1984	1985	1984	1985
Reason for going to college:						
1. Make me a more cultured person	**.80**	**.80**	.02	–.01	.01	–.04
2. Improve my study skills	**.79**	**.72**	.04	.14	.01	.07
3. Gain a general education and appreciation of ideas	**.71**	**.68**	–.01	–.01	.00	.00
4. Learn more about things that interest me	**.56**	**.47**	–.05	–.07	.05	.04
5. Make more money	–.01	–.01	**.80**	**.89**	.05	–.02
6. Be able to get a better job	.01	.01	**.89**	**.74**	–.03	.05
Reason for going to **particular** college:						
7. Graduates gain admissions to top graduate and professional schools	.02	.03	–.15	–.19	**.91**	**.93**
8. Graduates get good jobs	–.07	–.07	.17	.19	**.86**	**.83**
9. Good academic reputation	.16	.16	.03	.07	**.49**	**.47**

Note. Sample sizes: 1984, n = 3,275; 1985, n = 3,613.

The first component, labeled "educational enrichment," is comprised of items that refer to college as an intrinsically enriching experience, that is, a college education as an end in itself. The second and third components represent college as a means to other ends. The second, labeled "job prospects," refers to obtaining better jobs, and the third, "college's credentials," refers to how the specific college augments one's career opportunities. The college's credentials component was moderately correlated with both the educational enrichment component (1984, r = .23; 1985, r = .28) and the job prospects component (1984, r = .24; 1985, r = .20), but the latter two components were practically uncorrelated with each other (1984, r = .03; 1985, r = .12). To avoid sample idiosyncrasies, depth of engagement component scores were calculated by applying the components weights derived from the 1984 sample to the data from the 1985 sample.

The depth components can be related to the sources of engagement forces — i.e., current external, internal, and prospective external — and also to the differing focus of the two CIRP questions — i.e., attractions to college in general versus attractions to the specific college. The educational enrichment component refers to internal attractions to college in general; the job prospects component reflects prospective external attractions to college in general; the college's credentials component relates to internal attractions to the specific college, as well as to the achievement of prospective external goals.

The distinction between internal and prospective external engagement forces is supported by the intercorrelations among the three components. The educational enrichment component, which relates only to internal attractions, was practically uncorrelated with the job prospects component, which relates only to prospective external attractions. However, the college's credentials component, which relates to both internal and prospective external forces, was moderately correlated with both other components. It is noteworthy that the components do not relate to current external forces. Many of the SIF items initially considered refer to such forces; e.g., "nothing better to do," "my parents wanted me to go," "I could not find a job," "I wanted to live near home."

Research Question 2: Which depth components are most strongly associated with normative congruence?

As described in Chapter II, normative congruence was measured as the geometric distance between the vector described by a student's scores on the three depth components, and the one described by the sample mean scores. For the 1985 sample, normative congruence was positively correlated with each depth component; it was most strongly correlated with the job prospects component ($r = .57$; $p < .0001$) followed by college's credentials ($r = .22$; $p < .0001$) and educational enrichment ($r = .16$; $p < .0001$).

Since the components were intercorrelated, a stepwise regression was conducted to determine the incremental contribution of each component. Table 4–2 summarizes the results showing that the educational enrichment and

college's credentials components accounted for only an additional 3% of the variation in normative congruence beyond the 32% accounted for by the job prospects component.

Table 4–2. Stepwise Regression of Normative Congruence on the Depth Components: 1985 Sample (n = 1,654)

Step	Component Entered	Regr. Coef.	Partial R^2	Total R^2
1	Job prospects	.66****	.32	.32
2	Educational enrichment	.14****	.02	.34
3	College's credentials	.08***	.01	.35

*** p < .001
**** p < .0001

The strong positive association between the job prospects component and normative congruence supports the contention that normative congruence measures the dominant social norms. The job prospects component contains the most popular current reasons for attending college among members of the University sample (Shoemaker & Clark, 1986) and of the national CIRP sample (Green & Astin, 1985).

Research Question 3: Which depth components are most strongly associated with normative consistency?

As described in Chapter II, normative consistency was measured by comparing students' responses to each of the nine engagement items with the predicted values derived from regression equations. Because of the small

number of engagement items and the moderate correlations among them, the confidence intervals were fairly wide. As a result, the measure was highly skewed toward consistency; almost two-thirds of the 1985 sample (64.5%) received the maximum score (i.e., an unstandardized score of nine).

Despite this limited variability, the normative consistency measure was significantly correlated with each of the depth components: $r = .34$ with job prospects ($p < .0001$); $r = .25$ with educational enrichment ($p < .0001$); and $r = .21$ with college's credentials ($p < .0001$). Table 4–3 presents the results of a stepwise regression showing that the educational enrichment component accounts for a significant amount of the variation in normative consistency beyond what is accounted for by the job prospects component.

Table 4–3. Stepwise Regression of Normative Consistency on the Depth Components: 1985 Sample (n = 1,654)

Step	Component Entered	Regr. Coef.	Partial R^2	Total R^2
1	Job prospects	.27****	.12	.12
2	Educational enrichment	.17****	.05	.17
3	College's credentials	.07****	.01	.01

**** $p < .0001$

The results support the validity of normative consistency as an indicator of "pockets" of student interests. The two pockets identified in the current sample were college as a means of personal enrichment and college as a means for

obtaining better jobs (earlier established as the more normatively congruent, or popular orientation).

A further note on trackable and untrackable SIF participants. In Chapter III, it was shown that the trackable participants overrepresented students entering applied fields of study. The two groups also differed in their scores on the educational enrichment component ($t = 2.01$; $df = 3.524$; $p < .05$), but there were no significant differences in the other two component scores. Furthermore, the trackable pariticipants' engagement forces were significantly more normatively consistent ($t = 2.19$; $df = 3,934$; $p < .05$) but no more normatively congruent than those of the untrackable group.

Generally, then, these differences were small enough to discount a significant bias when analyzing only the trackable participants responses. However, the differences are congruent with those found earlier; it is not suprising that students who overrepresent applied majors value a college education less as an end in itself or have more normatively consistent (i.e., predictable) responses.

A Summary of the Measurement Effort

The SIF provided a limited number of items for measuring the dimensions of engagement. One major limitation was the absence of items measuring forces toward disengagement; as a result, the intensity dimension could not be measured. Also, none of the items pertain to barriers that affect engagement. However, the nine items did yield three subcomponents that relate to the

conceptual distinction between internal and prospective external engagement forces posited in the model. The components indicated a further distinction between attractions to college in general and attractions to the specific college.

Both the normative congruence and normative consistency measures demonstrated the popularity of students' interests in bettering their employment opportunities via college. The normative consistency component indicated a second orientation toward college as an intrinsically rewarding experience.

Correlates of Engagement

Antecedents

Research Question 4: How do students' academic, social and economic backgrounds influence their initial engagement in college?

Table 4–4 presents the items used to measure students' academic preparedness for college and the weights for these items derived from a principal component analysis. The academic preparedness component accounted for half of the total variation (.51 in 1984; .49 in 1985). The high weights for the high school performance measures are consistent with recent indications that such measures predict college performance more strongly than do entrance test scores (College Entrance Examination Board, 1983).

Economic preparedness was measured using items exclusively from the SIF survey; Question 19 provided data on students' means for financing college and Question 29 provided students' estimates of their parents' income. Table 4–5 displays the weights for these items associated with a component that

accounts for over 40% of the total variation (44% for 1984; 42% for 1985).

Table 4–4. The Academic Preparedness Measure

Item	Component Loadings 1984	1985
1. High school percentile class rank[1]	.80	.78
2. Average high school grades[2]	.76	.76
3. Math SAT score[1]	.67	.66
4. Verbal SAT score[1]	.60	.63

[1]From administrative records.
[2]From the SIF survey.
Note. Sample sizes: 1984, n = 1, 270; 1985, n = 1,549.

Table 4–5. The Economic Preparedness Measure

Item	Component Loadings 1984	1985
1. Aid from Pell Grant[1]	.77	.75
2. Estimate of parents' gross income	.73	.71
3. Aid from parents and family	.65	.67
4. Aid from work-study grant[1]	.65	.66
5. Aid from state scholarship or grant[1]	.63	.61
6. Aid from Supplemental Educational Opportunity Grant (SEOG)[1]	.55	.47

[1]Scale reversed so that high values indicate little or no aid.
Note. Sample sizes: 1984, n = 3,100; 1985, n = 3,422.

To measure social preparedness, a socioeconomic status (SES) scale was formed using the parents' education and occupation items from the SIF survey. Occupation responses were translated into ordinal levels according to Hollingshead's (1959) categories. Educational responses were unaltered. Table 4–6 shows the weights for an SES component that accounted for half of the total variation (51% in 1984; 49% in 1985).

Table 4–6. The Social Preparedness Measure

	Component Loadings	
	1984	1985
1. Father's education	.81	.82
2. Mother's education	.77	.75
3. Father's occupation	.69	.68
4. Mother's occupation	.56	.49

Note. Sample sizes: 1984, n = 1,603; 1985, n = 1,799.

The measures of academic and economic preparedness were uncorrelated ($r = -.02$). The positive correlation between academic and social preparedness was significant but small ($r = .05$; $p < .05$). As would be expected, social preparedness (i.e., SES) was positively correlated with economic preparedness ($r = .32$; $p < .0001$), but only moderately so.

Table 4–7 presents the bivariate correlations between the engagement and preparedness measures, showing little association between them. It is

possible, however, that the relatively high levels of error in these measures attenuated the observed associations.

Table 4–7. Bivariate Correlations Between Engagement and Preparedness: 1985 Sample

Engagement Measure	Preparedness Measure		
	Academic	Economic	Social
Depth:			
Educational enrichment	–.02	–.02	.06*
Job prospects	–.06*	.01	–.06*
College's credentials	–.02	.01	–.02
Normative congruence	–.07**	.00	–.06*
Normative consistency	.00	.02	.00

* $p < .05$
** $p < .01$
Note. The sample size differs according to preparedness measure: academic, n = 1,454; economic, n = 1,497; social, n=1,626.

Although the associations are extremely small, it is noteworthy that students' with higher academic credentials were slightly less interested in their job prospects than were students with lower academic credentials. It is also noteworthy that higher SES students tended to be oriented toward college more as an enriching experience and less as a means for increasing their job prospects compared to lower SES students.

In summary, the current data does not demonstrate a strong association between students' backgrounds and their initial engagement. The few significant correlations are intuitively reasonable but the large measurement error prevents generalization.

Concomitants

> **Research Question 5:** Are the forces that characterize engagement associated with specific expectations for college performance, or with specific long term goals?

Based on a component analysis, 12 of the 26 items from SIF Question 40 were retained to measure college expectations. Table 4–8 presents three PROMAX rotated components that accounted for half of the total variation (.51 in 1984; .52 in 1985). The components are labeled expectations to succeed, to withdraw, and to need help in college.

Ten of the 18 items included in SIF Question 39 were used to measure long-term goals. Table 4–9 displays the two component solution, after a PROMAX rotation, that accounted for exactly 50% of the variation for both the 1984 and 1985 samples. The first goal component, labeled societal contribution, indicates an altruistic goal orientation among students. In contrast the second component, labeled personal gain, indicates a self–serving goal orientation.

Table 4–8. The College Expectation Measures

Item	Expectation Component Loadings: Succeed 1984	Succeed 1985	Withdraw 1984	Withdraw 1985	Need Help 1984	Need Help 1985
What is your best guess as to the chances that you will...						
1. Be elected to honor society	**.84**	**.84**	.05	.03	.05	.06
2. Graduate with honors	**.78**	**.81**	.02	.03	–.03	–.05
3. Be elected to student office	**.58**	**.59**	–.03	–.01	.24	.24
4. Make at least "B" average	**.57**	**.58**	–.05	–.06	–.07	–.06
5. Fail one or more courses	**–.43**	**–.41**	.20	.23	.33	.34
6. Transfer before graduating	.13	.18	**.92**	**.91**	–.14	–.13
7. Drop out temporarily	–.08	–.12	**.63**	**.64**	.16	.16
8. Drop out permanently	–.12	–.14	**.54**	**.56**	.11	.07
9. Seek vocational counseling	.19	.14	–.01	.05	**.77**	**.75**
10. Get tutoring	–.16	-.07	–.10	–.11	**.70**	**.68**
11. Seek personal counseling	.15	.13	.06	.04	**.67**	**.68**
12. Need extra time for degree	–.08	–.09	.17	.09	**.44**	**.49**

Note. Sample sizes: 1984, n = 3,264; 1985, n = 3,266.

Table 4–9. The Long–Term Goal Measures

Item	Goal Component Loadings: Societal Contribution 1984	Societal Contribution 1985	Personal Gain 1984	Personal Gain 1985
Indicate the importance to you personally of each of the following:				
1. Promote racial understanding	**.76**	**.75**	–.10	–.16
2. Develop a meaningful philosophy of life	**.72**	**.75**	–.11	–.13
3. Participate in a community action program	**.70**	**.69**	.02	.04
4. Influence social values	**.65**	**.64**	.13	.14
5. Become involved in programs to clean up the environment	**.60**	**.62**	–.02	.00
6. Influence the political structure	**.59**	**.59**	.12	.17
7. Help others who are in difficulty	**.59**	**.57**	.01	.01
8. Succeed in my own business	.03	.06	**.84**	**.84**
9. Be very well off financially	–.14	–.14	**.70**	**.69**
10. Having administrative responsi–bility for the work of others	.15	.12	**.65**	**.65**

Note. Sample sizes: 1984, n = 3,341; 1985, n = 3,377.

Table 4–10 displays the correlations among the three expectation and two goal components. Surprisingly, the two contrasting goal components are positively correlated. It is also noteworthy that the "societal contribution" goal

component is moderately correlated with both expectations for success in college and for needing help in college.

Table 4–10. Correlations Among College Expectations and Long–Term Goals: 1985 Sample

Component	A	B	C	D	E
College Expectations:					
A. Succeed	1.00 (1,498)				
B. Withdraw	–.03 (1,498)	1.00 (1,498)			
C. Need help	–.04 (1,498)	.25**** (1,498)	1.00 (1,498)		
Long–Term Goals:					
D. Contribute to society	.29**** (1,444)	.03 (1,444)	.23**** (1,444)	1.00 (1,565)	
E. Personal gain	.06* (1,444)	–.04 (1,444)	.01 (1,444)	.13**** (1,565)	1.00 (1,565)

* $p < .05$
**** $p < .0001$
Note. Number of observations in parentheses.

Table 4–11 shows many significant correlations between students' engagement and both their expectations for college performance and their long–term goals. To summarize these associations, two canonical correlation analyses were performed; one between the engagement and the college expectations, and the other between engagement and long–term goals.

Table 4–11. Bivariate Correlations Between Engagement, College Expectations, and Long–Term Goals: 1985 Sample

Engagement	College Expectations			Long–Term Goals	
	Succeed	With-draw	Need Help	Cont. to Society	Personal Gain
Depth:					
Educational enrichment	.21****	–.04	.17****	.36****	.08**
Job prospects	–.04	–.01	.02	–.06*	.34****
College's credential	.13****	–.13****	.03	.16****	.23****
Normative congruence	–.03	–.03	.01	–.02	.23****
Normative consistency	.04	–.08**	.01	.01	.11****

* $p < .05$
** $p < .01$
**** $p < .0001$

Note. Sample sizes: expectations, n = 1,428; goals, n = 1,488.

Table 4–12 summarizes the canonical correlations between engagement and college expectations. The first set of canonical variates are moderately correlated and account for a large portion of the total common variation. This correlation associates educational enrichment and college's credentials with expectations to succeed, to need help, and to persist

The second canonical correlation, which is considerably smaller, associates a lack of attraction to the specific college, an interest in educational enrichment, and a lack of normative consistency with expectations for withdrawing and needing help. The final correlation, although not significant associates the normatively congruent job prospect engagement orientation with

expectations for not succeeding, persisting and needing help.

Table 4–12. Canonical Correlations Between Engagement and College Expectations: 1985 Sample (n = 1,428)

Component	Canonical Coefficients		
	Variate 1	Variate 2	Variate 3
Engagement:			
Educational enrichment	.82	.66	.07
Job prospects	–.08	.40	.78
College's credentials	.43	–.77	.01
Normative congruence	–.22	–.14	.36
Normative consistency	–.09	–.50	–.11
Expectations:			
Success	.77	.01	–.64
Withdraw	–.42	.77	–.55
Need help	.61	.46	.70
Canonical Correlation	.31****	.12**	.05
Percent of Variation	.85	.13	.02

** $p < .01$
**** $p < .0001$

Table 4–13 summarizes the canonical correlations between engagement and long–term goals. The analysis yielded two contrasting but equally strong correlations. The first correlation primarily associates interests in educational enrichment with a goal of societal contribution. The second correlation associates interests in job prospects engagement with a goal of personal gain.

Table 4–13. Canonical Correlations Between Engagement and Long–Term Goals: 1985 Sample (n = 1,488)

Component	Canonical Coefficients Variate 1	Variate2
Engagement:		
Educational enrichment	.93	.00
Job prospects	.14	.82
College's credentials	.29	.39
Normative congruence	–.15	.11
Normative consistency	–.15	–.13
Goals:		
Contribute to society	1.00	–.11
Personal gain	–.03	1.00
Canonical Correlation	.39****	.38****
Percent of Variation	.51	.49

**** $p < .0001$

It is noteworthy that the more altruistic variate is associated negatively with normative congruence and normative consistency; that is, it is not a popular orientation.

The associations between engagement and college expectations and between engagement and long–term goals further delineate the nature of the three components of depth of engagement. The educational enrichment component is stronger among students who expect to succeed in college and hope to contribute to society afterwards; the job prospects component is stronger among students who do not think they are very likely to succeed in

college and hope to succeed financially after college. The college's credentials components again straddles between the other two components, especially in its associations with long–term goals; it is positively correlated with both the societal contribution and personal gain goal components.

Consequences

> **Research Question 6:** Does initial engagement predict subsequent academic performance? Does it improve the predication of academic performance beyond academic background?

Two indicators of first year academic performance were considered: cumulative grade-point average (1985, M = 2.65, SD = .62, N = 3,459) and total degree credits earned (1985, M = 29.4, SD = 5.2, N = 3,459). Table 4–14 presents the bivariate correlations between academic performance and the engagement measures. These correlations are small but some are statistically significant.

As might be expected, the educational enrichment component of depth of engagement was significantly correlated with grade–point average (GPA). It is also interesting that the job prospects component is negatively correlated with GPA. Generally, the correlations between the social dimensions of engagement and the academic performance indicators were slightly negative.

Table 4–14. Bivariate Correlations Between Engagement and Indicators of Academic Performance: 1985 Sample (n = 1,377)

Engagement Measure	Academic Performance: Cumulative GPA	Academic Performance: Degree Credits
Depth:		
Educational enrichment	.05*	.01
Job prospects	–.06*	–.03
College's credential	–.01	–.01
Normative congruence	–.05	–.07*
Normative consistency	–.01	–.04

* $p < .05$
** $p < .01$

In contrast to these associations, the academic preparedness measure was highly correlated with GPA ($r = .48$; $p < .0001$). However, several engagement measures improved the prediction of GPA, beyond academic preparedness. Table 4–15 summarizes the results of a stepwise regression for GPA on all the engagement and background measures. It shows that educational enrichment improved the prediction of GPA more than either of the other two preparedness measures (i.e., social and economic preparedness). The social preparedness measure enters next into the equation, followed by the job prospect component. Although this last effect is small, it is interesting to again note how deep engagement can adversely affect academic performance.

Thus the associations between engagement and academic performance are small but they indicate an interesting point: Engagement does not necessarily promote academic performance. Some orientations to engagement — for example, toward obtaining a good job — may actually inhibit academic performance.

Table 4–15. Stepwise Regression of Grade–Point Average on Engagement and Preparedness: 1985 Sample (n = 1,086)

Step	Variable Entered	Regr. Coef.	Partial R^2	Total R^2
1	Academic preparedness	.30****	.240	.240
2	Educational enrichment	.06**	.007	.247
3	Social preparedness	.04*	.004	.251
4	job prospects	−.04+	.003	.254

+ $p < .10$
* $p < .05$
** $p < .01$
**** $p < .0001$

Highly normative engagement may also inhibit academic performance. Normatively congruent and consistent engagement may indicate a student's opportunities for socializing and thus for encountering distractions from studying. Furthermore, the predominant social norm could be an orientation against studying too hard.

Research Question 7: Are highly engaged students more likely to remain enrolled than less engaged students?

Table 4–16 shows the rates of retention and attrition among the entire 1985 entering first-year class. Less than one–fifth of the 1985 entering first–year class (18.0%) did not return for their sophomore year. Almost three–quarters of those who withdrew (72.2%) did so during or after their second semester.

Table 4–16. Rates of Retention and Attrition Among the 1985 First–Year Class

				Withdrawal Reason		
Semester Span	Total N	Persisters N / (%)	With–drawers N / (%)	Transfer N / (%)	Other Voluntary N / (%)	Academic Dismissal N / (%)
First to second	4,258	4,045 (95.0)	213 (5.0)	27 (12.7)	185 (86.9)	1 (0.4)
Second to third	4,045	3,493 (86.4)	552 (13.6)	48 (8.7)	254 (46.0)	250 (45.3)
First to third	4,258	3,493 (82.0)	765 (18.0)	75 (9.8)	439 (57.4)	251 (32.8)

Table 4–16 also indicates students' reasons for withdrawing. These stated reasons differ between first– and second–semester withdrawers. Most of this difference arises from the fact that students are rarely dismissed after only one semester of poor academic achievement. Among the voluntary withdrawers, the incidence of transfer is slightly lower for the first semester (12.7% of all voluntary withdrawers) than for the second semester (15.9%).

Table 4–17 displays the differences in mean engagement scores of persisters and withdrawers among the1985 trackable participants. The largest differences were the lower scores for withdrawers on the two social dimensions of engagement compared to persisters. This suggests the importance of social support in adjusting to college and for maintaining one's motivations for persisting in college. The non–significant differences between persisters and withdrawers in means for the first two depth components are in the expected direction; persisters were more deeply engaged.

Table 4–17. Mean Engagement Among Persisters and Withdrawers: 1985 Sample (n = 1,654)

			Withdrawal Reason		
	Persisters (1,388)	Withdrawers (266)	Transfer (26)	Other Voluntary (146)	Academic Dismissal (94)
	M	M	M	M	M
Depth:					
Educational enrichment	.01	–.10 +	–.02	–.05	–.18
Increased job prospects	.17	.12	.26	.13	.07
College's credential	.08	.08	.28	.03	.10
Normative congruence	.05	–.09 *	.06	–.01	–.26
Normative consistency	.06	–.07 *	.24	–.03	–.20 +

+ $p < .10$
* $p < .05$
Note. Number of observations in parentheses.

Although not statistically significant, students who transferred tended to be more deeply engaged and have more normatively congruent and consistent engagement forces compared to other withdrawers. In contrast, the academic dismissals were the least deeply engaged and had low normative scores.

Students' GPA was the best predictor of first–year persistence. The strength of this relationship is partly attributable to the dismissal of students with the lowest GPA's. But even among only voluntary withdrawers, GPA was still the best predictor. Table 4–18 summarizes the results of a stepwise discriminant analysis to determine which among the engagement and background measures improved the prediction of attrition beyond GPA. Normative congruence was the only measure to do so significantly. Among the remaining variables two engagement depth components accounted for the most additional variation.

> **Research Question 8:** If they do stay in college, will students who are less engaged, or who have less normatively congruent or consistent forces, otherwise seek changes within their college environment?

Changes in students' major field was characterized according to whether, either during the first year or upon returning for the second year, a student (a) made no change (59.6% of the 1985 entering first–year class), (b) started with no declared major but later declared one (14.4%), (c) changed from one major to another within the same academic division — i.e., the same faculty, school, or college (7.3%), or (d) changed from one major to another in a different academic

division (18.6%).

Table 4–18. Stepwise Regression of Persistence on Grade–Point Average, Engagement, and Background: 1985 Sample (n = 1,175)

Step	Variable Entered	Partial R^2	Partial F
1	Cumulative GPA	.1450	211.15****
2	Normative congruence	.0067	8.36**
Remaining Variables:			
	College's credentials	.0014	1.70
	Job prospects	.0012	1.51
	Social preparedness	.0001	0.18
	Economic preparedness	.0001	0.07
	Normative consistency	<.0001	0.04
	Educational enrichment	<.0001	0.01
	Academic preparedness	<.0001	<0.01

** $p < .01$
**** $p < .0001$

Table 4–19 displays differences in mean engagement scores according to the type of major change. The largest differences were in the social dimensions of engagement; students who changed to a major in a different academic division from their original major had the least normative engagement scores.

Table 4–19. Mean Engagement and Changes in Major: 1985 Sample (n = 1,585)

	Type of Change in Major				
	No Change (n = 209)	Declared a Major (n = 952)	Changed Within Division (n = 135)	Changed Outside Division (n = 289)	
Depth:					
Educational enrichment	.09	.00	–.12	–.04	
Job prospects	.16	.18	.29	.05	*
College's credentials	.14	.09	.11	.05	
Normative congruence	–.05	.09	.10	–.14	**
Normative consistency	.05	.09	–.09	–.07	*

* $p < .05$
** $p < .01$

Changes in living arrangement were categorized according to whether a student (a) made no such change (48.3% of the 1985 entering class), (b) moved within the same residential area (16.5%), or (c) moved to a different residential area (35.1%). Table 4–20 displays the differences in engagement according to type of residential change. The differences for the job prospects depth component and normative congruence were significant; students who moved to a new residential area had the lowest engagement scores.

Table 4–20. Mean Engagement and Changes in Residence: 1985 Sample (n = 1,585)

	Type of Change in Residence			
	No Change (n = 803)	Within Residential Area (n = 251)	Outside Residential Area (n = 531)	
Depth:				
Educational enrichment	–.05	.05	.04	
Job prospects	.16	.30	.10	**
College's credential	.09	.08	.09	
Normative congruence	.05	.16	–.05	*
Normative consistency	.05	.06	.02	

* $p < .05$
** $p < .01$

Thus engagement was somewhat associated with both curricular and residential changes. Specifically, students who made the greatest changes (changing to a major in a different division or moving to a different residential area) tended to have lower engagement scores. Again, the social dimensions were more strongly associated with such changes compared to the depth components.

> **Research Question 9:** Does engagement generally lead to satisfaction in college? Or, does satisfaction depend more on the basis of engagement or on adherence to the social norms?

More than 300 students from each of 1984 and 1985 entering classes participated in the Cycles survey conducted during the spring semester after

they entered. These students' responses were used to construct measures of satisfaction with college life. Table 4–21 summarizes the satisfaction measures that were derived from six Cycles items.

Table 4–21. The Satisfaction Measures

Item	Satisfaction Component Loadings: Academic 1984	Academic 1985	Social 1984	Social 1985
Satisfaction with:				
1. Academic progress	**.89**	**.87**	–.08	–.26
2. Academic experience	**.89**	**.80**	–.03	.12
3. Social life	.06	.11	**.74**	**.72**
4. Housing experience	–.02	–.15	**.67**	**.66**
5. Programmed social activities	–.14	.04	**.66**	**.49**
6. University experience	**.44**	**.49**	**.37**	**.60**

Note. Sample sizes: 1984, n = 315; 1985, n = 303.

The two resulting components accounted for over one–half of the total variation (.58 in 1984; .54 in 1985). The first component reflects students' satisfaction with the academic portion of their college life and the second reflects their social satisfaction. These two components were moderately correlated with each other for the 1984 sample (r = .29) but less so for the 1985 sample (r = .13).

There were no significant correlations between social satisfaction and engagement. In fact, there were no significant correlations between social satisfaction and any of the measures in the study.

There was a significant negative correlation between normative congruence and academic satisfaction ($r = -.19$; $p < .05$). Not suprisingly, the strongest positive predictor of academic satifaction was GPA. Table 4–22 summarizes the results of a stepwise regression showing that normative correspondence and job prospects account for a significant additional amount of the variation in academic satisfaction beyond GPA.

Table 4–22. Stepwise Regression of Academic Satisfaction on Grade–Point Average and Engagement: 1985 Sample (n = 78)

Step	Variable Entered	Regr. Coef.	Partial R^2	Total R^2
1	First-semester GPA	.44***	.123	.123
2	Normative congruence	–.31**	.041	.164
3	Job prospects	.33**	.061	.225

** $p < .01$
*** $p < .001$

These results again reflect the interesting association between the social dismensions of engagement and students' academic progress. Students whose own engagement norms are closest to the corresponding population norms tend to perform less well academically. Probably as a result, they tend to be less

satisfied with their academic progress. On the other hand, it was shown that students who persist tend to have more normatively congruent engagement forces. Thus adherence to the social norms both inhibits academic performance and promotes persistence.

CHAPTER V

DISCUSSION

The student engagement model was proposed to provide a framework for conceptualizing and assessing the student–college bond. The impetus for developing this model came from reviewing the literature on student retention — an extremely diffuse literature that has discouraged many practitioners from trying to understand why students drop out of college, and has encouraged them just to "manage" the problem.

The engagement model focuses attention away from merely attrition and toward the entire bond between student and college, and its implications for a broad array of student outcomes. Furthermore, the model provides a basis for developing methods for assessing engagement empirically; it provides a rationale for determining what data to collect.

The present study was a first attempt to validate the student engagement model. Already existing data were used to encourage replication at other colleges. On the surface, the Student Information Form data seemed relevant to the engagement model; they included information on students' backgrounds, their reasons for attending college, and their expecations and goals. Furthermore the data could be linked to other data on students' outcomes in

college. Unfortunately, the data were found to be rather limited for predicting entering students' subsequent college outcomes.

Summary of the Results

Despite the limitations imposed by the data, there were some intriguing findings that help to establish the validity of the engagement model. Some of these findings also help to inform us as to the kind of engagement forces that current University of Massachusetts students find most salient.

The Basis of Engagement

Students' motivations for attending college could be summarized according to three depth of engagement components: opportunity for educational enrichment, increased job prospects, and the college's credentials These motivational orientations reflect the model's distinction between the internal and prospective external environments. Forces relating to students' current external environment were conspicuously absent from these components, even though the survey included many apparently relevant items. The observed components suggested a further distinction for the model, between attraction to college in general and attraction to the specific college one is currently attending.

Several findings suggest that students' initial motivational orientation to college is influenced by their family and academic backgrounds and subsequently influences their outcomes. Students from high socioeconomic status (SES) families were somewhat more likely than those from low SES

families to be oriented toward college as an educationally enriching experience and less as a vehicle for bettering their job prospects. Furthermore, students who were more oriented toward educational enrichment tended to achieve higher grade–point averages than students oriented toward increasing their job prospect. On the other hand, students who were less oriented toward job prospects were more likely to seek significant changes in their college environment; they more often changed their major to one in a different academic division, and more often moved from one residential area to another.

Initial motivational orientation was associated with expectations for college performance. Students who were more oriented toward college as an educationally enriching experience were more likely to expect success in college but also to desire some guidance and counseling. Students who were less interested in the specific college's credentials more often expected to withdraw from that college.

Probably the most informative findings, though, were the associations between students' initial motivational orientation and their long–term goals. Those who attended college for educational enrichment were more likely to desire making significant societal contributions after college. In contrast, students who hoped to better their job prospect were more interested in subsequent personal gain.

Among the three identified motivational orientations, two stood in contrast to each other. College as an educationally enriching experience represented

an academic and socially altruistic orientation, whereas college as a means for increasing one's job prospects reflected a more gregarious and self–indulgent orientation. Nevertheless, these two orientations were uncorrelated.

The current popularity of the job prospects orientation was indicated by its positive correlation with normative congruence. Both the job prospects and educational enrichment orientations were positively correlated with normative consistency revealing that, although the job prospects orientation was more popular, the educational enrichment orientation was also common in the current sample.

The Influence of Social Norms

Several findings suggest the importance influence of social norms on students' initial adjustment to college. Students who returned for their sophomore year had significantly higher normative congruence and normative consistency scores than those who withdrew. Higher scores on these social dimensions of engagement were also associated with stability in major field and living arrangements. Furthermore, these same high scores were associated with lower grade–point averages.

Although the observed correlations were generally quite small, adherence to the social norms appeared to reflect two contrasting influences. On the one hand, it promotes stability, and, on the other hand, it inhibits academic performance. This situation may differ at other institutions; if the dominant social norms promote academic performance, then there should be little or no

conflict between social support and academic pursuit.

Limitations of the Study

Despite some informative findings, the present study was greatly limited by the data employed. Some of these limitations were acknowledged prior to conducting the analyses; we knew there were no data pertaining to forces toward disengagement or to barriers affecting engagement. A more severe limitation was encountered, however, when deriving measures of the dimensions of engagement and their anticipated correlates; the data did not lend itself to data reduction techniques, especially common factor analysis.

The Student Information Form has been an important descriptive tool for higher education over the last twenty years. The present study provides evidence, however, that it may not be a very useful tool for inferential research. The strongest evidence for this comes from the measures derived for college expectations and long–term goals. One would not necessarily expect the survey to yield adequate measures of the present engagement concepts, but expectations and goals are more general concepts and the survey devotes a sizable section to each. Yet the common factor model was not supported by these items and principal components did not reduce the data in a fashion that is generally acceptable in measurement practices.

Thus the Student Information Form may yield good descriptive data but it does not appear to yield good longitudinal research data; very few of the items examined in the present study significantly predicted students' subsequent

college outcomes. The Cooperative Institutional Research Program encourages participating institutions to use their data in follow–up research. The present findings question whether the data is useful for that purpose. Given the availability SIF data at many colleges, it is likely that other researchers have employed this data in their studies. The fact that there are few published research studies based on the SIF data may be a further indication of their limited usefulness.

Suggestions for Further Research

Clearly, more research is needed to establish the validity and usefulness of the student engagement model. The first need is for studies that identify the kind of data most useful for measuring engagement. Once such data is identified, the measurement techniques described in this study can be employed to test the validity and usefulness of the present model. Research is also needed to examine changes in a student's engagement over the entire course of a college education.

Data for Measuring Engagement

The engagement model provides a framework for generating questions aimed at identifying engagement forces. Specifically, questions could be formulated to address (a) the three different sources (i.e., current external, internal, and prospective external environments); (b) the two different directions (toward engagement and toward disengagement); and (c) the two different types of engagement forces (driving and restraining). The current findings also

suggests that one consider the target of such forces (i.e., college in general or the specific college). Even if other means are used to generate engagement forces, the classification scheme provided above can be used to ensure a complete representation of such forces.

Once a sufficient list of engagement forces has been developed, research can be conducted to explore the four dimensions of engagement: depth, intensity, normative congruence, and normative consistency. Each of these dimensions can be associated with interesting student outcomes as suggested earlier in this study.

Identifying engagement forces is informative in itself. Differences among colleges could be characterized according to the typical motivational orientations of their students. Furthermore, one can study how entering students' motivational orientations change over time.

The Course of Engagement

It is likely that students' motivations toward attending a college change through their years in college. Changes in students' engagement forces are probably more important determinants of college success than their initial engagement. For example, students who enter college primarily to enhance their job prospects may question the applicability of their academic studies toward this end. Unless they resolve this discrepancy — either by recognizing the vocational skills they are developing, or by changing their primary focus away from improving their job prospects — they are likely to become less

involved in college. More generally, students may have long–range goals in mind when they first enter college, but the four years ahead requires that they find more immediate attractions to the particular college for them to stay motivated.

Applying the Engagement Model to Other Domains

Although formulated specifically for exploring the student–college bond, the engagement model can be applied to almost any person–institution relationship. For example, within higher education one can also consider faculty engagement. More generally, the model can be applied to the relationship between workers and the organizations they work for, or between individuals and religious institutions.

Furthermore, the present model contributes to the concepts from which it was derived. It introduces several new concepts to supplement Levinger's (1965, 1976) schema for analyzing interpersonal cohesiveness. First, there is the notion of forces that emanate from prospective external influences. A person may be attracted to another because of the increased social status it affords, or in order to gain access to certain employment opportunities. In addition, the notion of barriers restraining further intimacy could be added to the P–O schema; one may feel "a wall" between one's self and another when attempting to become more intimate.

The dimensions of engagement can also be applied to the P–O relationship. In fact, Levinger (in press) recently distinguished between the

intimacy (i.e., depth) and the passion (i.e., intensity) of P–O relationships. Furthermore, normative congruence indicates how similar one pair's attractions are to those of other "comparison" couples (e.g., friends, relatives, those encountered in the media). Normative consistency, on the other hand, indicates whether the pair is likely to find at least some other couples with similar attractions between them (even if they are not the most typical interpersonal attractions).

To supplement person–environment correspondence theories, the engagement model describes two aspects of environmental fit, normative congruence and normative consistency. Normative congruence is similar to the concept usually described by researchers. However, normative consistency reflects a different aspect of fit; one that is somewhat parallel to Clark and Trow's (1966) sub–culture concept.

The engagement model provides a systematic perspective for examining college student life but more comprehensive longitudinal data are needed to fully assess its validity. Hopefully, the present model will serve as impetus for new research. But, regardless of whether it does so, institutional researchers need to adopt similarly broad views of the phenomena they study. Narrow focuses, as exemplified by the student retention literature, have only hindered progess in research on higher education.

APPENDIX A

CIRP Entering Student Survey:

The Student Information Form

2737677

PLEASE PRINT: YOUR NAME _____ (First / Middle or Maiden / Last)

HOME STREET ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____ ( ) Area Code Home Phone No

When were you born? Month (01-12) Day (01-31) Year

1985 STUDENT INFORMATION FORM

DIRECTIONS

Your responses will be read by an optical mark reader. Your careful observance of these few simple rules will be most appreciated.

- Use only black lead pencil (No. 2 is ideal).
- Make heavy black marks that fill the circle.
- Erase cleanly any answer you wish to change.
- Make no stray markings of any kind.

EXAMPLE:

Will marks made with ballpoint or felt-tip marker be properly read? Yes . . ○ No . . ●

Dear Student:

The information in this form is being collected as part of a continuing study of higher education conducted jointly by the American Council on Education and the University of California at Los Angeles. Your voluntary participation in this research is being solicited in order to achieve a better understanding of how students are affected by their college experiences. Detailed information on the goals and design of this research program are furnished in research reports available from the Higher Education Research Institute at UCLA. Identifying information has been requested in order to make subsequent mail follow-up studies possible. Your response will be held in the strictest professional confidence.

PLEASE USE #2 PENCIL

Sincerely, Alexander W. Astin

Alexander W. Astin, Director
Higher Education Research Institute

MARK IN THIS AREA ONLY IF DIRECTED	GRP. CODE
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9

1. Your sex: Male . . ○ Female . . ○

2. How old will you be on December 31 of this year? (Mark one)
   - 16 or younger . . . ○
   - 17 . . . ○
   - 18 . . . ○
   - 19 . . . ○
   - 20 . . . ○
   - 21-24 . . . ○
   - 25-29 . . . ○
   - 30-39 . . . ○
   - 40-54 . . . ○
   - 55 or older . . . ○

3. Are you a twin? (Mark one)
   - No . . . ○
   - Yes, identical . . ○
   - Yes, fraternal . . ○

4. In what year did you graduate from high school? (Mark one)
   - 1985 . . . ○
   - 1984 . . . ○
   - 1983 . . . ○
   - 1982 or earlier . ○
   - Did not graduate but passed G.E.D. test . ○
   - Never completed high school . . . ○

5. Are you enrolled (or enrolling) as a: (Mark one)
   - Full-time student? . . . ○
   - Part-time student? . . . ○

(Note: Please check that your pencil markings are completely darkening the circles. Do not use pen or make ✓'s or X 's. Thank you.)

6. Where did you get the money to pay for college this year? (Write in actual dollar amounts; write "0" if none)
   - Grants and scholarships . $ _____
   - All loans . . . . . $ _____
   - Work or savings . . . . $ _____
   - Parents and/or spouse . $ _____
   - Other sources . . . . . $ _____

7a. How many persons are currently dependent on your parents for support (include yourself and your parents, if applicable)?
   1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 or more ○

7b. How many of these dependents other than yourself are currently attending college?
   None ○ 1 ○ 2 ○ 3 or more ○

8. What was your average grade in high school? (Mark one)
   A or A+ ○ B ○ C ○ A- ○ B- ○ D ○ B+ ○ C+ ○

9. Where did you rank academically in your high school graduating class? (Mark one)
   - Top 20% . . . ○
   - Second 20% . . ○
   - Middle 20% . . ○
   - Fourth 20% . . ○
   - Lowest 20% . . ○

10. Are you: (Mark one)
   - Not presently married . . . . . ○
   - Married, living with spouse . . . . . ○
   - Married, not living with spouse . . . . ○

11. Prior to this term, have you ever taken courses for credit at this institution?
   Yes . . . ○ No . . . ○

12. Since leaving high school, have you ever taken courses at any other institution? (Mark all that apply in each column)

	For Credit	Not for Credit
No	○	○
Yes, at a junior or comty. college	○	○
Yes, at a four-year college or university	○	○
Yes, at some other postsecondary school (For ex., technical, vocational, business)	○	○

13. What is the highest academic degree that you intend to obtain? (Mark one in each column)

	Highest Planned	Highest Planned at this college
None	○	○
Vocational certificate	○	○
Associate (A.A. or equivalent)	○	○
Bachelor's degree (BA, BS, etc.)	○	○
Master's degree (MA, MS, etc.)	○	○
Ph.D. or Ed D.	○	○
M.D., D.O., D.D.S., or D.V.M	○	○
LL.B., or J.D. (Law)	○	○
B.D. or M.DIV. (Divinity)	○	○
Other	○	○

14. Where do you plan to live during the fall term? If you had a choice, where would you have preferred to live? (Mark one in each column)

	Plan To Live	Prefer To Live
With parents or relatives	○	○
Other private home, apt. or rm.	○	○
College dormitory	○	○
Fraternity or sorority house	○	○
Other campus student housing	○	○
Other	○	○

15. Is this college your: (Mark one)
   - First choice? . . ○
   - Second choice? . ○
   - Third choice? . . ○
   - Less than third choice? . . . ○

16. How many miles is this college from your permanent home? (Mark one)
   - 5 or less ○
   - 6-10 ○
   - 11-50 ○
   - 51-100 ○
   - 101-500 ○
   - More than 500 ○

17. To how many colleges other than this one did you apply for admission this year?
   - No other ○
   - 1 . ○
   - 2 . ○
   - 3 . ○
   - 4 . ○
   - 5 . . . . . ○
   - 6 or more . ○

   Note: If you applied to no other college, skip to item 19 on the next page

18. How many other acceptances did you receive this year? (Mark one)
   - None ○
   - 1 . ○
   - 2 . ○
   - 3 . ○
   - 4 . ○
   - 5 . . . . . ○
   - 6 or more . ○

19. How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below? (Mark one answer for each possible source)

	None	$1-$499	$500-$999	$1,000-$1,499	$1,500-$1,999	$2,000-$3,000	Over $3,000
a. My Own or Family Resources							
Parents, other relatives or friends	○	○	○	○	○	○	○
Spouse	○	○	○	○	○	○	○
Savings from summer work	○	○	○	○	○	○	○
Other savings	○	○	○	○	○	○	○
Full-time job while in college	○	○	○	○	○	○	○
Part-time job while in college	○	○	○	○	○	○	○
b. Aid Which Need Not Be Repaid							
Pell Grant	○	○	○	○	○	○	○
Supplemental Educational Opportunity Grant	○	○	○	○	○	○	○
State Scholarship or Grant	○	○	○	○	○	○	○
College Work-Study Grant	○	○	○	○	○	○	○
College Grant/Scholarship (other than above)	○	○	○	○	○	○	○
Corporate Tuition Assistance	○	○	○	○	○	○	○
Other private grant	○	○	○	○	○	○	○
Your GI benefits	○	○	○	○	○	○	○
Your parent's GI benefits	○	○	○	○	○	○	○
Other government aid (ROTC, BIA, Social Security, etc.)	○	○	○	○	○	○	○
c. Aid Which Must Be Repaid							
Federal Guaranteed Student Loan	○	○	○	○	○	○	○
National Direct Student Loan	○	○	○	○	○	○	○
Other College Loan	○	○	○	○	○	○	○
Other Loan	○	○	○	○	○	○	○
d. Other Than Above	○	○	○	○	○	○	○

If you are receiving any form of aid indicated in sections b or c, please answer Question No. 20. Otherwise go on to Question 21.

20. Was the aid you are receiving awarded on the basis of:

(Mark all that apply)	Yes	No
Academic merit	○	○
Financial need	○	○
Athletic talent	○	○
Other talent (music, art, etc.)	○	○
Other	○	○

21. Were you last year, or will you be this year:

	1984		1985	
	Yes	No	Yes	No
Living with your parents (for more than five consecutive weeks)	(Y)	(N)	(Y)	(N)
Listed as a dependent on your parents' Federal Income Tax Return	(Y)	(N)	(Y)	(N)
Receiving assistance worth $600 or more from your parents	(Y)	(N)	(Y)	(N)

22. Are you: (Mark all that apply)

- White/Caucasian ○
- Black/Negro/Afro-American ○
- American Indian ○
- Asian-American/Oriental ○
- Mexican-American/Chicano ○
- Puerto Rican-American ○
- Other ○

23. Are you a U.S. citizen? ○ Yes ○ No

24. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark (F). If you engaged in an activity one or more times, but not frequently, mark (O) (occasionally). Mark (N) (not at all) if you have not performed the activity during the past year. (Mark one for each item)

	Frequently	Occasionally	Not at all
Used a personal computer	(F)	(O)	(N)
Played a musical instrument	(F)	(O)	(N)
Attended a religious service	(F)	(O)	(N)
Participated in a speech or debate contest	(F)	(O)	(N)
Elected president of one or more student organizations	(F)	(O)	(N)
Was bored in class	(F)	(O)	(N)
Had a major part in a play	(F)	(O)	(N)
Won a varsity letter for sports	(F)	(O)	(N)
Failed to complete a homework assignment on time	(F)	(O)	(N)
Won a prize or award in an art competition	(F)	(O)	(N)
Edited the school paper, yearbook, or literary magazine	(F)	(O)	(N)
Tutored another student	(F)	(O)	(N)
Asked a teacher for advice after class	(F)	(O)	(N)
Participated in a science contest	(F)	(O)	(N)
Did extra (unassigned) work/reading for a course	(F)	(O)	(N)
Was a guest in a teacher's home	(F)	(O)	(N)
Studied with other students	(F)	(O)	(N)
Overslept and missed a class or appointment	(F)	(O)	(N)
Smoked cigarettes	(F)	(O)	(N)
Performed volunteer work	(F)	(O)	(N)
Missed school because of illness	(F)	(O)	(N)
Attended a recital or concert	(F)	(O)	(N)
Drank beer	(F)	(O)	(N)
Stayed up all night	(F)	(O)	(N)
Felt overwhelmed by all I had to do	(F)	(O)	(N)
Felt depressed	(F)	(O)	(N)

25. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one in each row)

	Highest 10%	Above Average	Average	Below Average	Lowest 10%
Academic ability	○	○	○	○	○
Artistic ability	○	○	○	○	○
Drive to achieve	○	○	○	○	○
Emotional health	○	○	○	○	○
Leadership ability	○	○	○	○	○
Mathematical ability	○	○	○	○	○
Physical health	○	○	○	○	○
Popularity	○	○	○	○	○
Self-confidence (intellectual)	○	○	○	○	○
Self-confidence (social)	○	○	○	○	○
Writing ability	○	○	○	○	○

26. In deciding to go to college, how important to you was each of the following reasons?

(Mark one answer for each possible reason)

	Very important	Somewhat important	Not important
To be able to get a better job	(V)	(S)	(N)
To gain a general education and appreciation of ideas	(V)	(S)	(N)
To improve my reading and study skills	(V)	(S)	(N)
There was nothing better to do	(V)	(S)	(N)
To make me a more cultured person	(V)	(S)	(N)
To be able to make more money	(V)	(S)	(N)
To learn more about things that interest me	(V)	(S)	(N)
To prepare myself for graduate or professional school	(V)	(S)	(N)
My parents wanted me to go	(V)	(S)	(N)
I could not find a job	(V)	(S)	(N)
Wanted to get away from home	(V)	(S)	(N)

27. Do you have any concern about your ability to finance your college education? (Mark one)

- None (I am confident that I will have sufficient funds) ○
- Some concern (but I will probably have enough funds) ○
- Major concern (not sure I will have enough funds to complete college) ○

28. How would you characterize your political views? (Mark one)

- Far left ○
- Liberal ○
- Middle-of-the-road ○
- Conservative ○
- Far right ○

29. What is your best estimate of your parents' total income last year? Consider income from all sources before taxes. (Mark one)

- ○ Less than $6,000
- ○ $6,000-9,999
- ○ $10,000-14,999
- ○ $15,000-19,999
- ○ $20,000-24,999
- ○ $25,000-29,999
- ○ $30,000-34,999
- ○ $35,000-39,999
- ○ $40,000-49,999
- ○ $50,000-59,999
- ○ $60,000-74,999
- ○ $75,000-99,999
- ○ $100,000-149,99
- ○ $150,000 or more

30. What is the highest level of formal education obtained by your parents?

(Mark one in each column)

	Father	Mother
Grammar school or less	○	○
Some high school	○	○
High school graduate	○	○
Postsecondary school other than college	○	○
Some college	○	○
College degree	○	○
Some graduate school	○	○
Graduate degree	○	○

31. Mark only three responses, one in each column.

(M) Your mother's occupation
(F) Your father's occupation
(Y) Your probable career occupation

NOTE: If your father or mother is deceased, please indicate his or her last occupation.

	Y	F	M
Accountant or actuary	Y	F	M
Actor or entertainer	Y	F	M
Architect or urban planner	Y	F	M
Artist	Y	F	M
Business (clerical)	Y	F	M
Business executive (management, administrator)	Y	F	M
Business owner or proprietor	Y	F	M
Business salesperson or buyer	Y	F	M
Clergyman (minister, priest)	Y	F	M
Clergy (other religious)	Y	F	M
Clinical psychologist	Y	F	M
College teacher	Y	F	M
Computer programmer or analyst	Y	F	M
Conservationist or forester	Y	F	M
Dentist (including orthodontist)	Y	F	M
Dietician or home economist	Y	F	M
Engineer	Y	F	M
Farmer or rancher	Y	F	M
Foreign service worker (including diplomat)	Y	F	M
Homemaker (full-time)	Y	F	M
Interior decorator (including designer)	Y	F	M
Interpreter (translator)	Y	F	M
Lab technician or hygienist	Y	F	M
Law enforcement officer	Y	F	M
Lawyer (attorney) or judge	Y	F	M
Military service (career)	Y	F	M
Musician (performer, composer)	Y	F	M
Nurse	Y	F	M
Optometrist	Y	F	M
Pharmacist	Y	F	M
Physician	Y	F	M
School counselor	Y	F	M
School principal or superintendent	Y	F	M
Scientific researcher	Y	F	M
Social, welfare or recreation worker	Y	F	M
Statistician	Y	F	M
Therapist (physical, occupational, speech)	Y	F	M
Teacher or administrator (elementary)	Y	F	M
Teacher or administrator (secondary)	Y	F	M
Veterinarian	Y	F	M
Writer or journalist	Y	F	M
Skilled trades	Y	F	M
Other	Y		
Undecided	Y		
Laborer (unskilled)		F	M
Semi-skilled worker		F	M
Other occupation		F	M
Unemployed		F	M

32. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here? (Mark one answer for each possible reason)

	Very important	Somewhat important	Not important
My relatives wanted me to come here.	V	S	N
My teacher advised me	V	S	N
This college has a very good academic reputation	V	S	N
This college has a good reputation for its social activities	V	S	N
I was offered financial assistance.	V	S	N
This college offers special educational programs	V	S	N
This college has low tuition	V	S	N
My guidance counselor advised me	V	S	N
I wanted to live near home	V	S	N
A friend suggested attending	V	S	N
A college rep. recruited me	V	S	N
The athletic dept. recruited me	V	S	N
This college's graduates gain admission to top graduate/professional schools	V	S	N
This college's graduates get good jobs.	V	S	N
Not offered financial aid by first choice college	V	S	N

33. Do you have a disability? (Mark all that apply)

None	○	Learning disability	○
Hearing	○	Health-related	○
Speech	○	Partially sighted or blind	○
Orthopedic	○	Other	○

BE SURE TO ANSWER QUESTIONS 34, 35, AND 36.

34. Current religious preference: (Mark one in each column)

	Yours	Father's	Mother's
Baptist	Y	F	M
Buddhist	Y	F	M
Congregational (U.C.C)	Y	F	M
Eastern Orthodox	Y	F	M
Episcopal	Y	F	M
Islamic	Y	F	M
Jewish	Y	F	M
Latter Day Saints (Mormon)	Y	F	M
Lutheran	Y	F	M
Methodist	Y	F	M
Presbyterian	Y	F	M
Quaker (Society of Friends)	Y	F	M
Roman Catholic	Y	F	M
Seventh Day Adventist	Y	F	M
Other Protestant	Y	F	M
Other Religion	Y	F	M
None	Y	F	M

35. Are you a born-again Christian?

Yes . . ○ No . . ○

36. During high school (grades 9-12) how many years did you study each of the following subjects? (Mark one for each item)

	None	½	1	2	3	4	5 or more
English	0	½	1	2	3	4	5
Mathematics	0	½	1	2	3	4	5
Foreign Language	0	½	1	2	3	4	5
Physical Science	0	½	1	2	3	4	5
Biological Science	0	½	1	2	3	4	5
History/Am. Govt.	0	½	1	2	3	4	5
Computer Science	0	½	1	2	3	4	5
Art and/or Music	0	½	1	2	3	4	5

37. Mark one in each row:

(1) Disagree Strongly
(2) Disagree Somewhat
(3) Agree Somewhat
(4) Agree Strongly

	4	3	2	1
The Federal government is not doing enough to protect the consumer from faulty goods and services	4	3	2	1
The Federal government is not doing enough to promote disarmament	4	3	2	1
The Federal government is not doing enough to control environmental pollution	4	3	2	1
The Federal government should do more to discourage energy consumption	4	3	2	1
The Federal government should raise taxes to help reduce the deficit	4	3	2	1
Federal military spending should be increased	4	3	2	1
Nuclear disarmament is attainable	4	3	2	1
The death penalty should be abolished	4	3	2	1
A national health care plan is needed to cover everybody's medical costs	4	3	2	1
Abortion should be legalized	4	3	2	1
Grading in the high schools has become too easy	4	3	2	1
The activities of married women are best confined to the home and family	4	3	2	1
A couple should live together for some time before deciding to get married	4	3	2	1
Women should receive the same salary and opportunities for advancement as men in comparable positions	4	3	2	1
Wealthy people should pay a larger share of taxes than they do now	4	3	2	1
Marijuana should be legalized	4	3	2	1
Busing is O.K. if it helps to achieve racial balance in the schools	4	3	2	1
It is important to have laws prohibiting homosexual relationships	4	3	2	1
College officials have the right to regulate student behavior off campus	4	3	2	1
Faculty promotions should be based in part on student evaluations	4	3	2	1
College officials have the right to ban persons with extreme views from speaking on campus	4	3	2	1
Realistically, an individual person can do little to bring about changes in our society	4	3	2	1
The chief benefit of a college education is that it increases one's earning power	4	3	2	1

38. Below is a list of different undergraduate major fields grouped into general categories. Mark only one circle to indicate your probable field of study.

ARTS AND HUMANITIES
- Art, fine and applied
- English (language and literature)
- History
- Journalism
- Language and Litarature (except English)
- Music
- Philosophy
- Speech
- Theater or Drama
- Theology or Religion
- Other Arts and Humanities

BIOLOGICAL SCIENCE
- Biology (ganeral)
- Biochemistry or Biophysics
- Botany
- Marine (Lila) Science
- Microbiology or Bacteriology
- Zoology
- Other Biological Science

BUSINESS
- Accounting
- Business Admin. (general).
- Finance
- Markating
- Managemant
- Secretarial Studies
- Other Business

EDUCATION
- Business Education
- Elementary Education
- Music or Art Education
- Physical Education or Racreation
- Secondary Education
- Special Education
- Other Education

ENGINEERING
- Aeronautical or Astronautical Eng.
- Civil Engineering
- Chemical Engineering
- Elactrical or Electronic Enginaering
- Industrial Engineering
- Mechanical Engineering
- Othar Engineering

PHYSICAL SCIENCE
- Astronomy
- Atmospheric Science (incl. Meteorology)
- Chemistry
- Earth Science
- Marine Scienca (incl. Ocaanography)
- Mathamatics
- Physics
- Statistics
- Othar Physical Science

PROFESSIONAL
- Architectura or Urban Planning
- Home Economics
- Health Technology (medical, dental, laboratory)
- Library or Archival Science.
- Nursing
- Pharmacy
- Predental, Premedicine, Preveterinary
- Therapy (occupational, physical, speech)
- Other Professional

SOCIAL SCIENCE
- Anthropology
- Economics
- Ethnic Studies
- Geography
- Political Science (gov't., international relations).
- Psychology
- Social Work
- Sociology
- Women's Studies
- Other Social Science

TECHNICAL
- Building Trades
- Data Processing or Computar Programming.
- Drafting or Design
- Electronics
- Mechanics
- Other Technical

OTHER FIELDS
- Agriculture
- Communications (radio, TV, etc.)
- Computer Science
- Forestry
- Law Enlorcemant
- Military Science
- Other Field
- Undecided

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39. Indicate the importance to you personally of each of the following: (Mark one for each item) — (E) Essential, (V) Very Important, (S) Somewhat Important, (N) Not Important

- Becoming accomplished in one of the performing arts (acting, dancing, etc.) — E V S N
- Becoming an authority in my field — E V S N
- Obtaining recognition from my colleagues for contributions to my special field — E V S N
- Influencing the political structure — E V S N
- Influencing social values — E V S N
- Raising a family — E V S N
- Having administrative responsibility for the work of others — E V S N
- Being very well off financially — E V S N
- Helping others who are in difficulty — E V S N
- Making a theoratical contribution to science — E V S N
- Writing original works (poems, novels, short stories, etc.) — E V S N
- Creating artistic work (painting, sculpture, decorating, etc.) — E V S N
- Being successful in a business of my own — E V S N
- Becoming involved in programs to clean up the environment — E V S N
- Developing a meaningful philosophy of life — E V S N
- Participating in a community action program — E V S N
- Helping to promote racial understanding — E V S N
- Becoming an expert on finance and commerce — E V S N

40. What is your best guess as to the chances that you will: (Mark one for each item) — (V) Very Good Chance, (S) Some Chance, (L) Very Little Chance, (N) No Chance

- Change major field? — V S L N
- Change career choice? — V S L N
- Fail one or more courses? — V S L N
- Graduate with honors? — V S L N
- Be elected to a student office? — V S L N
- Get a job to help pay for college expenses? — V S L N
- Work full time while attending college? — V S L N
- Join a social fraternity, sorority, or club? — V S L N
- Live in a coeducational dorm? — V S L N
- Play varsity/intercollegiate athletics? — V S L N
- Be elected to an academic honor society? — V S L N
- Make at least a "B" average? — V S L N
- Need extra time to complete your degree requirements? — V S L N
- Get tutoring help in specific courses? — V S L N
- Have to work at an outside job during college? — V S L N
- Seek vocational counseling? — V S L N
- Seek individual counseling on personal problems? — V S L N
- Get a bachelor's degree (B.A., B.S., etc.)? — V S L N
- Participate in student protests or demonstrations? — V S L N
- Drop out of this college temporarily (exclude transferring)? — V S L N
- Drop out permanently (exclude transferring)? — V S L N
- Transfer to another college before graduating? — V S L N
- Be satisfied with your college? — V S L N
- Find a job after college in the field for which you were trained? — V S L N
- Get married while in college? (skip if married) — V S L N
- Get married within a year after college? (skip if married) — V S L N

The Higher Education Research Institute at UCLA actively encourages the colleges that participate in this survey to conduct local studies of their students. If these studies involve collecting follow-up data, it is necessary for the institution to know the students' ID numbers so that follow-up data can be linked with the data from this survey. If your college asks for a tape copy of the data and signs an agreement to use it only for research purposes, do we have your permission to include your ID number in such a tape? Yes ○ No ○

41. A B C D E
42. A B C D E
43. A B C D E
44. A B C D E
45. A B C D E

The remaining circles are provided for items specifically designed by your college rather than by the Higher Education Research Institute. If your college has chosen to use the circles, observe carefully the supplemental directions given you.

THANK YOU!

46. A B C D E
47. A B C D E
48. A B C D E
49. A B C D E
50. A B C D E

APPENDIX B

Cycles Survey

STUDENT AFFAIRS RESEARCH AND EVALUATION OFFICE

CYCLES SURVEY - SPRING 1986

We are trying to assess the experience of undergraduates at the University of Massachusetts. Please complete this survey today and return it as indicated on the last page. If you have any questions, contact us at 545-1390. Thank you for your assistance.

PLEASE WRITE THE NUMBER THAT CORRESPONDS TO YOUR RESPONSE IN THE SPACE PROVIDED TO THE LEFT OF EACH QUESTION. FOR QUESTIONS 1 TO 9, PLEASE USE THE FOLLOWING SCALE.

1) VERY DISSATISFIED 2) DISSATISFIED 3) SATISFIED 4) VERY SATISFIED

DURING THIS SEMESTER, HOW SATISFIED HAVE YOU BEEN WITH:

___ 1. your University experience?
___ 2. your academic progress?
___ 3. your academic experience?
___ 4. your social life?
___ 5. your housing experience?
___ 6. your present schedule of courses?

FOR ON-CAMPUS PEOPLE ONLY, HOW SATISFIED HAVE YOU BEEN WITH:

___ 7. your professional live-in housing staff (e.g. Resident Director or Head of Residence)?
___ 8. your student live-in housing staff (Resident Assistant)?
___ 9. the security in the residence hall?

FOR QUESTIONS 10 TO 21 PLEASE USE THE FOLLOWING SCALE.

0) NO BASIS FOR JUDGMENT 1) VERY DISSATISFIED 2) DISSATISFIED 3) SATISFIED 4) VERY SATISFIED

DURING THIS SEMESTER, HOW SATISFIED HAVE YOU BEEN WITH:

___ 10. your academic advisor?
___ 11. the accessibility of faculty?
___ 12. security in the parking areas?
___ 13. security in the academic areas of campus at night?
___ 14. career counseling and placement services?
___ 15. the University Health Services when used for medical care?
___ 16. library resources and services?
___ 17. the Financial Aid Office?
___ 18. your financial aid package ("0" if not applicable)?
___ 19. the Dining Commons Food Service?
___ 20. the services provided by the Registrar's Office?
___ 21. programmed social activities (e.g. concerts, movies, etc.)?

FOR QUESTIONS 22 TO 29 WRITE THE NUMBER OF HOURS PER WEEK. DURING THIS SEMESTER, HOW MANY HOURS PER WEEK:

___ 22. have you spent in scheduled class meetings and labs?
___ 23. have you put into your courses outside of class and labs?
___ 24. have you put into non-course academic work (independent study, colloquia)?
___ 25. have you spent in sports, athletics, and physical exercise?
___ 26. have you spent playing and relaxing (excluding sleeping time)?
___ 27. have you spent working for pay?
___ 28. have you spent using a computer for data analysis?
___ 29. have you spent using a computer for word processing?

___ 30. Do you have your own personal computer here at the University? 1) YES 2) NO

___ 31. Approximately how many days have you been unable to do your usual studying and work because you were sick?

FOR QUESTIONS 32 TO 49 PLEASE USE THE FOLLOWING SCALE.

1) STRONGLY DISAGREE 2) SOMEWHAT DISAGREE 3) SOMEWHAT AGREE 4) STRONGLY AGREE

TO WHAT EXTENT DO YOU AGREE WITH EACH OF THE FOLLOWING:

___ 32. If I could get a job now, or the same job after finishing school, I'd take the job now.

___ 33. I'd drop out if UMass weren't helping my job chances.

___ 34. I'm bored in class.

___ 35. I'm proud to go to UMass.

___ 36. Sometimes I wish I had attended a more prestigious college.

___ 37. UMass is a good place to find out who you are.

___ 38. Most students at UMass are treated like numbers in a book.

___ 39. I feel a sense of community at UMass.

___ 40. Most faculty members at UMass are deeply interested in undergraduates' academic problems.

___ 41. Administrators at UMass do not seem to care about students.

TO WHAT EXTENT DO YOU AGREE THAT THE FOLLOWING ARE ESSENTIAL OBJECTIVES OF COLLEGE:

___ 42. a detailed grasp of a special field

___ 43. a well-rounded general education

___ 44. learning to get along with people

___ 45. formulating life values and goals

TO WHAT EXTENT DO YOU AGREE THAT CORE REQUIREMENTS AT UMASS:

___ 46. add to my understanding and enjoyment of other courses

___ 47. don't help people prepare for jobs

___ 48. reflect faculty and departmental interests rather than broad student interests

___ 49. help prepare one for lifelong learning

FOR QUESTIONS 50 TO 60 PLEASE USE THE FOLLOWING SCALE.

1) TO A VERY LITTLE OR NO EXTENT 2) TO A LITTLE EXTENT 3) TO SOME EXTENT 4) TO A GREAT EXTENT 5) TO A VERY GREAT EXTENT

REFLECTING ON YOUR COLLEGE EXPERIENCE UP TO NOW, TO WHAT EXTENT DO YOU FEEL YOU HAVE GAINED OR MADE PROGRESS IN EACH OF THE FOLLOWING RESPECTS?

___ 50. occupational training - acquiring knowledge and skills applicable to a career

___ 51. gaining a broad general education about different fields of knowledge

___ 52. writing clearly and effectively

___ 53. becoming aware of different philosophies, cultures, and ways of life

___ 54. understanding yourself - your abilities, interests, and personality

___ 55. understanding the nature of science and experimentation

___ 56. ability to think analytically and logically

___ 57. ability to learn on your own and pursue ideas

___ 58. What one aspect of your University experience are you the most enthusiastic about:

1) CONCERN OF FACULTY FOR STUDENTS
2) QUALITY OF TEACHING
3) PREPARATION FOR ACADEMIC OR EMPLOYMENT GOALS
4) QUALITY OF STUDENT SERVICES PROVIDED
5) YOUR SOCIAL LIFE
6) PRESTIGE OF UMASS
7) OTHER _____

___ 59. Are you currently taking a course at another of the Five Colleges? 1) YES 2) NO

___ 60. How many courses have you ever taken at another of the Five Colleges?

0) NONE 1) ONE 2) TWO 3) THREE 4) FOUR OR MORE

FOR QUESTIONS 61 TO 65 PLEASE USE THE FOLLOWING SCALE.

0 NOT SERIOUS
1 SOMEWHAT SERIOUS
2 VERY SERIOUS
3 EXTREMELY SERIOUS

HOW SERIOUS AN OBSTACLE TO REGISTRATION IN A COURSE ON ANOTHER CAMPUS DO YOU THINK EACH OF THE FOLLOWING IS:

___ 61. lack of information

___ 62. scheduling conflicts

___ 63. obtaining permission of your advisor/dean

___ 64. course closed

___ 65. transportation

FOR QUESTIONS 66 TO 69 PLEASE USE THE FOLLOWING SCALE.

0 NEVER USE
1 LESS THAN ONCE A MONTH
2 ONCE OR TWICE A MONTH
3 ONCE OR TWICE A WEEK
4 ALMOST DAILY

HOW FREQUENTLY THIS SEMESTER DO YOU USE EACH OF THE FOLLOWING ASPECTS OF FIVE COLLEGE COOPERATION:

___ 66. buses

___ 67. libraries at other schools

___ 68. cultural activities

___ 69. social activities (including dating)

FOR QUESTIONS 70 TO 81 WRITE THE NUMBER OF YOUR RESPONSE IN THE BLANK BESIDE EACH QUESTION.

___ 70. Were you accepted to the University in the major you requested? 1) YES 2) NO

___ 71. Which of the following best describes the status of your major?

1) Undeclared major, but know what major I prefer
2) Undeclared major, and don't know what major I prefer
3) Declared a major, but I prefer a different major MY DECLARED MAJOR IS_____
4) Declared a major and it is the major I prefer MY DECLARED MAJOR IS_____

___ 72: During this semester, have you considered withdrawing for any reason from the University?

1) YES - VERY SERIOUSLY 2) YES - SOMEWHAT SERIOUSLY 3) NO

___ 73. How did you enter the University? As a 1) FRESHMAN 2) TRANSFER

___ 74. In what school/college are you enrolled?

1) CAS 2) EDUCATION 3) SOM 4) ENGINEERING 5) PHYSICAL EDUCATION
6) HEALTH SCIENCES 7) FOOD AND NATURAL RESOURCES 8) OTHER

___ 75. Residence: 1) OFF-CAMPUS 2) CENTRAL 3) ORCHARD HILL 4) NORTHEAST
5) SOUTHWEST TOWER 6) SOUTHWEST LOW RISE 7) SYLVAN 8) FRATERNITY/SORORITY

___ 76. Sex: 1) MALE 2) FEMALE

___ 77. Your age: (write number of years in blank)

___ 78. Class: 1) FRESHMAN 2) SOPHOMORE 3) JUNIOR 4) SENIOR 5) NON-CLASSIFIED

___ 79. Please classify yourself according to Federal categories on ethnic background (your response to this item is optional, but as with all items, your response is confidential).
1) WHITE 2) BLACK 3) HISPANIC 4) ASIAN OR PACIFIC ISLANDER
5) AMERICAN INDIAN 6) CAPE VERDIAN 7) NON-RESIDENT ALIEN 8) OTHER

What is good about UMass, and what needs to be changed? Please comment.

MANY THANKS FOR YOUR HELP.

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