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The "Second Half" of Student Integration

The Effects of Life Task Predominance on Student Persistence

College dropout and persistence research finds that "integration" is central to students' decision to stay in school: students remain enrolled when they learn the subtle and overt rules governing study and classroom habits, when they develop routine and pleasurable social relationships, and when they develop a "cognitive map" [25] of the campus in which specific and personal meanings are attached to specific locations. In short, students stay in school when they become engaged in daily college life.

Integration has been defined conceptually as a product of the interaction between students and their college environments. Yet many measurement tools define integration unidimensionally: as students' agreement with the university's goals and values. In this article, a model of student persistence is presented that emphasizes students' abilities to shape their college environment in accordance with their own goals, plans, and expectations. Longitudinal data on 311 college freshmen are used to compare this model (the "life task" model) to the one most often used (the Tinto model) in terms of its ability to predict the number of semesters students remain enrolled in school. Furthermore, the life task

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model is used to demonstrate that different factors influence persistence for affiliation- versus achievement-oriented students.

The Problem of College Dropout

Graduating from college is one of the important determinants of later life economic success and status attainment [17, 41], yet the pattern of who is most at risk to drop out precisely mirrors ethnic and social class divisions that describe an underclass in American society [23, 51]. While over 41 percent of a freshman class will never graduate with a college degree (with over half of them dropping out in their first year), 65 percent of all Hispanics and 55 percent of all African Americans leave higher education without a degree within four years of entry. Sixty-one percent of freshmen in the lowest socioeconomic status quartile never graduate [47]. To exacerbate this problem, having a college degree will be increasingly important, almost mandatory, in a future with narrowing economic options, and with the demographic trends of the college-age populations increasingly graduating from secondary school and entering some form of higher education.[1]

Approaches to Understand Student Persistence

College persistence — staying in school until graduation — has traditionally been studied as a function of personality (such as with the MMPI, SCL90, Myers-Briggs, Perry's test for intellectual development, and Kohlberg's on moral development), demographic, and background data [17]. As Stage [42] notes, these strategies can be described to take either a psychological or a sociological orientation: either focusing on micro-level "student development," which assumes that students progress through a sequence of psychological stages, with greater development contributing to greater persistence, or focusing on macro-level aggregation of students into demographic groups to observe how constellations of traits and structural variables covary with persistence.

Tinto [48] argued that *college integration* — the extent to which students involve themselves in academic and social domains of college life — was the important mediating variable between students' backgrounds

[1]Clowes, Hinkle, and Smart [13] report that from 1961 to 1982, the proportion of high-school graduating classes who enter higher education has increased from 59 percent to 64 percent. In general, almost 60 percent of those between the ages of 18 to 22 attend some form of higher education [21]. The U.S. Department of Education [47] reports that in 1987, about 58 percent of white high-school graduates began college the following fall, while 45 percent of Hispanics and 44 percent of African Americans did the same. Between 1965 and 1987, the high-school completion rate for African Americans, ages 25–29, increased from 50 percent to 83 percent.

(prior performances, demographic information, family background) and persistence. This article was pivotal in refocusing the field on understanding persistence to be the product of the interaction between students and their experiences in the college environment.

In the Tinto model (see fig. 1), students' initial goal and institutional commitments (respectively, the amount students value an undergraduate degree, and the amount they value their particular institution) influence their integration into the academic and social life of college. Students' integration was based on the congruence between their commitments and activities, on the one hand, and the college's academic and social opportunities and feedback, on the other. Students' integration influenced their subsequent commitments, which ultimately determined their decision to remain in school. Integration exists when students can establish a "niche" for themselves within the university community.

Pascarella, Terenzini, Bean, Stage and others have made substantial progress in measuring integration, and testing its impact on persistence [see 3, 4, 34, 35, 36, 42, 43, 45]. Institutional commitment, goal commitment, and integration are measured with Likert scales that ask students to rate the extent to which they agree with statements describing basic goals, values and ideals of a university (see, for example, the Institutional Integration Scales of Pascarella & Terenzini, [36]). Rosovsky [39] describes this as identifying the extent to which students "think like faculty."

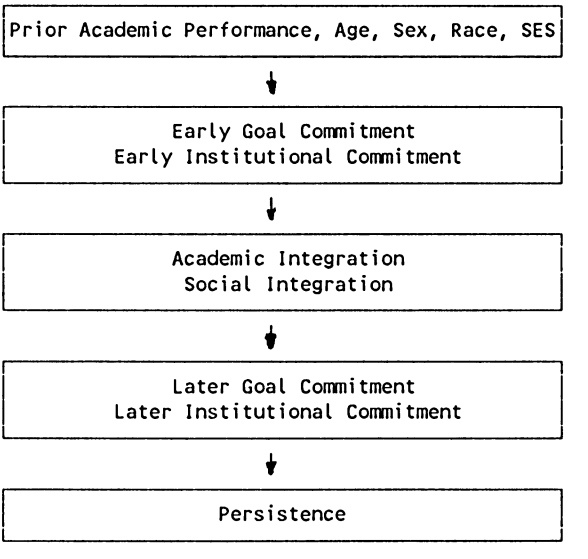

FIG. 1. Tinto Model of Student Persistence

The "Second Half" of the Integration Process

Despite the improvements in predicting student persistence with these scales [see also 24, 37], they neglect the "second half" of the interaction between students and their environment: how students shape and modify their college environment by engaging in specific activities and by pursuing their own goals and tasks. While the integration *concept* was developed to explore the dynamic interactions between students and colleges, the *instruments* measured only the extent to which students agree with a set of goals, values, and ideals of the university, a process that might more accurately be called "conformity." Student performance also depends on how they establish a niche in the university based in part on their own perceptions, goals, choices, and actions.

Stage [43] finds that different types of students pursue different outcomes in college, based on personal goals and educational objectives. Students interested in becoming "certified" in college (using college as a means to earn a degree and get a job) were most likely to remain in school when their academic integration (that is, their academic activities and involvements) was high and when they highly valued their particular college. In contrast, for students interested in gaining skills to help others (to prepare for community service, for example), the decision to stay in school was influenced by the amount they valued their goal of graduating. Additionally, Stage notes that compensatory relationships exist between students' integration into their academic and social life, and between the effects of these variables on persistence: as the level of social (academic) integration increases, the positive influence of academic (social) integration on persistence becomes less pronounced. Stage suggests that these compensatory relationships describe how different students use different combinations of college experiences to enable them to remain in school.

Stark, Shaw, and Lowther [44] report that students' academic successes are largely influenced by their personally held academic goals and expectations. They argue that students' goals and expectations must form the basis of an assessment of academic skills, abilities, and performances. Furthermore, a large literature exists on how self and other expectations influence performance, the most consistent finding being that we live up or down to the expectations set for us [see 6, 17, 19].

College students have been found to use personally defined goals, and especially future-oriented goals (that is, goals as symbols for their lives in their foreseeable future) as motivational and evaluative standards for their performances [20, 30, 40]. Future goals are motivating to the extent that they are both personally salient and clear [2, 5, 29]. Dweck [16]

finds that self esteem is directly related to how far along we believe we are in accomplishing our goals.

The "second half" of the integration concept, then, describes how students shape their environment through their goals, expectations, choices, and actions. More concretely, students shape their experience of college by, for example, choosing their own educational "paths" (that is, majors, classes, study habits and locations, and performance standards) within the parameters of those appropriate to higher education [13]; by developing their own living habits, again within the parameters specified by social norms and/or the norms of college life [33]; and by determining their own routines that enable them to complete their tasks of daily living.

Again, consistent with Tinto's concept of integration (but different from how it has been measured), the process of integration is not one of finding a "fit" between the person and the environment, which implies matching "static" student characteristics to "static" environmental characteristics. Instead, students shape their environment by choosing to pursue their own tasks and goals while their environment shapes them through its norms, expectations, and opportunities. A dynamic interaction exists between what students want to do in college and what they actually do. Finding a niche in college means developing ways to pursue one's chosen goals and tasks within one's college environment.

For this interactive process to unfold, of course, it is necessary for a university to offer options to students. It may be the case that students will drop out of college because their goals and tasks do not fit the opportunities offered by their particular institution. We should observe students, from the moment they matriculate, pursuing different goals and college tasks, becoming involved with different aspects of the university, making different schedules for their days, and evaluating their performances using different standards. It will be those students who find a congruence between their own goals and tasks and the opportunities and feedback from the environment who will remain in school.

Student Life Tasks as the Indicator of the "Second Half" of Integration

Cognitive social psychology suggests one straightforward way to capture students' goals and college tasks: asking them to list their "life tasks" — the problems and situations with respect to college life that they see themselves working on and devoting energy to solving [9, 10, 28, 38]. One's list of life tasks represents the goals, aspirations, and expectations that are "on line" for the individual: those that are actively used by the student when facing day-to-day situations [27]. The propor-

tion of tasks that can be categorized into various domains of life, and the priority given to these task domains — called here their "life task predominance" — will reflect how students shape their environments. Selected life tasks reflect how role and performance demands are prioritized and weighted by individuals, how specific features of situations are attended to over others, and how specific tasks and goals are imbued with personal incentives [26].

Research has identified up to seven life task domains that are important to college life: academic achievement, social interaction, future goal development, autonomy, identify formation, time management, and physical maintenance/well-being [1, 7, 8, 12, 21].[2] The seven life task domains themselves can be seen to fall into broad categories of achievement and affiliation, the broad division of motives most often identified in social and personality psychology [31]. The "achievement motive" refers to the basic human motivation to "do well;" the "affiliation motive" refers to the basic human motivation to "be with others."

The research on the Tinto model has focused on only two of these domains — namely academic achievement and social interaction. College success should be studied as it is dependent on students' activities and coping within each of the seven life task domains.

The Life Task Model of Student Persistence

Figure 2 presents how life task predominance can be added to the Tinto model to highlight how students shape their environment. In this figure, background variables influence directly how the individual construes the environment by influencing students' life task selection and the predominance given to the various domains of college life. Students' sets of life tasks are those to which they commit themselves. Tinto's variables of initial goal and institutional commitment can be understood as the unique instance where students' life tasks overlap substantially with those of the university community. Their goals are the university's goals, and the items composing the scales of integration and commitment

[2]These life tasks may strike the reader as surprisingly upbeat, given the often dubious activities in which we observe students engaging. The seven life task domains are meant to describe the social and psychological issues that underlie students' activities. Thus, alcohol and drug use could describe students' efforts toward social interaction, physical health, identity formation, or even academic achievement. As another example, students' sexual activity most often related to their social interaction though also to issues of identity formation. In the research to be described in this study, students first brainstormed a list of their current life tasks and then coded their own tasks into one or more of the seven task domains presented. This procedure was used to allow students to "personalize" the life task domains by defining them in terms of their own activities.

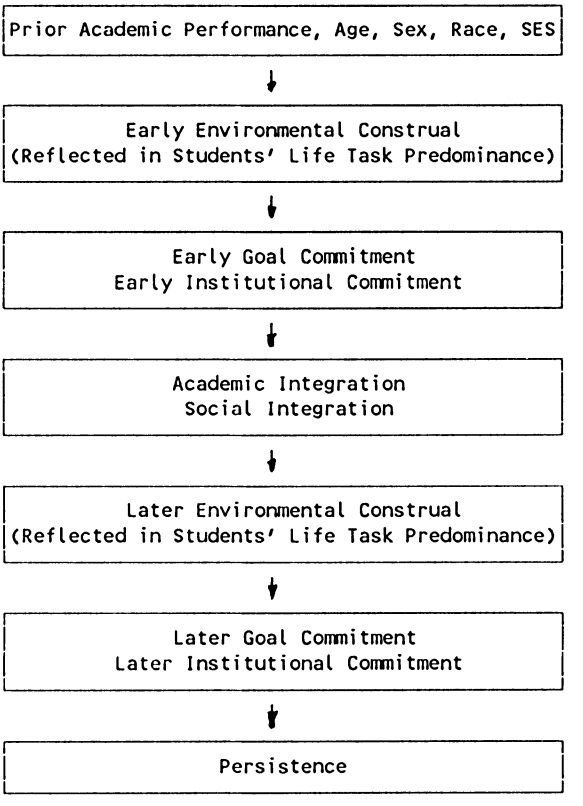

FIG. 2. Life Task Model of Student Persistence

NOTE: Only in the unique instance will students' goals and values completely match the university's goals and values. In this instance "early and later environmental construal" will completely match "early and later goal and institutional commitments." Therefore, in this instance the Life Task model can be simplified to produce the Tinto model.

commonly used fit well with students' perception of what is important in college. More generally, however, students' selected goals and tasks will overlap to varying degrees with those of the university. Therefore, students will be seen to commit initially to only certain parts of their institutions and to only certain self-defined higher education goals.

In the process of pursuing their life tasks, within the context of the university environment, students become integrated into the academic and social life of college. Based on the feedback received from the environment, students will update and modify their life task lists: modifying their goals, values, plans, and expectations for themselves in college. Later environmental construal can again be understood as the general process that describes Tinto's later goal and institutional commitments.

Note that in the unique case when students' goals and values match

completely the university's goals and values, "early and later environmental construal" will completely match "early and later goal and institutional commitment." In this case, the Life Task model can be simplified to produce the Tinto model.

Thus, two students might both highly value college and feel the pressure to get good grades, yet for one student getting a 4.0 GPA is of utmost importance: grades are linked to his future goal of getting into a top law school. The first student believes that achieving straight A's will be a direct result of the number of hours spent at the library and of taking as many "gut" courses as possible while still meeting the requirements of his major. The second student does not link her grades to her future goals as much as they are linked to her sense of identity. She has selected classes that are in new subjects that she thought sounded intellectually challenging and exciting. Because each student has personally shaped the task demands that they face, specific situations will be perceived to contain particular problems or tasks to resolve [50]. The first student will constantly be reading his course material through the filter of "how will this improve my grade," while the second student will read her material through the filter of "how will this improve my learning."

We can hypothesize how each of these students will react to receiving a 3.1 GPA for their first semester. Student 1 is devastated: he evaluates his performance against his future goal of what he imagines are the criteria for top law schools and feels panicked about needing to bring up his "cume." He will double his study time in the next semester and go to every discussion and review session he can. His second semester life task predominance will show an even greater focus on the domains of "grades" and "future goals." Student 2, on the other hand, evaluates her GPA against criteria of whether her academic activities have helped her learn new and interesting material and have helped her learn more about herself. If she is reasonably satisfied with what she learned, she will not be compelled to make major changes in her priorities, evidenced by little change in her second semester life task predominance.

Both of these students would look the same according to the traditionally measured Tinto model: they both had high initial goals and institutional commitments and maintained their level of commitments in the second semester; both received the same first-semester GPA and were highly academically integrated. Yet, these students would be distinguished from one another based on the life task persistence model presented in figure 2: student 1 would be seen to shift his life task predominance even more narrowly toward the academic achievement domain in the second semester, while student 2's life task predominance would not change much at all from first to second semester.

Adding life task predominance into the Tinto model will improve persistence predictions. The model presented in figure 2 predicts that students will stay in college when they find a match between what they seek and what they find. It is hypothesized that those students will persist who are able to find opportunities and reinforcements to work on their self-selected tasks. Furthermore, different students should be observed to persist for different reasons: factors influencing persistence should be seen to differ for students who are achievement-oriented versus for those who are affiliation-oriented (that is, who predominantly list either achievement or affiliation life tasks). The factors influencing persistence will be seen as consistent with either their achievement or affiliation orientation.

Study Design

Three hundred and eleven students entering the University of Wisconsin-Madison as freshmen in the fall of 1988 were included in this study. This sample contained all students who completed both first and second semester questionnaires administered as part of a large longitudinal study of student stress and adaptation to college. In the larger study, 510 students returned first-semester questionnaires (a 66 percent return from those randomly selected to participate), and 623 returned questionnaires in the second semester (a 70 percent return from the sample of first-semester participants plus additional students randomly selected from those not contacted in the first semester). The 311 students used in these analyses did not differ from the entire 1988 freshman class in terms of background characteristics or overall freshman-year dropout rate,[3] with the exception that the sample population contained a greater proportion of women than did the entire freshman class (consistent with other samples collected on freshmen [43]). See Brower [8] for a fuller description of these administration and sampling procedures.

Additional data from the university's testing and evaluation office were used to obtain a measure of the number of semesters students remained enrolled through spring 1990, their first-semester GPA and credits earned, and information about their demographic background and prior academic performance.

Linear regressions were performed to compare the abilities of the tra-

[3]Because this study used students who completed both questionnaires, it did exclude those students who dropped out between their first and second semester, which was 3.2 percent of the entire freshman class. However, the end-of-first-year dropout rate (9.8 percent) was the same for the study sample as for the entire class, meaning that a larger proportion of students in the study sample dropped out after the start of their second semester than was the case for the entire class.

ditionally operationalized Tinto model to the life task persistence model to predict the number of semesters students remained enrolled in the university. Second, to demonstrate the life task model's ability to distinguish between students' modes of persistence, students were identified according to their first-semester life task scores as being predominantly oriented toward either achievement or affiliation tasks at matriculation. Regression analyses were performed separately for the achievement versus affiliation students to determine the factors influencing persistence for each group.

The variables used for the Tinto model are background characteristics, initial commitments, academic integration, social integration, later commitments, and persistence.

Background characteristics: This set of variables consisted of information concerning students' age, sex, race, high-school class rank, and socioeconomic status (SES) of their family of origin. SES was scored with the index used by the U.S. Department of Education's National Longitudinal Study and High School and Beyond data sets [15].

Initial commitments: Goal and institutional commitments were measured through items taken from a questionnaire given to students at the beginning of their first semester at college. The score for Goal Commitment was obtained by taking the sum of five items, such as "I know why I'm in college, and what I want out of it," and "Getting a college degree is very important to me." The score for Institutional Commitment was obtained by taking the sum of six items, such as "I feel that I fit in well as part of the UW-Madison environment;" "I am pleased now about my decision to attend UW-Madison in particular."

Academic integration: Academic integration was designed to measure students' academic experiences on campus. In accordance with Stage [43], four variables were used: (1) attitudes and feelings about their academic activities (obtained using the academic subscale of the Student Adjustment to College Questionnaire [SACQ] [1] administered at the beginning of students' second semester), (2) total number of hours per week spent on academically oriented activities (obtained during the second-semester questionnaire), (3) number of credits earned in the first semester, and (4) GPA earned in the first semester. The academic integration score was derived by averaging the non-missing standardized items above.

Social integration: Social integration measured students' social experiences on campus, obtained from items on the second-semester questionnaire. Again in accordance with Stage [43], it was composed of two items: (1) attitudes and feelings about social activities (including involve-

ments with professors and teaching assistants), obtained through the social subscale of the SACQ, and (2) total number of hours per week spent engaged in social and non-academic activities. Similar to the index for academic integration, the social integration score was derived by obtaining an average of the non-missing standardized items above.

Later commitments: Later goal and institutional commitments were identical to those of initial commitments, though they were obtained from students during the second-semester questionnaire.

Persistence: Instead of using the binary persistence variable most often used in the literature (that is, whether the student was enrolled or not at a given time), persistence was measured with an interval variable consisting of the total number of semesters in which students were enrolled. Persistence was measured following the 1989–90 academic year, meaning that students could have been enrolled up to four semesters. Counting number of semesters enrolled allows students who drop out and then re-enroll to be distinguished from those who drop out altogether, important because "stop outs" (who eventually graduate) do not suffer from the same economic and status limitations in later life as do "drop outs" [47]. In this sample, 1.9 percent of the students who would have been considered dropouts re-enrolled in their fourth semester.[4] For comparison purposes, the percentage of students who were not enrolled at the beginning of their second year was calculated: 9.8 percent. This figure is comparable to the drop-out rates in the samples used by Stage [43], 9 percent; Bean [4], 10 percent; and Pascarella and Terenzini [35, 36], 6.2 percent and 11.6 percent.

Life task predominance: The life task persistence model used the additional variables of "early and later environmental construal," defined by scores representing the student's task predominance for each of seven life task domains found to be central to college life [7]. *Life task scores* were derived from free-form "life task lists" [8, 11, 27, 38]: students were asked to "list . . . all of the life tasks that come to mind for you as you think about the coming year. Your list can include tasks ranging from the mundane to the monumental, as well as those that you will actively seek out and those that you will simply stumble into." After listing all of their tasks, students were instructed to rank order them for importance, and then code them into one or more of the seven task categories (specif-

[4]Given that it is now taking an average of 5.5 years for students to receive their undergraduate degrees, one should ideally wait that long before conducting persistence analyses. In that way, the persistence variable will reflect actual dropout/stopout status most accurately. On the other hand, waiting this long would seriously hinder the ability of researchers to provide timely information to institutions and to other researchers.

ically instructed not to force their tasks into these categories). Life task scores were created to reflect the ranking and frequency of occurrence of the life tasks listed. The scores weighted each task based on its rank, standardizing across students regardless of the number of tasks listed.[5] Life task lists, and hence, life task scores, were obtained from students in both the first- and second-semester questionnaire administrations. "Early environmental construal" was measured using first-semester life task scores; "later environmental construal" was measured using scores from second-semester.

The primary hypothesis tested in this study is that we can better predict the number of semesters students enroll in college by adding life task predominance to the traditionally measured Tinto model of student integration and persistence. Secondly, the life task model can be used to identify different factors as relevant to the persistence for achievement- versus affiliation-oriented students, who were identified on the basis of their first-semester life task predominance scores. It is hypothesized that achievement and affiliation students will persist for different reasons, consistent with their predominant life task orientation.

Results

Table 1 presents regression results using the traditionally measured variables specified by the Tinto model of persistence (fig. 1) and using the variables specified by the life task model of persistence (fig. 2). Results show that the addition of the life task variables in figure 2 significantly improve the prediction of persistence (Adjusted $R^2 = 0.19$ versus $0.10; f = 2.01, p < 0.01$; adjusted R^2 was reported because it standardizes variance explained according to the different numbers of independent variables used by these models).

Using the traditional measurement model of persistence, later institutional commitment was a significant predictor, along with the background variables of socioeconomic status, sex, and high-school class rank: those students who were more committed to their institution (who agreed more strongly with its goals and values), who were from a higher socioeconomic status, who were women, and who performed better in high school remained enrolled the greatest number of semesters. Using the life task persistence model, students' sex and socioeconomic status remained as significant predictors. However, students also were more likely to remain enrolled when they focused less on making friends and

[5]To derive life task scores incorporating students' rank-ordering and category of each task listed, the following formula was used: task score = $\text{SUM}_{(1,n)}[(100/(((n+1)/2)*n)) \cdot (n - \text{rank} + 1)]$ where n = number of tasks listed by the student.

TABLE 1

Predicting the Number of Semesters Students Remain Enrolled Using the Tinto versus the Life Task Persistence Models.

Variables Used	Standardized Beta Coefficients	
	Tinto Model	Life Task Model
Age	−0.05	0.01
Sex (0 = female) (1 = male)	−0.13*	−0.20*
Race (0 = white) (1 = nonwhite)	−0.00	−0.07
Socioeconomic Status Index	0.18**	0.21*
Relative High-School Class Rank	0.22***	0.09
Goal Commitment 1	−0.00	0.09
Institutional Commitment 1	0.03	0.14
Academic Integration	0.00	0.03
Social Integration	0.01	−0.06
Goal Commitment 2	−0.02	−0.03
Institutional Commitment 2	0.14*	0.08
1st-semester Life Task Score for "grades"		−0.09
1st-semester Life Task Score for "future"		−0.01
1st-semester Life Task Score for "friends"		−0.27**
1st-semester Life Task Score for "alone"		0.04
1st-semester Life Task Score for "identity"		−0.33***
1st-semester Life Task Score for "time"		−0.03
1st-semester Life Task Score for "physical"		0.04
2nd-semester Life Task Score for "grades"		0.05
2nd-semester Life Task Score for "future"		−0.16
2nd-semester Life Task Score for "friends"		0.33***
2nd-semester Life Task Score for "alone"		0.10
2nd-semester Life Task Score for "identity"		0.15
2nd-semester Life Task Score for "time"		0.05
2nd-semester Life Task Score for "physical"		0.02
Adjusted R^2	0.10	0.19 (f-value = 2.01**)
Multiple R	0.37	0.47

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

on their identities in their first semester, but focused more on making friends in their second semester.[6] Note that these results support Tinto's *theory* of the relationship between intergration and persistence (that is, that students persist when they become involved in their academic and social lives). Instead of the traditionally measured constructs of integration being significant predictors, however, it is found that persistence is predicted by students focusing their energies toward specific life tasks, at

[6]To check for collinearity between the Tinto variables and the life task variables, zero-order correlations were performed. No significant correlations were found.

specific times, in college. Students become "integrated" by working on their chosen tasks within the college environment.

Predicting Persistence for Affiliation- versus Achievement-Oriented Students

Students' life task predominance (the priority and frequency of activities listed within life task domains) should affect their reasons for staying in school. To test this hypothesis, students were broadly identified as being either predominantly oriented toward achievement or affiliation life tasks, and then regressions were performed on each group of students to determine factors contributing to their persistence (again, achievement and affiliation were used as the broad motivational categories because they are most consistently found in the literature on motivation and performance). An "achievement predominance" score was derived by adding students' task scores for the domains "getting good grades," "developing future goals," and "managing time." An "affiliation predominance" score was derived by adding students' scores for the domains "making friends," "being away from home," and "establishing an identity." The domain "maintaining physical self" was thought not to be more closely associated with either the achievement or affiliation area. Students were identified as being "achievement-oriented" if their achievement score was greater than their affiliation score (and vice versa to identify "affiliation-oriented" students). One hundred and ninety students were identified as predominantly achievement oriented, while 106 students were predominantly affiliation oriented (15 students were determined to be neither achievement nor affiliation oriented because their achievement score equalled their affiliation score).

Table 2 presents descriptive information about the students in these two groups. Students did not differ in terms of their age, sex, race, socioeconomic status, or high-school performances. Achievement and affiliation students did not differ in their first-semester GPAs, nor in the average number of semesters that they remained enrolled. They did not differ in their academic and social integration nor in their goal and institutional commitments.

Separate regressions were run for the achievement and affiliation students to determine the different patterns of factors contributing to their persistence. The variables in the life task model (fig. 2) were used for each group of students. Table 3 presents the separate regression results for the achievement and affiliation students. Note that the model predicts persistence better for both groups separately than it did for the groups combined (Adjusted $R^2 = 0.41$ and 0.22 for the affiliation and

TABLE 2

Differences between Affiliation- versus Achievement-Oriented Students on Their Background and on the Tinto Variables of Institutional and Goal Commitment

Variable	"Affiliation" Students ($N = 106$)	"Achievement" Students ($N = 190$)	t-value
Age	17.9	18.0	−1.89
Sex	75% female 25% male	66% female 34% male	($x^2 = 2.4$)
Race	93% white 7% nonwhite	89% white 11% nonwhite	($x^2 = 0.75$)
Socioeconomic Status Index	0.04	0.00	0.45
Relative High-School Class Rank	83.7	85.2	−0.98
First-semester GPA	2.86	2.89	−0.41
Number of semesters enrolled	3.77	3.78	−0.07
Goal Commitment 1	7.70	7.57	0.78
Institutional Commitment 1	7.44	7.41	0.14
Academic Integration	−0.05	−0.01	−0.57
Social Integration	0.09	−0.03	1.30
Goal Commitment 2	7.48	7.50	−0.12
Institutional Commitment 2	7.50	7.25	1.17

NOTE: The achievement task scores of 15 students equaled their affiliation task scores. Because they were neither affiliation nor achievement oriented, they were omitted from this analysis.

achievement students, versus $R^2 = 0.19$ for the entire sample). For affiliation-oriented students, persistence is predicted by less focus in their first semester on time management tasks and less goal commitment in their second semester. For achievement-oriented students, persistence is predicted by less first-semester focus on identity concerns and more second-semester focus on their friends. Women who are achievement oriented are more likely to persist than men who are achievement oriented. Socioeconomic status is positively associated with persistence for those who are achievement oriented.

To compare further differences in the variables predicting persistence between the achievement versus affiliation groups, interaction terms were created by dummy coding the orientation variable (1 = affiliation-oriented, −1 = achievement-oriented) and multiplying it by the other variables used. When a regression was performed with the addition of these interaction terms, the interaction of "sex · orientation" replaced the variable "sex" as a significant predictor (beta = −0.27; $p = 0.01$). By including this interaction term in the regression equation for the entire sample, R^2 increased ($R^2 = 0.25$ versus $R^2 = 0.19$ using the variable "sex"). A planned comparison among the sex · orientation groups found that men who are achievement oriented enroll for the least number of

TABLE 3
Predicting the Number of Semesters Affiliation- vs. Achievement-Oriented Students Remained Enrolled in College.

Variables Used	Standardized Beta Coefficients	
	Affiliation Students	Achievement Students
Age	0.07	0.06
Sex (0 = female) (1 = male)	0.02	−0.29**
Race (0 = white) (1 = nonwhite)	0.03	−0.05
Socioeconomic Status Index	0.13	0.20*
Relative High-School Class Rank	0.19	0.08
Goal Commitment 1	−0.08	0.09
Institutional Commitment 1	0.16	0.10
Academic Integration	−0.08	0.02
Social Integration	−0.11	−0.07
Goal Commitment 2	−0.39*	−0.08
Institutional Commitment 2	−0.02	0.09
1st-semester Life Task Score for "grades"	0.14	−0.16
1st-semester Life Task Score for "future"	−0.20	0.03
1st-semester Life Task Score for "friends"	0.02	−0.17
1st-semester Life Task Score for "alone"	0.06	0.06
1st-semester Life Task Score for "identity"	−0.08	−0.27**
1st-semester Life Task Score for "time"	−0.85***	0.05
1st-semester Life Task Score for "physical"	−0.13	0.16
2nd-semester Life Task Score for "grades"	−0.17	0.05
2nd-semester Life Task Score for "future"	0.09	−0.12
2nd-semester Life Task Score for "friends"	0.21	0.23*
2nd-semester Life Task Score for "alone"	−0.07	0.14
2nd-semester Life Task Score for "identity"	0.07	0.11
2nd-semester Life Task Score for "time"	−0.03	0.11
2nd-semester Life Task Score for "physical"	0.17	−0.02
Adjusted R^2	0.41	0.22
Multiple R	0.67	0.51

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

semesters versus all other students (3.65 semesters versus 3.86 semesters, $p = 0.06$).

Discussion

The concept of integration has been pivotal to understanding persistence in college by focusing attention on the dynamic interactions between students and their college environments. Integration is defined as a function of the interaction between students' ability to agree with the expectations of the university and their ability to shape their college environment to meet their own expectations. Students will be more inte-

grated into college life, and consequently achieve greater successes, when they find what they are looking for — when a congruence exists between their perceptions and expectations and what they find in the institution.

Inasmuch as this interactive approach has stimulated research in student persistence, research has focused on unidimensional measures of integration, measuring the extent to which students agree with the university's goals and expectations. This study proposed a model of integration that emphasized the "second half" of the integration process, how students shape their environments through their college life task priorities. Results show that by including variables of life task predominance to a model of persistence, the ability to predict the number of semesters students remain enrolled is significantly improved. When the interaction term of "sex · orientation" is included in the equation, 25 percent of the variance of persistence can be explained.

It was found that students stay in school when they decrease their first-semester college activities related to making friends and developing their identities, and then increase their focus on making friends in their second semester. Women are more likely to stay in school than are men, as are those who come from higher socioeconomic backgrounds. These results suggest that students may benefit from initially getting the academic side of their college lives in order and then attending to their social side. These data do not, however, provide information on when this change in attention takes place. It may be that students can "settle" their academics within a month or two of matriculation and then benefit from a shift in attention to social activities. Or it may be that this shift is not beneficial until late in their first semester or early in their second semester. Because life task lists were obtained within a few weeks of students' first and second semesters, the timing of this attention shift is unknown.

By exploring students' task predominance, achievement-oriented students were distinguished from affiliation-oriented students in terms of how they integrated into college life. For achievement-oriented students, staying in school was related to a first-semester decrease in focus on identity concerns along with a second-semester increase in focus on college friendships — suggesting that achievement-oriented students benefit from focusing less on themselves and more on others. For achievement-oriented students, women and those from higher socioeconomic backgrounds stay in school longer. Men who are achievement oriented appear particularly vulnerable to dropping out.

For affiliation-oriented students, staying in school was associated with decreasing their focus on time management activities (as if their time management activities were distracting them from accomplishing what

they wanted to accomplish in college). Paradoxically, affiliation students were helped to stay in school when they showed less goal commitment (that is, less commitment to the goal of graduating) in their second semester. It is possible that if these students were highly goal committed, they would be more worried by their first-semester performances and therefore more likely to entertain more drastic "graduation strategies": dropping out for a period of time in order to "regroup" their efforts, or transferring to a less rigorous institution where they might have a better chance to graduate.

These results will need to be replicated in other educational settings. The life task methodology used will benefit from applications in a broad range of universities and colleges. The goals and tasks of students entering small, private liberal arts colleges may be very different from those of students who enter large, public, research-oriented universities. As a validity check of the sample used in his study, however, the results using the traditional measurement model of persistence did produce results similar to those found in other persistence studies, suggesting that this sample responded to the traditional Tinto model in ways similar to samples used in other published studies.

Further, these data will benefit from re-analysis through statistical methods that distort less the complex relationships between variables. For example, LISREL and other path analytic techniques allow researchers to discover variables' indirect effects on performance (such as the effect of SES on life task predominance, which in turn affects persistence). And, though regression is well suited to discovering which of two models better predicts to outcomes — as was the purpose of the study here — it does not allow for the direct discovery of additional models that might predict persistence better than either model specified.

Finally, although the addition of life task variables described in this study did significantly increase predictions, 75 percent of the persistence variance remained unexplained. It is clear that more research is needed in order to predict a majority of this persistence. Identifying and including individual motivations appears to be a fruitful direction to take in these efforts. The predictions for the achievement and affiliation groups proved much better than for the total sample. This is consistent with Stage's [43] findings, which argued that predictions increase when samples are disaggregated according to motivations because of confounding effects in sample heterogeneity. These results are also consistent with Clark and Trow's classic study [13] which posited that goals, values, and performances will be different for students when they affiliate with different student subcultures. Identifying how different students interact with their college environments — how different students shape their en-

vironment and are shaped by it — may prove to be the next area to explore in persistence research.

A life task approach to the study of college integration and persistence offers student services researchers and programmers the opportunity to make direct use of students' experiences, goals, values, and motivations in their intervention and policy efforts. Ideally, the interactions between students' life tasks and college experiences result in functional changes in their subsequent life tasks; they make changes that allow them to best meet their own educational, interpersonal, and emotional goals, and that allow them to best meet the expectations and demands of their college. Yet this rarely happens either easily or routinely. Academic and student services efforts can therefore be directed specifically towards optimizing these interactions for individual students. For example, affiliation-oriented students may benefit most from programs that help them sort through their confusion about how to manage their time by helping them "get down to work." "One shot" programs to teach them how to prioritize their tasks may be very effective, as will be the use of groups to provide assistance through the predictable high-stress, "time-crunch" weeks surrounding midterms and finals. On the other hand, knowing that achievement-oriented students are helped to stay in school when they focus less (initially) on themselves and more (in second semester) on their friendships, these students may benefit most from the traditional "ice-breaker" activities that make up orientations and University 101-type freshmen seminars that strive to involve students quickly in peer groups. Additionally, because men who are academically oriented are particularly vulnerable to dropping out, new programs directed at this segment of the student population should be encouraged.

Given the increasing importance of obtaining a college degree to later-life success, helping students pursue their own tasks within the college environment can provide a key to reducing the problem of college drop out. As Tinto himself has been saying lately [46], imbedded in the dropout issue is one of education per se: how can we help students make the best use of their college education, and how can we create college environments that are most conducive to the learning processes of the largest number of students? One answer to these questions lies in examining how students' life tasks shape what they learn in college.

References

1. Baker, R. W., and B. Siryk. "Measuring Adjustment to College." *Journal of Counseling Psychology,* 31 (1984), 179–89.

2. Bandura, A. *Social Foundations of Thought and Action: A Social Cognitive Theory.* Englewood Cliffs, N.J.: Prentice-Hall, 1986.
3. Bean, J. "Dropouts and Turnover: The Synthesis and Test of a Causal Model of Student Attrition." *Research in Higher Education,* 12 (1980), 155–87.
4. ———. "Interaction Effects Based on Class Level in an Explanatory Model of College Student Dropout Syndrome." *American Educational Research Journal,* 22 (1985), 35–64.
5. Blai, B. "College and University Freshman Shift Values, Attitudes, and Goals." *College Student Journal,* 21 (1987), 194–200.
6. Brock, T. C., et al. "Seven Studies of Performance Expectancy as a Determination of Actual Performance." *Journal of Experimental Social Psychology,* 1 (1965), 295–310.
7. Brower, A. M. "Student Perceptions of Life Task Demands as a Mediator in the Freshman Year Experience." *Journal of the Freshman Year Experience,* 2 (1990), 7–30.
8. ———. "Measuring Student Performances and Performance Appraisals with the College Life Task Assessment Instrument." Unpublished manuscript, University of Wisconsin-Madison, 1991.
9. Cantor, N. "From Thought to Behavior: 'Having' and 'Doing' in the Study of Personality and Cognition." *American Psychologist,* 45 (1990), 735–50.
10. Cantor, N., and J. Kihlstrom. *Personality and Social Intelligence.* Englewood Cliffs, N.J.: Prentice Hall, 1987.
11. Cantor, N., et al. "Life Tasks, Self-Concept Ideals, and Cognitive Strategies in a Life Transition." *Journal of Personality and Social Psychology,* 53 (1987), 1178–91.
12. Chickering, A. W. *Education and Identity.* San Francisco: Jossey-Bass, 1969.
13. Clark, B. R., and M. Trow. "The Organizational Context." In *College Peer Groups,* edited by T. M. Newcomb and E. K. Wilson, pp 17–70. Chicago: Aldine Publishers, 1966.
14. Clowes, D. A., D. E. Hinkle, and J. C. Smart. "Enrollment Patterns in Postsecondary Education, 1961–1982." *Journal of Higher Education,* 57 (1986), 121–33.
15. Dunteman, G. H., S. S. Peng, and M. M. Holt. *Composite Score Analysis: Ability Index, SES Index, Some Psychological and Educational Construct Scales.* Research Triangle Park, N.C.: Research Triangle Institute, Inc, 1975.
16. Dweck, C. S. "Motivational Processes Affecting Learning." *American Psychologist,* 41 (1986), 1040–48.
17. Featherman, D. L., and R. M. Hauser. *Opportunity and Change.* New York: Academic Press, Inc, 1978.
18. Festinger, L. "Wish, Expectation, and Group Standards as Factors Influencing Level of Aspiration." *Journal of Abnormal and Social Psychology,* 37 (1942), 184–200.
19. Frank, J. D. "Recent Studies of the Level of Aspiration. *Psychology Bulletin,* 38 (1941), 218–26.
20. Greene, A. L. "Future-Time Perspective in Adolescence: The Present of Things Future Revisited. *Journal of Youth and Adolescence,* 15 (1986), 99–113.
21. Havighurst, R. J. *Human Development and Education.* London: Longmans Green, 1953.

22. Horowitz, H. L. *Campus Life.* New York: Alfred Knopf, 1987.
23. Jencks, C. "Comments on 'Education and Training Programs and Poverty.'" In *Fighting Poverty*, edited by S. Danziger and D. Weinberg. Cambridge, Mass.: Harvard University Press, 1986.
24. Jones, J. A., and R. Donovan. "Counseling College Students: A New Arena for Social Work Practice." *Social Service Review*, 60 (1986), 251–71.
25. Kaplan, S., and R. Kaplan. *Humanscape: Environments for People.* North Scituate, Mass.: Duxbury Press, 1978.
26. Klinger, A. *Meaning and Void: Inner Experience and the Incentives in People's Lives.* Minneapolis: University of Minnesota Press, 1977.
27. Little, B. "Personal Projects — A Rationale and Method for Investigation. *Environment and Behavior,* 15 (1983), 273–309.
28. ———. "Personal Projects and Analysis: Trivial Pursuits, Magnificent Obsessions and the Search for Coherence. In *Personality Psychology: Recent Trends and Emerging Directions,* edited by D. M. Buss and N. Cantor. New York: Springer-Verlag, 1989.
29. Markus, H., and P. Nurius. "Possible Selves." *American Psychologist,* 41 (1986), 954–69.
30. Meahr, M. L., and J. G. Nicholls. "Culture and Achievement Motivation: A Second Look." In *Studies in Cross-Cultural Psychology,* edited by N. Warren, pp. 221–67. New York: Academic Press, 1980.
31. Mischel, W. *Introduction to Personality. Second Edition.* New York: Holt, Rinehart, and Winston, 1971.
32. Niedenthal, P., N. Cantor, and J. F. Kihlstrom. "Prototype-matching: A Strategy for Social Decision-making." *Journal of Personality and Social Psychology,* 48 (1985), 575–84.
33. Pascarella, E., and D. W. Chapman. "A Multi-Institutional, Path Analytic Validation of Tinto's Model of College Withdrawal." *American Educational Research Journal,* 22 (1983), 87–102.
34. Pascarella, E., and P. T. Terenzini. "Interaction Effects in Spady's and Tinto's Conceptual Models of College Dropout." *Sociology of Education,* 52 (1979), 197–210.
35. ———. "Predicting Freshman Persistence and Voluntary Dropout Decisions from a Theoretical Model." *Journal of Higher Education,* 52 (1980), 60–75.
36. ———. "Predicting Voluntary Freshman Year Persistence/Withdrawal Behavior in a Residential University: A Path Analytic Validation of the Tinto Model." *Journal of Educational Psychology,* 85 (1983), 215–26.
37. Pascarella, E. T., P. T. Terenzini, and L. M. Wolfle. "Orientation to College and Freshman Year Persistence/Withdrawal Decisions." *Journal of Higher Education,* 57 (1986), 155–75.
38. Pervin, L. A. "Goal Concepts in Personality and Social Psychology: An Historical Introduction." *Goal Concepts in Personality and Social Psychology,* edited by L. A. Pervin. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1989.
39. Rosovsky, H. *The University. An Owner's Manual.* New York: W. W. Norton and Company, 1990.
40. Sheehy, G. *Pathfinders.* New York: William Morrow and Company, 1981.

41. Smart, J. C., and E. T. Pascarella. "Socioeconomic Achievements of Former College Students. *Journal of Higher Education,* 57 (1986), 529–49.
42. Stage, F. K. "College Outcomes and Student Development: Filling the Gaps." *Review of Higher Education,* 12 (1989), 293–304.
43. ———. "Motivation, Academic and Social Integration, and the Early Dropout." *American Educational Research Journal,* 26 (1989), 385–402.
44. Stark, J. S., K. M. Shaw, and M. A. Lowther. *Student Goals for College and Courses.* 1989 ASHE-ERIC Higher Education Report No. 6. Washington, D.C.: The George Washington University School of Education and Human Development, 1989.
45. Terenzini, P. T., and E. T. Pascarella. "Toward the Validation of Tinto's Model of College Student Attrition: A Review of Recent Studies." *Research in Higher Education,* 12 (1980), 271–82.
46. Tinto, V. Keynote address to the National Conference on the Freshman Year Experience. Columbia, S. C., 1990.
47. ———. *Leaving College.* Chicago: The University of Chicago Press, 1987.
48. ———. "Dropout from Higher Education: A Synthesis of Recent Research." *Research in Higher Education,* 45 (1975), 89–125.
49. U.S. Department of Education. *The Condition of Education, 1990.* Washington, D.C.: U.S. Department of Education's National Center for Education Statistics, 1990.
50. Veroff, J. "Contextual Determinants of Personality." *Personality and Social Psychology Bulletin.* 9 (1983), 331–44.
51. Wilson, W. J. *The Truly Disadvantaged.* Chicago: University of Chicago Press, 1987.