

AN ANALYTIC STUDY OF FIRST YEAR STUDENT RETENTION AT BGSU, FALL 1997

CONTENT

Abstract
Background and Methodology
Results
Summary and Conclusions
References
List of Tables

ABSTRACT

This report describes the results of an analytical study of the factors related to the retention of Fall 1996 BGSU main campus first year students to Fall 1997. A path analytic approach was employed to explore the effects of a variety of demographic, college environment, and perception variables upon retention. The results showed that students who were more committed to graduating from BGSU; who were more satisfied; who reported more positive interactions with faculty, staff, fellow students, and the community; who were more likely to perceive that BGSU emphasizes educational and personal growth and to report that they had experienced such growth; and who had higher freshman year grades and ACT scores were more likely to re-enroll. Further research using additional data not available at this time must be performed in order to expand upon this initial study.

BACKGROUND AND METHODOLOGY

Improving student retention is one of the most important challenges currently facing Bowling Green State University. The percentage of new first year students entering the main campus in the fall term who return for the subsequent fall has declined from a high point of 82.2% in 1986-87 to a low of 75.5% in 1995-96. In addition to altruistic reasons for wishing to improve the experiences of our students, financial concerns also force us to seek to improve retention; calculations have shown that for every 100 students who do not return to BGSU between their first and second years, the University loses \$1 million per year. Given a projected constant number of high school graduates across the state for the next several years, increased competition for students among higher education institutions, and Ohio's historically low rate of subsidization for its public colleges and universities, improving student retention remains one of our few viable options for improving revenue. Developing an improved understanding of the reasons why some students re-enroll and others do not is a key goal for the University and for the Office of Institutional Research in particular.

It is important to note that about one-half of the first year students over the past two years who did not re-enroll (i.e., nearly 300 students each year) had cumulative grade point averages above 2.00 and were in good academic standing. These students made a deliberate decision to leave Bowling Green State University. A better understanding of the reasons behind students' departure decisions would help to inform planning and policy formation.

Both conceptual and operational reasons exist for adopting a complex analytical approach to the study of student retention (i.e., for not simply surveying or interviewing students who do not re-enroll). A solid body of literature has demonstrated that student withdrawal from college is a

dynamic process which involves numerous interactions between students and their institutions over time. Multifaceted data collection and multivariate statistical analysis are necessary to adequately gauge retention/attrition. Secondly, single point of contact surveys and interviews (even if they ask the right questions in the right ways) are problematic because it is difficult to reach students who are no longer enrolled and to motivate them to respond to data collection methods.

Some useful perspectives for understanding the process of students' voluntary departure from higher education have been developed over the past several years. Vincent Tinto's (1975, 1993) theory of individual student departure from higher education has been identified as the most mature among these by Braxton, Sullivan, and Johnson (1997), who provide the following description of the central tenets of Tinto's theory.

Characteristic of [Tinto's] perspective is the view [that] student departure is a consequence of the interaction between the individual student and the college or university as an organization. Important to such interactions is the meaning the individual student ascribes to [his or her] relationship with the formal and informal dimensions of the collegiate organization. (p. 108).

Pascarella and Terenzini (1983) provide the following further explanation of Tinto's theory:

Students come to a particular institution with a range of background traits (e.g., race, secondary school experiences, academic aptitude, family background). These lead to initial commitments, both to the institution attended and to the goal of graduation from college. Together with background traits, these commitments influence not only how well the student will perform in college but also how he or she will interact with, and subsequently become integrated into, the institution's social and academic systems. Other things being equal, the greater the individual's level of social and academic integration, the greater his or her subsequent commitment to the institution and commitment to the goal of college graduation, respectively. In turn, these commitments are seen, along with levels of integration, as having a direct, positive influence on retention. (p. 215).

The current study made use of Tinto's theory to provide an initial analytic study of the influences upon student retention at BGSU. This study is initial in the sense that many of the data elements (e.g., students' first generation status, pre-college expectations and self-reported abilities, reasons for attending college and for choosing BGSU, and measures of their commitment to college graduation in general and to graduation from BGSU specifically) which could be helpful for the study were not available at the time this study was carried out. The Office of Institutional Research has developed systematic data collection tools which will allow these elements to be available for subsequent analyses.

Recognizing these limitations, the current study was performed relying upon two data sources: 1) the Student Flow Model developed by the Office of Institutional Research, which provides retention data for main campus fall semester first year students along with demographic variables, and 2) the results of the initial administration of the BGSU Undergraduate Experiences Questionnaire (BUEQ) to first year students in Spring 1997. The BUEQ was developed by the Office of Institutional Research to collect data on undergraduates' academic and social integration into college life at BGSU, their perceptions of the institution, and their satisfaction with programs and services.

Specifically, gender (females=1, males=0), ethnicity (students of color=1, Caucasian students=0), ACT composite scores (mean 22, standard deviation 3.6), college at the time of initial enrollment, whether students lived on (=1) or off-campus (=0) during their first semester, first year cumulative grade point average (mean 2.57, standard deviation .89) and whether Fall 1996 first year

students (N=2,829) re-enrolled (=1) or not (=0) for Fall 1997 were extracted from the Student Flow Model. In addition, seventeen variables from the BUEQ were initially used for the study. Two single-item responses dealing with students' social integration; six multi-item college experience mean scale scores; an "institutional cynicism" mean scale score; a "campus relationships" mean scale score; an "institutional emphasis" mean scale score; analytical, career, humanities, and personal-social mean scale scores; a satisfaction mean scale score; and a single item asking students about the likelihood of their returning for next year were used in the study. All ten BUEQ scale scores had reliabilities at or above .75. Finally, given the facts that approximately 50% of the target population for the BUEQ in Spring 1997 completed the questionnaire and that attrition intervention efforts were carried on behalf of respondents identified as being "attrition at-risk," a variable indicating whether students had (=1) or had not (=0) completed the BUEQ was also included. A more detailed description of the BUEQ and the results of its Spring 1997 administration is available from the Office of Institutional Research (1997).

Due to the fact that Tinto's theory concerns students' voluntary withdrawal, Fall 1996 BGSU first year students who were academically suspended or dismissed (N=143) were eliminated from the data set. Among the resulting 2,686 students, 2,155 (80%) re-enrolled for Fall 1997 and 531 (20%) did not.

Tinto's theory includes five constructs or categories of variables in a sequence ultimately leading either to retention or attrition. These include *background characteristics* (e.g., ACT scores, family socio-economic background, first generation status, expectations and aspirations); *initial commitments* (commitment to college in general and BGSU in particular); *academic and social integration*; *subsequent commitments*; and *return/departure plan*. ACT scores, gender, and ethnicity served as background variables in the current study. As noted earlier, other important background characteristic and initial commitment variables were not available for Fall 1996 first year students.

Following Tinto's theory and procedures carried out by Pascarella and Chapman (1983) and by Pascarella and Terenzini (1983), factor analysis was used to operationally define college integration variables for this study. Four integration scales were suggested: *Academic Integration* (comprising the BUEQ Class, Conversations with Students, Faculty, Other Students, Student Organization, and Writing and Learning Resources scales); *Gains* (including BUEQ Analytical, Career, Humanities, and Personal-Social Gains scales); *Perceptions* (made up of BUEQ Cynicism, Institutional Emphasis, Institutional Relationships, and Satisfaction scales); and *Social Integration* (the sum of BUEQ weekends per month spent on campus and number of friends on campus items).

Individual items were standardized to provide the same metric. A constant of five was added to eliminate negative numbers. Scales were then formed by summing standardized items.

The Goal Commitment variable was comprised of the BUEQ importance of graduating from college item. The Institutional Commitment scale represented the sum of the BUEQ importance of graduating from BGSU and certainty of right choice in BGSU items.

A summary of all the variables used in the study is provided below.

Variables Used in the Retention Study

ACT	Academic Integration scale	Goal Commitment	Retention
Ethnicity	BUEQ Instrument Completed		
Gender	College at BGSU First Semester	Institutional Commitment Scale	
	Cumulative BGSU First Year GPA		
	Gains scale	Plan to Return	
	Institutional Perceptions scale		
	Living On-Campus/Off-Campus		
	Social Integration scale		

A path analysis was performed using the variables listed above. In congruence with Tinto's theory, Goal and Institutional Commitment were free to influence both plan to return and actual retention. The college environment variables were free to influence Goal and Institutional Commitment, plan to return, and actual retention. Background characteristics were free to influence all other variables in the study. Thus the research model included a complex suite of variables which were potentially able to influence retention both directly and indirectly through other variables in the model.

Path analysis was used to determine statistically significant direct effects in the research model and to gage its overall efficacy in predicting student retention. An initial path analysis was carried out using all of the variables listed above. Following this, non-statistically significant (at $p < .05$) influences were deleted from the path model. The subsequent "trimmed" path model is shown on the next page.

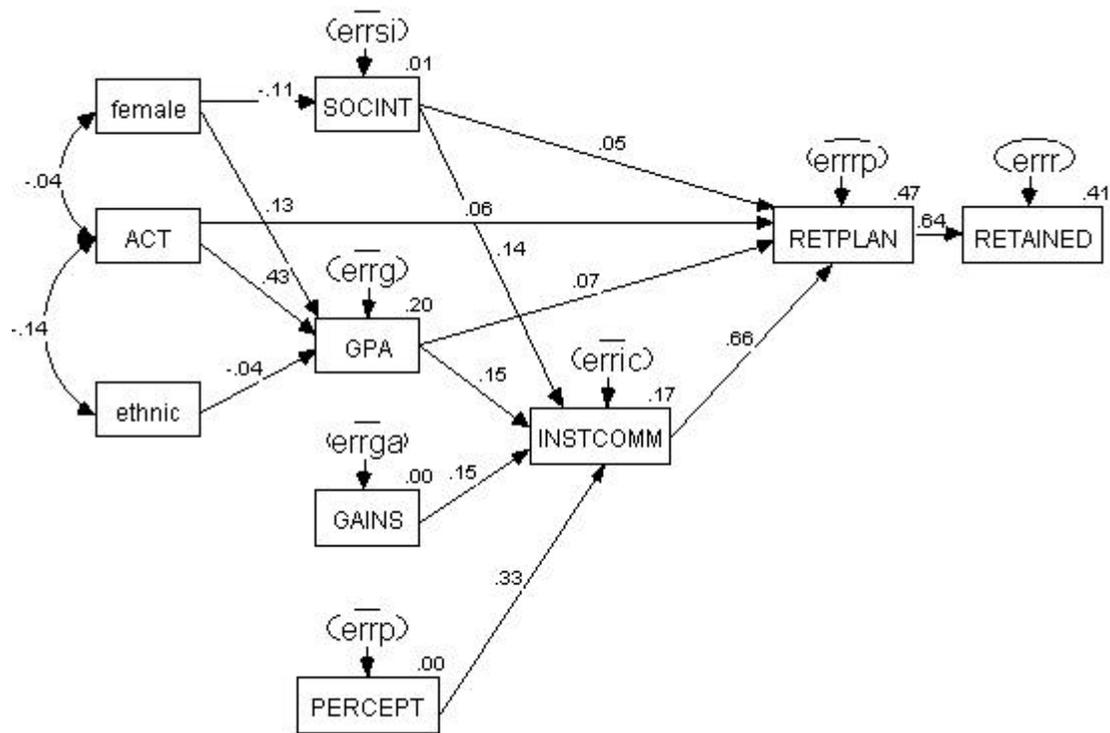
RESULTS

The path model explained 41% of the variance in freshman retention. A rank ordered table of direct, indirect, and total effects of each of the variables in the study upon retention is provided below. Since standardized effects are shown, they are directly comparable (e.g., an effect of .64 is more than ten times as strong as an effect of .06).

Effects of Study Variables Upon Student Retention

Independent Variables	Direct Effect	Indirect Effect	Total Effect	Rank Order
Plan to Return	0.64		0.64	1
Institutional Commitment		0.42	0.42	2
Perceptions of BGSU		0.14	0.14	3
Freshman Grade Point Average		0.11	0.11	4
ACT Score		0.09	0.09	5
Self-Reported Gains		0.06	0.06	6
Social Integration		0.06	0.06	6
Gender: Female		0.01	0.01	7
Ethnicity: Students of Color		0.00	0.00	8

The Trimmed Path Model



SUMMARY AND CONCLUSIONS

The current study generally confirmed Tinto's theory of college student departure. Most of his hypothesized constructs were found to have significant positive effects upon return/departure plans and, in turn, upon actual retention/attrition. Further, the research model explained 41% of the variance in student retention, which represents a very positive result in applied educational research and compares favorably with the results of published academic studies (e.g., Pascarella & Chapman, 1983 [15%]; Pascarella & Terenzini, 1983 [18%]). The result that academic integration did not significantly affect institutional commitment, plan to return/depart, or actual retention/attrition was surprising; further research with the new BUEQ instrument and an improved response rate will allow this finding to be re-visited. Lack of statistical significance for the goal commitment variable shall also be addressed through continued research and more broad use of the BUEQ. The lack of effects of college or of living on-/off-campus is not unusual as seen in the college student retention literature, but should still be investigated in ongoing studies.

In summary, the results of this study for BGSU are that students who were more committed to graduating from BGSU; who were more satisfied; who reported more positive interactions with faculty, staff, fellow students, and the community; who were more likely to perceive that BGSU emphasizes educational and personal growth and to report that they had experienced such growth; and who had higher freshman year grades and ACT scores were more likely to re-enroll. The lack of direct effects of gender and ethnicity upon retention and their very weak indirect effects suggest that these background characteristics are mediated by the actual experiences of our first year students. The lack of effect of students' college classification upon retention suggests that college-level policies (whether deliberate or tacit) had no important effect upon retention for the given cohort of students. Lack of effect on retention of whether students lived on-

or off-campus may be largely attributed to a lack of variability (i.e., more than 91% of the students studied lived on campus).

As previously noted, the major limitations of this study include the facts that not all the desired data were available for the Fall 1996 main campus student cohort and that the BUEQ is a new instrument which had only a 50% response rate from Fall 1996 first year students. The implementation of the BGSU First Year Student Questionnaire beginning in 1997 and the ongoing administration and refinement of the BUEQ should allow a repetition of the current study to overcome these problems

REFERENCES

Bowling Green State University. Office of Institutional Research. (1997). *Report of the Results of the BGSU Undergraduate Experiences Questionnaire*.

Braxton, J. M., Sullivan, A. V., and Johnson, R. M. (1997). Appraising Tinto's theory of college student departure. In John C. Smart (ed.), *Higher Education: Handbook of Theory and Research*, Vol. 12. New York: Agathon Press.

Pascarella, E. T., and Chapman, D. W. (1983). A multi-institutional, path analytic validation of Tinto's model of college withdrawal. *American Educational Research Journal* 20 (1): 87-102.

Pascarella, E. T., and Terenzini, P. T. (1983). Predicting voluntary freshman year retention/withdrawal behavior in a residential university: A path analytic validation of Tinto's model. *Journal of Educational Psychology* 75 (2): 215-226.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research* 45: 89-125.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: The University of Chicago