

# **Does Working Work? Using NSSE to Examine the Relationship between Employment and Retention**

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## **Abstract**

This study extends prior research investigating the effect of employment on undergraduate persistence at a public doctoral research extensive university. Tinto's (1987, 1993) interactionist theory of student departure is used to address the effect of employment on undergraduate persistence using a sample of first-time, full-time freshmen from the *2004 National Survey of Student Engagement*. In some instances, Tinto's tenets regarding employment, integration, and retention were supported in the bivariate case. Working off-campus was significantly related to two-year retention in the bivariate case, but not in multivariate analyses.

## **Introduction**

Higher education administrators have been challenged with developing solutions to subsidize educational costs that can mitigate the damage of working too many hours on undergraduate student success. This prompted institutional researchers to explore how external commitments, like employment, impact a student's ability to academically and socially integrate into the college community. This issue is important given prior research pointing to the role of finances in the departure puzzle. This line of investigation is also necessary since recent studies have demonstrated (1) greater reliance upon student employment to subsidize the costs of college due to the changing nature of need-based aid distribution and (2) a greater proportion of four-year non-traditional college students, who are more likely to be financially independent, to delay entry, to attend college part-time, to work full-time, and to have dependent responsibilities (Chronicle of Higher Education, 2/4/2005; College Board, 2004; Choy, 2002). As part of the on-going retention efforts at a Mid-Atlantic doctoral research extensive university, the current study extends previous work by using Tinto's interactionist theory of college student departure to explore the relationships among student employment, academic and social integration, and retention of full-time, first-year students.

## **Background**

### *Studies Investigating Employment and Retention*

Much research has been produced examining the effects of student employment on persistence. Early on, Astin (1984) found that working many hours off-campus had a negative impact on undergraduate persistence, but working a moderate number of hours (<15 hours) on-campus increased one's likelihood of being retained. Astin (1984) concluded that students employed on-campus were more integrated into social networks of peers and faculty which, in turn, served as a protective factor against attrition. While many researchers have noted the detrimental effects of employment on student success, including lower academic and social integration, lower rates of persistence, and longer time to degree (Ehrenberg & Sherman, 1986; Stern & Nakata, 1991; Cuccaro-Alamin & Choy, 1998; Horn & Berktold, 1998; Furr & Elling, 2000; Choy, 2002; King & Bannon, 2002; Morgan, 2002; Perozzi, Rainey & Wahlquist, 2003; Lundberg, 2004) there is as much evidence supporting the positive effects of employment on student success. For example, there is consistent evidence regarding the positive effects of moderate levels of on-campus employment and employment opportunities that supplement students' personal goals on student learning, developmental outcomes, and persistence (Astin, 1984, 1993; Stern & Nakata, 1991; Pascarelli & Terenzini, 1991; Kuh, 1995; Cuccaro-Alamin & Choy, 1998; Horn & Berktold, 1998; Perozzi, Rainey & Wahlquist, 2003). Here, the relationships among student characteristics, employment, academic and social integration, and persistence are investigated.

## *Conceptual Framework: Tinto's Interactionist Model of College Student Departure*

The current study uses Tinto's (1987, 1993) interactionist Theory of Student Departure to address the effect of employment on undergraduate persistence. Tinto posited that academic and social integration mediated the relationship between student characteristics and dispositions and the likelihood to persist. Tinto also incorporated into his theory the role of external communities (i.e., work, family, outside affiliations), and their potential impact on a student's likelihood to persist. These external community ties may pull the student away from the university, impacting the extent to which the student becomes academically and socially integrated. Of course, the nature of these external commitments, the amount of time devoted to these outside communities, and the level of personal value and commitment associated with these communities factors into the extent to which the outside force has a significant impact on a student's degree of integration into the university community and, in turn, its impact on retention (Tinto, 1993). Here, the interest is in understanding how different forms of work and time commitments to work impact certain demographic groups' ability to become integrated into the college community, and how this in turn is related to retention.

### **Current Study**

The Office of Institutional Research conducted a study using panel data (Fall 2003, Spring 2004, Fall 2004) to investigate the effect of student employment on undergraduate persistence. Empirical evidence suggested that employment was not a significant factor in the retention of first-time, full-time freshmen.<sup>1</sup> Instead, residing on-campus significantly increased a first-year student's chances of returning, while being in academic jeopardy at the end of the first semester significantly decreased chances of returning by 74% (UMBC OIR, 2005). The current study is an extension of previous work, and examines the relationship between type of employment (on-campus vs. off-campus), and number of hours worked per week on 1-year and 2-year retention rates of full-time, first-year students. While the University's one-year retention rate is on par with its institutional peers, the University's average graduation rates lag behind its peers, leading to the belief that its two-year retention rates trail its institutional peer group. Specifically, we have a series of related research questions:

- What is the effect of work (on and off-campus and FT/PT) on student retention?
- Is student employment still a significant predictor of retention when controlling for a number of demographic variables shown to predict retention in previous studies?
- What is the relationship between student employment and integration (academic and social)?
- When controlling for the relationships between academic and social integration and retention, is there still a significant relationship between work and retention? Does academic and/or social integration mediate the relationship between work and retention in this sample of first-time, full-time freshmen?

### **Methodology**

#### *Study Design and sample*

Data for these analyses were from the 2004 National Survey of Student Engagement (NSSE), conducted by NSSE for the university during spring 2004. Institutional data were appended to the data file to record students' characteristics that NSSE does not collect from respondents.<sup>2</sup> NSSE is a national survey of first-year and senior-level undergraduate students at both public and private four-year institutions.<sup>3</sup> The NSSE is theoretically grounded in the higher education literature on student development that examines factors contributing to college student engagement. Student engagement has two components—students committing time to participate in educational

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<sup>1</sup> However, for all full-time freshmen, employment was a significant predictor of 1-year retention.

<sup>2</sup> Institutional data appended to the NSSE file include: matriculation term, matriculation type, tuition status, dorm residency over multiple semesters, subsequent enrollment and enrollment status, attempted credits over multiple semesters, cumulative GPA over multiple semesters, and affiliations at matriculation (scholarship student, Meyerhoff, honors program, living learning community, and college athletics).

<sup>3</sup> First-year students are categorized as freshmen based on cumulative credits excluding advanced placement credits. Senior-level students are students who are within 12 – 24 credits of graduation.

activities that promote student learning and development, and institutional cultures and organizational structures that allow for student involvement in educationally purposeful experiences (Kuh, 2001). The NSSE gauges the extent to which colleges are providing educational experiences associated with important learning and personal development outcomes, and the extent to which students are engaging in these experiences (Kuh, 2001).

The university provided NSSE with contact information (name and e-mail address) of first-year and senior-level students prior to the spring semester in which the survey was administered. To ensure that the population included only first-year and senior-level students who had attended the institution for the entire academic year (i.e., fall 2003 and spring 2004), the university provided NSSE with a file of spring enrollments prior to sample generation so that only those who had enrolled in the fall and spring semesters were included in the population from which the sample was drawn. The NSSE project team then contacted students to complete the web-based version of the survey via their university e-mail address. Overall response rates of 39% were realized for the sample of first-year students in 2004, and this is comparable to those realized for all NSSE participants 38%, as well as those that were web-only schools (41%). The response rate for all NSSE-participating Doctoral/Research-Extensive institutions was 34% (National Survey of Student Engagement UMBC Institutional Report, 2004).<sup>4</sup>

The sample of first-year student respondents (n = 540) was used to generate the sample for this analysis. Given the proclivity of higher education organizations to track retention and graduation rates using cohorts of first-time, full-time freshmen, these characteristics were used to select a sample for this analysis so that the results could be communicated in a similar language within the institution. The final sample consists of 536 first-time, full-time undergraduate students who matriculated in fall 2003 and were enrolled for the entire academic year (fall 2003 and spring 2004). Women are over-represented in the sample (56%) compared to the population (44%); thus, the sample is weighted based upon gender for full-time students.

### *Measures*

Two dependent variables were used in this analysis, and both are dichotomous and categorical: one-year retention and two-year retention (1 = retained, 0 = lost). A number of dichotomous categorical variables were used to capture student employment: worked, worked on-campus, and worked off-campus. Given the importance of examining the effects of part-time and full-time employment, an additional set of categorical variables was created: worked part-time on-campus, worked part-time off-campus, and worked full-time off-campus.<sup>5</sup> Second, guided by Tinto (1987, 1993) and the *National Survey of Student Engagement* (2004), three multi-item scales were created capturing academic and social integration: academic integration, student social integration, and student-faculty interaction. For all multi-item scaled variables, factor analyses were used to extract components and reliability analyses were used to assess the internal consistency of the constructs. Factor scores were used in subsequent analyses. Multiple variables were used as control variables, as they are related to undergraduate persistence in the literature: gender, race, first-generation college, major program area, dorm status, in-state residency, and college GPA (Nunez & Cuccaro-Alamin, 1998; Reason, 2003). An additional variable, affiliation status, was controlled for in the analyses. Recent intra-institutional analyses revealed that students who have at least one membership in the following groups are more likely to persist over the short and long term at the university: a scholarship student, engaged in a living learning community, was in a prestigious science and technology scholar program, was an Honors College student, and/or was an athlete on a college-sponsored team. Affiliation status was also used in the analyses in part to control for students who had received some form of merit-based financial assistance.<sup>6</sup>

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<sup>4</sup> The response rate of UMBC first-year students was 41%, compared to 33% for DREU and 37% for all NSSE-participating institutions (National Survey of Student Engagement UMBC Institutional Report, 2004).

<sup>5</sup> There have been multiple ways in which part-time and full-time work have been operationalized. In this study, Astin's (1984) cut-off point of 15 hours is used to distinguish part-time from full-time work.

<sup>6</sup> One data initiative of the university is to determine how to integrate financial aid data into its data warehouse so that it can be used in multivariate retention and graduation analyses.

## *Analyses*

A series of Chi-square and t-tests was used to assess the relationships among student characteristics, employment, integration, and retention. Bivariate results informed multivariate analyses in understanding the predictors of first-time, full-time students' persistence. Please see the PowerPoint presentation for the accompanying tables.

## **Results**

Table 1 shows the types of new freshmen who are more or less likely to be working during their first year of college. These findings elucidate the relationships among one's financial status, the role of merit-based aid, and the likelihood to be working and doing so off-campus.

- First generation college students were significantly more likely than second generation college students to be working, both on and off-campus.
- First-year students who commuted and who were in-state residents were significantly more likely than dorm residents and out-of-state students to be working off-campus and to be doing so in excess of 15 hours each week.
- First-year students who had lower SAT scores were significantly more likely than those who had higher scores to be working on and off-campus, and working off-campus in excess of 15 hours/week. Of note first-year students who were affiliated with a special status group at matriculation had significantly higher SAT scores than unaffiliated students; consequently, affiliated students were also significantly less likely to be working off-campus.
- Students who worked off-campus were significantly more likely than those who did not to have a first term GPA below a C average.

Tables 2 and 3 show the bivariate relationships among student characteristics, employment status, integration, and retention variables. Significant bivariate relationships were further tested in multivariate analyses to understand the interrelationships among these variables of interest. Overall, there was no evidence that academic or social integration mediated the relationship between employment and retention. Students who worked off-campus, and did so for more than 15 hours/week, during their first year were significantly less likely than others to have been retained to the junior year. While these relationships are consistent with the literature, they did not hold when controlling for a host of student characteristics. Instead, first-time freshmen who perceived being more socially and academically integrated with their peers were significantly more likely to be retained after controlling for a host of student characteristics.

## **Limitations of the Current Study**

There are a couple of limitations that should be addressed. First, while there was an attempt to control for some aspect of finances by controlling for affiliation status, better control variables for student financial data is necessary. Second, the time sequencing of employment and perceptions of academic and social integration could be concurrent, confounding a mediation model. Structural equation modeling could be used to test the causal sequencing hypothesized in this study. Finally, it was difficult to discern the factors related to one-year retention, as only 8% of the sample had left after the first year. Therefore, it may be worthwhile to combine multiple years of data, control for year, and re-test the theoretical model.

## **Conclusions and Implications**

The current findings are consistent with prior literature regarding the relationship between employment and integration. First-year students who were employed on-campus were significantly more likely to have more

frequent interaction with faculty. As well, first-year students who reported being more academically integrated and socially integrated with fellow students were significantly more likely to persist over time. However, there was no empirical evidence to support the hypothesis that academic or social integration mediated the relationship between employment and student persistence.

While first-year students working on-campus had *marginally higher* one-year retention rates than those who did not, and first-year students who worked off-campus had *slightly lower* one-year retention rates than those who did not, employment (in any form) was not significantly related to one-year retention. Working off-campus, and doing so more than 15 hours/week, had a significant and negative relationship with two-year retention. While consistent with Astin (1984), these relationships were no longer significant when all student characteristics were controlled in the multivariate analysis.

This investigation will inform the University's Retention Committee in identifying and explaining why certain student demographic groups are at greater risk of attrition. Furthermore, these results will inform the Student Employment Task Force in decision-making regarding current initiatives to expand on-campus and career development work experiences while supporting students in their academic endeavors.

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