

Institutional Practices and Student Persistence:  
Extending the Empirical Record

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## **Purpose of the Study**

This paper reports early results from a pilot study aimed at the efforts, resources, and programs that four-year colleges and universities devote to improving student persistence. The research seeks to illuminate how campus practices at individual institutions influence student persistence.

Researchers and institutions that study college student retention work to understand how to link policies and structures to the theoretical modeling of student departure. Recently, a line of thinking led by Braxton, Hirschy, and McClendon (2004; Braxton & McClendon, 2001-2002) and Hossler and Stage (Hossler, 2005; Stage & Hossler, 2000) has focused on the role of student behaviors and institutional practices, which bear on college student retention. These institutional practices—which some have termed “policy levers” (Braxton & McClendon, 2001-2002; Pascarella & Terenzini, 1991)—include the nine constructs listed below:

- (a) recruitment practices that support the fulfillment of students’ academic and social expectations of college;
- (b) structures and practices that have been shown to reduce racial discrimination and prejudice on campus;
- (c) the fair implementation of administrative and academic regulations;
- (d) directing students, through academic advising, toward satisfactory course experiences;
- (e) the support and development of active and collaborative learning strategies in the classroom;

- (f) workshop training in stress management and career planning;
- (g) orientation and residential life practices that support frequent and significant student interactions with peers; and
- (h) the provision of need-based financial aid.

Identified through both theory and research, some of these levers have a well-developed empirical record supporting them; others among them need to be explored further in research before we will understand how they relate empirically to student retention. For example, the fulfillment of students' academic and social expectations of college has been linked positively to social integration at institutions (Braxton, Vesper, & Hossler, 1995; Helland, Stallings, & Braxton, 2001-2002). The role of advising, however, has seen relatively little empirical exploration (Hossler, 2005). Still others of these areas—the role of career-advising practices, for example—are the subject of some debate (Patton, Morelon, Whitehead, & Hossler, 2006; Peterson, 1993).

Regardless of the support for their derivation, however, little can be known about the roles these levers play without more direct inquiry into whether and how institutional practices can affect student persistence. Recent work commissioned by the National Postsecondary Education Cooperative (NPEC) further reinforces the need to understand the institutional role in student persistence (Perna & Thomas, draft, 2006; Tinto & Pusser, draft, 2006). It is particularly important to explore these questions in studies that encompass multiple institutions (Braxton, 1999). The research that produced this paper examines how institutional practices affect persistence and undertakes to observe these practices in play across institutional contexts.

## **Theoretical Framework**

Student persistence is often viewed through a lens that emphasizes the evolving theoretical understanding of the processes affecting students' decisions. Researchers have long worked to extend, critique, and refine the empirical base supporting Tinto's influential model of student departure (Astin, 1993; Braxton, Sullivan, & Johnson., 1997; Hurtado, 1997; Jalomo, 1995; Murguia, Padilla, & Pavel, 1991; Nora, Attinasi, & Matonak, 1990; Nora & Cabrera, 1996; Pascarella & Terenzini, 1991; Porter, 1990; Rendón, Jalomo, & Nora, 2000; Tierney, 1992). As scholars of higher education continue to build theory surrounding persistence, identifying those propositions within the interactionalist model for which more certain evidence is available, more specialized studies have emerged. Research has shown, for example, that students' commitment to the institution at the end of their first year of college—i.e., subsequent institutional commitment (Tinto, 1993)—is a strong predictor both of students' intent to persist (Bean, 1983) and of student persistence itself (Strauss & Volkwein, 2004). Braxton and colleagues (Braxton et al., 2004; Braxton & McClendon, 2001-2002) have laid the groundwork for further exploration of social integration as a factor contributing to subsequent institutional commitment. In turn, Tinto and colleagues (Tinto, 1998; Tinto, Russo, & Kadel, 1994) have examined the link between academic integration and subsequent institutional commitment.

Refining theoretical representations of the processes students follow in the complexity of their college-going journey is one necessary task for higher education research on student success. Relating these premises in a grounded way to how institutions can shape the journey is another. Taken together, these connections and the gaps remaining make particularly relevant the inquiry into how institutions can and do affect students' institutional commitment.

The role of colleges and universities in replicating as well as transforming social inequalities has long been a theme in the study of higher education (Bourdieu & Passeron, 1977, 1979; Giroux, 1983). Understanding how institutional practices mediate the larger social forces and patterns that shape the simultaneously replicative and transformative processes of higher education is therefore central to understanding student access, persistence—and, ultimately, success.

In this study, we have drawn in part on a social reproduction perspective to expand the frame for understanding students' college-going behaviors beyond local processes, to encompass the contexts and complexity of the broader social world. Berger (2000) posits an interaction between institutions' and individuals' optimization of economic and cultural capital (See Bourdieu, 1973; Bourdieu & Passeron, 1977) as a central mechanism through which student persistence behaviors—and the role of institutions in shaping them—can be seen to work. Incorporating this view into new research holds potential for understanding how colleges and universities work within broader social forces that define and shape educational opportunity—not only for students to gain access to college but also for them to succeed there.

In their recent proposal of a new conceptual framework for studying student success, Perna and Thomas (2006) state:

Given the range of disciplinary approaches that are used and the applied nature of the research, researchers in the field of education are well positioned to lead efforts that not only reflect the orientations of academic scholars but also address the need of policymakers to identify practical ways to improve student success. (p. 24)

Building on this recommendation, we attempt in this study to engage with theory on the way to informing practice. In this paper, our attention is focused mainly in three directions. First, we

explore the quality and potential of a pilot survey by conducting regression analyses on the survey's intent-to-persist responses collected at four institutions. Second, we work to understand the implications of these findings at the institutional level. Third, we examine the strengths and limitations of the current study to form a plan for future analyses and revisions of the study.

## **Data and Research Methods**

In this paper, we report the results of a survey of students at four four-year institutions across the country. Campus practices tied to students' institutional commitment are a particular point of focus for our inquiry.

Data was collected on full-time, first-time, first-year students at four four-year colleges and universities in three states. As one part of a broader pilot study on college student persistence, an original survey was administered as a Web-based questionnaire on three of the four campuses and as a written questionnaire completed in class at the fourth institution. The questionnaire focuses on college student behaviors and experiences in the first year in addition to attitudes and beliefs related to college. Using unique identifiers to assure the anonymity of participants, we merged students' responses with institutional data to include information about students' background characteristics and precollege academic experiences. The mean response rate across the institutions was 26.83 percent for the first year of this study.

In this paper, we explore how actionable institutional practices and structures, in combination with student behaviors, play a role in students' institutional commitment and intent to persist at the end of the first year of college. We use logistic regression to examine the influence that student characteristics, social integration, and academic integration experiences have on college students' intent to persist. Because *intent* to persist—and not persistence itself—

is the outcome in these analyses, it is necessary to view the implications for institutional practice with some caution. This exploration lays the groundwork, however, for future analysis of persistence data becoming available this fall.

We chose to use logistic regression because the outcome of interest was a dichotomous variable capturing students' intent to persist. In this case, the use of ordinary least squares would violate Gauss-Markov assumptions that the error term was normally distributed and the dependent variable continuous. Below, in Equation 1, the general logit model is provided, where  $P$  is the probability that the student expressed the intent to enroll in the same institution the following year.

Equation 1: Logit model

$$\ln\left(\frac{P_i}{1-P_i}\right) = x_i\beta + \varepsilon_i$$

Included in the model (see Equation 2 and Figure 1, below) were (a) student background variables ( $\beta_1$ ), including gender, race/ethnicity, financial certainty, SAT score, certainty regarding major, and distance of residence from campus; (b) social integration variables ( $\beta_2$ ), including participation in student organizations and the development of a social network on campus; and (c) academic integration variables ( $\beta_3$ ), including time spent preparing for class, frequency of discussions with peers on campus, ratings of advising and placement practices, class attendance, and frequency of feedback from instructors.

Equation 2: Persistence model

$$IntentPersist = x_i\beta_1 + x_i\beta_2 + x_i\beta_3 + \varepsilon_i$$

Figure 1, below, shows the structure of the model used in this analysis.

**Figure 1: Logistic Regression Model on Intent to Persist**

<b>Student characteristics (Block One)</b>	<b>Social integration (Block Two)</b>	<b>Academic integration (Block Three)</b>
<ul style="list-style-type: none"> <li>• Gender</li> <li>• Race/ethnicity</li> <li>• Financial certainty</li> <li>• Combined SAT score</li> <li>• Certainty regarding major</li> <li>• Distance of residence from campus</li> </ul>	<ul style="list-style-type: none"> <li>• Participation in student organizations</li> <li>• Perception of own social network on campus</li> </ul>	<ul style="list-style-type: none"> <li>• Discussions with peers</li> <li>• Time spent preparing for class</li> <li>• Class attendance</li> <li>• Perceptions of course placement practices</li> <li>• Perceptions of advising practices</li> <li>• Frequency of feedback from instructors</li> </ul>

Table 1 (all tables are at the end of this paper) lists additional information about the variables included in the model.

As appropriate to the goals and design of this research, we applied this model to survey data from four separate campuses. The pilot study seeks to illuminate aspects of persistence behavior within single institutional contexts so as to highlight implications for institutional practice in particular. Accordingly, our selection of sites for survey administration was designed to vary across institutional types and contexts.

We altered the model in the cases of two institutions with smaller and particularly homogeneous student bodies with regard to race/ethnicity. In these two instances we removed the race variable from the model. In addition, the institution with the lowest number of cases (n=107) was also located in an ACT state where very few survey respondents had reported SAT scores. In an effort to avoid overspecifying the model, therefore, we opted to remove SAT as measure for academic preparation from the model for that school.

We conducted several tests to identify possible deficiencies in the models. Checks for multicollinearity and autocorrelation revealed no strongly correlated relationships among the independent variables or residuals. Furthermore, examination of a casewise listing of residuals revealed no extreme outliers to be unduly influencing the fit. Cut points for classification of

cases in the logistic model were set for each model according to observed prior probabilities of the institution's respondents who indicated the intent to persist (Chatterjee & Hadi, 2006).

## **Results**

Students' responses on the dependent variable introduced some interesting questions for this analysis. Perhaps not surprising since our outcome measure is "intent to persist" rather than actual indicators of persistence, the majority on each of the four campuses—ranging from 74 to 92 percent—indicated that they intended to enroll at the same institution in fall 2006. Because so many respondents at each of these campuses planned to return, we have limited degrees of variability in our dependent measure, which may circumscribe the overall explanatory power of the model. In the following sections, we present the results from each case institution in turn.<sup>1</sup>

### **Northeastern State**

Descriptive results from the first institution—a public university located in the northeastern U.S.—show a high proportion of respondents (87%) expressing intent to persist. The response rate at this institution was low, at 22 percent. While female students responded at a greater rate than males, student sample characteristics were otherwise generally reflective of the overall student population at Northeastern State. Whereas females represented 54 percent of the student population, they represented 73 percent of respondents. Male respondents were underrepresented in the sample relative to the student population (27% versus 46%, respectively). The proportions of respondents by race and ethnicity were representative, overall, of Northeastern's student population.

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<sup>1</sup> Participating institutions are identified here by pseudonyms only.

Table 2, at the end of this paper, shows regression results for Northeastern State. Likelihood ratio chi-square tests suggest that both the model and the academic integration block are significant, at the .001 level. These results demonstrate that the full model contributes to the prediction of the students' intent to persist. The Nagelkerke R-squared in this case indicates that the variation explained by the model is modest, at just under 25 percent (Nagelkerke R-squared=.245). It is important to note that—as we would expect—the model does not improve on observed probability of intent to persist. Simply presuming that all cases would report intent to persist would classify 87.3 percent of cases correctly. By the same token, however, the model contributes to the prediction of those who did not express intent to enroll at the same institution the following year. The percentage correctly predicted in this category was 78.9 percent which shows the model as an improvement on alternative methods of prediction.

Results from the full model show that two variables—forming friendships on campus and perceptions of English course placement practices—have a significant ( $p < .01$ ) and positive influence on intent to persist. The odds-ratio values are 1.48 and 1.56 respectively. In one question, for example, students are asked to rate how certain they feel of the accuracy of English course placement practices. For each one-level increase in a respondent's rating, the odds of intending to persist increases by about 50 percent, holding all else constant. In sum, students who felt they had formed more friendships or had positive perceptions of their English placement were more likely to persist, controlling for all else.

An additional, negative relationship is also present between frequency with which students miss classes on the one hand, and intent to persist on the other. This relationship is significant only at the .05 level and suggests a decrease in the likelihood of intending to persist for each absence.

All of the relationships in this model are intuitive—confirming that the positive effect of having friendships, the negative impact of missing classes, and the positive effect of agreeing with one’s course placements all “make sense” as predictors of persistence. The amount of explained variance in the model, although relatively small, is at a level comparable with much research on persistence.

### **Midwestern University**

Respondents from a second institution—a residential public university in the Midwest—reported intent to persist at a similarly high rate (91.6%). A low response rate of 19 percent places some additional limitations on the findings from this first administration of the survey on this campus. Compared to the first-year student population at Midwestern, men and African American students were underrepresented among the respondents. According to the same calculations females and White students were slightly overrepresented among the survey respondents at this institution. The proportions of respondents who identified as APA or Latino/a were representative, overall, of Midwestern’s student population.

Logistic regression results for Midwestern University are summarized in Table 3, at the end of this paper. Chi-square tests show that both the model and the block of variables meant to capture academic integration as significant. The Nagelkerke R-square in this case (.342) indicates that the variance-explained is higher than the other campuses discussed in the paper. Turning to the percentage correctly predicted, at 76.5 percent, we find the model predicts well which cases do not report intent to persist. Since 91.8 percent of respondents at this institution answered that they intended to return, however, it is difficult for a model to improve on the

percentage correct yielded by a simple guess that all intend to persist. Indeed, this model does not improve on that method of classification.

Combined SAT score is significant, at the .01 level. The odds ratio is very near to 1 (1.007), indicating only a small rise in intent to persist will be associated with the addition of an SAT score point. However, the confidence interval for the odds ratio does not include 1 itself, showing that a positive effect is present. Distance of residence from campus has a negative and significant ( $p < .01$ ) effect on intent to persist. This is consistent with previous research and theory on residential campuses. The odds ratio of 0.561 suggests that as distance from campus increases, the likelihood of a student reporting intent to persist decreases, controlling for all else. Interestingly, time spent preparing for class is also negatively associated with intent to persist—though at a lower level of confidence ( $p < .05$ ). This analysis reveals interesting results that show the potential of the survey. At the same time, however, they are also more discouraging with respect to the goals of this pilot study, since the results yield no findings oriented to institutional policy.

### **Denomination University**

Descriptive results from Denomination University—a small, church-related private university—show a high proportion of respondents (90.7%) expressing the intent to persist. At 30 percent, the response rate at this institution was among the highest for the pilot study. While female students responded at a greater rate than males, student sample characteristics were otherwise similar to the overall student population at this institution. While females represented 64 percent of the student population, they represented 74 percent of respondents. Male respondents were underrepresented in the sample, relative to the student population (26% versus

36%, respectively). The proportions of respondents by racial and ethnic category were representative, overall, of the student population at Denomination U.—which reported that students who identified as African American, Latino/a, or APA each constituted less than 1 percent of the first-year class for 2005-2006..

Table 4, at the end of this paper, shows results for the same model, adjusted in one regard. Since the respondents at this institution were extremely homogeneous with respect to race and ethnicity—168 out of 171 respondents were identified as White—race was removed from the model for this institution. General tests of the model's fit show that the model is significant, at the .05 level. The Nagelkerke R-squared shows that the model explains 32 percent of the variance in intent to persist. The analysis improves on prediction of cases that responded “No” or “Not sure” when asked if they would return to enroll in the fall of 2006, correctly predicting 75 percent of those cases. However, the block of variables representing academic integration experiences is not significant and thus adds nothing to the explanatory power of the model. Two variables show a significant relationship with intent to persist in this analysis. First, certainty regarding major is significant ( $p < .05$ ). This is an interesting finding, especially given the emphasis that this institution—as a church-related university—places on “life calling.” Second, frequency of discussions with peers on campus shows a significant ( $p < .05$ ) and negative association with intent to persist. Results suggest that as the reported frequency of these discussions increases, the likelihood of also reporting intent to persist decreases, *ceteris paribus*.

These findings are intriguing for those of us involved in this pilot study. Additional study of the institutional context helps in the interpretation of these relationships. In a separate set of studies with this institution, we have been evaluating the implementation of a class that brings together academic, career, and faith-based issues in a course that is designed specifically for

undecided majors. Our analyses in these earlier studies suggest that the course has the potential for positively influencing student persistence. The effect of discussions with peers found in the pilot study is counterintuitive and would benefit from further inquiry. It is possible that peer culture—even within the institution—may be in some tension with the academic norms and values of the institution. Alternatively, it may be that students who are not sure of plans to persist seek out discussions with peers for support, information, or advice. However, there are a number of plausible explanations for this result. Since this is a pilot study, our plans for further exploration and analysis include cognitive interviews in which we will be able to explore how students interpret the survey question itself, and how they describe informal discussions with peers.

### **Milford Grove State University**

Respondents from Milford Grove State University—a public, historically Black university—also expressed the intent to persist at a high rate (74%). Respondents represented 36 percent of the university’s first-year student population overall. The proportions of respondents by gender, racial, and ethnic category were representative of the overall student population at the institution. Women, who constituted 51 percent of the student population, were only slightly overrepresented among respondents (55%).

Table 5, at the end of this paper, summarizes results for Milford Grove State. Since this institution yielded a smaller number of cases (n=103), we employed a scaled-down traditional persistence model (shown in Figure 2, below).

**Figure 2: Logistic Regression Model on Intent to Persist, scaled down model**

<b>Student characteristics (Block One)</b>	<b>Social integration (Block Two)</b>	<b>Academic integration (Block Three)</b>
<ul style="list-style-type: none"> <li>• Gender</li> <li>• Financial Certainty</li> </ul>	<ul style="list-style-type: none"> <li>• Perception of own social network on campus</li> </ul>	<ul style="list-style-type: none"> <li>• Class attendance</li> <li>• Perceptions of advising practices</li> <li>• Frequency of feedback from instructors</li> </ul>

As shown in Table 5, at the end of this paper, both the model and the block of academic integration variables are significant, at the .05 level. The Nagelkerke R-square is modest, showing that the variance explained by the model is about 20.9 percent. The model contributes to the prediction of those who do not intend to persist; 70.4 percent of those cases were classified correctly. In addition, the regression classifies those who intend to persist at a rate of 65.3 percent correctly predicted. The percentage correctly predicted in this category is close to the percentage that would be correctly classified if we were to guess that all respondents intend to persist. Two variables—development of a network of friends on campus, and frequency of feedback from instructors—were significant ( $p < .05$ ) and positive as predictors of intent to persist in this analysis.

### **Cross-Case Findings**

Results of the regressions showed that the model works differently when applied to different types of institutions. This is heartening, of course, since the purpose of this pilot study is to capture how institutional practices are associated with persistence across individual campus environments. Drawing on a long line of retention studies, we posit that the factors influencing student persistence are different on each campus, and from a campus policy perspective we seek

to identify actionable findings that policy makers can address to improve student success and persistence. In this sense the different sets of significant variables on each campus meet our expectations. It is of interest, therefore, to look at the contrasts and convergences across the four institutions included in this discussion. Three variables of particular interest to our analysis—hours spent preparing for class, feedback from instructors, and perceptions of course placement practices—significantly influenced respondents’ intent to persist at least at one institution. Not surprisingly, combined SAT score and distance between residence and campus also exhibited significant effects on one campus. These same variables showed no significant effect on students’ intent to persist at other institutions.

## **Discussion**

As we have noted, this paper reports on a pilot study and centers on our results to date using intent to persist as our outcome measure. These findings clearly demonstrate that different student and institutional factors influence student persistence decisions at different institutions. Looking across these institutions, we see patterns of findings that are somewhat consistent with previous research. At the same time, these results also point to interesting turns in this area of inquiry.

The analysis of the survey at Northeastern State is a case in point, in that it yielded intuitive yet useful results. While explaining only a modest 24.5 percent of the variance in the dependent variable, the analysis identified (a) development of friendships and (b) acceptance of English placement practices as significant and positive influences on intent to persist. Similarly intuitive as a finding, the analysis showed that frequently being absent from class is negatively associated with intent to persist. These findings are consistent with research drawing on the Tinto

model, of course. Moreover, the analysis makes a small contribution to the empirical record supporting the proposition that social integration (friendships and social networks) and academic integration (in the form of class attendance and acceptance of placement norms) play a role in intent to persist—and by extension, in subsequent institutional commitment and persistence. However, the ultimate goal of the study is to identify routes through which individual institutions can shape student persistence decisions on their campuses, and these findings begin to highlight concrete implications in this new direction as well.

Variables included in the model shed light on the role of specific policy levers identified in the work of Braxton and McClendon (2001-2002). Perceptions of course placement and advising practices as included in this analysis, for example, correspond respectively with policy levers that they identified, and that are paraphrased above, as “fair implementation of administrative and academic regulations” and “directing students, through academic advising, toward satisfactory course experiences.” Our results suggest that institutional efforts to improve and demystify placement practices, and further to dismantle deficit-model frameworks sometimes embedded in these practices, will likely support students’ decisions to persist at the end of their first year. In addition, the findings reinforce the somewhat intuitive idea that policies and practices that encourage class attendance will improve the odds of students deciding to persist. Thus, this study also contributes evidence to help draw a connection between the policy levers and intent to persist.

In addition, this pilot study leads us to begin considering how our findings contribute to theoretical understandings of student persistence. By contributing to growing evidence that academic integration plays a role in students’ subsequent institutional commitment (Tinto, 1998;

Tinto, Russo, & Kadel, 1994), for example, this study illuminates areas in which institutions' actions can make a difference.

Across these cases, the findings resonate with Berger's notion (2000) that students try to optimize cultural and economic capital through processes related to college choice and persistence. The positive association of the development of friendship networks with intent to persist on two of the campuses is certainly relevant not only to the interactionist model's construct of social integration but also to Berger's explanation of how cultural and other types of capital shape persistence in college. At Northeastern, for example, students who held positive perceptions of English placement practices were more likely to report the intent to persist. This positive association is also consistent with the idea in the work of Tinto and others that academic integration centers on the student adopting the academic norms and values of the institution. This relevance extends further if we interpret this finding in light of Berger's point that this adoption hinges on an accumulation of cultural capital of a type that is consistent with the cultural capital of the institution. This same point also helps us to make sense of other findings emerging from these analyses—the significance of SAT scores at Midwestern, for example, and of feedback from instructors at Milford Grove State.

### **Limitations and Implications**

Using “intent to persist” as the dependent variable brings both advantages and disadvantages to this analysis. On the one hand, the construct has been shown to work as a predictor of subsequent institutional commitment (Bean, 1983). On the other hand, considerable complexity limits our ability understand this construct as a proxy for persistence itself. Implications for institutional practice should be seen as tentative but potentially illuminating for

this reason. As data on respondents' enrollment in fall 2006 becomes available, we will shift the focus of these analyses to persistence behavior *per se*.

Although—because we have so far used intent to persist as the outcome measure without knowing rates of actual persistence—we remain cautious in our assertions of implications for institutional practice, these findings indicate that there are different institutional policies and practices at individual institutions that have an impact on student persistence. The findings also suggest that institutions can use policy actions to enhance student persistence. For the institutions in these studies, those actions include demystifying placement practices, encouraging faculty to provide frequent feedback to students, and supporting and advising students who are undeclared in their major course of study. Nonsignificant findings also point to implications for institutional practice. Some of the standard program initiatives that could be employed to enhance student persistence might not be relevant policy levers for students enrolled at these institutions.

This discussion also points to implications for further research to test and contextualize the theoretical premises surrounding student persistence in college, and to relate institutional practices to that process. From the specific standpoint of a pilot study, this analysis has yielded encouraging results that show it will be worthwhile to develop the survey further. One obvious avenue for further research will be the reapplication of this model to an analysis of actual persistence behavior. Indeed, the pilot study holds promise for an illuminating look at the differences between intent to persist and actual persistence decisions. Two decades ago, Bean's work (1983) asserted the utility of intent to persist as a variable in studies of student departure. Our design offers the opportunity not only to better understand the factors that affect student persistence but also to explore the relationships between students' intentions and their actual decisions. In addition, repeating the study on a larger scale will allow researchers to develop this

institutional-policy-oriented model further—adding complexity as the scope of the study will allow. As we revise and readminister the survey in other contexts, we will be able to clarify relationships that have begun to emerge here and will extend this research to encompass a fuller set of variables connecting actionable policies and practices to academic and social integration.

## **Conclusion**

The analysis discussed here begins to extend the empirical record for the long-standing pursuit of theory building on student persistence. Perhaps more importantly, this pilot study reflects an effort to understand how students' background characteristics as well as their latent motivations and expectations produce complex interactions when the students enter colleges and universities with unique policies, practices, and organizational cultures. Our real aim is to use the leads from theory and research to guide institutional practice. In the process, however, we will also extend our understanding of theories and models of student persistence.

If the findings from this pilot-study research suggest that the influence of actionable policies and practices can be documented and understood through further inquiry, this will prove useful to campus policy makers and to the research community. An examination of this kind is central to understanding student success in college and, more specifically, the role of institutional practices in supporting that success.

## Variables in the Model – Material for Table 1

<b>Variable</b>	<b>Type</b>
Gender	Categorical
Race/ethnicity	Categorical
Combined SAT score	Continuous
Certainty regarding major	Ordinal
Distance of residence from campus	Ordinal
Perception of own social network on campus	Ordinal
Participation in student organization	Ordinal
Discussions with peers	Ordinal
Time spent preparing for class	Ordinal
Class attendance	Ordinal
Perceptions of course placement practices	Ordinal
Perceptions of advising practices	Ordinal
Frequency of feedback from instructors	Ordinal

**Northeastern State – Table 2**

Variable	Sig.	OR	Sig.	OR	Sig.	OR
Gender		0.91		0.88		1.16
Race		0.88		1.15		0.97
Certainty regarding family's funding for college	*	1.20		1.19		1.11
Total SAT score		1.00		1.00		1.00
Certainty of major		1.04		0.99		0.87
Distance of residence from campus		1.02		1.02		1.13
Development of friendships/social network on campus			****	1.62	**	1.48
Frequency of attendance at student organization meetings				0.91		0.94
Frequency of discussions with peers						0.83
Absences from class					**	0.66
Hours spent preparing for classes						0.86
Frequency of feedback from instructors						1.22
Certainty regarding accuracy of English placement					**	1.56
Certainty regarding quality of advising						1.21
% Correctly predicted: No or unsure		55.3		65.8		78.9
% Correctly predicted: Intend to persist		57.5		71.6		75.5
Nagelkerke		0.026		0.118		0.245
N=299						

\*\*\*\*p<0.001, \*\*\*p<0.01, \*\*p<0.05, \*p<0.10

**Midwestern University – Table 3**

	Sig.	OR	Sig.	OR	Sig.	OR
Gender		1.95		1.89		2.54
Race		0.53		0.46		0.80
Certainty regarding family's funding for college		1.26		1.22		1.26
Total SAT score	**	1.01	**	1.01	**	1.01
Certainty of major		1.30		1.30		1.23
Distance of residence from campus	**	0.64	**	0.64	**	0.56
Development of friendships/social network on campus				1.20		1.17
Frequency of attendance at student organization meetings				0.89		0.93
Frequency of discussions with peers						1.31
Absences from class						0.71
Hours spent preparing for classes					**	0.65
Frequency of feedback from instructors						0.62
Certainty regarding accuracy of English placement						1.05
Certainty regarding quality of advising						1.24
% Correctly predicted: No or unsure		76.5		76.5		76.5
% Correctly predicted: Intend to persist		70.0		73.7		76.8
Nagelkerke		0.225		0.237		0.342
N=207						

\*\*\*\*p<0.001, \*\*\*p<0.01, \*\*p<0.05, \*p<0.10

## Denomination University – Table 4

Variable	Sig.	OR	Sig.	OR	Sig.	OR
Gender		1.35		1.52		1.22
Certainty regarding family's funding for college	**	1.56	**	1.59	*	1.54
Total SAT score		1.00		1.00		1.00
Certainty of major	*	1.38	*	1.36	**	1.61
Distance of residence from campus		1.24		1.19		1.22
Development of friendships/social network on campus			**	1.54	*	1.53
Frequency of attendance at student organization meetings				0.93		1.02
Frequency of discussions with peers					**	0.53
Absences from class						1.01
Hours spent preparing for classes						0.98
Frequency of feedback from instructors						1.49
Certainty regarding accuracy of English placement						0.61
Certainty regarding quality of advising					*	1.59
% Correctly predicted: No or unsure		68.8		75.0		75.0
% Correctly predicted: Intend to persist		61.0		60.4		72.1
Nagelkerke		0.156		0.205		0.320
N=170						

\*\*\*\*p<0.001, \*\*\*p<0.01, \*\*p<0.05, \*p<0.10

## Milford Grove State University – Table 5

Variable	Sig.	OR	Sig.	OR	Sig.	OR
Gender		1.49		1.20		1.04
Certainty regarding family's funding for college		1.18		1.14		1.06
Development of friendships/social network on campus			**	1.44	**	1.48
Absences from class						1.54
Frequency of feedback from instructors					**	1.76
Certainty regarding quality of advising						1.29
% Correctly predicted: No or unsure		51.9		51.9		70.4
% Correctly predicted: Intend to persist		60.5		61.8		65.8
Nagelkerke		0.021		0.083		0.209
N=103						

\*\*\*\*p<0.001, \*\*\*p<0.01, \*\*p<0.05, \*p<0.10

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