

The Role of Perceptions of Remediation on the Persistence of Developmental Students in Higher Education

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Introduction

- 78% of postsecondary institutions offer at least one remedial reading, writing or mathematics course
- 100% of public two-year institutions and 94% of institutions with high minority enrollments offer remedial courses
- Estimated that up to 80% of minority students at two-year colleges are enrolled in developmental courses
- Only a handful of minority students initially enrolled in remedial courses advance to degree-credit, non-remedial courses at community colleges
 - Even a smaller number ever persist to graduation
 - Only 8% of Mexican American college students initially enrolled in community colleges transfer to four-year institutions and earn a bachelor's degree

Understanding Remediation

- *Implied Positive Association*: Remediation is necessary for academic success in non-developmental courses and for student persistence in college.
- *Perceived Limitation*: Remedial efforts may only prepare students for other remedial courses, and not for non-remedial ones.
- *Not Yet Fully Examined*: The potential influence of remedial-related perceptions, attitudes and values of students in developmental courses.

Review of Literature

Previous focus:

- *Remediation and academic achievement* (e.g. Boylan, 1996; Brattin, 1993; England, 1993; Richardson, Martens, & Fisk, 1981)
- *Persistence and academic performance* (e.g. Bean, 1982; Nora & Cabrera, 1996; Nora, 2000) Pascarella & Terenzini, 1991)

Gaps in the Literature: Unexplored Relationships

- Developmental students' attitudes and perceptions:
 - As learners
 - On developmental programs
 - Regarding faculty-student and peer-student relationships and interactions
- Impact of these perceptions on academic progress in developmental courses and persistence to graduation

Purpose of the Study

To examine in an integrated, comprehensive conceptual framework (Nora, 2000) what pre-college, academic, social, institutional and other factors contribute to persistence decisions

To examine the extent to which the addition of the perceptions of remediation construct improves the predictive function of the Student Engagement Model

Hierarchical Sequencing in the Conceptual Framework

Persistence=

- Pre-College Factors +
- Environmental Factors +
- Social Integration Factors +
- Academic Experiences +
- Academic Performance +
- Institutional/Goal Commitment Factors +
- Perceptions of Remediation Factors

Research Methods

- Sample:
 - $n = 339$
 - 68.9% full-time students
 - 96.7% unmarried
 - 54% commuted 11 or more miles to campus
 - 1,329 female; 1,037 male
 - Asian/Pacific Islander (29.5%); African American/Black (20.5%); Hispanic (44.3%)
 - Age 18-19 (58%); 20-22 (27.9%)
 - 86% were between the ages of 18 and 22

- Data Collection
 - Administered to students in English, Reading and Math developmental classes at an urban, open admissions, commuter university

Research Methods

- Instrument:
 - Adopted and modified from the following:
 - Collegiate Assessment of Academic Proficiency (CAAP)
 - College Student Experiences Questionnaire (CSEQ)
 - NCTLA College Surveys
 - Research (e.g. Bean, 1985; Cabrera et al., 1992; Cabrera, Nora, & Castaneda, 1992; Nora, 1987; Nora, Attinasi, & Matonak, 2000; Pascarella & Terenzini, 1979, 1980)

Methods: Data Analysis

- **Overall Measures of Goodness-of-Fit of Model**
 - G^2/df ratio (<2.5)
 - *Pseudo* R² (reduction in error variance)
 - PCP (Percent of cases correctly predicted by model)
 - -2 log likelihood (reduction in values)
- **Individual Variables**
 - Exponential of Beta Weight (Odds Ratio)
 - Only variables found to be significant within each block (model)
 - t -value >1.96

Results: Validity of Scales Used to Measure Constructs in Hypothesized Model

■ Environmental Factors

| | | |
|------------------------|-----------|-------|
| ■ Family Support | .618-.741 | .7523 |
| ■ Working | .962-.967 | .7865 |
| ■ Support from Friends | .902-.903 | .8535 |

■ Social Integration

| | | |
|----------------------|-----------|-------|
| ■ Social Experiences | .622-.835 | .8734 |
|----------------------|-----------|-------|

■ Institutional and Goal Commitments

| | | |
|----------------------------|-----------|-------|
| ■ Institutional Commitment | .749-.916 | .9173 |
| ■ Goal Commitment | .705-.853 | .7946 |

Results: Validity of Scales Used to Measure Constructs in Hypothesized Model (Cont.)

■ Academic Experiences

| | | |
|-----------------------------------|-----------|-------|
| ■ Positive Academic Experiences | .760-.865 | .7945 |
| ■ Classroom Participation | .601-.779 | .6575 |
| ■ Academic Resources Utilization | .733-.745 | .7008 |
| ■ Mentoring | .653-.714 | .6908 |
| ■ Informal Interactions w/Faculty | .531-.761 | .6118 |
| ■ Academic Functions | .721-.756 | .7561 |

Results: Validity of Scales Used to Measure Constructs in Hypothesized Model (Cont.)

■ Perceptions of Remediation

| | | |
|----------------------------------|-----------|-------|
| ■ Value Remediation | .511-.854 | .8658 |
| ■ Transitioning to Classes | .793-.830 | .6116 |
| ■ Utility of Remediation | .691-.853 | .6967 |
| ■ Feelings of Marginalization | .703-.806 | .7774 |
| ■ Pre-College Underpreparedness | .642-.795 | .6162 |
| ■ Fairness in Placement | .738-.878 | .7399 |
| ■ Learning Deficiencies | .741-.769 | .6325 |
| ■ Acquisition of Literacy Skills | .827-.827 | .5378 |
| ■ Practical Meaningfulness | .521-.791 | .6003 |

Table 2. Indicators of Overall Goodness-of-Fit.

| Indicators of Fit | Pre-college Factors | Environmental Factors | Social Integration | Academic Experiences | Academic Performance | Institutional/Goal Commit | Perceptions of Remediation |
|---------------------------------------|---------------------|-----------------------|--------------------|----------------------|----------------------|---------------------------|----------------------------|
| <i>G</i> ² | 1568.896 | 1528.743 | 1509.290 | 1484.553 | 1463.919 | 1456.310 | 1380.158 |
| (df) | 1257 | 1249 | 1248 | 1242 | 1241 | 1237 | 1228 |
| <i>G</i> ² / <i>df</i> | .248 | 1.223 | 1.209 | 1.195 | 1.179 | 1.177 | 1.123 |
| <i>Pseudo R</i> ² | 0.01 | 0.04 | 0.05 | 0.08 | 0.09 | 0.10 | 0.16 |
| PCP | 68.25% | 69.84% | 69.05% | 68.65% | 69.05% | 69.05% | 73.02% |
| Change in <i>G</i> ² | 13.5168 | 40.153 | 59.606 | 84.343 | 104.977 | 112.586 | 188.738 |
| Change in <i>df</i> | 3 | 8 | 1 | 6 | 1 | 4 | 9 |
| Improvement of fit (<i>p</i> -value) | .0036 | .0000 | .0000 | .0004 | .0000 | .1070 | .0000 |

Final Reduced Model - Analysis of Individual Variables

- Used Beta weights to assess the influence of significant variables
- 15 significant variables influenced persistence:
 - Pre-College- 1 Environmental - 4
 - Social Integration- 1 Academic Experiences - 2
 - Acad. Performance- 1 Institutional Commit.-1
 - Perceptions of Remediation- 5

Table 3. Final Logistic Regression Parameter Estimates

| Factor | Beta Weight | S.E. | Significance Level | Exp (B) (Odds Ratio) | Impact on Persistence |
|--|-------------|-------|--------------------|----------------------|-----------------------|
| Pre-College Factors | | | | | |
| Accuplacer Reading Score | .0201** | .0056 | .0003 | 1.0203 | Positive |
| Environmental Factors | | | | | |
| Hours Per Week Employed | .4131** | .0926 | .0000 | 1.5115 | Positive |
| Work On-Campus (1) | -1.5967** | .5522 | .0038 | .2026 | Negative |
| Work Off-Campus (2) | -1.7883** | .4471 | .0001 | .1672 | Negative |
| Difficult to Finance Education | -.2063** | .0589 | .0005 | .8136 | Negative |
| Social Integration | | | | | |
| Social Integration | .6344** | .1136 | .0000 | 1.8859 | Positive |
| Academic Experiences | | | | | |
| Positive Academic Experiences | -.6597** | .1369 | .0000 | .5170 | Positive |
| Academic Resource Utilization | .1948* | .0798 | .0147 | 1.2151 | Positive |
| Academic Performance | | | | | |
| GPA | .0041** | .0009 | .0000 | 1.0041 | Positive |
| Institutional / Goal Commitment | | | | | |
| Institutional Commitment | .1984* | .0886 | .0252 | 1.2195 | Positive |
| Perceptions of Remediation | | | | | |
| Feelings of Discrimination | .2666* | .1109 | .0162 | 1.3055 | Positive |
| Pre-College Underpreparedness | -.5012** | .0942 | .0000 | .6058 | Negative |
| Fairness in Placement | .3289** | .0913 | .0003 | 1.3894 | Positive |
| Acquisition of Literacy Skills | .1928* | .0877 | .0279 | 1.2127 | Positive |
| Value of Remediation | -.4018* | .1712 | .0189 | .6691 | Negative |

Overall Conclusions

- Validation of the Theoretical Framework
- Components of all six blocks in the original framework (*pre-college, environmental, social experiences, academic integration, academic performance and institutional commitment*) included statistically significant influences on student persistence.

Overall Conclusions

- Improved the ability of the Student Engagement Model (Nora, 2000) to predict student persistence.
- Demonstrated the validation of remedial attitudes and their impact on the persistence of developmental students.

Findings

- Reading proficiency plays an important role in the successes of developmental students in college.
- Working (on- or off-campus) and the stress associated with financial concerns significantly pushes the developmental student to choose to leave college.
- Students with higher levels of involvement in the social aspects of university life are more likely to remain in college.
- High GPAs are a positive motivator for students to stay in college.

Findings (cont.)

- Five factors related to perceptions of remediation predict the likelihood of persistence:
 1. Value placed on remediation
 - Students value support, assistance and encouragement
 - Students who perceive remediation as beneficial and necessary are more likely to re-enroll after their first yr
 2. Perceived feelings of discrimination and marginalization (in class and off-campus)
 - Students exposed to discriminatory behavior from faculty and peers are more likely to persist
 - “I’ll show you” phenomenon

Findings: Five Factors (cont.)

3. Self-perceptions of under-preparedness prior to enrolling in college
 - *The more students perceive that they are unprepared, the less likely they are to decide to re-enroll in the second year with graduation as their goal.*
4. Sense of fairness in the assessment and placement of developmental students
 - *Students that realize that their academic ability has been accurately measured, that placement tests are fair assessments, and believe that they belong in developmental classes enter their remediation with positive attitudes that they were fairly placed; these attitudes are instrumental in affecting persistence attitudes.*
5. Conviction that acquiring literacy skills through remediation is necessary to perform well in college
 - *Students that value the acquisition of these skills are affected by these positive academic attitudes in that they are more likely to return to campus the following year.*

Concluding Remarks

- Institutional researchers and policy makers must consider the interplay between institutional, personal, perceptual, and external factors in developing and assessing remediation programs.
- Current study provides empirical evidence that attitudes and perceptions related to remediation are influential in impacting developmental student withdrawal decisions.
- Developmental efforts may be offset by the negative perceptions that remedial students hold of being placed in developmental courses.
- In contrast, doing a better job of conveying the positive aspects of developmental courses to those that are labeled as needing remediation will offset those negative attitudes resulting in student persistence.