

Impacts of 2-year versus 4-year College Attendance on Learning Orientations

(Pierson, Wolniak, Pascarella, Flowers)

Research Questions

- 1. Controlling for differences in precollege characteristics and college experiences, to what extent do students attending 2-year versus 4-year colleges become differentially oriented toward the process of learning during the first two years of postsecondary education?**

Research Questions (cont'd.)

- 2. Are the effects of 2-year college attendance on learning orientations the same for all students, or do they differ for students with different backgrounds characteristics (e.g., precollege academic ability, precollege learning orientations, academic motivation, age, sex, ethnicity)?**

National Study of Student Learning **(NSSL)**

Sample

**2685 students in 23 two- and four-year colleges
located in 16 different states.**

5 community colleges

3 public research universities

1 private research university

4 liberal arts colleges

2 historically black colleges

8 regional colleges and universities

Dependent Variables

End of First & Second Year Learning Orientations:

- **Openness to Diversity/Challenge**
- **Learning for Self-Understanding**
- **Internal Locus of Attribution for Academic Success**
- **Preference for Higher-Order Cognitive Activities**

Independent Variable

- **Attendance at a 2-year versus 4-year College**

Control Variables

(precollege characteristics)

- **Precollege Learning Orientation**
- **Sex**
- **Ethnicity/Race**
- **Family SES (parent education and income)**
- **Precollege Academic Motivation**
- **Age**
- **Volunteer Work in Secondary School**
- **High School Grades**
- **English as a Second Language**
- **Academic Ability**

Control Variables

(measures of student experiences in college)

- Cumulative Credit Hours Completed
- Hours Spent Studying and Working
- Self-Reported College Grades
- Overall Perceptions of Teaching Received
- Course-Related Interactions with Peers
- Academic Effort/Involvement
- Science Effort/Involvement
- Computer Use
- Number of Books Read, Essay Exams, Papers Written
- Non-Course Related Interactions with Peers
- Extracurricular Involvement
- Volunteer Work During College
- Patterns of Coursework in 5 Areas

Data Collected

Fall 1992

CAAP reading, math,
critical thinking
NSSL precollege questionnaire
(3,840)

Spring 1993

CAAP reading, math,
critical thinking
NSSL follow-up questionnaire
College Student Experiences
Questionnaire (CSEQ)
(2,685)

Data Collected (cont'd)

Spring 1994

CAAP science reasoning,
writing skills
NSSL follow-up questionnaire
CSEQ
(1,761)

Spring 1995

CAAP reading, critical thinking
NSSL follow-up questionnaire
CSEQ
(1,054)

Methodology

1. Estimated the *Total and Direct Effects* of attending a 2- versus 4-year college on each of the learning orientations.
2. Tested for the presence of *Conditional Effects* of attending a 2- versus 4-year college attendance on learning orientations using cross-product terms.

Results

Total & Direct Effects

Attending a 2-year college had *statistically significant positive* total and direct effects on growth in:

- (1) Openness to Diversity/Challenge in Years 1 and 2 of the study**
- (2) Learning for Self-Understanding in Year 2**
- (3) Internal Locus of Attribution for Academic Success in Year 1**

Net of other factors there were *no significant impacts* for:

- (1) Preferences for Higher-Order Cognitive Activities**

Results

- **Openness to Diversity influences may be transmitted through first year differences in academic and non-academic experiences.**
- **These indirect effects appear to be transmitted through higher levels of:**
 - **Hours Spent Studying**
 - **Academic Effort/Involvement**
 - **Perceptions of Clarity in Instruction Received**
 - **Lower Levels of Science Effort/Involvement (as demonstrated by less science and mathematics courses)**

Results

Conditional Effects

Over half of the conditional effects involved sex, ethnicity, or ESL

Sex

- + for men: 1st & 2nd year Openness to Diversity/Challenge
- + for men / - for women (non significant): 1st year Learning for Self-Understanding

Ethnicity

- + for white: 2nd year Openness to Diversity/Challenge & Learning for Self-Understanding
- + for students of color: 2nd year Preference for Higher Order Cognitive Activities

ESL

- + for ESL: 1st & 2nd year Learning for Self-Understanding
2nd year Openness to Diversity/Challenge
- for ESL / + for non-ESL: 2nd year Preference for Higher Order Cognitive Activities

Results

Conditional Effects

Higher Ability and Orientations Towards Learning

+ benefits: 2nd year Openness to Diversity/Challenge
2nd year Learning for Self Understanding

- As level of precollege academic ability *decreased*, so too did the influence of attending a 2-year versus 4-year college.
- As precollege levels of Learning for Self-Understanding and Preference for Higher-Order Cognitive Activities *increased*, the effect of attending a 2- versus 4-year college became small and nonsignificant.

Results

Conditional Effects

Socioeconomic Status

- Higher SES-tended to inhibit 1st year growth in Preference for Higher-Order Cognitive Activities
- Lower SES- the impact of 2-year college attendance became more positive, though not significant
- Higher SES-2-year college attendance negatively influences Learning for Self Understanding
- Lower SES- 2-year college attendance positively influences Learning for Self Understanding

Age

- Younger Age-positive influence on 1st year Openness to Diversity/Challenge
- Higher Age-the net impact of attending a 2-year versus 4-year college became small and nonsignificant

Conclusions

First Conclusion (contrary to most current research)

- 2-year college students demonstrated net changes in learning orientations that were equal to, or in some cases modestly larger than, those exhibited by their counterparts at 4-year institutions.

Second Conclusion

- The significantly greater gains made in learning orientations by 2-year college students could not be totally accounted for by differences between 2- and 4-year college students in the academic and non-academic experiences of college.

Third Conclusion

- The impacts of attending a 2- versus 4-year college on growth in learning orientations tended to be conditional rather than general. For example, the net effects were not the same for students of different sex or color.

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