Influences on Students Choosing Majors in Agriculture

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Figure 2.3. Influences on student college choice (Chapman, 1981)

- **Student Characteristics**
  - Socioeconomic Status
  - Aptitude
  - Level of Educational Aspiration
  - High School Performance

- **External Influences**
  - Significant Persons
    - Friends
    - Parents
    - High School Personnel
  - Fixed College Characteristics
    - Cost (Financial Aid)
    - Location
    - Availability of Program
  - College Efforts to Communicate with Students
    - Written Information
    - Campus Visit
    - Admissions / Recruiting

- **General Expectations of College Life**

- **College’s Choice of Students**

- **Student’s Choice of College(s)**

**Entry to College**
Research Question

How well does the adapted study model from Krumboltz’s Social Learning Theory of Career Decision Making explain student field of study choice in agriculture, environment, and food sciences?
Figure 3.1. Theoretical model of the influences on students choosing majors in agriculture

- **Student Characteristics**
  - Gender
  - Race/Ethnicity
  - Academic Achievements

- **Environment**
  - SES
  - Neighborhood
  - Family Influences
  - Influential People
  - High School
  - College Sources

- **Learning Experiences**
  - High School Classes
  - School Activities
  - Work Experience

- **Task Approach Skills**
  - Study Habits
  - Values
  - Goals/Plans

- **Initial College Major Choice in Agriculture**
Education Longitudinal Study 2002, ELS:2002

Years in School

Years of Data Collection

Diagram showing the progression of education longitudinal studies from 1972 to 2012, with key years labeled and data collection methods indicated.

- BY – Base Year data collection
- 1FU – 1st follow-up data collection
- 2FU – 2nd follow-up data collection
- 3FU – 3rd follow-up data collection
- CT – Cognitive test
- P – Parent survey
- T – Teacher survey
- A – Administrator survey
- L – Library center survey
- F – Facilities checklist
- HST – High School Transcript
- PST – Post-Secondary Transcript
- SFA – Student Financial Aid
- D – Dropout Survey
Selected Variables from ELS: 2002

Student Characteristics
- Sex of student (BYS14)
- Student race/ethnicity (BYS17)
- Student is Hispanic (BYS15)
- GPA for all academic courses (F1RAGP)*

Environment
- Mother’s (BYS81AR) and father’s (BYS82AR) occupation
- Mother's (BYS83A) and father's (BYS83B) highest level of education
- How far in school mother (BYS65A) and father (BYS65B) want 10th grader to go
- Total family income from all sources 2001 (BYP85)
- School type/ region by urbanicity (BYREGURB)
- Has gone to teacher for college entrance information (BYS59B)
- Has gone to parent for college entrance Information (BYS59D)
- How often discussed going to college with parents (BYS86G)
Selected Variables from ELS: 2002

Learning Experiences
• Participated in voc/tech skills competition (BYS23F)
• Participated in coop-education (BYS71A)
• Years of biology coursework (F1S16C)
• Participated in school vocational clubs (BYS41I)
• High school program-student self-report (BYS26)

Task Approach Skills
• Importance of good grades to student (BYS37)
• How far in school student thinks will get (BYS56)
• Importance of having lots of money (BYS54C)
• Importance of being able to find steady work (BYS54E)
• How much education respondent thinks will be needed for job at age 30 (F1S58)
## Exploratory Factor Analysis

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<tr>
<th>Item Description</th>
<th>STU GO</th>
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<th>PT ED</th>
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Figure 4.1. Confirmatory factor analysis model

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<td>PCLOSE</td>
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CFA model fit with limited sample size (n=205)

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<td>RMSEA</td>
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<tr>
<td>PCLOSE</td>
<td>0.13</td>
<td>&gt;0.06</td>
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CFA model fit with expanded sample size (n=403)
Examples of agriculture, environment, and food science majors

- Food Science
- Nutrition Sciences
- Botany/Plant Biology, Other
- Conservation Biology
- Natural Resources
- Environmental Science
- Aquaculture
- Animal Science, Veterinary
- Plant, Soil, Landscape, Forestry
- Agribusiness - Operations, Int’l
Figure 4.2. SEM model fit from CFA

<table>
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<td>PCLOSE</td>
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<td>&gt;0.05</td>
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Figure 4.3. Model fit with student characteristics and field of choice

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<td>PCLOSE</td>
<td>0.35</td>
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Research Question

How well does the adapted study model from Krumboltz’s Social Learning Theory of Career Decision Making explain student field of study choice in agriculture, environment, and food sciences?
Agricultural Student Choice Model

• Revised from four SLTCDM constructs to six constructs
• Vocational learning experiences
• Education
• Parents
Proposed study model and agricultural student choice model

Student Characteristics
- Gender
- Race/Ethnicity
- Academic Achievements

Environment
- SES
- Neighborhood
- Family Influences
- Influential People
- High School
- College Sources

Learning Experiences
- High School Classes
- School Activities
- Work Experience

Task Approach Skills
- Study Habits
- Values
- Goals/Plans

Initial College Major Choice in Agriculture
Table 5.1. Original and revised model constructs

<table>
<thead>
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<th>Adapted study model from Krumboltz’s Social Learning Theory of Career Decision Making (1996)</th>
<th>Agricultural choice model</th>
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<tbody>
<tr>
<td>Student characteristics</td>
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<td>Environment</td>
<td>Parent goals</td>
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<td>Parents’ education</td>
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<td>Learning experiences</td>
<td>Learning experiences</td>
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<td>Task approach skills</td>
<td>Student goals</td>
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Agricultural Student Choice Model

• Vocational learning experiences
  • Participated in voc/tech skills competition (BYS23F)
  • Participated in school vocational clubs (BYS41I)
Agricultural Student Choice Model

• Education
  • Importance of good grades to student (BYS37)
  • How far in school student thinks will get (BYS56)
  • How much education respondent thinks will be needed for job at age 30 (F1S58)
Agricultural Student Choice Model

• Parents
  • Hossler, Braxton, Coopersmith (1989) – strong association with parental encouragement, parent education, learning experiences, academic ability, and students’ aspirations
  • Weak association with gender, ethnicity, SES, and neighborhood
Recommendations for Future Research

• Influence of parents’ experiences outside of occupation and education
• Influence of 4-H and FFA programs and advisors