Motivations to Teach and Plans to Continue Teaching for High School Agriculture Teachers in Iowa

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Quick Overview

• Background of Research
• Purpose of Study
• Literature Review
• Methodology
• Findings
• Discussion, Conclusion, and Recommendations
Background of the research

- Previous evidence & literature related to teacher retention in U.S
  -National Agricultural Education Supply and Demand Study

- Priority 3 of the National Research Agenda focuses on creating a sufficient professional workforce that address the challenges of 21st century (Roberts & Brashears, 2016)
National Study of Supply and Demand in Agricultural Education

(Demand (Teacher needed but unavailable))

(Camp, 2000; Camp, Broyles, & Skelton, 2002; Kantrovich, 2007; Kantrovich, 2010; Foster, Lawver, & Smith, 2014; Smith, Lawver, & Foster, 2016; Smith, Lawver, & Foster, 2017)
Purpose of the Study

(1) Determine high school agriculture teachers’ motivations (*intrinsic, extrinsic, and altruistic*) to teach & (2) Predict three different teachers’ plans to continue teaching.
Motivation factors to teach

Intrinsic
- Individual’s interest in doing enjoyable activities (Ryan & Deci, 2000; Hardre & Reeve, 2003; Reeve, Deci & Ryan, 2004)
- Refer to agriculture teachers’ feelings, desires, and incentives, which originate within the behaviour itself (Dictionary of Behavioural Sciences, 1989)
- Previous studies (Reilly & Welton, 1980; Dinham & Scott, 1997; Ashideu & Scott-Ladd, 2012; Roness; 2011).

Extrinsic
- Refer to the motivation that stems from positive or negative external reinforcement of agriculture teachers (Dictionary of Behavioural Sciences, 1989)
- Previous studies (Rice, LaVergne & Gartin, 2011; Crutchfield et al, 2013 & Hellsten & Prytula, 2011).

Altruistic
- Refer to behaviour performed voluntarily, must be a goal for itself and performed without expecting any external reward (Bar-Tal, 1976; Berkowitz, 1972; Krebs, 1970; Leeds, 1963 & Staub, 1978)
- Previous studies (Brookhart & Freeman, 1992; Richardson and Watt, 2006; OECD, 2005 & Yu & Bieger, 2013)

Teachers’ Plan to Stay
Summary of Literature Review

HIGH SCHOOL AGRICULTURE TEACHER RETENTION

Factors that Motivate Teachers to Teach

- **Intrinsic motivations** (interest, interpersonal based orientations, & opportunity of lifelong learning & career development & love children)
- **Extrinsic motivations** (material benefits, job, work security, benefit and convenient-based orientation, & monetary rewards)
- **Altruistic motivations** (service-based orientation, desire to work with children or adult, contribution to society, & opportunity to provide service to mankind) *(Ferrel & Daniel, 1993)*

- Other factors influencing teachers’ decisions to teach:
  - Personal (demographics, family, cognitive & affective)
  - External (societal, economic, institutional)
  - Employment (professional qualifications, work conditions, rewards, commitment, & employability)

**Self-Determination Theory** *(Ryan & Deci, 2001; Reeve, Deci, & Ryan, 2004)*

Plan to Stay (making choices based on the factors, reasons, & judging outcomes)
Method

Descriptive Research
Tailored Design Survey Method (*Dillman et al., 2009*)

**Write Report & Present Findings**

**Formal Data Collection & Analyze Data**
- n = 119, Compare early & late response. Data analysis (SPSS Package 23)

**Obtained IRB Approval & Conduct Pilot Study**
- Ethics Exempt Approval, Reliability

**Choose & Develop Online Questionnaire**
- (Demographic – nominal, dichotomous). Likert Scale (1 = SD, 2 = D, 3 = A, 4 = SA). Validity Checked

**Research Design, Conception & Literature Review**
- Develop research aim, and objectives, a census study, N = 252, Iowa FFA Association

Iowa State University
## Findings

Table 1

*Descriptive Analysis for Age, Gender, Intrinsic, Extrinsic and Altruistic Motivation and Plan to Continue Teaching*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>38.15</td>
<td>13.12</td>
<td>21</td>
<td>65</td>
</tr>
<tr>
<td>Gender</td>
<td>1.53</td>
<td>0.50</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Motivation Factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrinsic</td>
<td>3.26</td>
<td>0.32</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Altruistic</td>
<td>3.18</td>
<td>0.36</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Extrinsic</td>
<td>2.54</td>
<td>0.32</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plan to Continue Teaching</th>
<th>Frequency</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>1 to 5 years</td>
<td>44</td>
<td>37.0</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>21</td>
<td>17.6</td>
</tr>
<tr>
<td>11 or more years</td>
<td>54</td>
<td>45.8</td>
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</table>
Findings

Table 2

Stepwise Multinomial Logistic Regression (Final model included significant variable at .05 level of significance)

<table>
<thead>
<tr>
<th>Plan to Continue Teaching Category</th>
<th>Estimate</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Odd. ratio</th>
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<tr>
<td>6 to 10 years</td>
<td>Intercept</td>
<td>0.67</td>
<td>0.87</td>
<td>0.60</td>
<td>1</td>
<td>0.43</td>
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<td></td>
<td>AGE</td>
<td>-0.03</td>
<td>0.02</td>
<td>2.70</td>
<td>1</td>
<td>0.96</td>
</tr>
<tr>
<td>11 or more years</td>
<td>Intercept</td>
<td>2.47</td>
<td>0.70</td>
<td>12.7</td>
<td>1</td>
<td>0.00</td>
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<tr>
<td></td>
<td>AGE</td>
<td>-0.06</td>
<td>0.02</td>
<td>11.6</td>
<td>1</td>
<td>0.94</td>
</tr>
</tbody>
</table>

Note: (n = 119). The reference category is 1-5 years. Model fit; Chi-square = 12.85; p < .05, Pseudo $R^2$ (Nagelkerke) = 0.12
Discussion & Conclusion

- Agriculture teachers had an average age of 38.15 years
- Intrinsic motivation ($M=3.26, SD=0.32$)
- Altruistic motivation ($M=3.18, SD=0.36$)
  
  Teachers agreed these factors impacted their decision to teach

  Corroborates previous research (Hellsten & Prytula, 2011; Roness, 2011; Sinclair, 2008; Kyriacou et al., 1999; Manuel & Brindley, 2005; Manuel & Hughes, 2006; Brookhart and Freeman, 1992)

- Extrinsic motivation ($M=2.54, SD=0.32$)
  
  Not strongly impacted on teachers’ decision to teach

- 45.8% planned to continue = 11 or more years
- 37% planned to continue = 1 to 5 years
- 17.6% planned to continue = 6 to 10 years
Discussion & Conclusion

- Multiple Logistic Regression Analysis
  - Predict Plans to Continue Teaching
  - Model was statistically significant ($\chi^2 = 12.85; p < .05$)
  - Age was a significant predictor ($p < .001$)

- Further Analysis
  - Substantial early career teachers planned to leave 1-5 years
  - Older teachers more likely planned to teach to reach normal retirement age

- Findings are consistent with previous research
  - Considerable number of teachers planning to quit teaching after five or fewer years of experience (Hanusken, Kain, Rivkin, 2004; Kirby, 1999; Adam, 1996; Hughes, 2012)
Recommendations

- Induction Program
- Annual Mentoring Programs
- Annual Awards Program – recognized outstanding new teacher
- Network – Professional Organization, National Association of Agricultural Educators - Communities of Practice, Teach Ag Campaign
- High School Agriculture Teacher Professional Development Model & Mentoring and Induction Model
- Annual Survey of New Teachers, Mentors, and School Administration


