A Chi-Square Analysis of a Potential Relationship Between Hours Worked as a Student Teacher and Career Choice Decision to Teach

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Introduction/Purpose

Student teaching provides a real-world experience that allow pre-service teachers the opportunity to develop their teaching skills and increase teaching self-efficacy (Edgar, Roberts, & Murphy, 2011; Kasperbauer & Roberts 2007). This increase in self-efficacy can be seen in as little as 10 weeks of classroom experience (Knobloch & Whittington, 2003). Research indicates students who possess higher self-efficacy are more likely to enter the teaching profession (Swan, Wolf, & Cano 2011). This gives cause to question why so many graduates do not accept teaching positions upon completion of their degree. In 2016, 24.3% of graduates from agricultural education programs did not accept a teaching position (Lawver, Foster, & Smith 2018). Past research presents contradicting stances on why this is the case. Sorensen, et al. (2018) found that students question whether or not they want to enter the profession out of the difficulty of balancing work and life. Further, Fives, Hamman, and Olivarez (2006) concluded that students have shown signs of burnout after completing student teaching. However, Roberts, et al. (2009) found that intentions to teach remained relatively stable throughout student teaching. This study furthers the discussion by investigating the potential impact of student teaching workload (in total hours) on the decision to teach agriculture at the secondary level.

Theoretical Framework

Expectancy Value Theory (EVT) serves as the theoretical underpinning of this study. EVT suggests an individual's decision-making process is influenced by expectations for success and the value placed on a task (Wigfield & Eccles, 2000). Expectancy is often operationalized as self-efficacy (Wigfield & Eccles, 2000) while thevalue side of the model includes intrinsic, attainment, and utility values as well as the idea of a cost value associated with the task. These costs include actual time, effort, and money loss as well as opportunity costs (Wigfield & Eccles, 2000). Value, in this study, will be operationalized as the utility or usefulness coupled with the cost of the time spent student teaching. In other words, was the experience useful to their future and how much did it (or will it) take away from other activities or responsibilities because of the time commitment. Roberts, et al. (2009) used a similar model and focused on value operationalized as perceptions of the cooperating teacher.

Methodology

Pre-service teachers at Texas Tech University recorded hours worked as part of their course requirements utilizing an instrument used by Torres and Ulmer (2007) containing 13 sub-categories to classify time usage. Student teachers from the 2017 (N = 15) and 2018 (N = 21) cohorts submitted reports at the end of each of their 15 weeks of teaching placement. Reports were checked for accuracy or missing information and issues were corrected prior to compilation. Data were entered into a Microsoft Excel Spreadsheet for organization and hours reported by individual students were summed. Summated data were imported into an SPSS file for further analysis following published assumptions and methods (Ary, Jacobs, & Sorenson, 2006). A mean and standard deviation were calculated and used to create a new, categorical variable. Any values above the mean were coded as "High" hours and those below coded as

"Low". Additional information was entered into a binary variable "Teaching". Any student currently employed as a full time SBAE teacher was considered to be teaching, and students who went to graduate school or are teaching in a different subject or level (e.g. elementary) were considered as not. These two categorical variables were used in a two by two Chi-Square calculation to address the research question. Significance level was set *a priori* at $\alpha = .05$.

Findings

The students from the 2017 and 2018 teaching cohorts ($N = 31$) reported an average placement workload of 746.7 hours ($SD = 180.6$, Min = 385, Max = 1128.5). This mean value was used to categorize students into "high" ($f = 17$, 45.9%) or low ($f = 20$, 54.1%) categories. Twenty-two students (59.5%) were employed as a full-time SBAE teacher and 15 (40.5%) were not (Table 1). A Chi-Square test for independence was performed to examine a possible relationship between hours worked as a student teacher and decision to enter the field as a SBAE professional. Analysis indicates that there is not a significant difference between the variables ($\chi^2_{(1, N = 37)} = 3.776$, $p = .052$). Student teachers who record large workload hours are no more or less likely to enter the profession as a full-time SBAE teacher than those students who have lighter loads.

Table 1
Frequencies and Percentages of 2017 and 2018 Student Teachers at [University] with "High" and "Low" Reported Hours and Employment Status as a Full-Time SBAE Teacher (N = 37)

	Working as Full Time SBAE Teacher					
	No		Yes		Total	
	f	%	*f*	%	*f*	%
Student Teaching Hours						
Low (385-746.69)	11	29.7	9	24.3	20	54.1
High (746.7-1128.5)	4	10.8	13	35.1	17	45.9
Total	15	40.5	22	59.5	37	100.0

Note: Chi-Square test for independence showed no significant difference ($\chi^2_{(1, N = 37)} = 3.776$, $p = .052$)

Conclusions, Implications, and Recommendations

The data shows that student teachers at Texas Tech University are having markedly different allocations of time during their field experiences. However, Chi-square analysis concludes no significant relationship between the hours worked and the decision to student teach. This conclusion is similar to the finding of Roberts, et al. (2009) that preservice agricultural science teachers' intentions to teach are not impacted by their gender, number of secondary SBAE courses taken, or prior agricultural work experience. The implication of this result is that pre-service teachers should not be limited by university supervisors on workload during their student teaching experience. Further, the literature suggests that an increase in experience time leads to increased self-efficacy (Krysher, Robinson, & Edwards 2015) and increased longevity in the profession. This study should be replicated regionally or nationally to generate higher numbers such that more specific categories of hours (e.g. Low, Medium, and High) and/or career choices (e.g. SBAE Teacher, Teacher-Other, and Not-Teaching) could be included in the Chi-Square analysis as well as increase the statistical tools available for use.

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