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Novice Agriculture Teachers' General Self Efficacy and Sense of Community Connectedness

G. Curtis Langley[1], Michael Martin[2] and Tracy Kitchel[3]

The attrition rate for novice teachers can range between 20%-50% in the first five years. This problem has concerned researchers in school-based agricultural education because of the shortage of agriculture teachers and high demands of the job. Researchers narrowed down the reasons why teachers leave the profession including the role of self-efficacy. While self-efficacy of novice teachers in the classroom has been researched, general self-efficacy of novice teachers has not been examined. We investigated the influence of moving into a new community and adjusting to the new culture and social connections of the new community on the teacher's self-efficacy. The purpose was to determine if culture shock and social connectedness explained general self-efficacy of novice agriculture teachers. It was concluded that the construct of core beliefs and how people react internally to their community within the culture shock theory significantly explained a proportion of the variance in general self-efficacy. The findings implied that the culture distance experienced by a novice teacher in a new community could affect their general well-being and ability to accomplish their goals.

Keywords: teacher efficacy; self-efficacy; teacher retention; novice teachers

The American educational system faces the significant problem of novice teachers leaving the teaching profession after a short tenure in the classroom. Teacher attrition rates have ranged between 20% and 50% of all teachers leaving in the first five years (Hughes, 2012). As such, teacher retention has become a significant thread of study for researchers. The demands of school-based agricultural education are high (Torres, Lambert, & Tummons, 2009) and teacher retention has become a concern (Mundt & Connors, 1999; Myers, Dyer, & Washburn, 2005; Kitchel et al., 2012). Researchers have tried to narrow down the reasons why teachers leave the profession, and one important thread that has emerged is the role of the teacher's self-efficacy in teaching (Whittington, McConnell, & Knobloch, 2006).

If a novice teacher feels unsuccessful at teaching, then that teacher may want to leave the classroom (Knobloch, 2006). Although Knobloch's (2006) research highlighted generally high levels of self-efficacy among agriculture teachers; some novice teachers still reported differing levels of self-efficacy. Pedagogical research reveals a trend wherein those engaged in student teaching experience high levels of self-efficacy at the beginning and end of their teaching experience, but experience decreasing self-efficacy in the middle of the experience (Swan,Wolf, & Cano, 2011). Furthermore, teachers entering the profession reported the highest levels of self-efficacy at the end of student teaching, while the lowest levels were reported at the end of the their first year (Swan et al., 2011). This decline could be attributed to the absence of cooperating teachers or other supporting structures (Hoy & Spero, 2005). Ultimately, self-efficacy can explain teachers' self-perceived ability beyond the act of teaching (Judge, Locke, & Durham, 1997). Self-efficacy

[1] G. Curtis Langley is a graduate teaching assistant Agricultural Education and Leadership at the University of Missouri, 126 Gentry Hall, Columbia, MO 65211.
[2] Michael J. Martin is an Assistant Professor of Agricultural Education in the Department of Agricultural and Resource Economics at Colorado State University, B-333 Clark Hall, Fort Collins, CO 80525, michael.j.martin@colostate.edu.
[3] Tracy Kitchel is an Associate Professor and Director of Graduate Studies in Agricultural Education and Leadership at the University of Missouri, 126 Gentry Hall, Columbia, MO 65211.

of a novice teacher will affect a teacher's decision to remain in the classroom (Swan et al., 2011). For many novice teachers, starting the first job is not the only stress with which they may be coping. Leaving their college or university community to begin a career in new surroundings may also generate stress.

Many novice agriculture teachers have to move to unfamiliar communities for their first teaching position. Adjusting to a new community could cause teachers stress and affect their self-efficacy. Psychological research revealed that feeling unconnected from the community where you live and work can lead to negative effects, including personal stress and a decrease in self-efficacy (Kennedy, Cameron, Greene, 2012; Speller & Twigger-Ross, 2009; Zhang & Goodson, 2011). Much of this research indicated people who live and work in new communities experience higher levels of personal and professional anxiety. Novice agriculture teachers' level of self-efficacy can be influenced by where they work and live, in addition to the work itself.

Conceptual Framework

Conceptually, this study relied on three different theoretical perspectives: general self-efficacy, social connectedness, and culture shock. Culture shock and social connectedness are being used to explain the phenomenon of teachers moving to new communities.

Self-Efficacy

Self-efficacy emerged from Bandura's research on social cognition. Self-efficacy is the belief of someone's own ability to accomplish or perform a specific task at a designated level (Bandura, 1986, 1997). Researchers have defined self-efficacy along various theoretical and conceptual arguments. Bandura (1997) argued that one's level of self-efficacy should be measured for a specific task and not for someone's broader traits; however, researchers have challenged this strict situational view through the utilization of *general self-efficacy* (Cervone, 1997; Stajkovic & Luthans, 1998). *General self-efficacy*, on the other hand, is described as a person's belief in their overall ability to perform well across a variety of different contexts (Chen, Gully, & Eden, 2001). General self-efficacy is developed slowly as a person experiences success and failures over a life time. General self-esteem has a strong influence on a person's self-esteem, locus of control, and neuroticism (Gardner & Pierce, 1998; Judge et al., 1998; Judge et al., 1997).

Agricultural education researchers have used multiple instruments to measure the self-efficacy of teachers regarding their ability to teach in the classroom setting. Common domain researchers have investigated overall teaching efficacy, student engagement, classroom management, and instructional strategies (Knobloch, 2006). However, teaching ability and the perception of one's ability is also an important phenomenon (Krysher, Robinson, Montgomery, & Edwards, 2012), but little to no research has been conducted to explore how agriculture teachers' communities affect their self-efficacy in those domains.

Culture Shock

The term *culture shock* is used to describe the emotional disturbance people have when they are exposed to an unfamiliar cultural environment (Mumford, 1998). The idea developed from Oberg's (1960) research on Americans working abroad. The concept has been furthered research and problematized since Oberg's original work. Taft (1977) provided the framework for future culture shock research and outlined six aspects of culture shock: 1) strain of psychologically adapting; 2) sense of loss and feelings of deprivation from loss of friends, status, and possessions; 3) being rejected or rejecting members of new culture; 4) confusion concerning new role and identity; 5) reactions to new culture awareness; and 6) feelings of incompetence from not being

able to adapt to new culture. Further culture shock research have been built upon Taft's conceptualizations and researched from multiple perspectives including cognitive, behavioral, phenomenological, and sociopsychological aspects (Chapdelaine & Alexitch, 2004). The sociopsychological approach views culture shock as an effect or psychological and social development (Furnham & Bochner, 1982). Ultimately, some people quickly adapt to the cultural differences they face, while others experience a chronic and debilitating anxiety that inhibit work, or culture shock (Mumford, 1998). For agriculture teachers, it can be conjectured that high levels of culture shock would bring about high levels of anxiety and thus affect their self-efficacy.

Social Connectedness

The concept of *social connectedness* focuses on a feeling of belongingness in life experiences (Lee, Draper, & Lee, 2001). The concept was derived from Kohut (1971, 1977), a psychologist who defined a person's life experiences as personal relationships and social activities within their social circle. People with high level of social connectedness have the ability to make interpersonal changes and adapt to social and relational changes. People with lower levels of social connectedness struggle to make personal and social relationships, and the stress from their lack of connectedness may become personally and psychologically debilitating. Lee and Robbins (1995) argued that belongingness is the critical factor for social connectedness, and belongingness has three major components: 1) companionship 2) affiliation and 3) connectedness. As such, these constructs also became part of our conversation on what influences novice agriculture teachers' self-efficacy.

Conceptual Connections

Given previous research (Kennedy et al., 2012; Speller & Twigger-Ross, 2009; Zhang & Goodson, 2011), a teacher's general self-efficacy should be related to the level of social connectedness they have within their community and the amount of culture shock they experience based on their interaction with that community. Teacher retention researchers have not examined the relationship of novice teachers' general self-efficacy to the culture shock they may experience living in new communities nor have they related the possible lack of social connectedness to a decline in self-efficacy. If an agriculture teacher experiences high levels of culture shock and low levels of social connectedness in a new community, then she or he may experience lower levels of general self-efficacy. Thus, a teacher under these situations may have a greater tendency to leave the profession. The opposite may occur, as well. If a teacher experiences low levels of culture shock and high levels social connectedness in their new communities, his or her general self-efficacy may rise. Novice teachers may be more likely to stay in the teaching profession under these circumstances.

Purpose and Objectives

The purpose of this relational study was to determine if culture shock and social connectedness explains general self-efficacy of novice agriculture teachers. The following objectives guided this study:

1. Describe the level of self-efficacy of the novice agriculture teachers.
2. Describe the level of culture shock of the novice agriculture teachers.
3. Describe the level of social connectedness of the novice agriculture teachers.
4. Determine if a model exists explaining a significant proportion of the variance in novice teachers' self-efficacy, as explained by their culture shock and social connectedness.

This study aligns with Priority #6 of the National Research Agenda: Vibrant Resilient Communities (Doerfert, 2011). As such the key outcome of priority #6 is that "Local communities will have effective leaders and engaged citizens who ensure high quality educational and career development opportunities for youth and adults and proactively sustain an environment conducive to positive community change." Likewise this research asserts that teachers have to fit in with their community if they are to be effective. Identifying a problem with their reaction to the community they work in helps achieve a key outcome of this priority.

Methods

Population

To determine the level of personal satisfaction among novice agriculture teachers, first and second year teachers in Missouri who were recent college graduates (as defined by those who took teaching jobs upon graduation) were utilized. Those who had not entered teaching recently were excluded because they could have been embedded in the community for which they were teaching and/or had coped with culture shock from the move of a previous job. The initial frame revealed a total of 48 novice teachers. After processing the returned questionnaires, it was determined only 42 entered the profession as defined for this study. From this 42-person sample, 30 respondents provided feedback for this study. This sample represented a time and place for first and second year teachers in Missouri who were recent college graduates. Individuals in a selected group of a given time period could be representative of similar groups in subsequent or prior time periods (Oliver & Hinkle, 1982). This argument provided justification for sample extraction of inferential statistics capable of being inferred to future novice teachers over time in Missouri.

For this study, demographics of the sample revealed slightly more than half of the novice teacher is were white females (n = 16; 53.3%). The average age of the whole sample was 26 years of age old and has been teaching for about two years. Meanwhile almost half (n = 14; 41%) of the respondents indicated they had changed schools (moving from one school to another) in between their first and second year of teaching. Moreover, it is important to note that while 82% of the sample was between the ages of 22-26, nine percent of the sample was between the ages of 37-47. This distribution of ages indicates an age gap for the older teachers entering the profession.

Instrumentation

This study utilized three different instruments in a single questionnaire. The instruments were the General Self-Efficacy Scale (GSE; 1 construct), Social Connectedness Scale (SCS; 3 constructs), and Cultural Distance Index (CDI; 2 constructs). This study relied on the GSE conceptualization of self-efficacy theory. The GSE conceptualization has been defined as "individuals' perception of their ability to perform across a variety of different situations" (Judge, Erez, & Bono, 1998, p. 170). The GSE took into account the previous experiences of one's life. The success and failures of someone across their whole life was taken into account along with their vicarious experiences, verbal persuasion, and psychological state. The GSE diverges from Bandura's original theory of self-efficacy because GSE views competency of self as a situation-independent belief (Scherbaum, Cohen-Charash, & Kern, 2006). The GSE instrument utilized in this study was the New General Self-Efficacy scale from Chen et al. (2001). The instrument captures self-efficacy across a broad range of work-related contexts and "captures differences among individuals in their tendency to view themselves as capable of meeting task demands…" (p. 63). There were nine items on the instrument representing GSE. An example of an item included, "I will be able to achieve most of the goals that I have set for myself" using a five-point Likert-type scale with 1 = Strongly Disagree to 5 = Strongly Agree. The reliability coefficients for the GSE from previous research ranged from Cronbach's alpha score of 0.85 to 0.91 (Chen et al., 2001;

Desivilya & Eizen, 2005). Evidence of construct validity (convergent and discriminant) were provided by three studies (Chen et al. 2001). In each of these studies, results of principal component analysis supported the predicted 1-factor solution across multiple samples and times.

The three constructs of the SCS included the constructs of *connectedness, affiliation,* and *companionship*. The focus of the instrument was the "emotional distance or connectedness between the self and other people, both friends and society" (Lee & Robbins, 1995, p. 239). The construct of connectedness related to a person's ability to identify with the social roles of their lives. The instrument had four items pertaining to connectedness, and an example item was, "I feel disconnected from the work around me." The construct of affiliation focused on a person's participation in civic and social organizations and activities. The instrument had three items related to affiliation, which included the item, "I don't feel I participate with anyone or any group." All of the questions from the SCS portion of the instrument were answered using a six-point Likert scales where 1 = Strongly Disagree to 6 = Strongly Agree. Reliability estimates using Cronbach's alpha coefficients for the constructs of connectedness and afflation from a previous study were 0.79 and 0.76, respectively (Lee & Robbins, 1995). The SCS was determined valid by Lee et al. (2001).

Mumford's (1998) conceptualization of culture shock through the cultural distance instrument (CDI) relied on the sociopsychological approach of culture shock. The items of the CDI were developed from Taft's (1977) outline of culture shock. The two constructs of the Cultural Distance Index were core culture shock (7 items) and interpersonal stress (5 items). The core culture shock questions focused on a person's internal reactions to their new culture. A sample item included, "Do you feel a strain from the effort to adapt to a new culture?" The interpersonal items from the instrument centered on a person's social experiences in the new culture. This construct included the following item, "Are you finding it an effort to be polite to your hosts at social functions?" The items from both CDI constructs required respondents to rate their level of agreement as: most of the time, occasionally, or not at all. The CDI was tested for validity by Mumford (1998) when he distributed his instrument to scholarly groups in various regions of the world. Each group then reported the validity to Mumford.

For this study, reliability estimates for the constructs were calculated using a pilot test. Although we used a previously tested instrument, the population was not considered to be in line with previous studies using this instrument. Twenty-two novice agriculture teachers from a southern state completed a pilot study. A Cronbach's alpha was calculated for the constructs of affiliation (SCS) at 0.79, social connectedness (SCS) at 0.76, core culture shock (CDI) at 0.91, interpersonal stress (CDI) at 0.62, and general self-efficacy (GSE) at 0.87. One construct, companionship (SCS), was not included in the study due to the construct only containing one item. The range of Cronbach's alpha coefficients was from 0.62 to 0.91. The construct of interpersonal stress was toward the lower limit of acceptability according to Nunnally (1978) who suggested that .50 to .60 is acceptable in the early stages of research.

Data Collection and Analysis

Given the opportunity to collect data in person, we utilized a meeting of first-year teachers to collect data on that particular subset of the sample. Second-year teachers' data were collected via mail survey. Dillman's (2007) Tailored Design Method for Mail and Internet Surveys guided the data collection. We also used procedures prescribed by Dillman for collecting data in person for the first-year teachers. Participants who were administered the questionnaire in person were informed participation was voluntary. Upon completion, respondents were asked to return the questionnaire. The second-year teachers completing the internet-based survey were first sent a recruitment letter via e-mail followed by an invitation e-mail one week later. Three follow-up emails were sent at one-week intervals to those that did not respond. There were 30 responses

returned providing a response rate of 71%. To handle non-response error, respondents were grouped as early or late respondents. In addition, a Mann-Whitney U test was utilized to determine if there were differences between the first- and second-year teachers. This test, as opposed to a *t*-test, was deemed more appropriate given the small sample size of the two groups (Field, 2009). Results indicated all constructs were not significantly different between the groups; thus the sample was treated as one whole as opposed to two subsets by years of teaching.

Descriptive statistics were calculated for the first three objectives guiding this study. Objective four called for a multiple regression model to be built according to standard regression practices. Although considered the weakest type, stepwise regression was selected given the exploratory nature of the relationships (Field, 2009). In conducting a multiple regression, multicollinearity was identified as a key assumption. In general, multicollinearity can cause wide confidence intervals and inaccurate *p* values for independent variables (Field, 2009). An analysis showed no signs of multicollinearity producing a Variance Inflation Factor (VIF) of 1.0 with a tolerance level of 1.0. Field (2009) suggests a VIF level under 10 and a tolerance level over .2 would indicate a model showing no signs of multicollinearity.

Results

Objective 1 sought to describe the level of self-efficacy of the novice agriculture teachers. The mean self-efficacy score as indicated by the General Self Efficacy scale indicated that the teachers generally felt good about their ability to be successful in a variety of different contexts (M = 4.13; SD = .29). Objective 2 sought to describe the level of culture shock of the novice agriculture teachers. The Cultural Distance Index was measured on a scale of 1-3. A high value indicates a low level of culture shock. Teachers indicate that their *core culture* beliefs (internal reactions) are "occasionally" disturbed from being in a new geographical location (M = 2.22; SD = .27). Moreover, novice teachers also indicated their interpersonal beliefs are "occasionally" disturbed (M = 2.31; SD = .33). Objective 3 sought to describe the level of social connectedness of the novice agriculture teachers. Novice teachers indicated they were moderately connected throughout both constructs of connectedness and affiliation. The findings for the first three objectives are summarized in Table 1.

Table 1

Means and Standard Deviations for General Self-Efficacy, Culture Shock, and Social Connectedness

	Mean	*Standard Deviation*
General Self-Efficacy (GSE Instrument)	4.13	0.29
Culture Shock (CDI Instrument)		
Core Culture Shock	2.22	0.27
Interpersonal	2.31	0.33
Social Connectedness (CSC Instrument)		
Connectedness	4.31	0.77
Affiliation	4.34	0.73

Note. GSE Scale:1= Strongly Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, 5 = Strongly Agree; CDI Scale: 1 = Most Of The Time, 2 = Occasionally, 3 = Not At All; SCS Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Mildly Disagree, 4 = Mildly Agree, 5 = Agree, 6 = Strongly Agree

Objective 4 sought to determine if a model exists explaining a significant portion of the variability in novice teacher's self-efficacy as measured by their culture shock and social connectedness. A stepwise multiple regression was calculated to determine the relationship (see Table 2). The analysis resulted in a statistically significant model (p = .02) which only included the Core Culture Shock construct explaining 18% of the variance in one's General Self-Efficacy. As indicated by Table 3, the Core CDI construct is the only construct that significantly explains a portion of the variability. All other constructs were excluded from the analysis via stepwise multiple regression procedures.

Table 2.

Stepwise Multiple Regression Analysis of General Self-Efficacy as the Dependent Variable and Constructs of Culture Shock and Social Connectedness as Independent Variables

Variable	β	Std. Error	t	p
Core Cultural Shock	.43	.18	2.41	.02

Note. R^2 = .18

Discussion

The study had several limitations. The first was how self-efficacy was measured. There are several approaches to measuring self-efficacy; the findings of the study only reflect self-efficacy as a general state. Secondly, the findings were not only limited by the time and place sample, but also by the definition used for novice teachers. In this case, novice teacher was defined as a first- or second-year teacher who had started teaching upon graduation. Although this was used to control for extraneous variables, it still served to limit the generalizability of the aforementioned definition of a novice teacher.

Objective 1 described the level of self-efficacy of the novice agriculture teachers. Novice agriculture teachers have self-efficacy in regard to their life as a whole (which was not discussed as a separate issue in this study). Caution should be used when relating implications on this finding back to other self-efficacy research in agricultural education. Researchers have examined self-efficacy from the perspective of teaching (Knobloch, 2006; Swan et al., 2011) and not from the perspective of their general life. This study did not specifically ask the novice teachers about their efficacy in teaching. The conclusion implies novice teachers in this study seem to feel good in regard to their ability to achieve many of their teaching goals. It is recommended that future research measure both novice teachers' level of teaching and general life self-efficacy to identify any possible differences. There could be situations when a teacher has higher levels of general self-efficacy and lower levels of teaching self-efficacy and vice versa. This would be particularly important if teachers felt they could not connect with the students, but generally felt they were able to perform in the community. Understanding a novice teacher's level of self-efficacy from both the general life and teaching perspectives could help shape teacher preparation programs giving curricula planners an incentive to include preservice teacher instruction aimed at boosting teachers' beliefs in themselves. Such understanding could also bring about questions of fit to the position of being an agriculture teacher.

In regard to self-efficacy, further research is warranted to specifically investigate if teachers feel they can perform the duties of an agricultural instructor in an unfamiliar culture based on different lifestyles and population identities in a new community, and/or be socially acceptable in their newly assigned community. This study did not separate the two ideas, but there could be

some discrepancy between the work place and social interaction. As teacher educators, efforts need to be made to continue boosting self-efficacy through preservice teacher activities.

Objective 2 described the level of culture shock of the novice agriculture teachers. It was concluded that novice agricultural teachers occasionally suffer from culture shock because of the perceived distance from or difference compared to their accustomed community. This conclusion implies that when novice agriculture teachers are away from their accustomed community, they may experience occasional negative sociopsychological effects from this separation (Mumford, 1998). One aspect of culture shock not measured was differences between the size of the teacher's "home" community and their new community. The physical distance from the teacher's accustomed community was not measured. These are both possibilities for future research.

Objective 3 described the novice agriculture teacher's level of social connectedness. It was concluded that agriculture teachers felt moderately connected with their new community. Previous research indicated a person's ability to change their self-image and acceptance of others was indicative of their high levels of social connectedness (Lee et al. 2001). As such, it is implied that teachers being socially connected enables them to make changes in their personal life that have positive outcomes within the community. More investigation into the ways in which teachers are socially connected or can become socially connected is needed. Research could also target teachers who have problems with social connectivity. Such teachers could still be connected to one of their previous places of connectedness. These places could be the university community or even their home community. Anecdotally, it is not uncommon to hear preservice teachers reference their home agriculture programs in pedagogy coursework. Such references could indicate a connection barrier to new communities.

Objective 4 sought to determine if there was a significant proportion of variance in self-efficacy explained by cultural distance or social connectedness. The construct of core culture shock (how people react internally to their community) within the culture shock theory (as measured by the Cultural Distance Index, CDI) was determined to be of value when explaining variance in general self-efficacy. Oberg (1960), and later Mumford (1998) indicated a person having high levels of culture shock can struggle with the ability to live and work in a new environment. This conclusion implied that the culture distance experienced by a novice teacher in a new community could have an influence on their general well-being and ability to accomplish their goals. It is recommended that teacher educators consider ways to prepare preservice teachers for the transition to new communities. A diversity of field experiences, purposeful placements in student teaching, which safely allows the teacher to experience a different community other than their own, and conversations helping teachers dissect why certain strategies may have worked in their communities and others have not are all possibilities in accomplishing this recommendation. The authors recommend more research to investigate how culture shock can affect novice agriculture teachers' self-efficacy. Furthermore, qualitative research could help explore the phenomenon of culture shock for novice teachers in new communities.

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