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Then What? Quantifying SBAE Teacher Career-Decisions Post-Migration

Becky Haddad¹, D. Brett Milliken², Josh Stewart³, and Jonathan J. Velez⁴

Abstract

Complex career decisions, such as teacher mobility, are often reduced to stigmatizing labels that do little to account for the state of teaching as a profession or credit those engaging in migratory decisions as making healthy career choices. Through our study, we focused on understanding workforce mobility, teaching as an unstaged profession, and the current quantifications existing around SBAE teacher migration. We drew on over 100 years of data from California as we quantitatively explored and synthesized the career decisions of migrating SBAE teachers. This snapshot offers a means of understanding the Teacher Career Cycle (Fessler & Christensen, 1992) in light of the implications for the teaching career as a series of choices rather than a stretch of time at an individual school. Implications of this conceptualization of migration stretch beyond SBAE to administration and those tasked with supporting the career trajectory of SBAE teachers across the United States.

Keywords: teacher migration; teacher mobility; teaching career; career choices; migratory decisions; workforce mobility; teacher support

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Introduction

Job-hoppers is the popular term used to describe the habits of Millennials in the workforce (Premack, 2018). However, little data exist to understand this stigma as a beneficial series of choices over a career. Within School Based Agricultural Education (SBAE), the emerging study of teacher migration focuses on teachers bettering their careers through horizontal moves between school districts (Haddad et al., 2019). Based on current research, teacher migration describes the phenomenon of complex career decisions yielding a more desirable teaching situation (Haddad et al., 2019). Migration focuses on the teacher whereas mobility focuses on the school district vacated. Given the emerging nature of this research focus, the purpose of this study was to provide historical-statistical context

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relative to the ways teachers move within SBAE by identifying the career decisions SBAE migrators make following their first program move.

Perhaps more challenging than understanding migrating teachers' experience is getting a pulse of teacher migration for SBAE as a holistic approach to a career. Considering agricultural education broadly, little research exists to quantify the career decisions SBAE teachers make as they move within the profession. We know they move, but we have not explored why they are moving, or the contextual elements associated with both leaving and joining schools. While we estimate approximately 30% of vacancies are filled by migrating teachers annually (Foster et al., 2015; Foster et al., 2016; Smith et al., 2017, Smith et al., 2018), the focus has often been on the position vacated rather than the position filled. While a focus on the vacated position allows an organizational examination of schools, little exists to understand how teachers make a career of their practice. We have previously identified the ways teachers learn and grow through changing the geography of their practice (Haddad et al., 2019). Among others, these include revitalization through finding new challenge that allows SBAE teachers to remain in the profession (Haddad et al., 2019). In addition, research in the broader education literature has suggested migrators remain consistently less geographically stable than their non-migrating peers (Ingersoll & Smith, 2003). However, little research is available to understand migration as a series of complex career decisions rather than simply a named category that defines a state of being (mover). As we seek to enhance teacher retention, it is vital we explore career choices as a means of supporting multifaceted career processes.

Much of the education literature has suggested teachers who move are more likely to move again (Ingersoll & Smith, 2003). In addition, these teachers have been identified as less effective than their geographically stable peers (Keesler & Schneider, 2010; Ross et al., 1999; West & Chingos, 2009). From an organizational perspective, it makes sense that schools would seek to retain their top teachers and encourage career longevity in a single location (Ingersoll, 2001). However, when we consider teachers within the system of the school, we see teaching is socialized as a relatively unstaged profession (Lortie, 1975). By unstaged, we mean teaching as a profession does not offer vertical mobility options toward career improvement that facilitate keeping teachers in the classroom (Lortie, 1975). While organizational approaches have been quick to make connections between public school teachers and other degree seeking professions, teaching does not have the ladder, or stages, of promotion the staged professions (e.g. medicine or law) offer, making it difficult to parallel the organizational conditions of teaching to the broader workforce (Lortie, 1975). In addition, this unstagedness requires teachers seek promotion outside the classroom by becoming an administrator or moving to post-secondary teaching (Lortie, 1975). In this way, the language around migration (i.e. attrition and turnover) has failed to capture the complexity of career decisions employed in SBAE and education more broadly. In other words, since teachers are unable to advance within teaching, it is unfair to label their move as turnover, when in reality the teacher may be making a move toward greater professional growth (Haddad et al., 2019). Highlighting the relatively unstaged profession of teaching is the Teacher Career Cycle model (TCC) (Fessler & Christensen, 1992). Ironically, this model uses the term stages to recognize how teachers move through the emotional phases associated with a career, relative to a teacher's environment (Fessler & Christensen, 1992).

The problem, then, is a lack of accounting for teacher career decisions relative to recognizing teaching as an unstaged profession. Indeed, little is known about SBAE teacher migration in the first place. Our study largely sought to address this problem through quantifying teacher mobility. The value of this increased understanding lies in helping administrators, researchers, and state FFA staff understand the likelihood of various types of career decisions relative to retaining experienced teachers. In addition to a lack of accounting for the unstagedness of the teaching career, is a lack of terminology describing the complexity of career decisions teachers make. When referenced, migrating teachers have generally received acknowledgement as *movers*, implying mobility is a state of being rather than a complex, one-time choice. Rather, we argue for a migratory spectrum; and while some may be *chronic*

movers (so called), we suggested a much more nuanced understanding of mobility relative to teacher career success. *Mover* may aptly describe a current position, but it is a narrow definition that does not capture the professional choices and career decisions SBAE teachers face. We address this here through identifying *programmatic choices*, including *stay*, *retire*, *move*, and *leave* as subsequent choices teachers may make after a programmatic transition. It bears reminding, these terms do not capture the full complexity of career decisions; rather, they lend a starting point based on the available data, to tease out future direction in better understanding teacher workforce development at the professional level. The purpose of this study was to provide context relative to how teachers move within SBAE by identifying the career decisions SBAE migrators make following their first move.

Review of Literature

Understanding migration within SBAE may best be understood by taking a broader approach to workforce mobility as it relates to the larger education profession. It is against this backdrop we explored the body of research relative to teacher migration through these investigative themes: workforce mobility trends, the socialization of teaching as unstaged, and the status of teacher migration in education and SBAE.

Workforce Mobility

The United States workforce currently maintains a 6-8% mobility rate across professions (Bureau of Labor Statistics, 2019). The average worker in the United States moves eleven times over the course of a career (Bureau of Labor Statistics, 2019). However, the longer a person is on the job, the more knowledge they gain relative to performing that job well, which often translates to better job performance and attempts to retain knowledgeable individuals in a given profession (Harris & Sass, 2007, Kraft & Papay, 2014; Wiswall, 2013).

Several educational researchers pointed to location stability as a factor in effectiveness (Harris & Sass, 2007; Kraft & Papay, 2014; Wiswall, 2013). Within education, it is essential to consider experience broadly; cumulative experience is not lost when a teacher enters a new program, despite the current reflection in available data. This is reflected in the common phrase, "I'm a first-year teacher with [x] years' experience." Harris and Sass (2007) and Wiswall (2013) supported this claim through explorations of the returns to experience of later-career teachers. These researchers defined *returns to experience* as effectiveness gained through time in the classroom. Together, these findings suggest professional value placed on teacher experience as an attractive match for vacant programs, despite the challenge of teacher mobility on vacated positions.

We remind the reader, however, the teacher supply data within SBAE reveal only 30% of program vacancies benefit from a migrating teachers' accumulation of experience (Foster et al., 2015; Foster et al., 2016; Smith et al., 2017; Smith et al., 2018). Quite often, in SBAE and the broader education profession, less experienced teachers take the place of a more experienced migrator (Feng & Sass, 2012; Ingersoll & Smith, 2003). While we do not want to diminish the value of less experienced, migrating teachers in filling vacancies, we also recognize the organizational challenge, and perhaps compounding problems, this can pose for districts and programs not attracting experienced teachers to fill vacant positions.

Teaching as an Unstaged Profession

Teachers' career patterns have received attention within the education literature as an approach to understanding the ways teachers move. This body of work has focused on teacher satisfaction (Chapman & Lowther, 2014), differences in career patterns for male and female teachers (Murnane et al., 1989; Whitcombe, 1979; Whitmarsh et al., 2011), and the intention involved with patterns over the course of a teaching career (Burden, 1982; Draper et al., 1998; Peterson, 1978). Particularly relevant to the current study are those studies highlighting teachers' choices and intentions.

The early examination of career patterns of teachers focused on retired secondary school teachers (Peterson, 1978). Peterson (1978) noted persisting challenges in understanding teachers' careers, namely definition of the teaching career, bias in available data, and methodology; challenges that arguably remain today. Little exists, particularly considering recent workforce trends, to define the career of a teacher, and bias is still present in the focus on organizational approaches. In recognizing these challenges, Peterson (1978) echoed Lortie's (1975) claim that teaching is not, in fact, a true career with a progression of sequenced steps toward *upward mobility* but is rather *unstaged*. Specifically important to the current study is the claim that *upward mobility* in teaching involves *leaving* the classroom (Peterson, 1978). We argue this is an area where organizational approaches to teacher mobility fall short. Necessarily, for a teacher to improve their position, they must progressively engage in *horizontal mobility* if they are to experience some semblance of promotion while remaining a classroom teacher (Peterson, 1978). Peterson (1978) recognized the various improvements gained through *horizontal mobility* to be significant victories necessitating acknowledgement as part of a career pattern within the social world of a school.

To consider teaching organizationally implies retention based on a system of upward mobility with career incentives that are simply unavailable to the classroom teacher (Peterson, 1978); an organizational approach is inherently at odds with the actual state of the profession. In addition, she provided an extensive review of internal teacher career patterns accounting for job morale, affective changes associated with aging, perceived changes in school environment, shifting commitment from teaching, personal revitalization, and attitudes toward teaching at retirement (Peterson, 1978). A notable time of personal revitalization occurred for teachers following a move to a new school, a change in the subject taught, a reassignment of duty, opportunity to take additional coursework, and the challenge of meeting the needs of new students (Peterson, 1978). Ultimately, Peterson (1978) concluded by indicating success for the individual teacher is partially measured by teaching circumstance. Moves to more desirable teaching positions, in effect, are the mark of a *successful teacher* (Peterson, 1978).

Burden (1982) and Draper et al. (1998) noticed distinct delineations between those ready to apply for promotion as a career developmental process, and the low level of appeal classroom teaching seemed to hold for those traditionally prepared in education. They broadly noted two types of teachers who remain in classroom teaching: those who enjoy their jobs in the classroom and those who feel unempowered toward other career outcomes (Draper et al., 1998). Typically, the route of promotion for teachers takes teachers out of the classroom (Draper et al., 1998). Thus far, we have considered the unstagedness of the teaching career, current organizational approaches, and teacher uptake of career outcomes. These concepts guided our professional imperative on the necessity of quantifying career decisions toward supporting retentive outcomes.

Quantifying Teacher Migration

The recognition of workforce mobility issues, paired with the unstaged nature of teaching, encouraged us to view migration as a way teachers may seek promotional routes and look to develop their careers. Before we examined the career decisions of teachers, we sought to outline the current state of teacher migration, both in education and in SBAE.

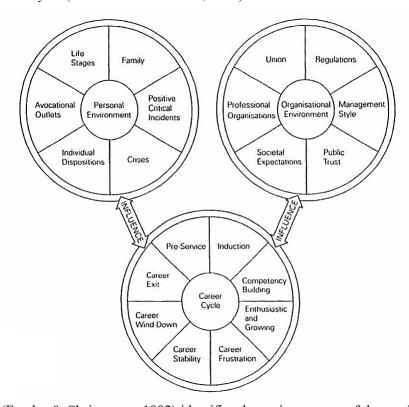
The most recent census of teacher mobility occurred in 2012-2013 through the National Teacher Attrition and Mobility Survey. Goldring et al. (2014) identified 8% of public-school teachers nationally as *movers*. This is a subset of the 16% of teachers categorized as both turnover and attrition (Goldring et al., 2014). However, nationally and across disciplines, mobility rates have been much higher among less experienced teachers. In 2008-2009 and 2011-2012 respectively, 16% and 10% of first through fifth year teachers changed schools (Goldring et al., 2014). While SBAE has recognized a higher population of less experienced teachers (25% compared with 12% of the teaching force) (Haddad et al., 2020), studies, to date, have not examined differences in mobility based on teaching experience.

Within SBAE, 4-6% of the total teaching force migrates annually (Smith et al., 2018). However, migrating teachers outrank any other supply line for filling program vacancies by over 10% (Smith et al., 2017). Since 2015, the National Agricultural Education Supply and Demand study places average hire rates of migrating SBAE teachers at 34% (Foster et al., 2015; Foster et al., 2016; Smith et al., 2017; Smith et al., 2018).

Theoretical Framework

In light of our consideration of teaching as an unstaged profession, we employed a theoretical framework focusing on how teachers move through their career as a classroom teacher. In unpacking the Teacher Career Cycle, Fessler and Christensen (1992) made the case for the dynamic nature of the model and its need for continued consideration relative to the teaching climate. This bears particular relevance to the current study as the TCC (Fessler & Christensen, 1992) accounts for the educational landscape of over twenty-five years ago when teacher turnover was decreasing, and mobility was stagnant (Fessler & Christensen, 1992). Indeed, since the model was proposed, the teaching force in the United States has become larger, older, less experienced, more female, more diverse, more consistent in academic ability, and less geographically stable (Ingersoll et al. 2014). Our research was particularly concerned with the less geographically stable teacher of the present day. Therefore, we considered SBAE teacher mobility in light of its potential implications how teachers may move through their career and the subsequent implications for teacher professional development (Figure 1).

Figure 1
The Teacher Career Cycle (Fessler & Christensen, 1992)



Note. The TCC (Fessler & Christensen, 1992) identifies the various stages of the teaching career in relation to various influences, particularly relative to conceptualizing the in-career support necessary for teachers at each stage.

The dynamic nature of the model proposed by Fessler and Christensen (1992) encourages consideration of the events that may precipitate a teacher moving forward and backward through the cycle. Several studies have dealt with teachers advancing through the career cycle (Easterly & Myers, 2017; Greiman et al., 2005), but very little research has directed attention to the potential of moving backwards in the cycle (e.g. from career stability to enthusiastic and growing). Given our consideration for teacher mobility, we contend there are trends in migration allowing the consideration of how teachers may cycle from career frustration or career stability back to induction and competency building as they move schools. A move to a new school necessitates a certain induction and competency building that allows a teacher to reinvigorate their practice (Haddad et al., 2019). Before we can change the migratory landscape, we must understand the landscape within the current terminology and approach. Therefore, we identified the historical frequencies and likelihoods with which SBAE migrators move relative to their years of experience in a particular school in California.

Research Questions

The purpose of this study was to provide context relative to teachers moving within SBAE by identifying the career decisions SBAE migrators make following their first move. This was the first study of its kind within SBAE to tackle this question, thus we sought to present a broad picture of the historical migration context of a single state in the Western United States. The broader picture, presented through the available teacher mobility data, offered greater clarity regarding the career stages of SBAE teachers. Three primary research questions guided our study:

- 1. What are the odds of a migrating SBAE teacher remaining in the teaching profession?
- 2. What subsequent career decisions do migrating SBAE teachers make?
- 3. Are there differences in mobility frequency based on time-in-program?

The purpose and questions guiding this study align with AAAE Research Priority 3, Question 2: "What methods, models, and practices are effective in recruiting agricultural leadership, education, and communication practitioners and supporting their success at all stages of their careers?" (Roberts et al., 2016).

Methods

Sample & Data Reduction

Our study utilized the California agriculture teacher history from 1900-2018 (n = 16,600). This comprehensive dataset provided a historical record of SBAE teachers identifying name, year, university of credential, internship site, school employed, years at school, and FFA region. These data were compiled as a comprehensive, historical accounting of *Team Ag Ed* (including university faculty, community college faculty, and FFA staff, along with SBAE teachers). This sample, while large, is not generalizable to the broader SBAE teaching population, though interesting implications exist for how the profession considers teacher mobility. We reduced the data to include only secondary SBAE teachers. The original dataset also included duplicate data points for individuals for their year of attrition; these data points were removed from the set used for analysis. Any teachers who made a program move within SBAE over the 118-year span were retained (n = 4,519). Criteria for inclusion focused on secondary SBAE teachers who made at least one program move within SBAE, without leaving teaching between moves. As this study specifically sought to quantify functions of migration, teachers who only taught at one school before their year of attrition were removed from the sample. Three data points did not provide enough information to meet the sample parameters, yielding a final sample (n) of 4,516 program moves.

In the final sample of migrating teachers, no individual teacher made up more than 0.2% of the sample. This may be indicative that the anecdotal *chronic migrators* are few and far between, and that mobility is an inherently complex component of a career. Most teachers in the sample had 2-5 program moves, with only three teachers (0.2%) with 6-9 program moves. Years of experience in individual programs ranged from 1-45 years, with the majority of the sample (59%) having three or fewer years

of experience at an individual school. No region skewed the sample; however, one region had about half the frequency of program transition compared to other regions in the state. In all, 616 schools experienced program migrations over the last 118 years, with 39 schools (6%) accounting for 1,090 migrations (24%). This equates to more than 20 migrations at an individual program or one migration at least every five and a half years. Of these 39 schools, twelve had 30 or more migrations (one migration every 3.9 years), and five schools had 39 or more migrations (a new teacher every 1-3 years). Keep in mind, this may be as much a function of size of the program or growth within the program, as it is a function of other factors of migration. Potential additional functions and factors were outside the scope of our current research but warrant future investigation.

Data Categorization

Our analysis explored historical SBAE program migration trends for 4,516 data points. We categorized the teachers by their school and years' experience into *career decisions*. We identified four career decisions based on the current literature: retention (stay), attrition (leave), retirement (stay), or subsequent migration (move) (Table 1). We identified retirement as a *stay* career decision, considering the remainder of an individual's career spent in one program. Consideration must be given to the fact that migration is the only *non-terminal* programmatic choice identified in the breakdown of the data set. In other words, teachers could make multiple program *migrations* over a career, but can only leave, stay, or retire once.

 Table 1

 Definitions of Data Categorization

Term	Category	Definition
Retention	Stay	Continuation of teaching at a given school
Attrition	Leave	Career exit from SBAE teaching
Retirement	Stay	Remained teaching through retirement
Subsequent Migration	Move	Changed schools as a component of a teaching career

Note. A shift in terminology helps us reconsider the career decisions of SBAE teachers

Program migrators were identified from the initial dataset based on consecutive career moves within secondary SBAE. This reduction yielded 4,516 career decisions from 1900-2018. These career decisions included an initial move and the subsequent decisions that followed. By this reduction, migration made up 27% of the initial data set across 616 programs and 1,865 individual teachers. The vast majority of migrations resulted in subsequent secondary SBAE program migrations (n = 2,683,60%). Twenty-eight percent of migrations were followed with leaving SBAE teaching (attrition, n = 1,256). The attrition sequence, in this case, denotes a move, teaching within the new school, and then leaving, rather than retiring from or maintaining employment within, SBAE teaching. This dataset also defined attrition as moving within the Agricultural Education profession (administration, post-secondary, FFA staff, etc.). We note the limits of such a definition while recognizing the scope of our study to focus on SBAE teachers. Only 12.4% (n = 565) of program migrations resulted in career stability (a composite of both those who remained teaching at the school to which they migrated and stayed through retirement).

Data Analysis & Interpretation

Our first question identified the odds of a migrating SBAE teacher remaining in the teaching profession. From the compiled data focusing on retention and attrition by early experience in-program (first three years at a new school) and beyond early experience in-program, we first compared the odds of programmatic choices for migrating teachers, focusing on years in individual schools. Namely, what are the odds a migrating teacher, who is new to a school, will be retained through a program migration? We employed a one-sample and three-sample proportions test to determine odds of retention through migration against the sample and odds of retention versus attrition for the sample (Ramsey, 2013). To

confirm programmatic choice as a function of experience rather than chance, we employed a Fisher's Exact test (Ramsey, 2013).

Our analysis further used descriptive statistics to identify frequencies of categorical career decisions (stay, leave, retire, move). This attempted to answer our second research question, seeking to identify subsequent career decisions made by migrating SBAE teachers. To evaluate decisions by years of experience, we employed cross-tabulations to identify any relationship of navigation function (nominal, categorical) by years of experience within a program (interval, continuous) (Cohen, 1988; Vaske, 2008). Finally, and particularly in reference to our theoretical framework, we used a logistic regression to identify any effect years of teaching experience in a program had on the choice to leave teaching or stay teaching (Cohen, 1988; Vaske, 2008).

Findings

Research Question 1: Odds of Subsequent Migration

From the one-sample proportions test, we have convincing evidence (p < 0.01) the proportion of migrators remaining in teaching is greater than those leaving, with a 95% confidence interval (0.82, 0.57). We define *remaining teaching* as a continued professional engagement as a secondary agricultural educator, even if subsequent migrations occur at the school level. We further evaluated each programmatic choice (retention vs. attrition). The three-sample test for equality of proportions yielded convincing evidence (p < 0.01) the proportion of migrators retained is greater than the proportion of migrators lost to attrition. To confirm these results, we employed a Fishers-Exact Test yielding substantial evidence that the retention rate for migrators is 1.5 times greater than the attrition rate of migrators (Ramsey, 2013).

Research Question 2: Migrators' Subsequent Decisions

From 1900-2018, 4,516 actionable career decisions occurred (27% of the original data comprised migrations) across 616 programs and 1,865 individual teachers. Table 2 outlines the frequencies of programmatic results of migrators. The vast majority of migrations resulted in subsequent secondary SBAE program migrations (n = 2,683;60%). Twenty-eight percent of migrations resulted in leaving SBAE teaching (attrition, n = 1,256). Only 12.4% (n = 565) of program migrations resulted in career stability (a composite of both current teachers and retention through retirement).

Table 2Frequencies of Programmatic Results for Migrators¹

Programmatic Result	Frequency (n)	Percentage (%)
Migration (move)	2693	59.6
Attrition (leave)	1258	27.8
Retention (stay)	355	7.8
Retirement (stay)	210	4.6

¹ Frequencies based on sample (n=4,516)

Research Question 3: Migration & Time-in-Program

Table 3 provides an overview of the percent breakdown of programmatic result by National Center for Educational Statistics (NCES) groupings for years of teaching experience.

Table 3Programmatic Result of Migrators for NCES Groupings

	Years of Programmatic Experience						
Career Decision	1-3	4-9	10-19	20+	Total	<i>p</i> -value	Effect Size (η)
Migration	69.4	24.6	5.3	0.6	59.6	0.000	0.52
Attrition	51.0	31.9	13.9	3.2	27.8		
Retention	39.4	27.6	22.5	10.4	7.8		
Retired	6.7	9.5	25.7	58.1	4.6		

¹Cell entries are percentages (%) of migrators (n=4,516) who engaged in each career decision by NCES breakdown for years teaching

Among teachers who previously migrated, subsequent migrations are the most common avenue for teachers in their first through third year in a program. NCES grouping data show 69.4% of subsequent migrations occurred during the first three years in a program. While providing validating context for anecdotal evidence, consideration of the teaching career requires additional examination. We considered the first year of programmatic experience as denoting a migratory choice. Migrating teachers move an average of 2-5 times over their time in SBAE. We suggest therefore, 14-35% may be a more accurate representation of the actual historical teacher migration rate. Among migrators with fewer than three years' experience in a program, 51% left SBAE teaching after one program move.

To determine the difference in career choice based on years of experience in a program, we employed a binomial regression model (Ramsey, 2013) using years of programmatic experience to determine career choice (retention or attrition). We did not find substantial evidence to conclude time in a program as a significant predictor of leaving after a program migration (p = 0.059). This corroborates the historical odds of retention post-programmatic migration. In other words, the longer an individual teaches in a single program, the more likely they are to stay.

Table 4 *Model Summary for Attrition/Retention on Experience*¹

	Estimate	Standard Error	z-value	<i>p</i> -value
Intercept	1.003	0.043	23.24	< 2 * 10 ⁻¹⁶
Experience	-0.010	0.005	-1.889	0.059

¹ Reference level for programmatic choice was attrition

Conclusions & Implications

The purpose of this study was to provide context relative to the ways teachers move within SBAE by identifying the career decisions SBAE migrators make following their first move. While the categories in this study retain the traditional view of mobility as attrition, our study applies the current organizational framework (TCC, Fessler & Christensen, 1992) to available data in SBAE to better understand the complexity and intricacies of workforce mobility in SBAE. We argue, however, this definition of mobility as attrition fails to account for the ways many, particularly those engaged with reading and writing literature such as this, are still serving the profession and engaged in the SBAE migratory context.

Implications for Future Research

The complexity of migration is underscored, first, by the consideration of mobility as a *state of being*, which is called into question by the data for this state. Only three teachers, in the 118-year data set, had more than six program moves over the course of a career. While the stigma of mobility may linger with a migrating teacher, these data do not present evidence of migration as a chronic problem for the individual teachers in this state, as was anecdotally suspected. In addition, our results support a view of migration as a complex career process, highlighted by how seldom high migration frequencies occurred within this data set.

As researchers, several questions arose exceeding the scope of our current data. As it relates to the TCC (Fessler & Christensen, 1992), how does the presented approach to migration affect a teacher's movement through the TCC? In what ways does the TCC (Fessler & Christensen, 1992) repeat itself upon a teacher moving to a new program? Reciprocally, how do the influences of personal and organization environment change how teachers consider their own mobility in light of the TCC (Fessler & Christensen, 1992)?

Implications for Career Advice

It is important to reiterate the vast majority of migrations were followed with subsequent secondary SBAE program migrations (n = 2,683; 60%). Relative to the TCC, this may have several implications relevant to the personal and career cycle components (Fessler & Christensen, 1992). Several factors may incite a decision to change schools. In connecting to the TCC (Fessler & Christensen, 1992), we specifically draw attention to the personal and organizational components as unexplored means of understanding the nuanced decisions teachers make. Given the likelihood of these migrators to move again, it bears considering how a migration may not relieve *career frustration*, especially since 28% of migrations followed with leaving SBAE teaching (attrition, n = 1,256). We speculate if these teachers brought unresolved career frustration to a new teaching site, there is little the organizational component could do to influence the teacher's stage in the career component and relieve dissonance in the personal component. With only 12.4% (n = 565) of program migrations resulting in career stability (staying in a program through retirement), those in positions to influence new teachers may want to rethink the career advice given. It is not atypical, anecdotally, for new teachers to receive the advice: "take the first job, as you need work, and then you can choose your second job." However, if this state is reflective of others, those who move initially may continue to move.

Implications for Teacher Support

Among migrators with less than three years of experience in their current program, 51% (*n* = 640) left SBAE teaching after one program move. This result makes it difficult to continue arguing against the consideration of mobility as attrition, but it is closely linked in implications to the frequencies of programmatic choices. As we consider time in school, teachers enthusiastically nod and share stories of the difficulty of the first three years in a program. This challenges those of us offering teacher professional development to consider the difficulties across the teaching career, not just in the traditional considerations of early, middle, and late career. Overwhelming anecdotal evidence, and emerging empirical evidence (Haddad et al., 2019) denotes program migration as a restart with new relationships, students, content, and expectations, among other things. Those first three years in a program may be as challenging (or even more challenging) than their first three years teaching, given the expectations, resources, and networks that need to be established (Haddad et al., 2019). These challenges are likely compounded by personal stressors, such as moving a family, which accompany the migration patterns of experienced teachers. We must account for teacher support, in their first three years in a new program, toward greater retention profession wide.

The longer an individual in this data set taught in a single program, the more likely they were to stay. This offered an approach to the TCC as initially conceptualized (Fessler & Christensen, 1992).

Namely, teachers progress through a career without the confounding variable of mobility. The challenge remains to consider how the personal and organizational components of the TCC affect mobility (Fessler & Christensen 1992). This holds particular relevance in reconsidering mobility as part of the career rather than the end of a career. The likelihood to stay corroborates how teachers talked about their experience with migration in other studies of SBAE teacher migration (Haddad et al., 2019). This likeliness to stay, however, only holds to a point. There is an unexplored tipping point at which teachers (particularly migrators) are no longer satisfied with career-stability and seek to reinvigorate their practice through migration (Haddad et al., 2019; Ingersoll et al., 2014). Certainly, this area warrants further study as we consider how different perspectives on mobility influence progression through the TCC (Fessler & Christensen, 1992).

Our research offers a new way to consider SBAE teacher migration in light of the available data and current ways of accounting for and considering a teaching career. Noting the evidence presented here, we conclude by challenging the profession to consider migrating teachers from an asset-oriented perspective, recognizing they are essential assets to the programs they fill. To treat these teachers as assets, additional work is needed at the post-secondary level, to help pre-service teachers understand the ebbs and flows of a career as a cycle and ways we should consider development over the course of a career. Further work must engage administrators in the task of onboarding staff well past their first year in a school, and, for those of us as teacher educators; we need to consider our mentoring and support throughout all career stages, particularly within three years after a migration.

References

- Burden, P. R. (1982). Implications of teacher career development: new roles for teachers, administrators, and professors. *Action in Teacher Education*, *4*(3-4), pp. 21-26. https://doi.org/10.1080/01626620.1982.10519117
- Chapman, D. W. & Lowther, M. A. (1982). Teachers' satisfaction with teaching. *The Journal of Educational Research*, 75(4), pp. 241-247. https://doi.org/10.1080/00220671.1982.10885388
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences. Hillsdale, NJ: Erlbaum.
- Draper, J., Fraser, H., & Taylor, W. (1998). Teachers' careers: accident or design? *Teacher Development*, 2(3) pp. 373-385. https://doi.org/10.1080/13664539800200059
- Easterly III, R.G. & Myers, B.E. (2017). You seize what pops up: A qualitative investigation of the core features of school-based agricultural education professional development. *Journal of Agricultural Education*, 58(3), 56-71. https://doi.org/10.5032/jae.2017.03056
- Feng, L., & Sass, T. (2012). *Teacher quality and teacher mobility*. Andrew Young School of Policy Studies Research Paper Series No. 12-08. http://dx.doi.org/10.2139/ssrn.2020373
- Fessler, R. & Christensen, J. C. (1992). The teacher career cycle: understanding and guiding the professional development of teachers. Allyn and Bacon
- Foster, D. D., Lawver, R. G., & Smith, A. R. (2015). *National agricultural education supply and demand study 2015 executive summary*. The American Association for Agricultural Education. https://www.naae.org/teachag/NSD%20ES%20Final%20March%202015%20.pdf
- Foster, D. D., Lawver, R. G., & Smith, A. R. (2016). *National agricultural education supply and demand study, 2015 executive summary.* The American Association for Agricultural Education. http://aaaeonline.org/resources/Documents/NSD%20Summary_2015.pdf
- Goldring, R., Taie, S., & Riddles, M. (2014). Teacher attrition and mobility: results from the 2012-2013 teacher follow-up survey (NCES 2014-077). *Institute of Education Sciences, US Department of Education*. National Center for Education Statistics. https://nces.ed.gov/pubs2014/2014077.pdf

- Greiman, B. C., Walker, W. D., & Birkenholz, R. J. (2005). Influence of the organizational environment on the induction stage of teaching. *Journal of Agricultural Education*, 46(3), 95-106. https://doi.org/10.5032/jae.2005.03095
- Haddad, B., Knight, K. J., Stewart, J., Velez, J. J. (2020). Will the first through fifth years please stand up? quantifying national sbae teacher experience. *Journal of Agricultural Education*, 61(4). https://doi.org/10.5032/jae.2020.04266
- Haddad, B., Velez, J. J. & Stewart, J. (2019). What moves you? How SBAE teachers navigate program migration. *Journal of Agricultural Education*, 60(3), 246-261. https://doi.org/10.5032/jae.2019.03246
- Harris, D. N., & Sass, T. R. (2007). *Teacher training, teacher quality, and student achievement*. Calder Urban Institute, National Center for Analysis of Longitudinal Data in Education Research. Urban Institute. https://doi.org/10.1016/j.jpubeco.2010.11.009
- Ingersoll, R. (2001). Teacher turnover and teacher shortages: an organizational analysis. *American Educational Research Journal*, *38*(3), 499-534. https://doi.org/10.3102/00028312038003499
- Ingersoll, R., Merrill, L., & Stuckey, D. (2014). Seven trends: the transformation of the teaching force, updated April 2014. CPRE Report (#RR-80). Consortium for Policy Research in Education, University of Pennsylvania. https://cpre.org/sites/default/files/workingpapers/1506_7trendsapril2014.pdf
- Ingersoll, R. M., & Smith, T. M. (2003, May). The wrong solution to the teacher shortage. *Educational Leadership*, 60(8), 30-33. https://www.gse.upenn.edu/pdf/rmi/EL_TheWrongSolution_to_theTeacherShortage.pdf
- Keesler, V., & Schneider, B. (2010). Estimating cause: teacher turnover and school effectiveness in Michigan. *Society for Research on Educational Effectiveness Conference abstract*. https://files.eric.ed.gov/fulltext/ED513944.pdf
- Kraft, M. A, & Papay, J. P. (2014). Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. *Educational Evaluation and Policy Analysis*, *36*(4), 476-500. https://doi.org/10.3102/0162373713519496
- Lortie, D. C. (1975). Schoolteacher: a sociological study (1 ed.). The University of Chicago Press.
- Murnane, R., Singer, J., & Willett, J. (1989). The influences of salaries and "opportunity costs" on teachers' career choices: evidence from North Carolina. *Harvard Educational Review: September 1989*, 59(3) pp. 325-347. https://doi.org/10.17763/haer.59.3.040r1583036775um
- Peterson, A. A. R. (1978). Career patterns of secondary school teachers: an exploratory interview study of retired teachers. *Dissertation repository of The Ohio State University*. Ann Arbor, MI: University Microfilms International. https://etd.ohiolink.edu/!etd.send_file?accession=osu1487081370610901&disposition=inline
- Premack, R. (2018). Most millennials and Gen Zs have never experienced a recession during their careers, and an economist says it's changing the way people act at work. *Business Insider*. https://www.businessinsider.com/what-millennials-gen-z-want-at-work-generational-differences-recession-2018-12
- Ramsey, F. & Schafer, D. (2013). *The statistical sleuth: A course in methods of data analysis 3rd edition*. Cengage Learning. ISBN: 1133490670
- Roberts, T. G., Harder, A., & Brashears, M. T. (Eds). (2016). *American Association for Agricultural Education national research agenda: 2016-2020*. Gainesville, FL: Department of Agricultural Education and Communication.

- http://aaaeonline.org/resources/Documents/AAAE_National_Research_Agenda_2016-2020.pdf
- Ross, S. M., Wang, W., Sanders, W. L., Wright, S. P., & Stringfield, S. (1999). *Teacher mobility and effectiveness in restructuring and non-restructuring schools in an inner-city district*. Cary, North Carolina: SAS Institute Inc. https://www.sas.com/govedu/edu/teacher_mobility.pdf
- Smith, A. R., Lawver, R. G., & Foster, D. D. (2017). *National agricultural education supply and demand study, 2016 executive summary.*http://aaaeonline.org/Resources/Documents/NSD2016Summary.pdf
- Smith, A. R., Lawver, R. G., & Foster, D. D. (2018). National agricultural education supply and demand study, 2017 executive summary. http://aaaeonline.org/resources/Documents/NSD2018%20Summary%20(1).pdf
- United States Bureau of Labor Statistics (2019). *Labor force statistics, job openings and labor turnover*. data.bls.gov/cgi-bin/surveymost
- Vaske, J. (2008). Survey research and analysis: Applications in parks, recreation and human dimensions. Venture.
- West, M. R., & Chingos, M. M. (2009). Teacher effectiveness, mobility, and attrition in Florida. In M. G. Springer, *Performance incentives: their growing impact on american k-12 education* (pp. 251-271). Brookings Institution Press.
- Whitcombe, J. E. (1979). A comparison of career patterns of men and women teachers. Teacher career and promotion study. *Conference Proceeding*. https://eric.ed.gov/?id=ED211541
- Whitmarsh, L., Brown, D., Cooper, J., Hawkins-Rodgers, Y., & Keyser-Wentworth, D. (2011). Choices and challenges: a qualitative exploration of professional women's career patterns. *The Career Development Quarterly*, *55*(3), pp. 225-236. https://doi.org/10.1002/j.2161-0045.2007.tb00079.x
- Wiswall, W. (2013). The dynamics of teacher quality. *Journal of Public Economics*, 100, 61-78. https://doi.org/10.1016/j.jpubeco.2013.01.006