

Exploring Career Longevity in Teachers of Students with Visual Impairments

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A prevalent problem in the American education system is that schools are facing extreme shortages of qualified special education teachers, specifically teachers of the visually impaired (TVIs). TVIs are leaving their jobs for a multitude of reasons, including large caseloads, burnout, and attrition. As TVIs are leaving, there are fewer qualified teachers to provide students with visual impairments the support they need to be successful academically. This study analyzes the results of nationally distributed survey to TVIs that obtained a TVI role and credentials from the years 2000-2021. The data used for this paper was extracted from the final dataset from this survey and only focuses on participants who obtained TVI credentials between the years 2011-2021. Descriptive statistics and linear regression models conducted were created to identify if any variables correlated to how many years respondents spent as a TVI. A correlation matrix demonstrates that there were no correlations between TVI years with level of preparation and program format. Additionally, there was a positive correlation between age and program format. Further implications and next steps for research are addressed based on the key findings from the analysis.



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Committee Chair, Major Professor

Date

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Erin K. McGrath

Thesis

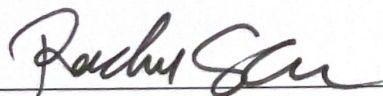
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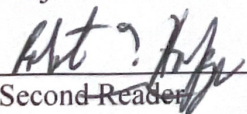
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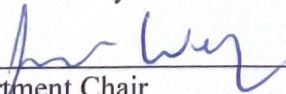
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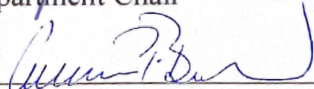
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Exploring Career Longevity in Teachers of Students with Visual Impairments

There is a severe shortage of special education teachers in the United States public school system. It is said that there are an estimated 36,000 teaching vacancies across the United States and 163,000 currently employed teachers do not meet qualifications (Nguyen et al., 2022). The shortages of these professionals have complicated providing a quality education to students with disabilities including visual impairments, specifically in low-income areas (Mason-Williams, 2015). One group of special education teachers facing shortages are TVIs. There are only approximately 5,000-6,000 TVIs across the country (Saviano et al., 2022), but there should be 5,000 more than currently available to properly accommodate students with visual impairments (Kirchner and Diament, 1999). A large reason as to why special education teachers and TVIs are in such high demand is because of the high rates of teacher attrition (Madigan & Kim, 2021).

The number of teachers in the classroom is decreasing every year. In fact, the high amount of teacher attrition accounts for close to 90% of annual teacher demand (Carver-Thomas & Darling-Hammond, 2019). Additionally, a study found that 50% of new teachers leave the profession within five years (Watlington et al., 2010). Upon entering the field, teachers either stay in the same classroom, take a different job within the realm of education, or leave education as a whole (Billingsley, 2004). TVIs can remain a TVI in their teaching model long term (itinerant, resource room, or a school for the blind), move to a different teaching model, or leave the special education and visual impairments field altogether. These high rates of teacher turnover can be contributing to a serious issue: decreasing longevity of TVI careers.

Negative Effects of Decreasing TVI Longevity

When teacher shortages are prevalent and schools are struggling to keep their employees, many schools will increase caseloads of all teachers, including itinerant TVIs, which reports to having negative effects on the student achievement (Mason et al., 2000; Carver-Thomas & Darling-Hammond, 2019). Additionally, schools will hire underqualified teachers in efforts to ensure these students are obtaining services. This can have a damaging effect on students with visual impairments. TVIs hired without proper credentials are less knowledgeable in effective teaching practices and more likely to leave the field (Espinoza et al., 2018).

Additionally, decreasing TVI career longevity can have damaging affects to the fiscal sector of education. One study explained that the cost of hiring new employees as teachers continue to leave is equal to roughly 25% of the departing teacher's annual salary and benefits (Barnes et al., 2007). School districts are losing money because as TVIs ebb and flow through jobs, they are paying for annual salaries and other costs to draw in other teachers. Decreasing rates of TVIs add stress on financial issues at the local and federal level. In 2010, it was reported that \$4.9 billion per year was spent nationally by replacing teachers and teachers transferring to other schools or jobs within education (Watlington et al., 2010). This amount has likely increased exponentially over the past 12 years. Decreasing TVI career longevity can be contributing to the overarching issue of special education teacher shortages.

Factors That Can Contribute to TVIs Leaving Their Career

There are multiple causes that may contribute to TVI longevity. Some of these include, but are not limited to, large caseloads, unsustainable work environments, and overall teacher burnout, type of education, gender, age, and individuals obtaining certifications before and after TVI licensure.

Caseloads

The recommended amount for a typical TVI caseload is a teacher-to-student ratio of 1:8, however, most TVIs have caseloads equating to 1:20 and more (Bruce et al., 2016). This means that TVIs are taking on more than double what is recommended for their role. TVI caseloads cover an extremely large, diverse group of students, all with varying skills and cognitive abilities. Most TVIs work with children from ages birth to 22 years old with visual impairments and multiple disabilities (Davis, 2011). Each student has different needs, and TVIs are responsible for providing all of their students with equitable services and instruction. TVIs can be one of the only individuals in a school district that is certified to work with students with visual impairments, and they must differentiate the instruction for every student on their caseload that meets special education criteria for vision services (Seitz, 1994).

Lack of Supportive Working Conditions

Unsustainable work environments contribute to TVI career longevity. Many school administrations do not provide itinerant TVIs productive spaces to work in each building. This forces TVIs to work from empty hallways and storage closets when they are visiting children in a school since they do not have a designated area or classroom to work from (Meador, 2015). They are expected to work with children and provide them with the best vision services without even having a place to place their belongings.

Additionally, itinerant teachers may feel a large lack of support from administration, making their working conditions less than ideal. There are unreasonable expectations and a lack of trust and support from administrators and teachers' that inhibits TVIs to fully get involved in making decisions about their job. (Harris et al., 2019). Administration and faculty may misunderstand the role of the TVI, leading to confusion as to what the responsibilities of their job are and explain the insurmountable expectations placed upon them. These non-supportive

environments and administration can have a negative psychological effect on TVIs. TVIs can feel isolated from the school community and result in a decrease of satisfaction in their job role (Meador, 2015).

Teacher Burnout

Teacher burnout can influence TVIs to leave their jobs. Burnout is psychological response to stress with symptoms such as emotional exhaustion, depersonalization, and feeling of low personal accomplishment (Szigeti et al., 2017). There are three main factors that can lead to burnout: emotional exhaustion, depersonalization, and reduced personal accomplishment from jobs and careers (Skaalvik & Skaalvik, 2010). Emotional exhaustion refers to feelings of fatigue when an individual is emotionally drained. Depersonalization is when someone feels dehumanized by factors in their environment, such as their occupation and colleagues. Lastly, reduced personal accomplishments has an overall reduced personal accomplishment is when an individual has negative feelings about the work they are capable of (Van Droogenbroeck et al, 2021).

Teaching is a profession with mental health risks, especially when the teachers do not feel supported and are working with the special education population (Szigeti et al., 2017). When TVIs experience burnout, the overall well-being, motivation, and performance of the teacher is jeopardized (Van Droogenbroeck et al., 2021). These negative side effects may cause TVIs to feel no-longer compelled to work in education and leave their role or education as a whole.

Type of Education

There are multiple ways that teachers can obtain TVI credentials. TVIs can obtain training and earn their credentials through an undergraduate degree, a master's degree, or go through alternative certification programs. Due to the dire need to fill the 5,000 needed TVI job

openings, school districts and states have been lowering certification standards to fulfill these roles (Pogrund & Wibbenmeyer, 2008). States, such as Arizona, are even trying to lower qualifications to encourage individuals to pursue a TVI career. They now offer 2 options to become a TVI: through a formal teacher preparation program or a culmination of teaching experience and accredited coursework (Arizona Department of Education, n.d.). Limiting these qualifications have a negative effect on teacher retention. These inadequately trained individuals might leave the field quickly, or well-trained colleagues can be stretched thin by acquiring even more students to their caseloads and training new TVIs. Research has shown that traditionally trained teachers were more enthusiastic and prepared for their employment (Pogrund & Wibbenmeyer, 2008). While emergency certifications or alternative routes may temporarily fix TVI shortages, not adequately preparing teachers to be TVIs does not lead to success and ultimately decreases motivation to remain a TVI long-term.

Gender & Age

Young teachers are leaving because they are dissatisfied with teaching conditions, salary, lack of support, and bad reputation, while older teachers are leaving for retirement purposes (Martin & Mulvihill, 2016). Additionally, it is seen that there are higher rates of attrition in females compared to that of male educators. Female teachers are actually more likely to leave teaching than male teachers (Nguyen et al., 2022). According to an experiment about wage incentives, males in education were found less likely to leave when there was an increase in payment (See et al., 2020). While there are less male TVIs and educators in general, it is possible that male TVIs stay in the field longer, especially if there is monetary incentive.

Certifications Before and After Obtaining TVI Licensure

Teachers who hold certifications in other areas, such as elementary education or moderate to moderate to severe disabilities, may find out about visual impairments through personal experiences (Schles & Chastain, in press; Trent 1992). Middle Tennessee State University's TVI students had direct exposure to teaching students with visual impairments prior to enrolling in the endorsement program. After working with children with visual impairments in a special education setting, they were motivated to obtain TVI credentials (Trent, 1992).

Although these working with students with VI motivate teachers to learn more about visual impairment education, not all teachers with the TVI licensure will stay at TVIs. This can be due to teachers not feeling prepared from their TVI preparation programs, feeling as though they were not properly given a clear picture of the realities of the job. This may lead some teachers to leave being a TVI and return to teach in their initial area of certification.

Conversely, some seek out additional licenses after becoming a TVI. A study done across dually certified TVIs and Orientation & Mobility Specialists (O&Ms) in Texas demonstrated that TVIs pursued other certifications, such as O&M. Out of 72 participants, 68% of these professionals were TVIs before obtaining their O&M certification. Leading factors in pursuing an additional certification included personal interest in the area, stipend funding, and availability of training programs (Smith et al., 2007). Being exposed to so many different types of students and in different environments can lead to curiosity among TVIs about what other opportunities there are, ultimately leading them to leaving a TVI even if they stay in education.

Effects of Decreasing Longevity on Student Outcomes

Decreasing TVIs' career longevity negatively impacts students with visual impairments. With less qualified TVIs entering the school system, students with visual impairments are

receiving lower quality education. Low quality education is leading to lower literacy rates and inability to fully participate in the community and reach full potential (Mason et al., 2000).

Accessibility

Not having qualified TVIs is going against the rules and regulations IDEA established for special education. Per federal regulations, a child identified as having a disability that negatively impacts their education qualifies for special education. They may receive special education and related services that appropriately assist the child's educational development (Individuals with Disabilities Act of 2004). This includes students with visual impairments. TVIs are collaborative members of IEPs. Not only are they responsible for determining the vision service time and content each student receive, TVIs also communicate assessment data, suggest literacy-modality plans, and share assessment results (Brown and Beamish, 2012.; Smith, 2005). TVIs often serve as advocates for these students because of their formal educational background in visual impairments (Spungin et al., 2007). If these students do not have a TVI, they do not have an accessible education.

Transition

TVIs have a unique set of expertise called the Expanded Core Curriculum (ECC). The ECC was created to teach students with visual impairments important skills that are beyond the general curriculum and directly address essential areas and experiences that are unique to individuals who have visual impairments (Lohmeier et al., 2009). TVIs assist these students in learning ECC skills with the ultimate goal being successfully transition into the world after school, finding employment, and participating in society (Wolffe & Kelly, 2011). The ECC teaches skills adjacent to being independent and living a high-quality life. For example, a portion of the ECC directly related to transition is career education. Without TVIs teaching students with

visual impairments skills preparing them for the careers and lives they yearn for, they may never have full access to opportunities, independence, or employment. For example, many students with disabilities who struggle in post-secondary employment and education have limited career advancement and earning potential. This can leave long-term negative impacts on their independence and overall success in the work force (Taylor et al., 2022). Students need adequately trained TVIs to be teaching ECC skills through direct instruction because the ECC provides instruction in areas that students with VI cannot obtain through visual experiences.

Braille Literacy

Something else that makes TVIs extremely valuable in schools is their knowledge of the braille code. Per IDEA (2004), IEP teams must evaluate and determine the best literacy media for each student, which includes braille (Spungin et al., 2007). If braille is deemed appropriate for a student, TVIs are among the few professionals that are qualified to teach this code. TVIs possess the technological content knowledge and skills for accurately using technology and tools to teach students with visual impairments this code (Van Leendert et al., 2021). TVIs can provide braille readers with specific instruction on a weekly basis and collaborate with classroom teachers in order to effectively teach each braille reader. Without the help of the TVI, students with severe visual impairments or blindness are at risk for being illiterate. Without strong literacy skills, becoming independent and finding employment becomes near impossible for these students (Dimitrova-Radojichikj, 2015).

Purpose

The purpose of this paper is to attempt to answer the posed question: are there any factors that influence the career longevity of TVIs? The outcome variable selected for analysis was the amount of years respondents indicated they were employed as a TVI. The variables of interest

analyzed are if the respondents are currently employed as a TVI, age, preparation level upon entering the field, gender, graduation year, if the respondent held a prior teaching licensure before obtaining TVI credentials, and if the respondent was enrolled in a hybrid/online TVI preparation program delivery format.

Method

Survey Study Method

Survey sample and data collection procedures. Eligible survey participants were TVIs who graduated from a university-based TVI preparation program in the United States between 2000-2021. Participants were recruited via email. Researchers sent recruitment emails to professional contacts, such as TVI preparation program coordinators. Efforts were made to contact each state's chapter of Association for the Education and Rehabilitation of the Blind and Visually Impaired (AER) and National Federation of the Blind (NFB). Additionally, all state schools for the blind were contacted. Recipients were encouraged to share the survey with anyone who they believed to be eligible. Social media (e.g. Facebook and Twitter postings) and professional listservs were also used in recruitment efforts.

The ultimate goal of the recruitment process was to obtain as many responses as possible, primarily through snowball recruitment. In snowball recruitment, the information is passed to participants the researcher does not directly recruit, but participants and contacts of the researchers can then distribute the materials to other potential subjects (Leighton et al., 2021). In order to ensure that the data gathered was viable, research tracking was conducted. This was done by tracking the organization or person, the date, and the email of each recipient on a shared file only accessible to each of the skilled researchers. This allowed the researchers to track how the survey was distributed directly. However, there is no way of knowing just how many people

the survey was distributed to. By the researchers sending the survey to reliable and relevant contacts, they limited the possibility of the survey being distributed to non-qualified or irrelevant participants as much as possible.

The initial email sent to each person and organization included a description of what the survey entails. The description of the survey stated that this was a “short survey asking TVIs why they decided to enter the field and about their experiences in their TVI training program.” As an incentive for people to participate, the email also states that there was an opportunity for 25 participants to win a \$25 gift card to Target or Amazon. Only after finishing the survey could individuals enter a raffle to win a gift card to large corporations. Twenty-five winners were chosen at random through virtual number generators.

The survey was broadly divided into 4 sections. The 4 sections asked a variety of questions to gather information about participant demographics, education, motivation in pursuing a career as a TVI, and information about their selected program.

Section 1. The first section was about demographics and background information. There were 9 questions in this section, along with 3 optional questions. The questions in this section asked the gender, age, and race of the participants. Participants answered if they are currently employed as a TVI, how many years they have worked as a TVI, if they plan on being a TVI for the foreseeable future, and how many years they were a TVI before they decided to leave. There were options to elaborate on race, years worked, and why they are no longer employed as a TVI.

Section 2. Section two was developed to gather information about the education and training of the TVIs. This section had 16 questions and one optional question. These helped determine the level of education these individuals had on teaching students with visual impairments. The options included Bachelor of Art, Bachelor of Science, Masters of Art,

Masters of Education, Master of Science Education, Master of Science, graduate certificate, or other. Additionally, information about the teaching certifications the TVIs had and as their current employment status was collected.

Section 3. The third section was about the TVIs “why” for pursuing a career in visual impairment education. This section contained 4 questions for respondents. The participants were asked to state what age they were when they found out about teaching students with visual impairments as a career, how they heard about this career, and why they decided to pursue a TVI certification. There was also an optional question where they could elaborate and provide more information that was relevant to their experiences and why they became a TVI.

Section 4. The fourth and final section was developed to gather information about TVI training program selection and experience. These questions encompassed when if their career did they decide to become a TVI, the state they attended a program in, how they learned about their program, how they sought out information, the delivery format of the preparation program, if they moved for their program or stayed local, how many programs they considered, influential factors, if they felt adequately prepared by graduation, and valuable aspects of their program. This section contained 22 questions with 5 opportunities to further elaborate on selected answers by writing in responses. After completion, the respondents had the option to enter the raffle for an opportunity to win a gift card.

Data Cleaning Procedures. In order to ensure the data was viable, extensive data cleaning procedures were taken to eliminate a high number of bot responses received in addition to human respondents. A team of 3 trained researchers worked alongside a lead PI to prepare the data set. For each step of the cleaning process, all 4 members of the team independently reviewed the data. Responses were not taken out of the data set unless 100% agreement was

reached. The research team went through all of the responses and searched for responses that fell under the following categories: participant did not consent to survey, participant was not eligible due to graduation year (e.g., prior to 2000), responses were duplicate of another, and suspected bot responses.

Descriptive Variables and Correlation Factors

The variables in the current analysis are as follows: TVI years, current employment as a TVI, age, preparation level, gender, graduation year, if they held prior teaching licensure, and if their program was online/hybrid.

TVI years. The outcome variable of this paper is how long each of the respondents served as a TVI. This outcome variable was developed by combining how many years the participant had been a TVI and after how many years did they leave if applicable. This variable had a continuous outcome.

Current employment as a TVI. Current employment as a TVI was addressed by asking the respondents if they were or were not currently working as a TVI. There were 2 options for this question. Respondents who indicated they were not employed as a TVI chose 0. On the other hand, individuals who were employed as a TVI chose 1.

Age (in years). Age was another variable assessed by this survey. There were 11 age groups with corresponding number values for respondents to choose from: 20-25 (1), 26-30 (2), 31-35 (3), 36-40 (4), 41-41 (5), 46-50 (6), 51-55 (7), 56-60 (8), 61-65 (9), 66-70 (10), 70+ (11).

Preparation level. Preparation level was assessed in this survey. The respondents rated how prepared they felt entering the field after their TVI preparation program on a scale from 1-5. Option 1 was not at all prepared. Option 2 was barely prepared. Option 3 was somewhat prepared. Option 4 was mostly prepared. Lastly, option 5 was completely prepared.

Gender. Each TVI was asked to answer what their gender identity is. This variable was divided into 4 separate categories. These categories consisted of female, male, non-binary, and prefer-not-to-answer (PNA).

Graduation year. Participants were asked to type in the year of their graduation from their TVI preparation program. While survey responses could range from 2000-2021, only participants who graduated in the last 10 years (2011-2021) were included in analysis.

Held teacher certification before becoming a TVI. Participants were asked if they were certified teachers before becoming a TVI. This variable had two possible responses: or no (they had no prior teaching certification), or yes (they were certified before becoming a TVI).

Online/hybrid program. Type of program delivery was assessed in this survey. This question was posed with 3 options. Option 1 was that the program they attended was in person, option 2 was that it was a hybrid training, and option 3 was that they attended an online program. However, for the sake of analysis in this paper, I combined options 2 and 3. The analysis reads that this variable has 2 options: in person program (1) or hybrid/online program (2).

Statistical Analysis

Descriptive statistics. Descriptive statistics were done to provide information about the data set and the respondents. The continuous variables were TVI years and graduation year. The categorical variables are if they are currently employed as a TVI, gender, age, and if they held prior teacher certification. Descriptive statistics, including mean, standard deviation, minimum value, and maximum value were gathered for all of the variables. Frequency data was also collected. This included the frequency and percentage of total respondents for each part of the question.

Correlations. Correlations were analyzed to predict if there were any linear relationships between the independent variable and the variable of interest. The outcome variable was paired with the variable of interest in a correlation matrix to demonstrate these relationships. The correlation matrix determined if there was statistical significance between the outcome variable and a few of the variables of interest. All correlation values were compared to the chosen level of significance .05.

Inferential statistics. Since the outcome variable for the analysis was continuous, regression models were conducted. This explains the percentages of the variants accounted for, the overall percentage of observations that the model was able to classify correctly, and if any of the variables are independent predictors for TVI years and longevity in a TVI career.

Results

Descriptive Statistics Results

There were 533 total responses to the survey. After multiple rounds of data cleaning between 4 skilled researchers, there were 307 valid responses that contributed to the final dataset. There were multiple reasons that 226 responses were removed from the data set. The team of researchers used IOA to determine if the respondent did not answer if they are currently employed as a TVI, if the respondents consented to the usage of the survey, if the respondents were eligible through graduation year, and if the respondents appeared to have internal logic throughout their answers. If they were not consistent throughout their answers, researchers discussed if they believed the individual was a bot trying to infiltrate the data. For further analysis and purpose of this paper, only participants who obtained TVI credentials in 2011 to 2021 were used. The final number of respondents used in this paper's analysis was 198. Table 1

demonstrates the summary of the respondents, providing the N value, mean, standard deviation, and minimum and maximum for each variable.

Table 1

Demographics of Participants Across Variables

Variable	Number of Responses		Mean	Standard Deviation	Minimum and Maximum	
	<i>n</i>	%			Min.	Max.
TVI Years	198	100.0	4.68	3.37	0	21
0	10	5.05				
1	24	12.12				
1.5	3	1.52				
2	23	11.62				
2.5	2	1.01				
3	24	12.12				
3.5	1	.51				
4	20	20				
4.5	3	1.52				
5	19	9.60				
6	16	8.08				
7	14	7.07				
8	9	4.55				
8.5	1	.51				
9	10	5.05				
10	9	4.55				
11	4	2.02				
12	4	2.02				
15	1	.51				
21	1	.51				
Currently employed as a TVI	198	100.0	.81	.39	0	1
No	38	19.19				
Yes	160	80.81				
Age (in years)	185	100.0	36-40	10	20-25	70+
20-25	11	5.95				
26-30	45	24.32				
31-35	35	18.92				
36-40	26	14.05				
41-45	10	5.41				
46-50	21	11.35				
51-55	18	9.73				

56-60	13	7.03				
61-65	6	3.24				
66-70	0	0				
70+	0	0				
Perceived preparation level	186	100.0	3.90	.68	1	5
Not at all	0	0.0				
Barely	2	1.08				
Somewhat	47	25.27				
Mostly	104	55.91				
Completely	33	17.74				
Gender	196	100.0				
Female	169	86.22				
Male	23	11.73				
Non-binary	1	.5				
Prefer not to answer	3	1.53				
Graduation year	198	91.6	2016.78	3.11	2011	2021
2011	10	5.05				
2012	18	9.09				
2013	13	6.57				
2014	9	4.55				
2015	22	11.11				
2016	12	6.06				
2017	14	7.07				
2018	27	13.64				
2019	28	14.14				
2020	21	10.61				
2021	24	12.12				
Held Prior License	198	100	.53	.50	0	1
No prior teaching licensure	93	46.97				
Yes, prior teaching license	105	53.03				
Program format	189		.60	.49	0	1
In-person program	76					
Hybrid or online program	113					

Note. $N = 198$ (the total number of participants). Some data were missing for certain participants, so N values for each variable may be slightly less than 198.

TVI years. There were 198 valid responses for the outcome variable. The average number of years for participants was 4.68 years. The standard deviation was 3.37. The minimum amount of years was 0 and the maximum amount of years was 21.

Currently employed as a TVI. There were 198 responses for this variable. There were 160 respondents indicated that there were currently employed as a TVI. The additional 38 indicated they were not currently employed as a TVI.

Age. There were 185 responses for age and 13 participants did not have their age identified. The mean for this variable was ages 36-40. The minimum value was ages 20-25 and the maximum age was 70+.

Perceived level of preparation. There were 186 participants who answered this question. The mean value was 3.90, meaning that the average feels of participants was that they were “mostly” prepared going into the field. The standard deviation was .68. The minimum value was 1 (not at all prepared), and the maximum value was 5 (completely prepared).

Gender. There were 196 responses for this question. Results indicated that there were 169 females, 23 males, 1 non-binary person, and 3 preferred not to answer.

Graduation year. There were 198 responses for this question. The average graduation year was 2016.78. The standard deviation was 3.11 years. The minimum year was 2011 and the maximum year was 2021.

Held prior teaching certification. There were 198 responses for this question. Of these responses, there were 93 respondents indicated they were not previously certified as a teacher before becoming a TVI. There were 105 who were previously certified. The mean was .53, meaning just over half of respondents did have a teaching license before becoming a TVI.

Program format. There were 189 responses for this question. Of those, 76 indicated that they attended an in-person program and 113 indicated they attended a hybrid or online program. The mean was .60, meaning 60% of participants participated in a hybrid or online program.

Correlation Test Results

A correlation matrix was run to determine the relationships between all of the variables. Graduation year was not considered when running the correlation matrix due to the natural correlation with years of experience. Additionally, gender was not considered during the correlation matrix. Table 2 demonstrates the summary of the correlation matrix.

Table 2

Correlations Between Variables of Interest and TVI Years.

Variable	1	2	3	4	5	6
1. TVI years	—					
2. Currently employed TVI	.1421*	—				
3. Age	.2720**	.0907	—			
4. Perceived preparation level	-.0703	-.0867	.0651	—		
5. Held prior license	.0857	-.0732	.3248***	.0899	—	
6. Program format	.0068	.0654	.3756***	-.0334	.2080**	—

*. Correlation is significant at 0.05 level (two-tailed).

**. Correlation is significant at 0.01 level (two-tailed).

***. Correlation is significant at 0.001 level (two-tailed).

Currently Employed as a TVI. The number of years a participant was a TVI positively correlates with whether or not they are currently employed as a TVI. The p-value equated to $P = .0459$. This is below the chosen the level of significance $.05$. This p-value shows that TVI employment and TVI years do have a statistically significant correlation.

Age (in years). The p-value for age and TVI years is $.0002$. This is below the chosen significance value of $.05$. This demonstrates a very high statistically significant correlation between age and the outcome variable. The p-value for age and TVI employment is $.2196$. This is above the significance value of $.05$, thus proving that there is not a statistically significant relationship.

Perceived level of preparation. The p-value for preparation level and TVI years is $.3406$. Since this is above the significance value $.05$, these two variables do not have a significant correlation. There was also no statistically significant correlation between preparation level with TVI employment and age since all of these p-values were greater that $.05$.

Held prior teaching licensure. The p-value between prior licensure and TVI years was $.2302$. Since this is above the significance value $.05$, this demonstrates there is no statistically significant correlation between these variables. Prior licensure also did not have a statistically significant correlation with TVI employment and preparation level. On the other hand, the p-value between prior licensure and age was $.0000$. This demonstrates a highly significant correlation between the variables.

Program format. The p-value between program format and TVI years was $.9256$, demonstrating that there is not a significant correlation between the two. Program format also did not have significant correlations with TVI employment and preparation level. Comparatively, the p-values between program format with age and prior license were below the significance level of

.05. The p-values were .0000 and .0041, both of which demonstrate a highly significant correlation.

Inferential Statistic Results

Inferential statistics were analyzed to determine if there any conclusions could be drawn about TVIs beyond the sample provided by the survey. However, when running t-tests during correlation testing, the only proven significant relationships were variables with times (e.g., TVI years, graduation years). Because there were no other significant relationships, regression models were not developed.

Discussion

This paper attempted to answer the posed question: are there any factors that influence the career longevity of TVIs? Responses analyzed from this survey represented a large, diverse group of participants. The descriptive analysis demonstrated that most of the participants were currently employed as a TVI. Majority of participants identified as women and were between the ages of 36-40. After graduation from their TVI education, the participants indicated they felt “mostly” prepared to be a TVI. The most common model of TVI program was a hybrid or online program. Many of the surveyed individuals had previously obtained teacher licensure before gaining TVI credentials. The overall average for the amount of TVI years was about 4.68 years. Further analysis of the data exhibited that preparation level of the participants did not have relevance towards the longevity of career. Additionally, the program format did not correlate with TVI longevity. Lastly, that individuals who become TVIs later in their career are more likely to obtain TVI credentials via an online or hybrid program.

Perceived Level of Preparation

The perceived preparation level of the participants did not correlate to the longevity of the TVI career. This was a particularly interesting finding because one may assume that there would be a correlation, so it is interesting that there is no correlation. A teacher preparation program that adequately prepares their pupils provides relevant coursework, practicum placements, and student teaching to provide real life experiences to these students (Livers et al., 2021). A majority of the participants in the survey stated that they were mostly prepared for their career after graduating, thus leading to the assumption that they probably completed relevant coursework and obtained hands-on experience before taking on this job role. If most pre-service TVIs are receiving adequate educational experiences and feeling reasonably prepared, there may be other factors that influence longevity of the TVI.

Program Format

The data taken from the survey demonstrated that the type of program completed does not affect career longevity. This was a key takeaway because there has been a discrepancy between the effectiveness of online and hybrid programs compared to traditional, in-person programs. The analysis found that most individuals gained TVI licensure through a hybrid or online program rather than solely in-person. In-person teacher preparation programs have been cultivating teachers for many years. However, as technology continues to advance, more individuals are turning to online formats of learning. Online learning instruction is the fastest growing area in education and is predicted to have more growth in upcoming years (Allen et al., 2014). In fact, research has suggested that pre-service teachers who completed teacher licensure online had the same academic outcomes compared to those enrolled in a traditional program (Smith et al., 2000). Regardless of whether or not a TVI obtains licensure from an in-person program or an online or hybrid program, they still can be efficiently prepared to be a TVI. If both

online and in-person programs are preparing well-equipped TVIs but the program formatting does not affect longevity, there must be external factors that influence these TVIs to leave.

The last key finding from the analysis of the data is that the age of the TVI and the program format had a positive correlation. This means that older TVIs are more likely to have received their TVI credentials through an online or hybrid program. This could be for a plethora of reasons, including the ability to work at their own pace, lower costs of attendance, job loss or dissatisfaction, or just a general desire for a career change (Maryville Online, 2018). An example of this would be a seasoned teacher looking to change their current teaching title to TVI. In this case, a teacher could continue working as an educator while furthering their education at their own pace. They could then fully transition to a TVI when they complete their program. If many individuals are starting their TVI career later in life and enrolling in online or hybrid programs, this could be a huge influence on TVI longevity as a whole.

Limitations

Limitations of the study should be considered when addressing the findings of the data. The survey was met with multiple drawbacks that impacted the data. There were multiple questions that were inadequately-worded, thus leading to participant answers being elusive to the data team. Additionally, the survey being shared publicly via social media networking platforms caused an influx of bot responses. These responses mimicked the responses of TVIs. Extensive analysis of the data was performed. The data team checked the logic between answers to determine which answers were likely to be bots. Although the final data set was agreed upon only after 100% IOA was met, the data may have been skewed due to implicit biases from the research team.

Implications for Future Research

Future research should be done on the topic of TVI career longevity to further analyze what is influencing these individuals to leave or stay in the field. The field of special education and teaching students with visual impairments would benefit greatly from understanding what factors may contribute to TVIs staying or leaving the field. Beneficial studies could include, but are not limited to, the attitudes of TVIs who completed preparation programs in-person compared to those who opted for online and hybrid programs and why individuals who have prior teaching licensure gain TVI credentials.

Future researchers should also take into consideration how heavily bots can skew data in modern day research. The infiltration of bots is very common for research surveys posted publically. If bot activity is not monitored vigilantly by researchers, bots can complete hundreds of survey responses at rapid speeds (Griffin et al., 2022). This is a very serious issue that has little research. Bots can jeopardize the integrity of scientific data because these responses are completely invalid (Storozuk et al., 2020). Bots are a relatively new and recognized phenomenon, and here is no telling what they have and have not already inflicted damage on. The data from this survey was negatively impacted by these bots, and future researchers should keep this in mind when publicly posting surveys in the future. This experience could also serve as inspiration for future research on how to prevent bots from infiltrating online data surveys and ways to easily identify them when analyzing data sets.

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