

An Analysis of Nigerian TVET Graduates' Career Decision Self-Efficacy

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ABSTRACT

Objective: This study examined the degree of career decision self efficacy among recent graduates of technical vocational education and training in Nigeria. The aim was to understand how these graduates perceive their ability to make informed career choices, and to determine whether demographic characteristics predict their levels of self efficacy.

Methods and Materials: The study employed a quantitative survey design involving three hundred and fifty recent graduates from the southeast region of Nigeria. A purposive sampling approach ensured representation across different technical vocational education programs, genders, ages and marital statuses. Data were gathered using the Career Decision Self Efficacy Scale Short Form, which contains twenty five items rated on a five point Likert scale. Regression analysis was used to examine the predictive influence of demographic variables.

Findings: The results indicated that graduates displayed a high level of career decision self efficacy. The regression model showed that demographic characteristics significantly predicted self efficacy outcomes. Graduates with stronger academic achievement and those enrolled in more relevant technical vocational education programs reported higher levels of self efficacy.

Conclusion: The findings highlight the need for policymakers, counsellors and educators to strengthen targeted interventions that support career planning and transition for technical vocational education graduates. Enhanced guidance programmes may further improve graduates' confidence and readiness for labour market entry. This study provides empirical insight into the career decision competence of technical vocational education graduates in Nigeria, contributing evidence that can inform national strategies for improving career development support within the sector.

Keywords: Career decision self-efficacy, career transition, TVET graduates, counsellors, educators, career coaching, Nigeria, Africa

1. Introduction

A student's ability to make the right career decision is one of several factors that can determine their future success in life (Söner & Yılmaz, 2025). The career decision a student makes about their future is influenced by various factors, including their abilities, aptitudes, aspirations (dreams), experiences, motivations, and interests, as well as the market demand for particular occupations (Nguyen et al., 2023). Career decision-making is vital for students' progress both in school and in life, as having a clear career direction can foster greater focus and motivation toward a particular path. Thus, the impact of career decisions among students cannot be over-emphasized. However, students may struggle to make the right career choices if they lack self-efficacy. Low self-efficacy expectations can lead individuals to avoid engaging in career decision-making behaviors, resulting in increased career indecision (link.springer.com) (Şeker, 2025).

Self-efficacy – essentially, a belief in one's ability to accomplish something – appears to correlate with individuals' perceptions of their own traits (such as interests, aptitudes, dispositions, and values) that act as catalysts for career development ([pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)). In Bandura's social cognitive theory, self-efficacy is defined as the belief in one's capability to organize and execute the courses of action required to manage prospective situations (Zhao et al., 2024). According to this theory, a person's level of self-efficacy can significantly influence their career decisions, since it reflects confidence in one's abilities and the belief in one's capacity to achieve certain goals (link.springer.com) (Şeker, 2025). When students possess high levels of self-efficacy, they tend to be better prepared to transition into the workforce, make more decisive career choices, avoid the pitfall of chronic indecision that can hinder their entry into the workforce after graduation, and remain more persistent when confronted with challenges in their career path. In contrast, those with low self-efficacy are more likely to set lower goals and retreat in the face of obstacles, which can undermine their career progress (stero.com). It is therefore important that students develop self-efficacy during their university years to facilitate effective career decision-making.

Albert Bandura's theory of self-efficacy provides the theoretical grounding for this study. Bandura posited that people who are confident in their abilities are more likely to succeed in their endeavors because they view difficult tasks as challenges to be mastered rather than threats to be avoided. In Bandura's seminal work, self-efficacy was found

to be an important factor in achieving targets, as it encapsulates individuals' confidence and optimism about their capability to accomplish tasks (link.springer.com). As a result, even when faced with obstacles, individuals with strong self-efficacy beliefs can persevere and fulfill their responsibilities, maintaining resilience due to their conviction that they can overcome challenges (Bandura, 1977). Developing self-efficacy not only influences graduates' approach to career-related tasks but also affects their outlook on academic and personal success. Hence, a study on self-efficacy in career decision-making is warranted to help students build the resilience needed to handle work-related stress and transitions.

The concept of career decision self-efficacy refers to students' confidence in their ability to successfully navigate tasks related to career choice (Otu, 2024), essentially, a belief that they "can do" what is necessary if they put their mind to it, given their abilities and aptitudes. High career decision self-efficacy means a student is confident they can choose the right career path, make informed career choices, and persevere in the face of challenges without backing down (Falco & Summers, 2019). Research in this area has shown that individuals must demonstrate self-efficacy in career decision-making in order to achieve their career goals and objectives (Otu & S. M., 2025; Pignault et al., 2023). Students who lack self-efficacy in making career choices are more likely to procrastinate or waver when confronted with obstacles. In other words, graduates with low career decision self-efficacy may be unable to take ownership of their career decisions and may not perform optimally in their tasks, unlike graduates who have confidence in their own abilities. For example, making an appropriate career choice sets individuals on a path of continuous improvement and equips them with the knowledge and skills required to succeed in that field. Conversely, if graduates doubt their capabilities due to, say, negative self-perceptions, they might shy away from challenging opportunities that would build their skills (stero.com).

Several factors can influence self-efficacy in career decision-making. These include personal perceptions of adulthood, gender, marital status, and the time since graduation. Graduating students who do not yet perceive themselves as fully "adults" may struggle to make independent career choices, because the feeling of being an adult is often associated with self-sufficient decision-making. Age can also intersect with gender in affecting career outcomes. For instance, studies have found that male graduates tend to have higher starting salaries on average

than female graduates, although women's earnings tend to increase with age and experience ([census.gov](https://www.census.gov)). Indeed, male degree holders earn higher average salaries than female degree holders in many fields, especially in STEM occupations, where gender remains a significant factor in earnings disparities ([census.gov](https://www.census.gov)). According to recent census data, male bachelor's degree holders have substantially higher median incomes compared to their female counterparts (for example, in one analysis, about \$97,000 versus \$74,000) ([linkedin.com](https://www.linkedin.com)). This gap highlights ongoing gender differences in career outcomes. It has been suggested that emerging adult graduates develop self-efficacy not simply as a function of age or gender, but also through social support – for example, by following parental advice or receiving mentorship – which can bolster their confidence in career decision-making ([researchgate.net](https://www.researchgate.net)). On the other hand, graduates who feel constrained by gender norms may experience diminished self-efficacy regarding certain career paths (Falco & Summers, 2019). observed, for instance, that due to lower self-efficacy in STEM-related domains, women remain underrepresented in many STEM courses and careers. This underrepresentation may stem from societal stereotypes and lower confidence rather than ability, and interventions that improve women's self-efficacy in these areas have been shown to increase their participation in STEM fields. It remains to be seen, however, whether female graduates of Technical and Vocational Education and Training (TVET) programs differ from their male counterparts in career decision self-efficacy, given that TVET curricula are specifically designed to develop students' career-oriented skills and practical confidence.

TVET programs aim to reduce unemployment by equipping students with both employability and entrepreneurial skills prior to graduation ([eprints.federalpolyilaro.edu.ng](https://www.federalpolyilaro.edu.ng)). In other words, TVET prepares graduates not only for conventional “white-collar” jobs but also provides skills-based training that enhances their capacity for self-development, independence, and self-efficacy in the workplace ([eprints.federalpolyilaro.edu.ng](https://www.federalpolyilaro.edu.ng)). As noted by recent studies, TVET initiatives give young people opportunities to acquire training and knowledge in diverse fields, addressing the observation that many graduates otherwise lack the self-reliant skills needed to make sound career choices and to be employable in today's economy (Halik Bassah & Mohd Noor, 2023). TVET has thus been described as a remedy for career indecisiveness as it enables students to gain hands-on skills and knowledge in various

vocations so that they can make self-reliant career decisions and even create jobs for themselves and others ([eprints.federalpolyilaro.edu.ng](https://www.federalpolyilaro.edu.ng)). However, it is not yet known whether the TVET program in Nigeria has fully prepared its graduates for successful career decision-making, especially in light of the country's persistently high rates of youth unemployment and poverty. Therefore, the objectives of this study are to investigate the level of career decision self-efficacy among TVET graduates in Nigeria and to determine the influence of these graduates' demographic factors on their career decision self-efficacy.

To address the issue of unemployment in the country, TVET programs strive to arm students with essential employability and entrepreneurship skills before they graduate. By implication, TVET programs prepare graduates for both white-collar employment and skills-based self-employment, enhancing their abilities for self-development, independence, and efficacy in their chosen careers (Okorafor & Nebechi, 2017). In light of the escalating rates of unemployment and poverty in Nigeria, it is unclear whether TVET graduates are in fact better prepared to make successful career decisions. This study accordingly aims to examine the career decision self-efficacy of TVET graduates in Nigeria and to assess how demographic factors may impact these graduates' self-efficacy in making career choices.

The purpose of this study was to examine the career decision self-efficacy among Nigerian TVET graduates. In addition, this study examined the role of demographic characteristics (gender, age, marital status, and year of graduation) on the career decision self-efficacy of TVET graduates when it comes to career decision self-efficacy. The study tested hypothesis that demographic characteristics of the graduates do not impact their career decision self-efficacy.

2. Method and Materials

In this study, a descriptive survey was utilized. Descriptive surveys focus on people, their views, motives, goals, and perspectives. The research design was appropriate given that it aimed to extract data from graduates on their perceptions of their self-efficacy in career decisions.

Study setting

A study was conducted in the southeast of Nigeria. Southeast is a region of Nigeria divided into six geopolitical zones. It is homogeneous because everyone speaks the same language. There are eleven public universities in the

southeast, which include Abia, Anambra, Ebonyi, Enugu, and Imo. Four public universities were selected at random for this study.

Participants

We conducted this study with 350 TVET graduates from Nigeria's southeast states. To select the sample, four public universities from the region were randomly selected. A second method was to select 1200 recent TVET graduates from the four public universities and contact them via their institutions' email addresses to participate in the study. The researchers asked graduates to complete the "Career Decision-Making Self-Efficacy Scale" and send it back to them by email within five working days. Study objectives, benefits, and risks were emailed to participants as part of the informed consent form. Participants were reminded to participate in the study one week after receiving this information.

In total, 350 recent TVET graduates completed informed consent forms and completed instruments within the stipulated timeframe and returned them to the researchers. Incomplete responses and blank spaces on the form or instrument, as well as responses sent after the deadline, were rejected by researchers. This sample size was considered adequate for this study since a similar sample size was used in previous related studies. In order to confirm the adequacy of the sample size, we conducted an analysis of the G*Power 3.1 statistical program. According to the software, the required sample size can be determined as a function of the values entered by the user for the significance level, the desired statistical power, and the population effect size, which follows from the assumption that a sample size requirement can be determined as a function of the user-specified values. A statistical power of 0.91 and effect size of 0.25 was obtained from this study using this software. A sample size of at least 0.80 statistical power has been found to be an adequate sample size in the literature.

Material

In this study, the modified version of career decision self-efficacy scale-short form (CDSES-SF) was used to assess participants' career decision self-efficacy. This questionnaire contains 25 items divided into five subscales: goal selection, occupational information, problem-solving, planning, and self-appraisal. A CDSES-SF is appropriate for responding to the statements. It captures career decision-making. It has five statements to be answered on a scale ranging from 1 to 5. In this study, the instrument's reliability coefficient was 0.89 alpha, which is in line with previous studies.

Method of Data Analysis

To describe TVET graduates' career decision self-efficacy and determine how their demographic characteristics influenced it, descriptive statistics and inferential statistics were used. The descriptive statistics provided a summary of the data and described the main characteristics of TVET graduates' career decision self-efficacy. Measures such as mean and standard deviation were included in these statistics. A mean score ranging from 1.00 to 2.0 was considered very low; a mean score of 2.1 to 2.49 was considered low; a mean score ranging from 2.50 to 3.49 was considered moderate; a mean score ranging from 3.50 to 4.00 was considered high; and a mean score ranging from 4.1 to 5.00 was considered very high. By categorizing the mean scores, we are able to interpret and compare them meaningfully. Similar scoring systems have been used in previous studies.

To determine whether demographic characteristics were significant in influencing self-efficacy during career decision-making, an inferential statistic, ANOVA, and regression were used.

3. Findings and Results

The results are presented and interpreted as follows:

Table 1

Participants' Characteristics

| | | Male | | Female | | Total | |
|----------------|---------|------|--------|--------|--------|-------|--------|
| | | N | % | N | % | N | % |
| Age | 18-21 | 61 | 31.6% | 62 | 39.5% | 123 | 35.1% |
| | 22-25 | 115 | 59.6% | 78 | 49.7% | 193 | 55.1% |
| | 26-29 | 17 | 8.8% | 17 | 10.8% | 34 | 9.7% |
| Total | | 193 | 100.0% | 157 | 100.0% | 350 | 100.0% |
| Marital Status | Single | 141 | 73.1% | 117 | 74.5% | 258 | 73.7% |
| | Married | 52 | 26.9% | 40 | 25.5% | 92 | 26.3% |
| Total | | 193 | 100.0% | 157 | 100.0% | 350 | 100.0% |

| | | | | | | | |
|--------------------|------|-----|--------|-----|--------|-----|--------|
| Year of Graduation | 2020 | 17 | 8.8% | 12 | 7.6% | 29 | 8.3% |
| | 2021 | 48 | 24.9% | 34 | 21.7% | 82 | 23.4% |
| | 2022 | 37 | 19.2% | 26 | 16.6% | 63 | 18.0% |
| | 2023 | 91 | 47.2% | 85 | 54.1% | 176 | 50.3% |
| Total | | 193 | 100.0% | 157 | 100.0% | 350 | 100.0% |

Table 1 provided a breakdown of age, marital status, and year of graduation distributions of the participants, with a primary focus on male and female participants. The age distributions were categorized into different age groups, with 18-21 being one category, 22-25 being another category, and 26-29 being the final category. Regarding ages 18-21, there were 61 male participants (31.6%) and 62 female participants (39.5%). This indicates a slightly higher than average representation of females in this age group.

Moving on to ages 22-25, there were 115 male participants (59.6%) and 78 female participants (49.7%). This indicates a slightly lower representation of females compared to the previous age group. For ages 26-29, there were 17 male participants (8.8%) and 17 female participants (10.8%). This further confirms a lower representation of females in this age group. In terms of marital status, it appears that singles constituted the majority of participants. There were 141 males (73.1%) and 117 females (74.5%)

who were single. However, there was also a smaller representation of married individuals, with 52 males (26.9%) and 40 females (25.5%).

Lastly, the year of graduation distributions were also examined. Of those that graduated in the year 2020, there were 17 males (8.8%) and 12 females (7.6%). This indicates that a slightly higher percentage of males graduated in 2020 compared to females. Moving on to the year of graduation distribution for those graduating in 2021, there were 48 males (24.9%) and 34 females (21.7%). This indicates a slightly lower percentage of males graduating in 2021 compared to females. For those graduating in 2022, there were 37 males (19.2%) and 26 females (16.6%). This indicates a slightly higher percentage of males graduating in 2022 compared to females. Lastly, for those graduating in 2023, there were 91 males (47.2%) and 85 females (54.1%). This indicates a slightly higher percentage of females graduating in 2023 compared to males.

Table 2

Mean Scores and Standard Deviation of Career Decision-making Self-efficacy of TVET Graduates

| Items | N | Mean | Std. Deviation | 95% Confidence Interval for Mean | | Level |
|--|-----|------|----------------|----------------------------------|-------------|----------|
| | | | | Lower bound | Upper bound | |
| Make a career decision and then not worry about whether it is right or wrong | 350 | 3.20 | .77 | 3.12 | 3.28 | Moderate |
| Choose a major or career that your parents do not approve of | 350 | 3.40 | .53 | 3.35 | 3.46 | Moderate |
| Choose the major you want even though the job market is declining with opportunities in this field | 350 | 3.02 | .36 | 2.98 | 3.06 | Moderate |
| Choose a career in which most workers are the opposite sex | 350 | 3.06 | .90 | 2.96 | 3.15 | Moderate |
| Select one occupation from a list of potential occupations you are considering | 350 | 2.82 | .46 | 2.77 | 2.86 | Low |
| Find information about companies that employ people with college majors in English | 350 | 3.32 | .65 | 3.25 | 3.39 | Moderate |
| Find information about educational programs in engineering | 350 | 3.68 | .61 | 3.61 | 3.74 | High |
| Describe the job duties of the career occupation you would like to pursue | 350 | 3.94 | .23 | 3.91 | 3.96 | High |
| Find information in the library about occupations you are interested in | 350 | 3.94 | .23 | 3.91 | 3.96 | High |
| Find information about graduate or professional schools | 350 | 3.93 | .30 | 3.89 | 3.96 | High |
| Come up with a strategy to deal with flunking (failing) out of college | 350 | 3.87 | .52 | 3.81 | 3.92 | High |
| Go back to school to get a graduate degree after being out of school for 5-10 years | 350 | 3.90 | .49 | 3.85 | 3.95 | High |

| | | | | | | |
|---|-----|------|-----|------|------|----------|
| Change occupations if you are not satisfied with the one you enter | 350 | 3.85 | .54 | 3.79 | 3.90 | High |
| Determine the steps to take if you are having academic trouble with an aspect of your chosen major. | 350 | 3.83 | .57 | 3.77 | 3.89 | High |
| Identify some reasonable major or career alternatives if you are unable to get your first choice | 350 | 3.85 | .49 | 3.79 | 3.90 | High |
| Plan your goals for the next five years. | 350 | 3.86 | .43 | 3.81 | 3.90 | High |
| Prepare a good resume | 350 | 3.91 | .28 | 3.88 | 3.94 | High |
| Get a letter of recommendation from your professors. | 350 | 3.81 | .39 | 3.77 | 3.85 | High |
| Find and use the placement office on campus | 350 | 3.15 | .36 | 3.11 | 3.19 | Moderate |
| Successfully manage the job interview process | 350 | 3.77 | .49 | 3.72 | 3.82 | High |
| Accurately assess your abilities | 350 | 3.15 | .36 | 3.11 | 3.19 | Moderate |
| successfully take math courses | 350 | 3.93 | .36 | 3.89 | 3.96 | High |
| Figure out what you are and are not ready to sacrifice to achieve your career goals | 350 | 3.93 | .36 | 3.89 | 3.96 | High |
| Determine what your ideal job would be | 350 | 3.96 | .18 | 3.94 | 3.98 | High |
| List several majors that you are interested in. | 350 | 3.32 | .58 | 3.26 | 3.38 | Moderate |
| Summary | | | | | | |
| Goal selection mean score | 350 | 3.09 | .44 | 3.05 | 3.14 | Moderate |
| Occupational information mean score | 350 | 3.77 | .30 | 3.74 | 3.80 | High |
| Problem-solving mean score | 350 | 3.97 | .09 | 3.96 | 3.98 | High |
| Planning mean score | 350 | 3.70 | .23 | 3.67 | 3.72 | High |
| Self-appraisal | 350 | 3.66 | .23 | 3.63 | 3.68 | High |
| Overall mean score | 350 | 3.64 | .20 | 3.62 | 3.66 | High |

According to the table, TVET graduates' mean score of career decision-making self-efficacy is high. There was a high mean score on four subscales with high mean scores on occupational information, problem-solving, planning, and self-appraisal, while the mean score on goal selection was moderate. The overall mean score of 3.64 indicates that TVET graduates are highly self-sufficient in making career decisions. The standard deviation, .20, indicates how scores vary or disperse. Graduates with a mean score of 3.64 indicate high confidence in their career decision-making abilities. There is a range between 3.62 and 3.66 for this score, confirming a high level of self-efficacy.

However, the standard deviation provides a better insight into how scores vary from one another. TVET graduates' scores display some variability, as indicated by their standard deviation of .20. This shows that some graduates may have higher self-efficacy scores, while others may have moderate or lower scores. This variation allows us to understand the range of self-efficacy among graduates when it comes to career decision-making. In general, the table provides valuable information about the self-efficacy of TVET graduates regarding career decision-making and the range of scores within a particular group of graduates.

Table 3

TVET graduates' career decision self-efficacy based on their demographic variables

| Gender | Mean | N | Std. Deviation |
|--------------------|-------|-----|----------------|
| Male | 90.45 | 193 | 5.44 |
| Female | 91.86 | 157 | 4.48 |
| Total | 91.08 | 350 | 5.08 |
| Age | | | |
| 18-21 | 91.17 | 123 | 4.73 |
| 22-25 | 91.24 | 193 | 5.56 |
| 26-29 | 89.88 | 34 | 2.91 |
| Total | 91.08 | 350 | 5.08 |
| Marital Status | | | |
| Single | 91.08 | 258 | 5.26 |
| Married | 91.08 | 92 | 4.55 |
| Total | 91.08 | 350 | 5.08 |
| Year of Graduation | | | |
| 2020 | 89.48 | 29 | 6.16 |

| | | | |
|-------|-------|-----|------|
| 2021 | 91.01 | 82 | 4.13 |
| 2022 | 91.09 | 63 | 5.32 |
| 2023 | 91.38 | 176 | 5.19 |
| Total | 91.08 | 350 | 5.08 |

The findings presented in Table 3 reveal a little difference in self-efficacy regarding career decisions between male and female TVET graduates. For male participants, the mean self-efficacy score was high (90.45), indicating a generally positive attitude and confidence in their decision-making abilities related to their career. The standard deviation for male participants was 5.44, which suggests that there was variability in the scores within this group. On the other hand, female participants also had a high mean self-efficacy score (91.86). However, the standard deviation for female participants was lower, indicating that there was less variation in the scores within the group. This suggests that female TVET graduates may also possess a strong sense of self-confidence in their career-related decision-making abilities.

The analysis of age-based scores revealed some interesting trends. Participants between the ages of 18-21 years old obtained a mean score of 91.17, which indicated a high level of performance. The standard deviation of 4.73 suggests that the scores were relatively evenly distributed within the age bracket. Similarly, the age group of 22-25 years old also demonstrated a high level of performance with

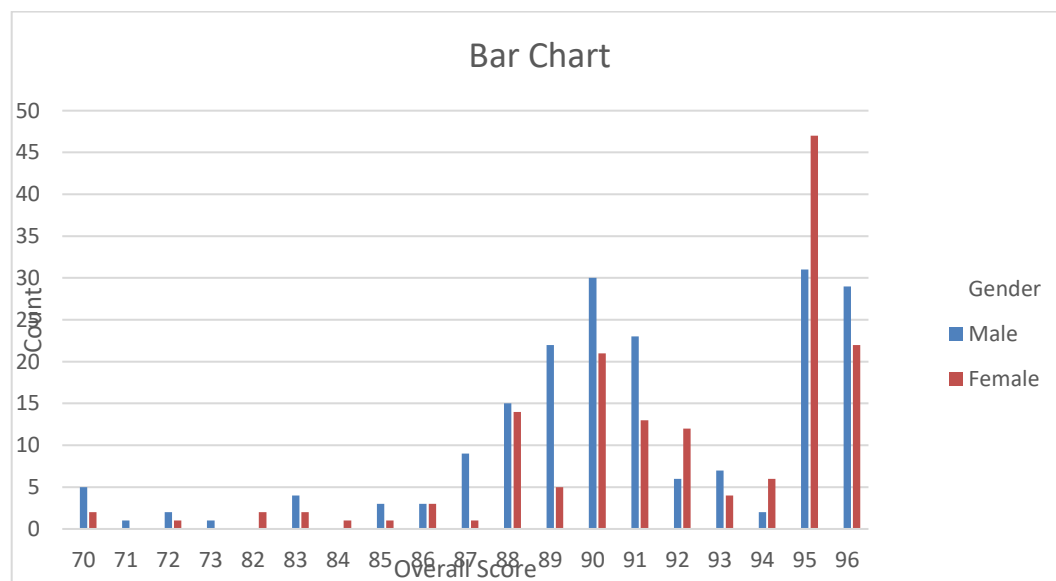
a mean score of 91.24. The standard deviation of 5.56 indicated a slightly higher degree of variation among scores in this age group. Moving on to the age bracket of 26-29 years old, the mean score was slightly lower at 89.88, but it was still considered high. The standard deviation of 2.91 indicated that the scores in this age group were more tightly clustered, indicating less dispersion.

From the data provided, it is evident that both the single and married participants had high mean career decision self-efficacy scores. Specifically, the mean score for the single participants was 91.08 with a standard deviation of 5.26, while for the married participants, it was 91.08 with a standard deviation of 4.55.

In terms of year of graduation, the participants who had graduated in 2020 exhibited a higher mean score of 89.48 and a standard deviation of 6.16. On the other hand, those graduated in 2021 had a mean score of 91.01 and a standard deviation of 4.13. Furthermore, the 2022 graduates had a relatively high mean score of 91.09 with a standard deviation of 5.32. Additionally, those graduated in 2023 also had a mean score of 91.38, with a standard deviation of 5.19.

Figure 1

Bar chart showing TVET graduates' career decision self-efficacy based on gender

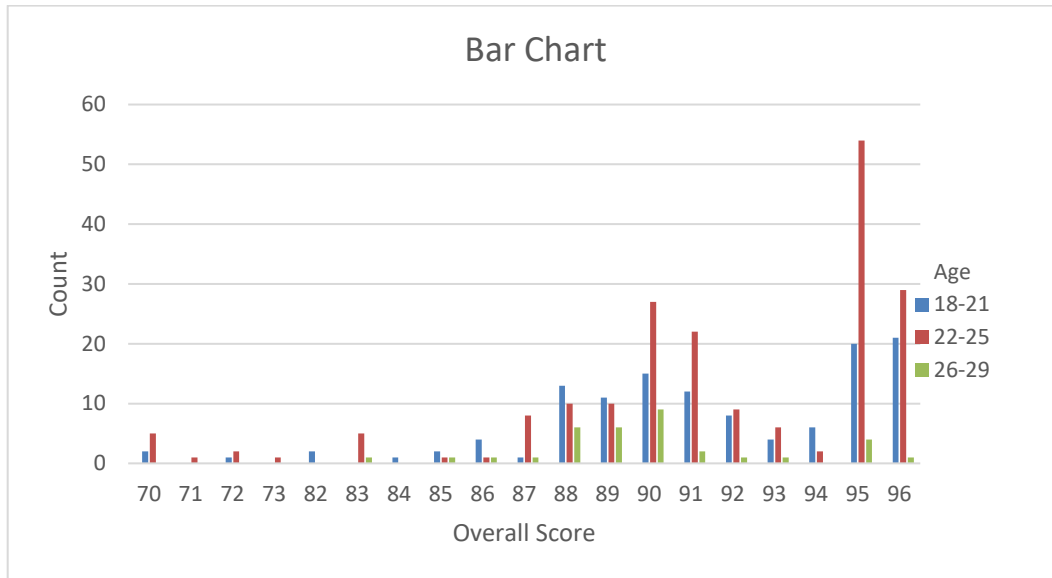


The bar chart in figure 1 illustrates the gender differences in career self-efficacy of TVET graduates. This chart

presents the distribution of scores among male and female participants, highlighting a significant difference in the levels of career self-efficacy.

Figure 2

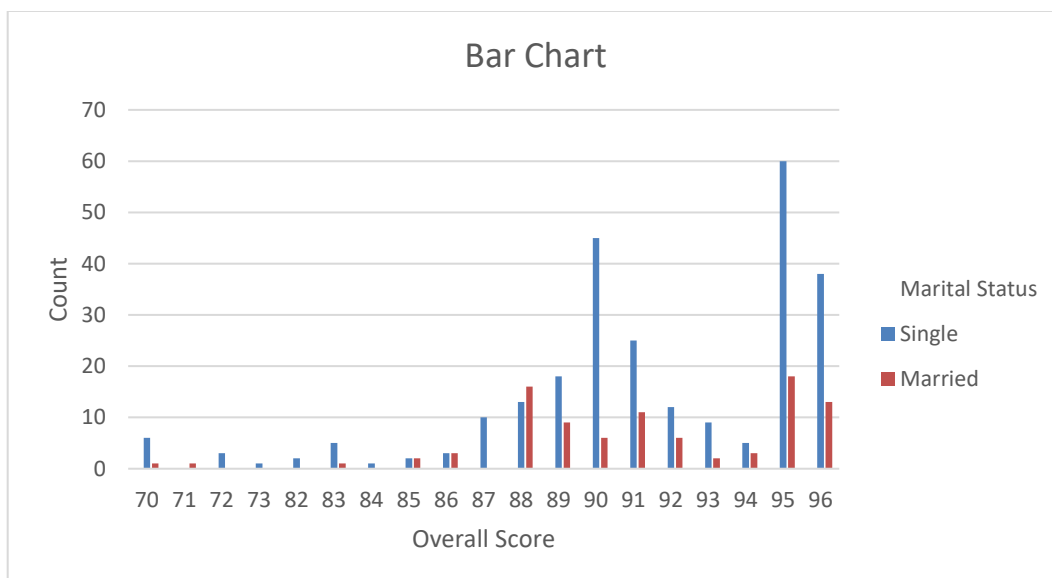
Bar chart showing TVET graduates' career decision self-efficacy based on age



The bar chart in figure 2 depicts the age differences in career self-efficacy among TVET graduates.

Figure 3

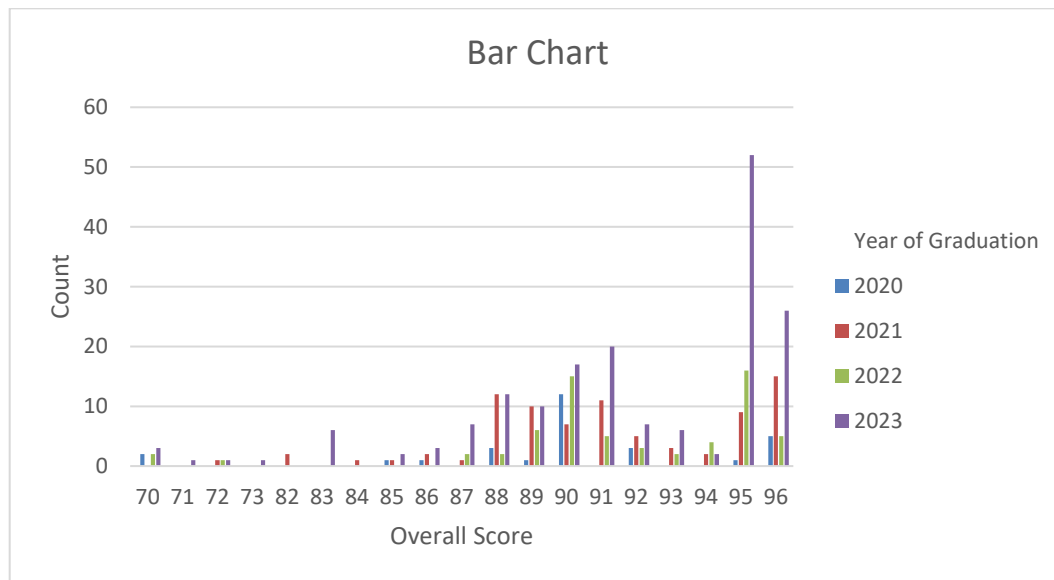
Bar chart showing TVET graduates' career decision self-efficacy based on marital status



The bar chart in Figure 3 presents an analysis of the participants' differences in career decision self-efficacy based on their marital status.

Figure 4

Bar chart showing TVET graduates' career decision self-efficacy based on year of graduation



The bar chart in Figure 4 presents an analysis of the participants' differences in career decision self-efficacy based on their year of graduation.

Table 4

Univariate analysis showing demographic differences of TVET graduates' career decision

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|-----------------|-------------------------|-----|-------------|-----------|-------|---------------------|
| Corrected Model | 1773.418 ^a | 34 | 52.159 | 2.268 | <.001 | .197 |
| Intercept | 749327.150 | 1 | 749327.150 | 32583.890 | <.001 | .990 |
| Gender | 17.412 | 1 | 17.412 | .757 | .385 | .002 |
| Age | 6.342 | 2 | 3.171 | .138 | .871 | .001 |
| Marital Status | 103.196 | 1 | 103.196 | 4.487 | .035 | .014 |
| Year of Grad | 29.954 | 3 | 9.985 | .434 | .729 | .004 |
| Error | 7244.011 | 315 | 22.997 | | | |
| Total | 2912830.000 | 350 | | | | |
| Corrected Total | 9017.429 | 349 | | | | |

a. R Squared = .197 (Adjusted R Squared = .110)

The table presents the results of an analysis of variance (ANOVA) assessing the potential impact of demographic variables on career decision self-efficacy among TVET graduates. Table 4 further confirms that demographic variables of TVET graduates' did not have significant impact on their career decision self-efficacy, given gender [$F(1,349) = 0.757, p = 0.385, \eta^2 = .002$]; age [$F(2,348) = 0.138, p = 0.871$]; $\eta^2 = .001$; marital status [$F(1,349) = 0.035, p = 0.035; \eta^2 = .014$]; and year of graduation [$F(3,347) = 0.434, p = 0.729; \eta^2 = .004$].

The results indicate that none of the demographic variables (gender, age, marital status, and year of graduation) had a significant impact on career decision self-efficacy. The p-values for all the variables were greater than 0.05, indicating that the null hypothesis of no effect can be rejected. The effect size (η^2) is also provided for each variable, revealing a small effect for gender (0.002), age (0.001), marital status (0.014), and year of graduation (0.004). These findings suggest a relatively consistent level of career decision self-efficacy among TVET graduates.

4. Discussion

As reported in this study, career decision self-efficacy of TVET graduates in Nigeria is high. Based on the mean scores on the corresponding scale, it is clear that they are confident and competent in making informed decisions regarding their career goals and future ambitions. The graduates' high self-efficacy scores on career decision-making indicate that they feel confident and competent about their ability to make career-related decisions. Their confidence may be attributed to a number of factors, including their educational background, vocational training, and exposure to career-related information. Having a high mean self-efficacy score indicates that TVET graduates know their strengths, interests, and skills well. Their decision-making processes are guided by the skills and knowledge they have acquired through identifying potential career options that align with their preferences and abilities. This finding supports findings that indicated a high level of self-efficacy in TVET career choice.

Furthermore, TVET graduates' high self-efficacy score suggests that they are proactive in their career choices. A number of career options are explored, information is gathered, and guidance is sought from professionals in the field. As a result of this proactive approach, they are able to make informed career decisions that are aligned with their long-term career goals and interests. This finding invalidates certain claims made by scholars. For instance, the opinion made by that Nigerian TVET graduates are not equipped with the employability skills needed by the industries is invalidated by the findings of this study. Since the Nigerian TVET graduates demonstrated high self-efficacy in career decision, it is evidence that they have acquired employability skills. People that lack employability skills will most likely lack career decision self-efficacy. As a program designed to foster career development, TVET provides graduates with self-sustaining and entrepreneurial skills. As a result of these skills, graduates are confident and self-efficacious when facing multiple decisions. Therefore, graduates who do not participate in TVET programmes may lack the self-efficacy required to make career decisions.

The research findings of this study indicate that graduates' demographic characteristics (gender, age, marital status, and year of graduation) do not have a significant impact on their career decision self-efficacy. This finding suggests that these factors may not be as influential as previously thought in guiding graduates' decision-making regarding their career aspirations. One potential explanation for this finding is that

career decisions are complex and multifaceted, influenced by a wide range of factors beyond the demographic characteristics of individuals. Past research has highlighted the importance of personal values, interests, and skills in shaping career decisions. These non-demographic factors may outweigh the impact of demographic characteristics on career decision self-efficacy. Additionally, it is important to note that this study was a cross-sectional investigation, meaning it examined the relationship between demographic characteristics and career decision self-efficacy at one point in time. It is possible that over time, these characteristics may become more influential as graduates gain more experience and make additional career decisions. Future research should explore this possibility and investigate the long-term effects of demographic characteristics on career decision self-efficacy.

This finding supports findings that girls had high decision-making self-efficacy than boys.

Contrary to the finding, found that female students were less self-efficacious than male students at all performance levels in physics. It might be possible that females only experience low self-efficacy in academic performance, but high efficacy in career decision. Their confidence level is higher than that of males when it comes to career decision making. The finding also contradicted Cheng et al. (2021) and NSF's (2023) observations that male graduates receive better employment benefits (e.g., salaries) than female graduates whose salaries rather dwindle as they grow older (Cheng et al., 2021; National Science, 2023). More studies are needed to further explain the marital and age differences in career decision self-efficacy.

5. Implications

There are significant implications for policy development and implementation of the findings that TVET graduates are highly self-assured about career decisions. Policymakers can use these implications to shape policies and initiatives to improve the employability and career outcomes of TVET graduates. In addition, the findings suggest that demographic characteristics have a significant impact on career decision self-efficacy, which have significant policy, educational, and counseling implications. Policymakers, educators, and counselors can tailor interventions and strategies to support and guide individuals in making informed career decisions by understanding the factors that influence their confidence in making career decisions. Based on this finding, there are several key policy implications:

1. Integrating career counseling into TVET program: TVET graduates require ongoing guidance and support. As observed by, integrating career counselling to address personal needs is essential. Graduates should be encouraged to actively participate in career development activities. Providing resources and opportunities for skill enhancement, job shadowing, and mentorship can be part of this strategy. The development of comprehensive career guidance and support programs tailored to the needs of specific demographic groups should be a priority for policymakers. Individuals should be provided with relevant information and skills and empowered to make informed career decisions through these programs that aim to enhance their understanding of their career options. People can navigate the complexities of career decision-making better if career counseling services are tailored to specific demographic groups. Individuals can use these services to explore career options, develop action plans, and overcome any challenges they may encounter.
2. Enhancing employability skills training: It is assumed that TVET graduates who have high career decision self-efficacy possess the necessary skills and knowledge to excel in their chosen careers. Previous study had noted that employability skills are not taught adequately in the TVET program. Thus, additional training in employability skills may be required, in all TVET programs in Nigeria. Developing training programs that focus on improving communication, teamwork, problem-solving, and adaptability should be a top priority for policies. In order to ensure graduates are well-prepared for the workplace, these programs should be included in the curriculum. Policymakers should invest in initiatives that provide equitable access to career information, educational pathways, and training programs for all individuals, regardless of their demographic characteristics.
3. Supporting mentorship programs: TVET graduates can benefit from mentorship programs that can guide their career development and provide guidance. Policies should promote mentoring programs between experienced professionals and recent graduates. By doing so, graduates can gain valuable insight, advice, and support that will help them succeed in the job market.
4. Enhancing career transition programs: TVET graduates transitioning from vocational training into professional careers face a lot of challenges. Policies should develop career transition programs to assist these graduates. The programs can provide assistance with resume writing, interview skills, and job search strategies, ensuring graduates have the skills and confidence to succeed in their chosen careers. As a result, students can gain practical experience and explore different career options before making a final decision by participating in career exploration activities, such as internships, job shadowing, and career fairs. Different demographic groups can be accommodated with these activities depending on their needs.
5. Promoting entrepreneurship support: TVET graduates with high self-efficacy in career decisions are more likely to pursue entrepreneurial pursuits. In order to create job opportunities and contribute to the local economy, policies should foster entrepreneurship by providing resources for business ideation, training, and mentorship .
6. Targeting Social Support Networks: TVET graduates can greatly benefit from support networks, including alumni associations, professional associations, and industry networks. Such networks should be encouraged to be established, and graduates should be encouraged to actively participate in them as part of policies that incentivize them. Throughout their careers, these networks can provide invaluable networking opportunities, career guidance, and ongoing support.
7. Collaborating with Employers: TVET institutions, government agencies, and employers should work together as partners. As a result of collaboration, education and training requirements can be bridged with job market demands. It is beneficial for TVET graduates to receive valuable insights, job placement opportunities, and mentoring programs from employers, enhancing their career prospects and employability. In order to increase individuals' confidence in career decisions, it is helpful to work with them to develop realistic, achievable, relevant, and time-bound career goals and action plans. In addition to providing strategies for overcoming

obstacles, counselors can assist individuals in setting SMART (specific, measurable, achievable, relevant, and time-bound) goals.

8. Continuous Evaluation and Improvement: Policies should make sure TVET programs are continuously evaluated for relevance and effectiveness following a standardized framework (Abdullah, 2019). This evaluation can involve feedback from graduates, employers, and industry experts. TVET policies can ensure graduates' and the job market's needs are met by identifying areas for improvement.

6. Conclusion

The study summarized the data and discussed the distribution of career-decision self-efficacy among TVET graduates in South-East Nigeria. The findings of this study also provided insight into the relationship between career decision self-efficacy and demographic characteristics of TVET graduates. It is, however, necessary to conduct additional research in order to determine the mechanisms underlying these relationships and their potential implications for career counseling. Tailoring counseling services to the specific needs of individuals based on their demographic characteristics can enhance their confidence in career decision-making. Counsellors should assess individuals' preferences, strengths, and challenges, providing them with personalized guidance and support.

7. Limitations and Suggestions

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The University of Nigeria, Nsukka's Guidance and Counselling Unit has approved this research with the unique research ethical approval number REC/UNN/FE/GC/2023/000041 for use in research. The researchers ensured to adhere to the tenets of the Helsinki declaration on research conduction with human subjects, ensuring the confidentiality of the participants' information,

and taking responsibility for any damage whatsoever to any participant resulting from the leak of information.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed in this article.

References

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Cheng, S., Brand, J. E., Zhou, X., Xie, Y., & Hout, M. (2021). Heterogeneous returns to college over the life course. *Science Advances*, 7(51). <https://doi.org/10.1126/sciadv.abg7641>
- Falco, L. D., & Summers, J. J. (2019). Improving Career Decision Self-Efficacy and STEM Self-Efficacy in High School Girls: Evaluation of an Intervention. *Journal of Career Development*, 46(1), 62-76. <https://doi.org/10.1177/0894845317721651>
- Halik Bassah, N. S., & Mohd Noor, M. A. (2023). Employability Skills Needed for TVET Graduates in Malaysia: Perspective of Industry Expert. *Online Journal for TVET Practitioners*, 8(1). <https://doi.org/10.30880/ojtp.2023.08.01.005>
- National Science, F. (2023). Diversity and STEM: Women, Minorities, and Persons with Disabilities. <https://www.nsf.gov/reports/statistics/diversity-stem-women-minorities-persons-disabilities-2023>
- Nguyen, T. L., Nguyen, H. T., Nguyen, N. H., Nguyen, D. L., Nguyen, T. T. D., & Le, D. L. (2023). Factors affecting students' career choice in economics majors in the COVID-19 post-pandemic period: A case study of a private university in Vietnam. *Journal of Innovation and Knowledge*, 8(2). <https://doi.org/10.1016/j.jik.2023.100338>
- Okorafor, O., & Nebechi, F. N. (2017). TVET policies and practices in Nigeria: Why the gap TVET. *European Journal of Education Studies*, 3(4). <https://doi.org/10.5281/zenodo.494996>
- Otu, M. S. (2024). Exploring Career-related Strategies for Strengthening Poverty Reduction Programmes in Nigerian Communities: A Qualitative Study. *International Journal of Home Economics, Hospitality and Allied Research*, 186-201. <https://doi.org/10.57012/ijhhr.v3n1.015>
- Otu, M. S., & S. M, M. (2025). *Strategies for developing Afrocentric career coaching programmes for Neurodiverse College Students Career coaching and employability skills acquisition*. IGI Global Publisher. <https://doi.org/10.4018/979-8-3693-4014-1.ch015>

- Pignault, A., Rastoder, M., & Houssemand, C. (2023). The Relationship between Self-Esteem, Self-Efficacy, and Career Decision-Making Difficulties: Psychological Flourishing as a Mediator. *European Journal of Investigation in Health, Psychology and Education*, 13(9). <https://doi.org/10.3390/ejihpe13090113>
- Şeker, G. (2025). The mediating role of career decision-making self-efficacy in the relationship between career locus of control and career indecision among Turkish high school students. *BMC Psychology*, 13(1). <https://doi.org/10.1186/s40359-025-03410-8>
- Söner, O., & Yılmaz, O. (2025). Exploring the associations of career transition components with adolescents' career decision-making self-efficacy and anxiety. *BMC Psychology*, 13(1). <https://doi.org/10.1186/s40359-025-03479-1>
- Zhao, M., Ozturk, E., Law, F., Joy, A., Deutsch, A. R., Marlow, C. S., Mathews, C. J., McGuire, L., Hoffman, A. J., Balkwill, F., Burns, K. P., Butler, L., Drews, M., Fields, G., Smith, H., Winterbottom, M., Mulvey, K. L., Hartstone-Rose, A., & Rutland, A. (2024). Reciprocal Associations Between Science Efficacy, STEM Identity and Scientist Career Interest Among Adolescent Girls within the Context of Informal Science Learning. *Journal of Youth and Adolescence*, 53(2). <https://doi.org/10.1007/s10964-023-01868-6>