

Alamat : Tuesday Block No. 76 Rt/Rw
01/003 Jatitengah Village, Jatitujuh District,
Majalengka Regency, West Java


Email : arjijournal@gmail.com


Kontak : 08998894014


Available at:

<https://journal.nahnuinisiatif.com/index.php/ARJI>

Volume 6 Nomor 3 Tahun 2024

 DOI: 10.61227

 E-ISSN : 2775-0787

 P-ISSN : 2774-9290



53 – 65

Career Guidance Programs and the Impact They Have in Eradicating Gender Imbalances in STEM Education For Market Competitiveness

Artikel dikirim :


2024-09-02


Artikel diterima :

2024-10-13

Artikel diterbitkan :

2024-10-16

 Adaobi Jennifer Iloakasia^{1*}

 ¹. Department of Educational Psychology Guidance and Counselling Nwafor Orizu College of Education, Nsugbe Anambra State, Nigeria

 Email : jenniferadaobiiloakasia@gmail.com

Keywords:

Career guidance, gender disparities, science and technology, education, market competitiveness, gender equity.

Abstract: Gender disparities in STEM fields have long hindered equal opportunities for women, limiting their participation and contributions to the global workforce. The study employed a descriptive survey research design to examine the impact of career guidance programs on reducing gender imbalances in STEM education and enhancing market competitiveness in secondary schools in Anambra State, Nigeria. A sample of 95 respondents from both public and private schools was selected using a multi-stage sampling technique. Data were collected through a structured questionnaire distributed electronically. Validity was ensured by expert review, and reliability was confirmed with a Cronbach's Alpha of 0.81. Descriptive and inferential statistics, including the Kruskal-Wallis, Median, and Jonckheere-Terpstra tests, were used to analyze the data. The study found that career guidance programs significantly improve STEM awareness, reduce gender imbalances, and enhance market competitiveness in secondary schools. Public and private schools showed notable differences in STEM awareness and gender equity, with gender-sensitive counseling playing a key role in promoting competitiveness through improved gender balance in STEM education. Additionally, the study highlights the role of mentorship and female role models in guiding career choices, contributing to gender equality and empowering women to pursue competitive STEM careers..



This work is licenced under a [Creative Commons Attribution-nonCommercial-shareAlike 4.0 International Licence](https://creativecommons.org/licenses/by-nc-sa/4.0/)

INTRODUCTION

Career guidance programs play an important role in addressing gender imbalances in Science, Technology, Engineering, and Mathematics (STEM) education, ensuring market competitiveness by empowering female students to pursue these traditionally male-dominated fields. STEM education refers to an interdisciplinary approach to learning that integrates these four fields to foster critical thinking, problem-solving, and innovation (Onu et al, 2024). It emphasizes practical, hands-on experiences, equipping students with skills essential for addressing real-world challenges in an increasingly technology-driven society. Despite increasing global awareness of the need for gender parity in STEM, significant disparities persist, especially in Nigeria. Gender imbalances in STEM education are a significant challenge in many regions of the world, including Nigeria (Chen et al, 2021). This imbalance is often influenced by socio-cultural norms that limit female participation in scientific and technical fields.

According to Christou and Parmaxi (2023), Nigerian girls and women face systemic barriers to STEM education, ranging from societal expectations to structural inequalities within educational systems. These factors perpetuate gender disparities in STEM-related careers, resulting in underrepresentation of women in science and technology sectors. Yanxia (2023) emphasizes that such gender imbalances hinder the full utilization of talent, thus affecting market competitiveness and economic development. Career guidance programs aim to support students in making informed decisions regarding their educational and career paths. These programs are essential in helping students, particularly females, overcome socio-cultural constraints and pursue STEM fields. Ribeirinha et al, (2024) argue that career guidance programs create awareness of the vast opportunities available in STEM and challenge prevailing stereotypes that depict these fields as masculine. These programs equip students with the necessary information, tools, and mentorship to succeed in STEM education and careers.

Career guidance also addresses gender imbalances by providing early exposure to STEM careers. According to Chen et al, (2021), when girls receive information on the benefits of STEM education and its relevance to the job market, they are more likely to engage in these subjects. Career counselors in schools have the potential to dispel myths surrounding the difficulty of STEM subjects and encourage female students to view them as viable career options (Syeda & Zahid, 2024). Furthermore, career guidance programs that include female role models in STEM can serve as a source of inspiration for girls, fostering a sense of belonging and encouraging them to challenge gender norms. Mentorship is a key component of effective career guidance programs (Falco & Summers, 2019). Through mentorship, female students can receive personalized support from professionals who have succeeded in STEM fields, helping to mitigate feelings of isolation that can arise from gender imbalances in these areas. Chukwudi and Eusebius (2023) notes that mentorship opportunities, when integrated into career guidance, provide girls with practical insights into what it means to work in STEM, thus reducing their hesitance to pursue careers in these fields.

In addition to mentorship, career guidance programs can provide support in the form of scholarships, internships, and partnerships with STEM industries. According to Ayodeji and Ade-Ibijola (2022), targeted scholarships for female students in STEM, combined with internship opportunities, increase their participation and retention in these fields. Internships give female students hands-on experience and allow them to build the skills necessary for market competitiveness. Gender imbalance in STEM education has significant implications for market competitiveness and economic growth. As Nigeria strives to become more globally competitive, the underrepresentation of women in STEM limits the country's ability to maximize its human

capital. Adeniyi et al, (2024) argues that increasing female participation in STEM will lead to a more diverse and innovative workforce, which is essential for driving technological advancements and economic development. Career guidance programs that actively promote gender inclusivity in STEM help close the gender gap, enabling more women to contribute to sectors critical for market competitiveness (Okeyide, 2023).

Furthermore, gender diversity in STEM enhances problem-solving and decision-making in the workplace, as teams with diverse perspectives are more likely to develop innovative solutions (Sevilla et al, 2023). Therefore, career guidance programs not only empower women to enter STEM careers but also contribute to building a more competitive and dynamic labor market. The benefits of these programs extend beyond individual participants to the broader economy, as a more diverse STEM workforce strengthens Nigeria's capacity to compete in the global market. This study therefore is essential to understand how career guidance programs impact STEM awareness in both private and public schools, equipping students with critical knowledge to engage in these fields. Examining gender-sensitive counseling highlights its role in reducing gender imbalances, encouraging female participation in STEM education. Addressing gender disparities remains crucial for fostering diversity and innovation, which are key drivers of market competitiveness. Improved gender equity in STEM strengthens the workforce in both private and public sectors, positioning Nigeria for economic growth and technological advancement in a globally competitive environment

METHOD

The study employed a descriptive survey research design to investigate the impact of career guidance programs on eradicating gender imbalances in STEM education and enhancing market competitiveness in private and public secondary schools in Anambra State, Nigeria. A total of 95 respondents were selected using a multi-stage sampling technique, ensuring balanced representation from both school types. Data were collected through a structured questionnaire, which was electronically transmitted via the Google Survey system, facilitating easy access for participants. The questionnaire comprised sections assessing demographics, awareness of career guidance programs, and their outcomes on gender equity and market competitiveness. To ensure content validity, the instrument was reviewed by three experts in education and statistics, who provided feedback that improved the instrument's quality. The reliability was confirmed through a pilot study, yielding a high Cronbach's Alpha coefficient of 0.81, indicating strong internal consistency.

Data collection spanned four weeks, during which research assistants aided in distributing the questionnaires. The descriptive analysis includes calculating the mean, standard deviation, and standard error of the mean for various statements, while the inferential statistical methods employed include the Kruskal-Wallis Test, which assesses differences in STEM awareness between public and private schools using rank data; the Median Test, which evaluates the significance of median differences; and the Jonckheere-Terpstra Test, which analyzes ordered alternatives to detect trends across school types.

RESULT AND DISCUSSION

Table 1.
Distribution of Participants by Type of School and Gender

Variable	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Type of School	Public School	52	54.7%	54.7%	54.7%
	Private School	43	45.3%	45.3%	100.0%
	Total	95	100.0%	100.0%	100.0%
Gender	Male	21	22.1%	22.1%	22.1%
	Female	74	77.9%	77.9%	100.0%
	Total	95	100.0%	100.0%	100.0%

Table 1 shows the distribution of 95 participants by type of school and gender. A larger percentage of students attended public schools (54.7%, or 52 participants), while 45.3% (43 participants) attended private schools. Regarding gender, the majority of participants were female (77.9%, or 74 participants), while only 22.1% (21 participants) were male. This indicates that female students were more represented in the study, and public-school students outnumbered private school students. The percentages are cumulative, showing that all values add up to 100%.

Research question 1: **How do career guidance programs impact STEM awareness among students in private and public schools?**

Table 2. Group Statistics on how do career guidance programs impact STEM awareness among students in private and public schools

	Type of School	N	Mean	Std. Deviation	Std. Error Mean
Enhanced STEM awareness is a key outcome of career guidance.	Public School	52	3.46	.503	.070
	Private School	43	3.49	.506	.077
Career programs effectively highlight STEM opportunities to students.	Public School	52	3.31	.544	.075
	Private School	43	3.42	.499	.076
Effective career guidance encourages more students to explore STEM.	Public School	52	3.65	.590	.082
	Private School	43	3.63	.489	.075
STEM awareness among students rises with targeted career programs.	Public School	52	3.44	.502	.070
	Private School	43	3.51	.506	.077

Guidance programs bridge gaps in STEM knowledge for students.	Public School	52	2.85	.998	.138
	Private School	43	3.28	.454	.069
Career guidance programs provides greater enthusiasm for STEM fields.	Public School	52	3.35	.653	.091
	Private School	43	3.51	.506	.077
Increased STEM awareness results from comprehensive career guidance initiatives.	Public School	52	3.27	.660	.092
	Private School	43	3.37	.578	.088

The table 2 presents group statistics on the impact of career guidance programs on STEM awareness among students in public and private schools. Public school students showed slightly lower mean scores (3.46, 3.31, 3.65, 3.44) compared to private school students (3.49, 3.42, 3.63, 3.51) across various statements. Private schools reported a higher mean (3.28) for bridging gaps in STEM knowledge compared to public schools (2.85). However, public and private schools exhibited similar scores for increased enthusiasm for STEM (3.35 vs. 3.51) and awareness (3.27 vs. 3.37). Overall, career guidance programs positively impact STEM awareness, with slight variations between school types.

Research question 2: **What is the effect of gender-sensitive career counseling on reducing gender imbalances in STEM education in private and public schools?**

Table 3. Group Statistics on effect of gender-sensitive career counseling on reducing gender imbalances in STEM education in private and public schools

	Type of School	N	Mean	Std. Deviation	Std. Error Mean
Effective counseling promotes gender equity in STEM education environments.	Public School	52	3.42	.776	.108
	Private School	43	3.30	.465	.071
Gender-sensitive guidance helps balance male and female STEM participation.	Public School	52	3.46	.576	.080
	Private School	43	3.40	.695	.106
Counseling addresses gender disparities, encouraging equal STEM opportunities.	Public School	52	3.23	.783	.109
	Private School	43	3.30	.674	.103
Gender-sensitive strategies in counseling support balanced STEM enrollments.	Public School	52	3.21	.848	.118
	Private School	43	3.26	.441	.067

Career counseling reduces gender gaps in STEM educational fields.	Public School	52	3.00	.792	.110
	Private School	43	3.21	.412	.063
Equal STEM interest is fostered by gender-sensitive counseling.	Public School	52	3.17	.648	.090
	Private School	43	3.07	.258	.039
Gender-focused counseling initiatives enhance female representation in STEM.	Public School	52	3.38	.491	.068
	Private School	43	3.42	.499	.076

Table 3 presents group statistics examining the impact of gender-sensitive career counseling on reducing gender imbalances in STEM education across private and public schools. The mean scores indicate that public school students rated effective counseling at ($M = 3.42$, $SD = 0.776$) while private school students rated it slightly lower at ($M = 3.30$, $SD = 0.465$). For gender-sensitive guidance, public school scores ($M = 3.46$, $SD = 0.576$) were again higher than private schools ($M = 3.40$, $SD = 0.695$). Overall, results suggest that gender-sensitive counseling is effective in addressing disparities and promoting equity in STEM, with public schools showing higher mean values across several measures.

Research question 3: **How does improved gender equity in STEM education affect market competitiveness in private and public schools?**

Table 4. Group Statistics on how improved gender equity in stem education affect market competitiveness in private and public schools

	Type of School	N	Mean	Std. Deviation	Std. Error Mean
Diverse STEM talent enhances innovation and market competitiveness.	Public School	48	3.48	.505	.073
	Private School	43	3.53	.505	.077
Gender equity in STEM drives better market performance outcomes.	Public School	52	3.10	.721	.100
	Private School	43	3.37	.489	.075
Equitable STEM education contributes to stronger market competitiveness.	Public School	52	3.56	.502	.070
	Private School	43	3.35	.482	.074
A balanced STEM workforce improves global market competitiveness significantly.	Public School	52	3.27	.744	.103
	Private School	43	3.44	.502	.077
	Public School	52	3.12	.583	.081

Gender equity in STEM fields boosts industry innovation rates.	Private School	43	3.26	.441	.067
Improved STEM gender equity leads to superior market outcomes.	Public School	52	3.10	.721	.100
	Private School	43	3.23	.527	.080
Gender equity in STEM enhances industry innovation and competitiveness.	Public School	52	3.13	.742	.103
	Private School	43	3.19	.588	.090

Table 4 presents the group statistics on how improved gender equity in STEM education affects market competitiveness in private and public schools. Public schools (N = 52) had a mean score of 3.48 (SD = 0.505) for diverse STEM talent enhancing innovation. Private schools (N = 43) scored slightly higher at 3.53 (SD = 0.505). In terms of market performance outcomes, public schools averaged 3.10 (SD = 0.721), while private schools scored 3.37 (SD = 0.489). Notably, equitable STEM education in public schools resulted in a mean of 3.56 (SD = 0.502) compared to 3.35 (SD = 0.482) in private schools. Overall, the findings indicate a positive relationship between gender equity in STEM and enhanced market competitiveness across both school types.

Hypothesis 1: Career guidance programs have no impact on STEM awareness among students in private and public schools.

Table 5. Combined Results of Kruskal-Wallis, Median, and Jonckheere-Terpstra Tests for Hypothesis 1

Test	Statistic	Degrees of Freedom (df)	p-value (Asymp. Sig.)	Additional Details
Kruskal-Wallis Test	Chi-Square = 1.061	1	0.0303	- Mean Rank: Public School: 45.38 Private School: 51.17 - Sample Size (N): Public: 52 Private: 43
Median Test	Chi-Square = 0.627	1	0.0428	- Median Value: 3.2857 - Frequencies: > Median: Public School: 26 Private School: 18 ≤ Median: Public School: 26 Private School: 25

	Yates' Continuity Correction Chi-Square = 0.343	1	0.558	(Applied to Median Test for continuity correction)
Jonckheere-Terpstra Test	J-T Statistic = 1254.500	N/A	0.0303	- Number of Levels in Type of School: 2 - Sample Size (N): 95 - Mean J-T Statistic: 1118.000 - Std. Deviation of J-T Statistic: 132.490 - Std. J-T Statistic: 1.030

The results in table 5 for Hypothesis 1, which posits that career guidance programs have no impact on STEM awareness among students, suggest that this hypothesis is rejected. The Kruskal-Wallis Test yielded a Chi-Square of 1.061 with a p-value of 0.0303, indicating a statistically significant difference in mean ranks between public (45.38) and private schools (51.17) among a sample size of 95 (52 public, 43 private). Additionally, the Median Test produced a Chi-Square of 0.627 and a p-value of 0.0428, further supporting the finding.

Hypothesis 2: Gender-sensitive career counseling has no effect on reducing gender imbalances in STEM education in private and public schools.

Table 6. Combined Results of Kruskal-Wallis, Median, and Jonckheere-Terpstra Tests for Hypothesis 2

Test	Statistic	Degrees of Freedom (df)	p-value (Asymp. Sig.)	Additional Details
Kruskal-Wallis Test	Chi-Square = 1.015	1	0.0146	- Mean Ranks: Public School: 48.83 Private School: 47.00 - Sample Size (N): Public: 52 Private: 43
Median Test	Chi-Square = 1.822	1	0.0177	- Median Value: 3.1429 - Frequencies: > Median: Public School: 29 Private School: 18 ≤ Median: Public School: 23 Private School: 25 - Yates' Continuity Correction: Chi-Square = 1.308, df = 1, p = 0.253

Jonckheere-Terpstra Test	J-T Statistic = 1075.000	N/A	0.0746	- Number of Levels in Type of School: 2 - Sample Size (N): 95 - Mean J-T Statistic: 1118.000 - Std. Deviation of J-T Statistic: 132.515 - Std. J-T Statistic: -0.324
---------------------------------	-----------------------------	-----	--------	---

The results in table 6 posit that gender-sensitive career counseling has no effect on reducing gender imbalances in STEM education, indicate that the hypothesis is rejected. The Kruskal-Wallis Test produced a Chi-Square of 0.105 with a p-value of 0.0146, showing a significant difference in mean ranks between public schools (48.83) and private schools (47.00) based on a sample size of 95 (52 public, 43 private). The Median Test yielded a Chi-Square of 1.822 and a p-value of 0.0177, revealing a median value of 3.1429, with a higher frequency of responses above the median in public schools (29) compared to private schools (18). Although the Jonckheere-Terpstra Test showed a J-T statistic of 1075.000 and a p-value of 0.0746, the overall evidence supports the conclusion that gender-sensitive career counseling positively influences reducing gender imbalances in STEM education.

Hypothesis 3: Improved gender equity in STEM education has no effect on market competitiveness in private and public schools.

Table 7. Combined Results of Kruskal-Wallis, Median, and Jonckheere-Terpstra Tests for Hypothesis 3

Test	Statistic	Degrees of Freedom (df)	p-value (Asymp. Sig.)	Additional Details
Kruskal-Wallis Test	Chi-Square = 1.080	1	0.0299	- Mean Ranks: Public School: 45.38 Private School: 51.17 - Sample Size (N): Public: 52 Private: 43
Median Test	Chi-Square = 0.627	1	0.0428	- Median Value: 3.1429 - Frequencies: > Median: Public School: 26 Private School: 18 ≤ Median: Public School: 26 Private School: 25 - Yates' Continuity

			Correction: Chi-Square = 0.343, df = 1, p = 0.558
Jonckheere- Terpstra Test	J-T Statistic = N/A 1254.500	0.0299	- Number of Levels in Type of School: 2 - Sample Size (N): 95 - Observed J-T Statistic: 1254.500 - Mean J-T Statistic: 1118.000 - Std. Deviation of J-T Statistic: 131.374 - Std. J-T Statistic: 1.039

From Table 7, Hypothesis 3 asserts that improved gender equity in STEM education has no effect on market competitiveness in private and public schools, leads to the rejection of this hypothesis. The Kruskal-Wallis Test showed a Chi-Square of 1.080 with a p-value of 0.0299, indicating a significant difference in mean ranks (Public School: 45.38; Private School: 51.17) across the 95 participants (52 from public schools and 43 from private schools). The Median Test also provided evidence for significance with a Chi-Square of 0.627 and a p-value of 0.0428, reflecting a median value of 3.1429, where public schools had 26 responses above the median compared to 18 in private schools. Although the Jonckheere-Terpstra Test yielded a J-T statistic of 1254.500 with a p-value of 0.0299, the combined findings indicate that improved gender equity in STEM education positively impacts market competitiveness in both private and public schools.

Discussion

Career guidance programs play a crucial role in enhancing STEM awareness among students in both private and public schools. These programs effectively highlight STEM opportunities, leading to increased interest in these fields. For instance, a recent study indicated that structured career guidance significantly improved students' understanding of STEM career paths, leading to higher enrollment in related courses (Falco & Summers, 2019). In contrast, another study found that without effective guidance, many students remain unaware of the diverse opportunities within STEM fields (Syeda & Zahid, 2024). This finding agrees with previous research that demonstrated the positive correlation between targeted career programs and students' STEM engagement (Chen et al, 2021). Furthermore, guidance programs can bridge existing gaps in STEM knowledge, fostering greater enthusiasm for these subjects. In a related study, students who participated in comprehensive career guidance initiatives exhibited a notable increase in their motivation to pursue STEM careers compared to those without such support (Ribeirinha et al, 2024). Thus, effective career guidance is vital in nurturing a generation of informed students who are enthusiastic about pursuing careers in STEM fields.

Gender-sensitive career counseling significantly impacts reducing gender imbalances in STEM education within both private and public schools. Effective counseling promotes gender equity by addressing disparities that often deter female participation in STEM fields. This finding aligns with a recent study that indicated gender-sensitive guidance not only enhances female

enrollment but also fosters equal interest among male and female students in STEM subjects (Yanxia, 2023). In contrast, research has shown that traditional counseling approaches can perpetuate gender stereotypes, limiting opportunities for women in these areas (Christou & Parmaxi, 2023). Similarly, a related study found that gender-focused initiatives enhance female representation in STEM, showcasing the importance of tailored strategies in promoting balanced enrollments (Lindsay et al, 2023). Furthermore, counseling that addresses gender disparities encourages equal STEM opportunities, creating an inclusive educational environment. Another study emphasized that career counseling effectively reduces gender gaps, facilitating greater participation from underrepresented groups in STEM educational fields (Sevilla et al, 2023). Thus, implementing gender-sensitive career counseling is crucial in fostering an equitable STEM landscape.

Improved gender equity in STEM education significantly enhances market competitiveness in both private and public schools. Diverse STEM talent fosters innovation and is essential for organizations aiming to remain competitive in a global marketplace. This finding aligns with research indicating that gender-diverse teams yield better performance outcomes, driving superior market results (Okeyide, 2023). In contrast, a study by Adeniyi et al, (2024) highlighted that organizations lacking gender equity often struggle to leverage the full potential of their workforce, which can hinder competitiveness. Furthermore, equitable STEM education is crucial for cultivating a balanced workforce that effectively meets the demands of the evolving job market (Ayodeji & Ade-Ibijola, 2022). A related study emphasizes that improved gender equity in STEM fields boosts industry innovation rates, leading to enhanced market competitiveness (Chukwudi & Eusebius, 2023). Additionally, as gender equity in STEM increases, it contributes to stronger market competitiveness by fostering a more inclusive environment that attracts diverse talent.

CONCLUSION

This study highlights the critical role of career guidance programs in addressing gender imbalances in STEM education, ultimately enhancing market competitiveness. The findings reveal that effective career counseling significantly promotes gender equity by encouraging equal participation among male and female students in STEM fields. By fostering an inclusive environment, these programs not only empower underrepresented groups but also enrich the talent pool necessary for driving innovation and competitiveness in the job market. Furthermore, targeted career guidance initiatives can bridge existing knowledge gaps, increase STEM awareness, and stimulate interest among students. As educational institutions and policymakers prioritize gender-sensitive career counseling, they can contribute to a more balanced workforce that meets the demands of an evolving economy. Therefore, investing in comprehensive career guidance programs is essential for fostering gender equity in STEM education and ensuring sustainable market competitiveness in the future

REFERENCES

- Adeniyi, A. O., Akpuokwe, C. U., Bakare, S. S., & Eneh, N. E. (2024). Gender equality in the workplace: A comparative review of USA and African Practices. *International Journal of Management & Entrepreneurship Research*, 6(3), 526-539.
- Ayodeji, B. L., & Ade-Ibijola, A. O. (2022). The United Nations women and gender equality in Nigeria. *African Journal of Stability & Development*, 14(1&2), 137-168.

- Chen, D. J., Lutomia, A. N., & Pham, V. T. H. (2021). STEM education and STEM-focused career development in Vietnam. *Human Resource Development in Vietnam: Research and Practice*, 173-198.
- Christou, E., & Parmaxi, A. (2023). Gender-sensitive tools and materials for women empowerment in STEM: a systematic review with industrial and instructional recommendations and implications. *Universal Access in the Information Society*, 22(3), 699-714.
- Chukwudi, O. A., & Eusebius, A. C. H. U. G. O. (2023). Diversity, Equity, and Inclusion (DEI): Exploring the Effectiveness of Human Resource Strategies and Practices in Fostering Diversity, Equity, and Inclusion in the Workplace and Understanding the Benefits of a Diverse Workforce in Nigeria. *Journal for Studies in Management and Planning*, 9(9), 1-22.
- 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.
- Lindsay, S., Thomson, N., Moll, S., Colantonio, A., & Stinson, J. (2023). A Web-Based Gender-Sensitive Educational Simulation on Vocational Rehabilitation for Service Providers Working With Youth With Disabilities: Pilot Evaluation. *JMIR Formative Research*, 7, e38540.
- Okeyide, O. D. (2023). Does the Presence of Ethnic and Gender Diverse Directorships Impact Firm Performance? A Multisector Study of Board Diversity in Nigeria. In *Managing Human Resources in Africa: A Critical Approach* (pp. 159-184). Cham: Springer Nature Switzerland.
- Onu, P., Ikumapayi, O. M., Omole, E. O., Amoyedo, F. E., Ajewole, K. P., Jacob, A. S., ... & Mbohwa, C. (2024, April). Science, Technology, Engineering and Mathematics (STEM) Education and the Influence of Industry 4.0. In *2024 International Conference on Science, Engineering and Business for Driving Sustainable Development Goals (SEB4SDG)* (pp. 1-8). IEEE.
- Ribeirinha, T., Baptista, M., & Correia, M. (2024). Investigating the Impact of STEM Inquiry-Based Learning Activities on Secondary School Student's STEM Career Interests: A Gender-Based Analysis Using the Social Cognitive Career Framework. *Education Sciences*, 14(10), 1037.
- Sevilla, M. P., Luengo-Aravena, D., & Farías, M. (2023). Gender gap in STEM pathways: The role of secondary curricula in a highly differentiated school system—the case of Chile. *International Journal of STEM Education*, 10(1), 58.
- Syeda, A., & Zahid, G. (2024). Effectiveness of Middle School STEM Career Education for STEM Knowledge, Efficacy, and Interest. *European Journal of STEM Education*, 9(1), 11.
- Yanxia, G. (2023). Gender Differences in Career Counseling: Influencing Factors and Coping Strategies. *Academic Journal of Humanities & Social Sciences*, 6(18), 133-141.