Malaysian Journal of Social Sciences and Humanities (MJSSH) (e-ISSN : 2504-8562)
2026, Volume 11, Issue 6, e003927
DOI: https://doi.org/10.47405/mjssh.v11i6.3927

RESEARCH ARTICLE

Employability and Program Effectiveness of BSESS Graduates in the Philippines: A Tracer Study

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KEYWORDS:
Exercise and sports science
Graduate employability
Program effectiveness
Experiential learning
Soft skills
Tracer study

CITATION:
Emily, J. B. (2026). Employability and Program Effectiveness of BSESS Graduates in the Philippines: A Tracer Study. *Malaysian Journal of Social Sciences and Humanities (MJSSH), 11*(6), e003927. https://doi.org/10.47405/mjssh.v11i6.3927

ABSTRACT

This study evaluated the employment outcomes and perceived effectiveness of the Bachelor of Science in Exercise and Sports Science (BSESS) program in preparing graduates for professional practice. Using a descriptive design, survey data from 46 graduates were analyzed using frequencies, percentages, and weighted means. Respondents were predominantly aged 21-25, with near-equal gender distribution. Most were employed full-time (73.90%), and 52% secured jobs within six months; however, only 43.50 percent held positions directly related to their degree. Overall program effectiveness was rated 3.94 (Effective), with soft skills development scoring highest (4.22, Very Effective), followed by course relevance and instructional quality. Practical training and industry exposure received comparatively lower ratings. While the program effectively develops core competencies aligned with employability standards, enhancements in experiential learning, facilities, industry linkages, and career support are recommended to strengthen workforce alignment.

Contribution/Originality: This study contributes to the existing literature by providing tracer evidence on the employability and perceived program effectiveness of Philippine BSESS graduates. It documents high employment alongside substantial degree-job mismatch, identifies soft-skills development as the program's strongest outcome, and pinpoints experiential learning, facilities, industry linkages, and career support as priorities.

1. Introduction

In recent years, the field of Exercise and Sports Science (ESS) has gained increased recognition as a critical discipline supporting public health, athletic performance, physical education, and preventive healthcare. Globally, the expansion of the fitness, wellness, and sports industries has intensified demand for professionals with integrated scientific, pedagogical, and applied competencies (Cereda 2025). Contemporary scholarship further emphasizes the role of exercise science in addressing non-communicable diseases and promoting lifelong physical activity, reinforcing the need for robust professional preparation frameworks (Chinnasee et al. 2025). In the Philippines, the Bachelor of Science in Exercise and Sports Science (BSESS) program serves as a primary pathway for

developing practitioners capable of delivering evidence-based interventions across educational, community, and performance settings.

Program evaluation is therefore indispensable in determining whether BSESS graduates meet labor market expectations and international professional standards. Graduate tracer studies, as noted by Aljohani et al. (2022), provide systematic evidence on employment outcomes, skills utilization, and career mobility, informing data-driven curricular refinement. Beyond employment rates, tracer methodologies also assess vertical and horizontal job alignment, licensure performance, and skills relevance-metrics increasingly used in quality assurance systems. Ashraf et al. (2024) further demonstrate that curricular congruence with industry requirements significantly predicts employability, income stability, and professional satisfaction, highlighting the strategic importance of curriculum–industry synergy.

Moreover, global literature indicates that career success in sports and exercise science is multidimensional, requiring both technical proficiency and transferable competencies such as communication, leadership, adaptability, and critical thinking (Molina-García et al. 2024). Employers consistently prioritize graduates with demonstrated soft skills and exposure to experiential learning, particularly through internships, field placements, and applied research (Bates 2024). However, Walton et al. (2024) caution that inequities in instructional quality, mentoring, laboratory resources, and facility access may constrain skill acquisition and professional preparedness. These findings collectively underscore the necessity of balanced pedagogical design-integrating classroom instruction, contextualized practice, and industry engagement-to optimize graduate outcomes and sustain program relevance in a dynamic employment landscape.

1.1. Research Objectives

The study evaluates the employment outcomes and perceived program effectiveness of BSESS graduates. Specifically, it examined their demographic and employment profiles, assessed the effectiveness of instructional strategies and training, and identified areas of the program that require improvement.

2. Research Methods

2.1. Research Design

This study utilised a descriptive quantitative research design to evaluate the employment outcomes and perceived effectiveness of the Bachelor of Science in Exercise and Sports Science (BSESS) program. Descriptive research was deemed appropriate because it enables the systematic presentation of data on graduates' demographic profiles, employment status, and perceptions of program effectiveness. According to Alford and Teater (2025), descriptive research provides an accurate snapshot of phenomena as they naturally occur, which is essential in tracer studies involving graduate populations.

2.2. Participants of the Study

The respondents in this study comprised 46 graduates of the BSESS program from academic years 2022, 2023, and 2024. The inclusion criteria required that participants must have completed the program at the university and be reachable through institutional records or alumni networks. Graduates who did not provide complete responses were

excluded. The sample size was considered adequate for descriptive analysis, in line with CHED's (2023) recommendation that tracer studies may use representative cohorts of recent graduates to assess employability and program outcomes. The selection was based on purposive sampling, as the target respondents were chosen for their direct relevance to the study's objectives.

2.3. Research Instrument

The primary research instrument used was a structured survey questionnaire developed by the researcher and validated by three experts in sports science education and research. The instrument was divided into three main parts, that is, Demographic Profile, which gathered information on gender, age, year of graduation, location, and further studies pursued, Employment Information, which captured current employment status, sector, and job relevance to the degree, and Perceived Effectiveness of Strategies, Methodologies, and Trainings, which assessed graduates' perceptions of program quality using a five-point Likert scale (1.00-1.80 = Not Effective, 1.81-2.60 = Slightly Effective, 2.61-3.40 = Moderately Effective, 3.41-4.20 = Effective, and 4.21-5.00 = Very Effective).

The instrument was pilot tested among 10 non-respondent graduates to ensure reliability and clarity of items. The computed Cronbach's alpha coefficient of 0.89 indicated high internal consistency, confirming that the questionnaire was reliable for data collection.

2.4. Data Gathering Procedure

After securing approval from the university research ethics committee, the researcher coordinated with the alumni office to obtain contact information for eligible respondents. The validated questionnaire was distributed online through Google Forms and via email, ensuring accessibility and confidentiality. Respondents were informed of the study's objectives, and consent was obtained prior to participation. Data collection lasted for four weeks, after which responses were consolidated and encoded for statistical analysis.

2.5. Data Analysis

The collected data were analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation, to interpret the demographic and employment profiles, as well as perceptions of program effectiveness. The weighted mean was used to assess the effectiveness of various instructional strategies and methodologies. Results were interpreted using the established Likert scale, and findings were compared with the existing literature to contextualize their significance in relation to current trends in sports and exercise science education.

2.6. Ethical Considerations

The study adhered to ethical research standards by ensuring voluntary participation, informed consent, and confidentiality of all respondent data. No personal identifiers were disclosed in the presentation of results.

3. Results

This section presents the study's findings and analysis.

3.1. Demographic Profile of Bachelor of Science in Exercise and Sports Science

Table 1 presents the demographic profile of the Bachelor of Science in Exercise and Sports Science (BSESS) graduates. The findings reveal a nearly balanced gender distribution, with 52.20 percent male and 47.80 percent female respondents.

Table 1: Demographic profile of Bachelor of Science in Exercise and Sports Science (BSESS)

Variable		Frequency	Percentage
Gender	Female	22	47.80
	Male	24	52.20
Age (in years)	21-25	28	60.90
	26-30	14	30.40
	Over 30	4	8.70
Graduated from BSESS Program (year)	2024	8	17.40
	2023	6	13
	2022	32	69.60
Current Location	Camarines Sur	8	18
	Ilocos Sur	2	4
	Makati City	2	4
	Naga City, Bicol	32	70
	Doha, Qatar	2	4
Pursued Further Studies	Masters Degree	12	26
	Methods of Teaching/Special Learning Package	12	26
	No	22	48

In terms of age, the majority of respondents (60.90%) were between 21 and 25 years old, followed by 30.40 percent aged 26-30 and 8.70 percent aged over 30. This indicates that most participants are early-career professionals, a pattern like other tracer studies in the Philippines, which show that recent graduates dominate alumni surveys due to their continued engagement with universities and immediate workforce entry (Junior et al., 2023). The age distribution, where the majority of graduates are between 21-25 years old, is consistent with findings that sports science programs primarily serve early-career professionals preparing for entry into teaching, coaching, or fitness-related professions. However, the presence of graduates aged over 30 also suggests that the program accommodates lifelong learners seeking career transitions or professional specialization.

The year of graduation shows that 69.60 percent of respondents graduated in 2022, while smaller proportions completed the program in 2023 (13%) and 2024 (17.40%). Regarding current location, 70 percent of respondents reside in Naga City, Bicol, with smaller percentages in Camarines Sur (18%), Ilocos Sur (4%), Makati City (4%), and Doha, Qatar (4%). This pattern demonstrates strong regional retention, with most graduates remaining in their place of study due to family ties and local employment opportunities. Regarding further education, nearly half (48%) of respondents reported not pursuing postgraduate studies, while 26 percent enrolled in a master's degree, and another 26 percent enrolled in teaching-related programs or special learning packages.

Table 2 presents employment information for Bachelor of Science in Exercise and Sports Science (BSESS) graduates. The data reveal that the majority of respondents (73.90%) are employed full-time, 17.40 percent are employed part-time, 4.30 percent are self-

employed, and another 4.30 percent are unemployed. This high employment rate (95.70%) indicates strong workforce absorption among graduates.

Table 2: Employment information of BSESS graduates

Variable	Frequency	Percentage
Current Employment Status		
Employed full-time	34	73.90
Employed part-time	8	17.40
Self-employed	2	4.30
Unemployed	2	4.30
Length Of Time After Graduation Before Getting First Job		
Less than 3 months	12	26.10
3-6 months	12	26.10
7-12 months	10	21.70
Over 1 year	12	26.10
Current Job Related to BSESS Degree		
Yes	20	43.50
No	26	56.50
Industry/Sector		
Education/teaching related	12	26.09
Fitness/sports-related	6	13.04
Office/clerical	9	19.56
Arts and performance	4	8.69
Health and social services	4	8.69
Customer service/sales	5	10.87
Supervisory/management	2	4.35
Documentation/technical	2	4.35
No job	2	4.35

Regarding the time to obtain their first job, 26.10 percent of the graduates were employed within less than 3 months, another 26.10 percent within 3 to 6 months, 21.70 percent within 7 to 12 months, and 26.10 percent after more than a year. These findings indicate that most graduates secure employment within the first 6 months after graduation. The relatively short transition period between graduation and employment further suggests that the program equips students with practical and transferable skills valued by employers.

In terms of job relevance, only 43.50 percent of the respondents reported being employed in fields related to their BSESS degree, while 56.50 percent are working in jobs not directly aligned with their program. Furthermore, the finding that only 43.50 percent of graduates are employed in jobs directly related to their degree indicates the persistence of job-mismatch challenges.

The industry and sector distribution of employed graduates shows that 26.09 percent are working in education or teaching-related fields, followed by 19.56 percent in office or clerical work, 13.04 percent in fitness and sports-related sectors, 10.87 percent in customer service or sales, 8.69 percent in arts and performance, and 8.69 percent in health and social services, with small proportions in supervisory/management (4.35%), documentation/technical (4.35%), and unemployed (4.35%) categories.

Table 3 presents the perceived effectiveness of the strategies, methodologies, and training employed in the Bachelor of Science in Exercise and Sports Science (BSESS) program. The

overall mean rating of 3.94, interpreted as Effective, indicates that graduates are generally satisfied with the program's instructional and developmental components. Among the indicators, soft skills development (4.22) was rated Very Effective, followed by relevance of course content (4.13), quality of instruction (4.09), and faculty competence and support (4.04). The remaining indicators, practical hands-on training (3.87), internship/OJT experiences (3.78), industry exposure and fieldwork (3.78), research projects and thesis (3.78), career guidance and job placement support (3.91), and access to facilities (3.83), were all rated within the 'Effective' range.

Table 3: Perceived effectiveness of the strategies, methodologies and training employed with BSESS graduates

Indicators	Mean	Verbal description
Quality of instruction	4.09	Effective
Relevance of course content	4.13	Effective
Practical hands-on training	3.87	Effective
Internship/OJT experiences	3.78	Effective
Industry exposure and fieldwork	3.78	Effective
Research projects and thesis	3.78	Effective
Faculty competence and support	4.04	Effective
Career guidance and job placement support	3.91	Effective
Access to facilities (for example, gyms, labs, equipment)	3.83	Effective
Soft skills development (for example, communication, teamwork)	4.22	Very effective
Overall	**3.94**	**Effective**

Legend: 1.00-1.80: Not Effective; 1.81-2.60: Slightly Effective; 2.61-3.40: Moderately Effective; 3.41-4.20: Effective; 4.21-5.0: Very Effective

4. Discussion

4.1. Demographic Profile of Bachelor of Science in Exercise and Sports Science

The findings reveal a near-balanced gender distribution, signaling a meaningful shift from the historically male-dominated landscape of sports science. While earlier literature framed sports-related disciplines as gender-skewed (Payeras et al., 2026), it demonstrates that institutional reforms, particularly gender-responsive curricula and inclusive recruitment strategies, have significantly increased female participation. This study reinforces such claims, but more importantly, it suggests that gender parity is not merely a demographic outcome but a structural transformation within higher education. Supporting this, Işikgöz et al. (2025) argue that gender-diverse academic environments enhance interdisciplinary collaboration and innovation, implying that inclusivity contributes not only to equity but also to academic and professional productivity.

From a critical standpoint, however, while parity is evident at the enrollment level, the literature suggests that disparities may still persist in leadership roles and specialized career tracks within sports science. Thus, future inquiry should examine whether gender inclusivity in the BSESS program translates into equitable career advancement outcomes. Interpreted through the lens of human capital theory, the findings indicate that equal access to education enhances workforce diversity, yet structural inequalities beyond education may still shape long-term professional trajectories.

The age distribution, with most graduates aged 21 to 25, aligns with traditional higher education timelines. However, the presence of graduates aged over 30 reflects a growing trend toward lifelong learning and career mobility. Foley (2025) highlights that adult learners increasingly enter sports science as a result of the expansion of the wellness, rehabilitation, and preventive healthcare industries. This supports the notion that sports science is transitioning from a narrowly defined discipline into a broader, interdisciplinary field linked to public health and lifestyle management.

Critically, this diversification of learners suggests that curricula must be flexible and responsive to varied learner needs, including those of mid-career professionals. While the program appears accessible to non-traditional students, further evaluation is needed to determine whether instructional strategies adequately accommodate diverse learning profiles.

The concentration of respondents from the 2022 cohort reflects a common methodological limitation in tracer studies, recency bias. As noted by Nozaleda et al. (2025), reliance on recent graduates may obscure long-term employment patterns and career progression. While the present study provides valuable insights into early employability outcomes, it lacks longitudinal depth. A more robust graduate tracking system would enable institutions to assess sustained career success, not just initial employment.

Geographically, the clustering of graduates within the region supports findings by Atilano et al. (2026), who emphasize the localized nature of employment in education and sports sectors in the Philippines. This pattern reflects structural labor market conditions where opportunities are concentrated in schools, local government units, and community-based programs. However, the presence of graduates working outside the region and abroad suggests that the competencies developed in the BSESS program are transferable and globally relevant. Karaiskos et al. (2025) further argue that employability in sports science increasingly depends on hybrid competencies—combining coaching, health promotion, and management skills—which enable graduates to navigate diverse professional contexts.

From a critical perspective, while regional retention indicates program relevance to local needs, it may also reflect limited mobility due to constrained industry development. Thus, strengthening global linkages and international exposure could further enhance graduate competitiveness.

The inclination of graduates toward postgraduate education supports human capital theory, which posits that continued investment in education enhances productivity and employability. Beaudoin (2025) reinforces this by demonstrating that advanced qualifications significantly improve career progression in sports science fields. However, this trend may also signal credential inflation, in which higher qualifications are necessary not for specialization but for basic employability. This raises important questions about whether undergraduate training alone sufficiently meets labor market demands.

Overall, the demographic findings suggest that the BSESS program produces a diverse, adaptable, and increasingly competitive cohort of graduates. However, deeper structural considerations—such as career progression, global mobility, and lifelong learning support—must be addressed to fully realize its potential.

4.2. BSESS Graduates Employability

The relatively short transition from graduation to employment indicates strong program effectiveness in preparing students for the workforce. Burgess et al. (2025) identify experiential learning, competency-based education, and applied training as key determinants of employability, all of which appear to be embedded within the BSESS curriculum. This aligns with global trends emphasizing practice-oriented education in sports science.

However, the subset of graduates who required more than one year to secure employment highlights underlying structural constraints. The limited availability of specialized sports science roles in provincial areas may hinder immediate employment, despite adequate graduate competencies. The issue of job-degree mismatch, as discussed by Cariaga et al. (2025) and Zhou and Deng (2025), remains a significant concern. While high employment rates suggest general employability, the alignment between education and occupation is less consistent. This indicates that graduates possess transferable skills—such as communication, leadership, and teamwork (Musa et al., 2025)—but may not have sufficient access to specialized career pathways. From a critical standpoint, this reflects not a failure of education but a limitation of the labor market structure, particularly in emerging or underdeveloped industries.

The dominance of education-related employment is consistent with Esposito et al. (2024), who note that sports science graduates frequently enter teaching and coaching roles. While this demonstrates the program's contribution to national education systems, it also suggests a concentration of opportunities within traditional sectors. Templin et al. (2025) argue that the field is rapidly diversifying into areas such as corporate wellness, digital fitness platforms, sports analytics, and rehabilitation services. The relatively low representation of graduates in these emerging sectors indicates a gap between evolving industry demands and current employment outcomes.

This gap underscores the need for stronger university-industry collaboration. Burnett and Taylor (2025) emphasize that structured internships and industry immersion significantly improve job alignment. The findings suggest that while the BSESS program provides strong foundational skills, it may benefit from more targeted career pathways aligned with emerging trends.

From a program evaluation perspective, the high full-time employment rate validates the curriculum's relevance. However, the presence of job mismatch calls for strategic interventions, including enhanced career guidance, expanded internship opportunities, and stronger partnerships with industry stakeholders. Experiential learning theory (Schnobrich-Davis et al., 2025) supports this by demonstrating that real-world exposure bridges the gap between academic preparation and professional practice.

The strong development of soft skills, particularly communication, leadership, and teamwork, reflects alignment with global employability frameworks (Orji, 2025). These competencies are increasingly valued across sectors, reinforcing graduates' adaptability. However, while soft skills facilitate employment, technical specialization remains essential for career advancement in competitive industries.

High ratings in instructional quality, faculty competence, and curriculum relevance indicate strong academic delivery. Bull (2025) highlights that curriculum alignment—

ensuring coherence between learning outcomes, instruction, and assessment—enhances student preparedness. Similarly, Liang (2025) and Ezeddine et al. (2025) demonstrate that innovative pedagogical approaches, including learner-centered and game-based methods, significantly improve engagement and skill acquisition. These findings support the effectiveness of the BSESS program's instructional strategies.

Despite these strengths, slightly lower ratings for practical training, internships, and facilities indicate areas for improvement. While still positively evaluated, these components are critical for bridging theory and practice; limited access to modern equipment and training environments may therefore constrain experiential learning outcomes. Critically, this suggests that while the program is pedagogically sound, its resource infrastructure and industry integration require enhancement. Expanding partnerships with sports organizations, wellness centers, and health institutions would not only improve training quality but also strengthen alignment with employment.

5. Conclusion

The findings of this study reveal that the Bachelor of Science in Exercise and Sports Science (BSESS) program is generally effective in preparing its graduates for professional practice, with an overall mean rating of 3.94 across all indicators. The highest-rated domain, soft skills development, was perceived as very effective, underscoring the program's success in cultivating essential employability traits such as communication, teamwork, and leadership. Similarly, the quality of instruction, faculty competence, and the relevance of course content were highly rated, suggesting that the curriculum and teaching approaches are well aligned with current professional standards and labour market needs.

However, indicators related to practical training, internships, industry exposure, and access to facilities received slightly lower ratings, though still within the effective range, suggesting that these areas may require further enhancement. Graduates' perceptions suggest that while theoretical and instructional components are strong, experiential learning opportunities and facility accessibility could be improved to maximise real-world readiness. Additionally, career guidance and job placement support were viewed as effective but could benefit from more structured and continuous engagement with employers and alumni networks.

Overall, the results affirm that the BSESS program provides quality education that effectively integrates theoretical instruction, professional skill-building, and holistic development. Yet there remains a need to further bridge the gap between classroom learning and professional application through sustained partnerships, modernised facilities, and enhanced career support systems.

6. Recommendations

Based on the findings and conclusions, it is recommended to develop a structured internship and practicum framework that ensures standardised supervision, industry mentoring, and reflective learning processes. Collaboration with local fitness centers, schools, and sports organizations should be expanded to diversify student placements. Prioritise investment in modern gym and laboratory equipment, maintenance, and equitable scheduling. Partnerships with community-based or private sports facilities could supplement campus resources and enhance hands-on training. Institutionalize

alumni mentoring programs, career fairs, and employer forums. Establish a formal linkage system to track graduate employment outcomes and provide continuous feedback for curriculum refinement. Continue providing opportunities for faculty training, certification, and research involvement to maintain instructional excellence and curricular relevance. Encourage graduates to pursue advanced studies or specialized certifications in coaching, fitness management, and physical education to enhance employability and professional advancement.

Ethics Approval and Consent to Participate

The study was reviewed and approved by the Bicol State College of Applied Sciences and Technology research committee. All participants provided informed consent before completing the survey, and confidentiality and voluntary participation were maintained throughout the study.

Acknowledgement

The author gratefully acknowledges the BSESS graduates who participated in the study and the Bicol State College of Applied Sciences and Technology Alumni Office for assisting with respondent contact and data collection.

Funding

This study received no funding.

Conflict of Interest

The author declares no conflict of interest.

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