Exploring the impact of gender and athletic involvement on career adaptability in Physical Education students

Explorando el impacto del género y la participación atlética en la adaptabilidad profesional de los estudiantes de Educación Física

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Abstract

Introduction: Career adaptability plays a crucial role in preparing students for the workforce, but few studies have explored how gender and athletic status influence career adaptability, particularly in Physical Education programs.
Objective: This study investigates the relationship between gender, athletic status, and career adaptability among students in the Physical Education program at Universitas PGRI Palembang.
Methodology: A total of 687 students (460 male, 227 female) participated in the study, divided into athletes (232) and non-athletes (455). The Career Adaptability Scale (CAAS), consisting of 24 items, was used to assess four dimensions: Concern, Control, Curiosity, and Confidence. Data were analyzed using SPSS and an Independent Samples T-test.
Results: No significant differences were found in career adaptability scores based on gender (male vs. female) or athletic status (athletes vs. non-athletes). Both groups showed similar scores across the four dimensions.
Discussion: These results suggest that career adaptability is influenced more by individual traits than by gender or athletic status. Therefore, career development programs should focus on universal skills applicable to all students.
Conclusions: The study indicates that career adaptability is a universal skill not significantly affected by gender or athletic involvement, highlighting the importance of developing key competencies such as self-awareness and goal-setting across all students.

Keywords

Career adaptability; gender; athletic status; physical education; career development.

Resumen

Introducción: La adaptabilidad profesional juega un papel crucial en la preparación de los estudiantes para el mercado laboral, pero pocos estudios han explorado cómo el género y el estado atlético influyen en la adaptabilidad profesional, particularmente en programas de Educación Física.
Objetivo: Este estudio investiga la relación entre el género, el estado atlético y la adaptabilidad profesional entre los estudiantes del programa de Educación Física en la Universidad PGRI Palembang.
Metodología: Un total de 687 estudiantes (460 hombres, 227 mujeres) participaron en el estudio, divididos en atletas (232) y no atletas (455). Se utilizó la Escala de Adaptabilidad Profesional (CAAS), que consta de 24 ítems para evaluar cuatro dimensiones: Preocupación, Control, Curiosidad, y Confianza. Los datos fueron analizados utilizando SPSS y una prueba t de muestras independientes.
Resultados: No se encontraron diferencias significativas en las puntuaciones de adaptabilidad profesional según el género (hombres vs. mujeres) o el estado atlético (atletas vs. no atletas). Ambos grupos mostraron puntuaciones similares en las cuatro dimensiones.
Discusión: Estos resultados sugieren que la adaptabilidad profesional está más influenciada por rasgos individuales que por el género o el estado atlético. Por lo tanto, los programas de desarrollo profesional deben centrarse en habilidades universales aplicables a todos los estudiantes.
Conclusiones: El estudio indica que la adaptabilidad profesional es una habilidad universal que no se ve significativamente afectada por el género o la participación atlética, destacando la importancia de desarrollar competencias clave como autoconocimiento y establecimiento de metas entre todos los estudiantes.

Palabras clave

Adaptabilidad professional; género; estado atlético; educación física; desarrollo professional.

Introduction

In recent years, career adaptability has become a critical area of focus in both academic and professional research. This concept is particularly relevant in helping individuals manage career transitions and navigate the complexities of a dynamic job market. Career adaptability refers to the ability to adjust to changing work demands, overcome challenges, and prepare for future career growth (Gamberini and Pluchino 2024; Oliveira and Marques 2024) For students, particularly those in Physical Education (PE) programs, career adaptability is essential, as they face the unique challenge of transitioning from academic training to professional careers in sports, teaching, or other related fields (Kristiyorini et al. 2024; Sukmana et al. 2025). As the demands of the workforce evolve, there is an increasing need to equip students with the necessary skills to thrive in their chosen careers.

Although there has been extensive research on career adaptability, most studies have focused on broad populations or specific professional fields (Klug et al. 2024), leaving a gap in understanding how gender and athletic status specifically influence career adaptability among students in specialized academic programs like Physical Education (Kovács and Szakál 2024; Martín-Rodríguez et al. 2024). Many studies suggest that athletes may possess unique career adaptability skills due to their experiences in sports, yet it remains unclear whether these skills are transferable to other career paths or if athletes face unique challenges when transitioning out of sports. Similarly, the role of gender in career adaptability has been debated, but the interaction between gender and career adaptability in the context of Physical Education remains underexplored (McMahon and Abkhezr 2025; Wang, Zhai, and Sun 2024).

The influence of gender on career adaptability is particularly important to investigate, as societal expectations and gender roles can shape career planning and decision-making (Wang, Fan, and Niu 2025; Zhang, Huang, and Ye 2024). Previous studies have indicated that gender can impact career adaptability, but these findings have often been generalized across different fields of study, rather than focusing on specialized academic programs such as Physical Education. It is essential to examine how gender dynamics might play out in fields where career paths are influenced by both academic training and physical activity, such as in sports-related careers (Kristiyorini et al. 2024; Yan, Dai, and Xuecui 2025). Moreover, in non-Western contexts like Universitas PGRI Palembang, cultural and regional factors may further shape how male and female students approach career development.

The purpose of this study is to examine how gender and athletic status impact career adaptability in students of the Physical Education program at Universitas PGRI Palembang. Specifically, this study explores whether male and female students, as well as athletes and non-athletes, demonstrate differences in their adaptability across the key dimensions of Concern, Control, Curiosity, and Confidence. Understanding these relationships is vital for providing insights into the factors that contribute to students' preparedness for future career challenges and can help tailor career development programs that address the unique needs of these student groups (Navarro Mejia et al. 2025).

Despite the substantial focus on career adaptability in previous research, many studies have overlooked the specific interactions between gender, athletic status, and career adaptability within the context of specialized academic programs like Physical Education (Abdillah et al. 2024; Daryono et al. 2025). This research aims to fill this gap by providing a more focused examination of these factors, shedding light on how they might shape career decision-making and future career trajectories in this particular student population (Fantinelli et al. 2024; Mansour 2025). By doing so, the study contributes to a broader understanding of career adaptability that considers not only individual traits but also demographic factors that may influence career development.

Ultimately, the findings from this study may offer valuable insights for educators, career counselors, and policymakers in developing more inclusive and effective career readiness programs. These programs should address the diverse needs of all students, recognizing the importance of self-awareness, goal-setting, and career planning across gender and athletic status, to ensure that students are fully equipped to navigate the demands of the modern workforce.

Method

The participants of this study were students from the Physical Education program at Universitas PGRI Palembang, totaling 687 students, including 460 male students (66.96%) and 227 female students (33.04%). The participants were categorized into two groups: athletes (232 students, 33.77%) and non-athletes (455 students, 66.23%). The age range of the participants was between 20-26 years, with 348 students aged 20-22 years (50.66%) and 339 students aged 23-26 years (49.34%).

The primary instrument used in this study was the Career Adaptability Scale (CAAS), which consists of 24 items measuring four dimensions of career adaptability: Concern, Control, Curiosity, and Confidence (Savickas and Porfeli 2012). The scale uses a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). This instrument has been validated in previous studies, and its internal consistency is considered adequate across the four dimensions (Aminah et al. 2024).

Data collection involved distributing the CAAS and a demographic questionnaire to the participants via Google Forms. The link to the form was shared with students through WhatsApp messages. Students were instructed to complete the form online at their convenience. Participation was voluntary, and participants were assured of the confidentiality of their responses. A reminder message was sent to encourage participation. Ethical clearance for this study was obtained under the number 2736.A/C.2/FKIP.Univ.PGRI/2025.

The collected data were analyzed using SPSS (Statistical Package for the Social Sciences). An Independent Samples T-test was performed to compare the Career Adaptability Scores between Male and Female students, as well as between Athletes and Non-Athletes. The significance level was set at $p < 0.05$, and the results were used to determine if there were any statistically significant differences between the groups (Di Leo and Sardanelli 2020).

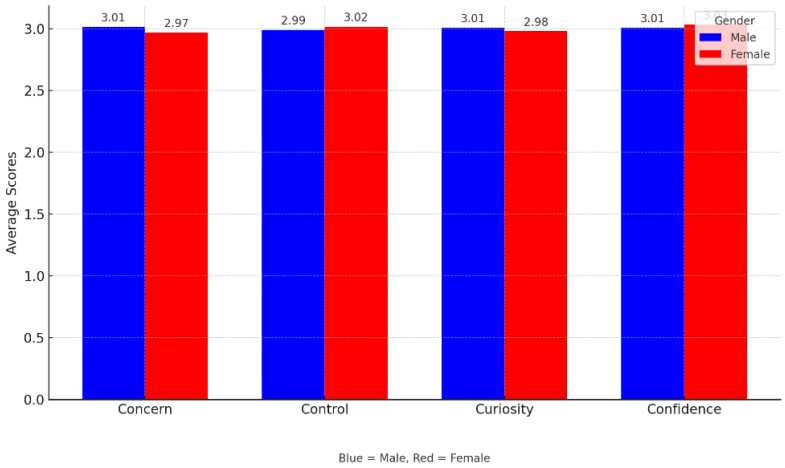
Results

The results presented in Table 1 highlight the demographic distribution of the 687 respondents in the study. In terms of gender, the majority of respondents were male (66.96%, or 460 individuals), while females accounted for 33.04% (227 individuals). Regarding the athlete status, non-athletes represented a larger proportion of the sample at 66.23% (455 respondents), while athletes made up 33.77% (232 respondents). In terms of age, the sample was fairly evenly split between two age groups: 20-22 years represented 50.66% of the respondents (348 individuals), while the 23-26 years age group accounted for 49.34% (339 individuals). This demographic breakdown provides valuable insight into the composition of the study's sample, with a relatively larger representation of males and non-athletes, and a fairly balanced distribution across the two age categories.

Table 1. Respondent Demographics (N=687)

Respondent Category	N	Percentage
Gender		
Male	460	66,96
Female	227	33,04
Category Athlete		
Athlete	232	33,77
Non-Athlete	455	66,23
Age		
20-22 years	348	50,66
23-26 years	339	49,34

Figure 1. Career Adaptability Profile Based on Gender



The bar chart in Figure 1 shows the Career Adaptability Profile based on gender, comparing the average scores of Male and Female respondents across four dimensions: Concern, Control, Curiosity, and Confidence. In the Concern dimension, Male respondents had a slightly higher average score (3.01) compared to Female respondents (2.97). For Control, the scores were almost identical, with Male respondents scoring 2.99 and Female respondents scoring 3.02. The Curiosity dimension showed similar results, with Male respondents scoring 3.01 and Female respondents scoring 2.98. Lastly, in the Confidence dimension, Male respondents had a slightly lower average score (3.01) compared to Female respondents (3.03). Overall, while there are minor differences in some aspects, the scores for Male and Female respondents were generally close across the four dimensions of career adaptability.

Table 2. Descriptive Statistics Male and Female

Group	N	Mean	Std. Deviation	Std. Error Mean
Male	460	3.00	0.282	0.013
Female	227	3.00	0.278	0.019

Table 2 presents the Descriptive Statistics for Male and Female respondents in the study. Both groups have the same mean score of 3.00, indicating that the average career adaptability score is identical for both genders. However, there are differences in the standard deviation, which measures the spread of scores. The male group has a standard deviation of 0.282, slightly higher than the female group, which has a standard deviation of 0.278. This suggests that the scores for males have a slightly greater spread around the mean compared to females. Additionally, the standard error mean for males is 0.013, while for females, it is 0.019, indicating that the mean score for females may be less precise compared to males. In summary, while the mean scores for both genders are identical, the male group shows slightly more variability, and the female group's mean is somewhat less precise.

Table 3. T-Test - Independent Samples Test for males and females

Levene's Test for Equality of Variances	t-statistic	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	0.219	685	0.827	0.005	0.022

Table 3 presents the results of the T-Test - Independent Samples Test comparing the Career Adaptability Scores between Male and Female respondents. In the Levene's Test for Equality of Variances, the results indicate that equal variances are assumed, meaning there is no significant difference in the variances between the two groups. The t-statistic value is 0.219, which is very close to zero, indicating that the difference between the means of the two groups is minimal. With degrees of freedom (df) equal to 685, the p-value (Sig. 2-tailed) is 0.827, which is much greater than the commonly used significance level of

0.05. This means there is no significant difference between the Male and Female groups. The Mean Difference between the two groups is only 0.005, which is very small. The Standard Error Difference is 0.022, indicating the degree of variability in the mean difference. Overall, the results suggest that there is no significant difference in Career Adaptability Scores between Male and Female respondents in this sample.

Figure 2. Career Adaptability Profile for Athletes and Non-Athletes

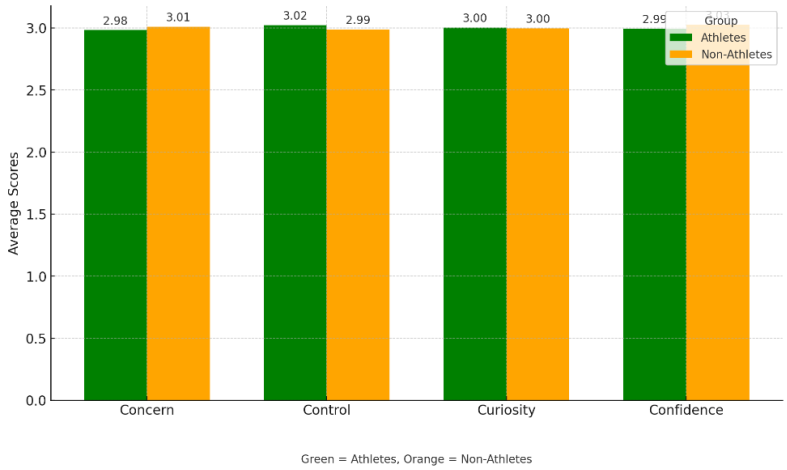


Figure 2 illustrates the Career Adaptability Profile for Athletes and Non-Athletes across four dimensions: Concern, Control, Curiosity, and Confidence. The green bars represent Athletes, while the orange bars represent Non-Athletes. In the Concern dimension, Athletes scored slightly lower (2.98) compared to Non-Athletes (3.01). For Control, the average scores for both groups were very similar, with Athletes scoring 3.02 and Non-Athletes scoring 2.99. The Curiosity dimension also showed similar results, with both Athletes and Non-Athletes scoring 3.00. In the Confidence dimension, both groups had nearly identical scores, with Athletes and Non-Athletes each scoring 2.99. Overall, the chart suggests that the differences in career adaptability scores between Athletes and Non-Athletes are minimal, with Athletes generally showing slightly lower scores in some dimensions compared to Non-Athletes.

Table 4. Descriptive Statistics of Athletes and Non-Athletes

Group	N	Mean	Std. Deviation	Std. Error Mean
Athletes	232	29.998	0.290	0.019
Non-Athletes	455	30.043	0.276	0.013

Table 4 presents the Descriptive Statistics for Athletes and Non-Athletes. The table shows that the Athletes group consists of 232 respondents, while the Non-Athletes group has 455 respondents. Both groups have similar mean scores, with Athletes averaging 29.998 and Non-Athletes slightly higher at 30.043. The Standard Deviation for Athletes is 0.290, indicating a slightly higher variability in their scores compared to Non-Athletes, who have a Standard Deviation of 0.276, suggesting less variability. The Standard Error Mean for Athletes is 0.019, while for Non-Athletes, it is 0.013, which indicates that the mean score for Non-Athletes is estimated with slightly more precision than for Athletes. Overall, Non-Athletes tend to have slightly higher average scores, but the scores for both groups show similar levels of variability and precision.

Table 5. Uji T - Independent Samples Test Category Athlete

Levene's Test for Equality of Variances	t-statistic	df	Sig. (2-tailed)	Mean Difference	Standar Error Difference
Equal variances assumed	-0.198	685	0.843	-0.0045	0.023

Table 5 presents the results of the Independent Samples t-Test for the Category Athlete. The Levene's Test for Equality of Variances indicates that equal variances are assumed, meaning the variability between the Athletes and Non-Athletes groups is not significantly different. The t-statistic is -0.198, showing a very small difference between the means of the two groups. With 685 degrees of freedom (df), the p-value (Sig. (2-tailed)) is 0.843, which is much higher than the typical significance threshold of 0.05, indicating that there is no statistically significant difference between the two groups. The Mean Difference between Athletes and Non-Athletes is -0.0045, further suggesting that the difference in their scores is negligible. The Standard Error Difference is 0.023, which reflects the variability of the mean difference. In conclusion, since the p-value is greater than 0.05, we fail to reject the null hypothesis, indicating no significant difference in the Career Adaptability Scores between Athletes and Non-Athletes.

Discussion

The findings of this study clearly show that there is no significant difference in Career Adaptability between Male and Female respondents, nor between Athletes and Non-Athletes (López-Roel, García-Ordóñez, and Isorna Folgar 2025). Despite minor variations in the scores of the four adaptability dimensions Concern, Control, Curiosity, and Confidence, the results indicate that gender and athletic status do not significantly impact career adaptability scores in the context of this study. This outcome challenges some previous studies that have suggested gender or athletic involvement may influence career planning and adaptability (Savickas 2013). The similar scores across both gender and athletic categories suggest that career adaptability is more influenced by individual differences and external factors, rather than being shaped by gender or athletic participation alone.

One explanation for the lack of significant differences between Male and Female respondents could be the increasing emphasis on gender equality in career development in recent years (Guo 2025; Mishra et al. 2024). Both males and females in this study showed similar mean scores across all dimensions of career adaptability, which may reflect changing societal expectations around gender roles in career planning and development. In line with Savickas' Career Construction Theory, which posits that career adaptability is a resource developed through experience rather than inherent gender differences, these findings suggest that individual agency and personal aspirations may have a stronger impact than gender-based stereotypes in influencing career decisions (Savickas et al. 2009).

Similarly, the lack of significant differences between Athletes and Non-Athletes in terms of career adaptability could be explained by the fact that both groups are exposed to similar career-related challenges, such as academic pressures, job market uncertainties, and the need to balance personal aspirations with practical career development (Guo 2025; Pribadi et al. 2024). Previous research has indicated that athletes, although often dealing with the intense demands of their sports careers, are increasingly encouraged to develop career adaptability skills outside of their sport as part of a holistic approach to their futures (Carroll et al. 2024; Muslihati et al. 2023; Ojala et al. 2023). Additionally, the Non-Athletes group, who may not have the same time constraints, also reported similar levels of career adaptability, highlighting the role of self-awareness, goal setting, and self-regulation in navigating career transitions. This suggests that factors such as personal drive, social support, and access to career resources may play a more critical role in shaping career adaptability than athletic involvement itself (Lebria et al. 2024; Sönmez, Gül, and Gümüş 2024).

The slight differences observed in the Concern and Confidence dimensions between Athletes and Non-Athletes may point to differences in how career planning and self-assurance are perceived by these two groups. For instance, Athletes may focus more on the short-term goals of their athletic careers, which could reduce their focus on long-term career planning. This aligns with findings by (Baruch and Rousseau 2019), who found that athletes often experience a strong identity tied to their sport, which can influence their career planning behavior. On the other hand, Non-Athletes, who are not bound by the immediate demands of sports, might develop a broader perspective on career development, resulting in a slightly higher Concern score (Baruch and Rousseau 2019; Thompson et al. 2022). As for Confidence, Non-Athletes may feel slightly more self-assured in their career decisions, given their less complex career pathways compared to the often unpredictable nature of professional sports.

The findings of this study have several important implications for both research and practice. First, the lack of significant differences between male and female students, as well as athletes and non-athletes, suggests that career adaptability may be a universal skill that is equally relevant across gender and athletic status (Aminah, Hidayah, and Ramli 2023; Ibrahim et al. 2025). Therefore, career development interventions should focus on strengthening self-awareness, goal-setting, and problem-solving skills across all groups, without necessarily tailoring the interventions based on gender or athletic background (Cumming et al. 2024; Patwardhan, Earl, and Huang 2025). Additionally, career guidance counselors and educators should consider individual traits such as motivation, academic achievements, and social influences as more significant factors in career adaptability than gender or athletic involvement (Lidyasari et al. 2023; Nikander et al. 2022).

For future research, it would be valuable to explore other variables that might contribute to career adaptability, such as socio-economic status, family support, cultural factors, and individual personality traits (Bierwiaczonek and Waldzus 2016; Chen et al. 2020). Furthermore, longitudinal studies tracking career adaptability over time could provide deeper insights into how these dimensions evolve as students transition from academic environments to professional careers (Diogo, Hidayah, and Rahman 2020; Schoon and Heckhausen 2019). Finally, expanding the study to include participants from different academic disciplines or cultural backgrounds could offer a broader understanding of career adaptability in diverse contexts.

In conclusion, this study reinforces the idea that career adaptability is an essential resource for navigating career transitions, but it is not significantly influenced by gender or athletic participation. The findings suggest that personal agency, self-regulation, and external support are key factors in shaping an individual's adaptability to the changing demands of the labor market. As career development continues to be recognized as a crucial aspect of education, it is important to consider universal approaches to fostering career adaptability across all groups, with attention to individual differences and specific needs.

Conclusions

This study found no significant differences in Career Adaptability Scores between Male and Female respondents, as well as between Athletes and Non-Athletes in the Physical Education program at Universitas PGRI Palembang. Both gender and athletic status did not appear to significantly influence career adaptability across the dimensions of Concern, Control, Curiosity, and Confidence. The results suggest that career adaptability is a universal trait that is not heavily impacted by gender or athletic participation. Instead, factors such as self-awareness, goal-setting, and problem-solving seem to play a more prominent role in an individual's ability to adapt to career-related challenges.

These findings emphasize the importance of promoting career adaptability skills for all students, regardless of gender or athletic background. The study suggests that interventions aimed at enhancing career adaptability should focus on universal approaches, strengthening key skills that support career development. Future research could explore additional variables, such as socio-economic status and individual personality traits, to gain deeper insights into the factors influencing career adaptability. Overall, career counseling and educational programs should prioritize fostering these adaptable skills to prepare students for the evolving demands of the workforce.

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