International Journal of Sociologies and Anthropologies Science Reviews
Volume 5 Issue 2: March-April 2025: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University

Feng Xiezhuoyi[1], Prakit Hongseanyatham[2] and Achara Saochalerm[3]
[1,2,3]Faculty of Sports Science and Technology, Bangkokthonburi University, Thailand
[1]E-mail: fairyxiezhuoyi@163.com, ORCID ID: https://orcid.org/0009-0007-0157-4304
[2]E-mail: prakitsport@gmail.com, ORCID ID: https://orcid.org/0009-0009-2196-0258
[3]E-mail: soaamy@hotmail.com, ORCID ID: https://orcid.org/0000-0002-2422-3394
Received 12/09/2024 Revised 15/09/2024 Accepted 15/10/2024

Abstract
Background and Aim: Since walking balance and spin balance are considered crucial skills for dancesport athletes, whether they can perform well or not partially depends on having good postural stability skills or not. Therefore, this research aims to study the effects of dancesport on walking balance and spin balance of university athletes at Shenzhen Technology University, to improve walking balance and spin balance of university athletes.
Materials and Methods: This research was quasi-experimental. The research population was university dancesport athletes, individuals possessing fundamental dance skills but not classified as professional athletes, with a total of 30 athletes. The sample group for this research encompasses the entire population, comprising 30 university dance sports athletes. In this experiment, the training will be conducted over a total of 8 weeks, with 5 days per week and 2 hours per day. In addition, there will be tests for walking balance and spin balance conducted a total of 3 times, which include (1) before the start of training; (2) after completing 4 weeks of training; and (3) after completing training in week 8. This study utilized mean, standard deviation, one-way repeated measures ANOVA, and dependent t-tests for data analysis, with the significance level established at 0.05.
Results: After 8 weeks of training with the developed dancesport training program, there was a statistically significant improvement at the 0.05 level in walking balance and spin balance of university athletes.
Conclusion: The developed dance sports training program was effective in improving the walking balance and spin balance of university athletes.
Keywords: Dancesport; Walking Balance; Spin Balance; University Athletes

Introduction

Dancesport, also known as international standard ballroom dance, is a competitive walking dance performed by couples. As a “world language”, it stands unique and unparalleled by any other sport or art form. Its distinctive charm fosters communication between countries, cultures, and individuals. With a rich history, dancesport has captivated the world with its irresistible allure (Hu and Pi, 2008). Dancesport is an activity that combines sport and dance, and that allows the participants to improve physical fitness and mental well-being, form social relationships, and obtain results in competition at all levels. Competitive dancesport in a wide variety of dance styles and forms is practiced within the internationally recognized and organized competition structure of IDSF. Dance stands out as a form of non-verbal communication, serving as a unique outlet for expression and social interaction through movement. Many individuals have experienced the joy of dancing, blending creativity and athleticism to convey personal messages to others. Recognized as a holistic workout, dance offers a fulfilling exercise regimen that nourishes both the heart and soul. Beyond its physical benefits of toning muscles, enhancing agility, and improving cardiovascular fitness, dance provides a multi-dimensional sporting experience. Regular practice of dance can combat obesity and boost self-esteem, particularly among adolescents. The advantages extend even further for older adults, with research indicating that social or ballroom dancing can enhance physical functioning, cognitive abilities, mental well-being, and social relationships. Dancesport is experiencing a surge in popularity worldwide, especially with the inclusion of Breaking in the 2024 Olympic Games. Combining sports and dance, Dancesport offers an ideal activity for individuals of all ages. Whether pursued for fitness, skill development, competition, or pure enjoyment, everyone deserves the opportunity to dance (World Dancesport Federation, 2024)

Dancesport has emerged as a highly popular physical activity among older adults worldwide. This trend is attributed to the incorporation of dance-based exercise interventions, which add an element of

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

enjoyment and interest to physical exercise routines for older individuals. Moreover, the research has indicated that engaging in different forms of dance can enhance leg strength, endurance, balance, and flexibility among older adults (Wu et al., 2012). Dancesport is believed to contribute to enhancing postural stability, a critical factor in preventing falls among older adults. Movements involved in dancesport, such as forward walk, backward walk, and sideward walk, may influence balance and gait stability. Additionally, actions like sway and turn could impact the mechanisms responsible for maintaining the center of mass within a base of support (Lee et al, 2009).

The significance of walking balance and spin balance in dance sports lies in their critical roles in performance quality, injury prevention, and overall athletic success. Walking balance refers to the ability to maintain stability and coordination while walking, which is fundamental to executing dance steps with precision and fluidity. Spin balance, on the other hand, involves maintaining equilibrium and control during rotational movements, which are common in dancesport routines (Gao et al, 2018).

Since walking balance and spin balance are considered crucial skills for dancesport athletes, whether they can perform well or not partially depends on having good postural stability skills or not. In sports, balance refers to the ability of the human body to maintain a specific posture or movement, whether stationary or in motion. It is categorized into two types: dynamic balance and static balance. Dynamic balance is the ability to sustain a posture or movement while in motion. Conversely, static balance is the ability to maintain a posture while remaining still (Liu, 2016). Spin ability is the skill of maintaining stability, balance, and grace during rotational movements in dance. Enhancing this ability requires specific, targeted training methods. Currently, university team athletes of Shenzhen Technology University are considered to have a certain level of dancesport skills because they have undergone training until they are qualified to join the university team, but continuous development is still necessary to further enhance their abilities to compete with teams from other universities. However, during dancesport training, it is found that the majority of university athletes still have problems with balance control, resulting in performances that are not as good as they should be. Therefore, it is necessary to study the effects of dancesport on walking balance and spin balance in university athletes, walking balance and spin balance are considered a crucial skill that must be fully developed to enable athletes to perform dancesport effectively. Moreover, understanding the effects of dance support on walking balance and spin balance is crucial for several reasons. Firstly, it contributes to the body of knowledge in sports science and rehabilitation, providing insights into the potential benefits of dance support as a training modality for improving balance skills among athletes. Secondly, it has practical implications for sports coaches, trainers, and healthcare professionals involved in athlete development and injury prevention, offering evidence-based strategies to enhance balance performance. Additionally, it sheds light on the role of dancesport in promoting overall physical well-being and athletic performance among university athletes, thereby fostering a holistic approach to sports training and fitness. Overall, addressing this problem has the potential to positively impact the athletic performance and well-being of university athletes participating in dancesport activities (Kim et al, 2013).

In addition, dancesport is a popular activity among university athletes, and understanding its effects on balance can be directly applicable to their training and performance enhancement. This research aims to study the effects of dance support on the walking balance and spin balance of university athletes at Shenzhen Technology University. The primary objectives are to investigate the impact of dancesport training on enhancing these balance abilities, through constructing a training program that focuses on walking balance and spin balance, and to identify any potential challenges or limitations faced by athletes during the training process. Findings from this research may have practical implications for sports coaching, training programs, and injury prevention strategies tailored to university athletes participating in dance sports activities. Therefore, the study of the effect of dancesport on the walking balance and spin balance of university athletes at Shenzhen Technology University will be beneficial to the training and skill development of dancesport athletes.

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

International Journal of Sociologies and Anthropologies Science Reviews
Volume 5 Issue 2: March-April 2025: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

Research Objectives

To study the effect of dance support on walking balance and spin balance of university athletes at Shenzhen Technology University.

Literature Review

1. *Dancesport*

Dancesport encompasses a variety of skills that dancers must master to excel in competitions. The important skills for dancesport are as follows: (1) Technique: Dancers must possess strong technical skills in various dance styles, including ballroom and Latin dances. This includes mastery of footwork, body posture, frame, and partnering techniques; (2) Musicality: A crucial skill in dancesport is the ability to interpret and dance in sync with the rhythm, tempo, and phrasing of the music. Dancers must demonstrate musicality through their movements, accents, and timing; (3) Coordination: Dancesport requires precise coordination between partners, as well as coordination of movement with the music. Dancers must maintain synchronicity in their steps, patterns, and transitions; (4) Flexibility and Strength: Flexibility is essential for executing fluid movements and extensions, while strength is needed for lifts, turns, and maintaining proper body alignment throughout performances; (5) Endurance: Dancesport competitions can be physically demanding, requiring dancers to sustain high energy levels and perform multiple routines consecutively. Endurance training is crucial for maintaining stamina throughout performances; (6) Performance Presence: Dancers must exude confidence, charisma, and stage presence during competitions. This includes projecting personality, connecting with the audience, and expressing emotion through their movements; and (7) Partnership: Effective communication and collaboration between dance partners are essential for seamless performance execution. Partners must trust each other, maintain clear lead-follow dynamics, and synchronize their movements harmoniously. These skills are developed through dedicated practice, instruction from qualified coaches, and participation in competitions and performances (Zahiu et al, 2020).

Balance is the basic skill of any sport. Good balance is essential for mastering dancesport techniques, allowing athletes to execute various technical movements effectively. All human movements, including standing still or maintaining a fixed posture, require balance. A dancer who cannot maintain stability through subtle posture adjustments will inevitably lose balance and fall. The ability of dancesport to maintain a stable center of gravity, control body balance, and perform movements with ease and precision reflects their technical proficiency (Peng & Ye, 2012). Dancers with strong balance skills can accurately control their body movements, express the inner meaning of each dance step, and make precise, timely judgments in a dynamic competition environment. This enables them to swiftly change movements and directions, ultimately regaining rhythm and executing movements with high quality (Zhang, 2022).

2. *Walking Balance*

In the field of sports, balance is the ability of the human body to maintain a specific posture or movement, whether in a static or dynamic state. Balance is divided into two types: dynamic and static. Dynamic balance refers to the ability to maintain equilibrium during movement or while holding a posture in motion. Static balance, on the other hand, refers to the ability to maintain equilibrium while in a stationary position (Liu, 2016).

In the medical field, balance refers to the body's ability to transmit information about the surrounding environment, positional changes, and movement direction, as sensed by proprioceptors, to the central nervous system when the vestibular organs and vision are stimulated by external factors. The central nervous system processes this information and controls the motor effectors to maintain the correct position and posture of the head. If any part of this process fails, the body will be unable to maintain balance (Zao et al, 2000).

In summary, balance ability refers to the central nervous system's capability to adjust skeletal muscle tension and maintain correct body posture by controlling motor effectors in response to changes in environmental information, movement position, and movement direction.

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

International Journal of Sociologies and Anthropologies Science Reviews
Volume 5 Issue 2: March-April 2025: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

Walking balance in dance sports refers to the ability of dancers to maintain stability and control while performing walking movements during their routines. It involves maintaining proper alignment, coordination, and weight distribution as dancers move across the dance floor (Liiv et al, 2014). Walking balance in dance sports revolves around the principles of postural control, neuromuscular coordination, and biomechanics, tailored specifically to the demands of ballroom dancing. Dancers must maintain equilibrium while executing intricate steps and movements, requiring a combination of sensory input integration, muscle activation, and dynamic stability (Chang et al, 2020).

3. Spin Balance

Spin balance in dancesport refers to the ability of dancers to maintain stability and control while executing spinning movements during their routines. It encompasses the coordination of body alignment, muscular engagement, and proprioceptive awareness to achieve smooth and controlled rotations. Spin balance is crucial for dancers to maintain their equilibrium and control throughout rapid and dynamic spinning actions, which are often integral elements of dancesport choreography. Training methods for improving spin balance may include specific drills focusing on core strength, rotational control, and spotting techniques. These exercises aim to enhance the dancer's ability to maintain a centered axis of rotation, minimize dizziness, and control the speed and trajectory of spins. Additionally, dancers may practice mental visualization and spatial awareness exercises to improve their proprioceptive sense and spatial orientation during spinning movements. Mastering spin balance allows dancers to execute turns with precision, fluidity, and confidence, enhancing the overall quality of their performances (Michalska et al, 2018).

Moreover, the ability to spin in dance sports also refers to dancers' capacity to maintain body stability and balance while showcasing the beauty of their movements during spins. Spin ability is a core skill in sports, reflecting the technical proficiency of the dancers (Zhang, 2017). When performing or competing, dancers can execute a series of spins independently or use them to connect basic steps. This requires them to maintain movement stability while considering the speed, direction, and artistic expression of their movements. Achieving this balance optimizes performance and competition outcomes. However, related research has found that beginners in dance sports often face issues such as poor body balance, slow lower limb movement speed, and a lack of coordination between the upper and lower limbs when learning spin techniques. These difficulties can lead to a gradual loss of confidence and a fear of learning spin techniques. Therefore, enhancing spin ability has become an urgent priority for every beginner aiming to improve their Latin dance skills (Cheng, 2021). It is a crucial barrier that every sports dancer urgently needs to overcome, and it is also an essential prerequisite for advancing the technical proficiency of sports dancers.

The significance of spin balance in dance sports lies in its crucial role in enhancing the quality and execution of dance routines, particularly in competitive settings. Spin balance allows dancers to maintain control and stability while executing intricate spins and rotations, adding flair, elegance, and technical proficiency to their performances. It contributes to the overall aesthetic appeal of the dance, captivating both judges and audiences alike. Training spin balance in dance sports involves a combination of physical exercises and dance techniques aimed at improving rotational stability and control. One effective method is to focus on core strength and proprioception, as a strong core provides a stable foundation for executing spins. Exercises such as plank variations, Russian twists, and stability ball exercises can help strengthen the core muscles essential for maintaining balance during spins. Additionally, specific dance drills targeting spotting techniques and spotting drills can enhance the dancer's ability to maintain orientation and control while spinning. Practicing spins at varying speeds and durations helps develop muscle memory and improves overall balance control. Furthermore, incorporating balance exercises on unstable surfaces, such as balance boards or foam pads, can challenge proprioception and improve balance adaptability. Consistent practice, under the guidance of a qualified dance instructor, is essential for mastering spin balance in dancesport (Bielmann et al, 2016).

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

Related Research

Zhai (2021) emphasized that balance and stability are fundamental to standard dance. To enhance body coordination and make the dance more graceful, it is essential to first conduct specialized balance training. He incorporated functional training into the teaching and training of standard dance and discovered that this movement chain model engages more joints across multiple planes compared to traditional fitness methods. Consequently, standard dance became more stable in high-position movements, rise and fall actions, and step size.

Liu et al (2018) investigated the effects of DanceSport training on walking balance and gait stability in university athletes. A group of university athletes participated in DanceSport training sessions over 12 weeks, with walking balance and gait stability assessed before and after the training intervention. Measurements included sway amplitude, step length variability, and stride time variability. The results indicate that DanceSport training led to significant improvements in walking balance and gait stability among university athletes, with participants demonstrating reduced sway amplitudes and improved temporal gait parameters. The findings suggest that DanceSport training can be an effective intervention for enhancing walking balance and gait stability in university athletes, potentially reducing the risk of falls and injuries.

Smith et al(2020) examine the effects of DanceSport training on walking balance and postural stability in collegiate dancers. A group of collegiate dancers participating in DanceSport training sessions were assessed for walking balance and postural stability before and after a 10-week training period. Measurements included sway velocity, center of pressure displacement, and timed balance tasks. The results showed significant improvements in walking balance and postural stability among dancers following the training intervention. These improvements were attributed to enhanced proprioception, muscle strength, and neuromuscular control developed through DanceSport training. The findings suggest that DanceSport training can be a valuable component of dance education programs for improving walking balance and postural stability in collegiate dancers, ultimately enhancing performance and reducing the risk of injury.

Summary

Dancesport, a competitive form of ballroom dancing, has been the subject of research regarding its effects on walking balance and spin balance. Several studies have explored how Dancesport training influences athletes' walking balance, focusing on proprioceptive training, core stability exercises, and technique refinement. These interventions aim to enhance athletes' ability to maintain balance while walking, thereby reducing the risk of falls and improving overall mobility. Similarly, research has investigated the impact of Dancesport on spin balance, particularly in athletes performing intricate rotational movements. Studies have highlighted the importance of core stability, coordination, and technique in achieving optimal spin balance performance.

Conceptual Framework

The conceptual framework for this research is as follows:

1. The independent variable is the dancesport training program.
2. The dependent variables are the improvement of walking balance and spin balance of university athletes at Shenzhen Technology University.

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

International Journal of Sociologies and Anthropologies Science Reviews
Volume 5 Issue 2: March-April 2025: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

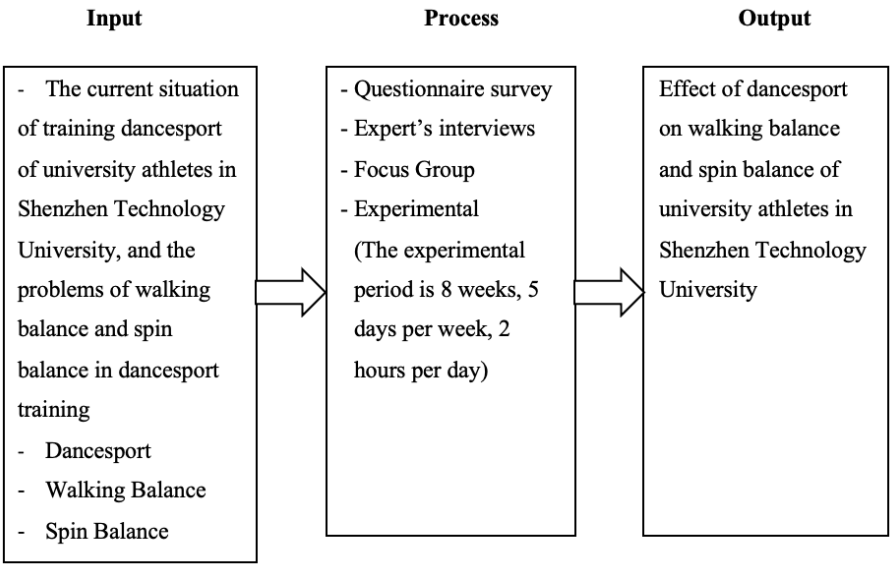

Figure 1 Conceptual framework

Methodology

1. Research Tools

In this research, the following tools were used to conduct the research:

1.1Questionnaires for University Dancesport Athletes

1.2Interviewing form

1.3Dancesport Training Program

1.4Walking Balance Test

1.5Spin Balance Test

2. Population and Sample

Population specification and size

The population of this research consists of university dancesport athletes, who are individuals with basic dance skills but are not professional athletes, totaling 30 dancesport athletes.

Sample

The sample group of this research includes the entire population, which consists of university dancesport athletes totaling 30 dancesport athletes.

3. Data Collection

1. Develop questionnaires for university dancesport athletes to examine the challenges and obstacles related to dancesport's impact on walking and spin balance. The questionnaire was then reviewed by 3 experts to assess its alignment with the study's objectives using the Item-Objective Congruence (IOC) method.

2. Questionnaires were distributed to 30 students through on-site distribution to survey the problems of walking balance and spin balance of university athletes in the training process and competition.

3. Develop the interview form for use in expert interviews and evaluate the questions on the interview form by examining the congruence index of the contents with its objectives, by using the Item-Objective Congruence (IOC) with 3 experts.

4. Insights into the issues of walking balance and spin balance among university athletes during training and competition were sought by consulting with 5 experts through face-to-face interviews. In this step, the questions for asking the experts in the focus group will be drafted.

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

International Journal of Sociologies and Anthropologies Science Reviews
Volume 5 Issue 2: March-April 2025: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

5. A dancesport training program aimed at improving the walking balance and spin balance of university athletes will be developed by conducting focus groups with 10 experts.

6. Conduct a tryout of the developed dancesport training program with 5 university dancesport athletes to evaluate its suitability for university dancesport athletes use, and whether the intensity of the training is adequate or not. These 5 university dancesport athletes are not a sample group.

7. Conduct dancesport training with a focus on practicing walking balance and spin balance, the training will be conducted for a total of 8 weeks, 5 days of training per week, with 2 hours per day.

8. Conduct testing of walking balance and spin balance before the training begins, after completing 4 weeks of training, and upon completion of the 8-week training. Afterward, analyze and compare the test data obtained to study the effects of dancesport on the walking balance and spin balance of university athletes at Shenzhen Technology University.

4. Data Analysis

This study primarily employed a software package for data analysis.

1. Utilized descriptive statistical methods, including computation of the mean ($\bar{x}$) and standard deviation (SD), to analyze the data gathered from the questionnaire.

2. The content validity of the questionnaires and the questions in the expert interview form was evaluated through the use of the Indexes of Item-Objective Congruence (IOC). The IOC value of questionnaires for university dancesport athletes was 0.90, and the IOC value of the interview form was 0.86.

3. The expert interviews and focus group discussions were analyzed using content analysis.

4. One-way repeated measures ANOVA was employed to analyze the results of the pre-test, conducted after 4 weeks of training, and the post-test (after 8 weeks of training).

5. The paired t-test was utilized to compare the results between (1) the pre-test and the test after 4 weeks of training; (2) the test after 4 weeks of training and the post-test; and (3) the pre-test and the post-test, to evaluate differences within a one group.

6. In this research, a level of significance of p = 0.05.

7. To calculate the average score of the university dancesport athletes' questionnaires, the researcher used the Likert scale for assessment. The 5-point scale is defined as follows: 1 = Very Poor, 2 = Poor, 3 = Moderate, 4 = High, 5 = Highest. The specific score criteria are outlined below:

Average score range	**Meaning**
1.00 - 1.79	Very Poor
1.80 – 2.59	Poor
2.60 – 3.39	Moderate
3.40 – 4.19	High
4.20 – 5.00	Highest

Results

1. Survey the current status and the problems of walking balance and spin balance of university athletes in the training process and competition

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

International Journal of Sociologies and Anthropologies Science Reviews
Volume 5 Issue 2: March-April 2025: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

Table 1 University Dancesport Athletes' questionnaires survey results

Questionnaire Items	Total Score		Result
	$\bar{x}$	S.D.	
1. How often do you practice walking and spinning techniques during your dancesport training?	3.10	0.64	Moderate
2. How confident do you feel about your walking balance and spinning balance during training?	2.12	1.43	Poor
3. Do you incorporate specific exercises to improve your walking balance and spinning balance?	2.80	0.60	Moderate
4. How satisfied are you with the current training program provided by your institution?	3.00	0.45	Moderate
5. Do you have challenges and problems with walking balance and spinning balance during competitions?	4.50	0.60	Highest
6. Have you experienced any injuries related to poor walking or spinning balance?	3.90	0.70	High
7. Do you think the improvement of walking or spinning balance can improve dancesport performance?	4.70	0.64	Highest
8. Do you think the training time to improve dancesport on walking or spinning balance is appropriate?	2.30	0.46	Poor
9. Do you think university need to improve the training program for the improvement of walking or spinning balance?	4.34	0.72	Highest

Form Table 1 University dancesport athletes' questionnaires survey results showed that university athletes have many challenges and problems in walking balance and spin balance, this can be seen from question 5 "Do you have challenges and problems with walking balance and spinning balance during competitions" the result of this question was in the "Highest" ($\bar{x}$ = 4.50), and question 2 "How confident do you feel about your walking balance and spinning balance during training?" the result of this question was in the "Poor" ($\bar{x}$ = 2.12). Regarding injuries related to poor walking or spinning balance, it was found that university athletes agreed that injuries occurred from walking or spinning balance. This can be seen from question 6 "Have you experienced any injuries related to poor walking or spinning balance?", the result of this question was in the "High" ($\bar{x}$ = 3.90).

Moreover, university athletes think that the dancesport training program still needs to be improved, this can be seen from question 8 "Do you think the training time to improve dancesport on walking or spinning balance is appropriate?", the result of this question was in the "Poor" ($\bar{x}$ = 2.30). Question 9 "Do you think the university needs to improve the training program for the improvement of walking or spinning

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

International Journal of Sociologies and Anthropologies Science Reviews
Volume 5 Issue 2: March-April 2025: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

balance?", the result of this question was in the "Highest" ($\bar{x}$ = 4.34), and question 4 "How satisfied are you with the current training program provided by your institution?", the result of this question was in the "Moderate" ($\bar{x}$ = 3.00).

2. Develop a dancesport training program aiming to improve the dancesport walking balance and spin balance of university athletes at Shenzhen Technology University

A focus group of 10 experts was conducted to develop a dancesport training program aiming to improve dancesport on walking balance and spin balance of university athletes at Shenzhen Technology University. The developed dancesport training program will be conducted for 8 weeks, with sessions scheduled 5 days per week, 2 hours per day.

Before using the developed dancesport training program, the research tested the developed dancesport training program with 5 university athletes to study its suitability for practical application. All 5 university athletes are not the sample university athletes. After try-out, it was found that the developed dancesport training program is suitable for training with university athletes, and the training time and training items were appropriate.

3. Implement the developed dancesport training program

1) The results of the walking balance test of university athletes before training, after 4 weeks of training, and after 8 weeks of training

Table 2 The mean and standard deviation of walking balance test results of university athletes (n=30)

Walking Balance test	Mean ($\bar{x}$)	Standard Deviation (SD)
Pre-test	25.53	1.72
Week 4	29.50	1.83
Week 8	33.93	1.93

Table 2 shows the walking balance test results of university athletes before training, after 4 weeks of training, and after 8 weeks of training with the developed dancesport training program with a total of 30 students. The mean and standard deviation of walking balance test results were as follows: before training with the developed dancesport training program, the results were 25.53±1.72, after 4 weeks of training, the results were 29.50±1.83, and after 8 weeks of training, the results were 33.93±1.93.

Table 3 A comparison of walking balance test results before training, after 4 weeks of training, and after 8 weeks of training with the developed dancesport training program

Source of Variance (Sov)	SS	Df	MS	F	P
Between Group	1059.49	2	619.53	1077.66*	0.00
Within Group	28.51	57	0.58		
Total	1088.00	59	620.11		

* P<.05

From Table 3, walking balance test results before training, after 4 weeks of training, and after 8 weeks of training with the developed dancesport training program were compared by using One-way Repeated Measures ANOVA. It was found that there was a statistically significant improvement in the walking balance

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

International Journal of Sociologies and Anthropologies Science Reviews
Volume 5 Issue 2: March-April 2025: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

of university athletes, between before training, after 4 weeks of training, and after 8 weeks of training [$F_{(2,57)}$ = 1077.66, sig. = .000].

Table 4 A comparison of walking balance test results before training and after 4 weeks of training

Period	Mean (x̄)	Standard Deviation (SD)	t	P
Before Training	25.53	1.72		
After 4 Weeks of Training	29.50	1.83	81.47*	0.00

* P<.05

Based on Table 4, the comparison of walking balance test results for university athletes before training and after 4 weeks of training with the developed dancesport training program revealed a statistically significant difference at the 0.05 level.

Table 5 A comparison of walking balance test results before training and after 8 weeks of training

Period	Mean (x̄)	Standard Deviation (SD)	t	P
Before Training	25.53	1.72		
After 8 Weeks of Training	33.93	1.93	96.37*	0.00

* P<.05

Based on Table 5, the comparison of walking balance test results for university athletes before training and after 8 weeks of training with the developed dancesport training program revealed a statistically significant difference at the 0.05 level.

Table 6 A comparison of walking balance test results between after 4 weeks of training and after 8 weeks of training

Period	Mean (x̄)	Standard Deviation (SD)	t	P
After 4 Weeks of Training	29.50	1.83		
After 8 Weeks of Training	33.93	1.93	88.12*	0.00

* P<.05

Based on Table 6, the comparison of walking balance test results for university athletes after 4 weeks of training and after 8 weeks of training with the developed dancesport training program revealed a statistically significant difference at the 0.05 level.

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

International Journal of Sociologies and Anthropologies Science Reviews
Volume 5 Issue 2: March-April 2025: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

2) The results of the spin balance test of university athletes before training, after 4 weeks of training, and after 8 weeks of training

Table 7 The mean and standard deviation of spin balance test results of university athletes (n=30)

Standing long jump test	Mean (x̄)	Standard Deviation (SD)
Pre-test	26.10	1.81
Week 4	30.00	2.29
Week 8	34.10	2.59

Table 7 shows the spin balance test results of university athletes before training, after 4 weeks of training, and after 8 weeks of training with the developed dancesport training program with a total of 30 students. The mean and standard deviation of spin balance test results were as follows: before training with the developed dancesport training program, the results were 26.10±1.81, after 4 weeks of training, the results were 30.00±2.29, and after 8 weeks of training, the results were 34.10±2.59.

Table 8 A comparison of spin balance test results before training, after 4 weeks of training, and after 8 weeks of training with the developed dancesport training program

Source of Variance (Sov)	SS	Df	MS	F	P
Between Group	960.20	2	675.82	626.22*	0.00
Within Group	44.47	57	1.08		
Total	1004.67	59	676.90		

* P<.05

From Table 8, spin balance test results before training, after 4 weeks of training, and after 8 weeks of training with the developed dancesport training program were compared by using One-way Repeated Measures ANOVA. It was found that there was a statistically significant improvement in the spin balance of university athletes, between before training, after 4 weeks of training, and after 8 weeks of training [$F_{(2,57)}$ = 626.22, sig. = .000].

Table 9 A comparison of spin balance test results before training and after 4 weeks of training

Period	Mean (x̄)	Standard Deviation (SD)	t	P
Before Training	26.10	1.81	79.11*	0.00
After 4 Weeks of Training	30.00	2.29		

* P<.05

Based on Table 9, the comparison of spin balance test results for university athletes before training and after 4 weeks of training with the developed dancesport training program revealed a statistically significant difference at the 0.05 level.

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

International Journal of Sociologies and Anthropologies Science Reviews
Volume 5 Issue 2: March-April 2025: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

Table 10 A comparison of spin balance test results before training and after 8 weeks of training

Period	Mean (x̄)	Standard Deviation (SD)	t	P
Before Training	26.10	1.81	72.08*	0.00
After 8 Weeks of Training	34.10	2.59		

* P<.05

Based on Table 10, the comparison of spin balance test results for university athletes before training and after 8 weeks of training with the developed dancesport training program revealed a statistically significant difference at the 0.05 level.

Table 11 A comparison of spin balance test results between after 4 weeks of training and after 8 weeks of training

Period	Mean (x̄)	Standard Deviation (SD)	t	P
After 4 Weeks of Training	30.00	2.29	71.77*	0.00
After 8 Weeks of Training	34.10	2.59		

* P<.05

Based on Table 11, the comparison of spin balance test results for university athletes after 4 weeks of training and after 8 weeks of training with the developed dancesport training program revealed a statistically significant difference at the 0.05 level.

Summary

From walking balance test and spin balance test showed that after training with the developed dancesport training program, walking balance test and spin balance test results showed a statistically significant difference from before training at the 0.05 level, the research results are consistent with the established hypothesis.

Conclusion

The result showed that after 8 weeks of training with the developed dancesport training program, there was a statistically significant improvement at the 0.05 level in walking balance and spin balance of university athletes, between before training with the developed badminton training program, after 4 weeks of training, and after 8 weeks of training.

Discussion

The university athletes at Shenzhen Technology University have attained a certain level of dancesport skills through training to qualify for the team. However, continuous development is essential to further enhance their abilities and remain competitive with teams from other universities. The questionnaire survey found that, currently, university athletes are still facing issues with a lack of confidence in their walking balance and spinning balance during training, as well as challenges and problems with walking balance and spinning balance during competitions. These findings are consistent with the research result of Cheng (2021) which indicated that beginners in dancesport often encounter challenges such as poor body

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

balance, slow lower limb movement, and a lack of coordination between the upper and lower limbs when learning spin techniques. These difficulties can result in a gradual loss of confidence and fear of learning spins. Therefore, improving walking balance and spin balance has become a critical priority for every beginner looking to enhance their Latin dance skills.

After the 8-week training period using the developed dancesport training program, the walking balance and spin balance of university athletes showed significant improvement. This is evident from the significant differences in the results of the walking balance test and spin balance test of university athletes in the pre-test, after 4 weeks of training, and the test after 8 weeks of training. These findings are consistent with the research conducted by Zhai (2021) highlighted that balance and stability are essential in standard dance. To improve body coordination and make movements more graceful, specialized balance training is crucial. He integrated functional training into the teaching and training of standard dance and found that this movement chain model engages more joints across multiple planes than traditional fitness methods. As a result, standard dance became more stable in high-position movements, rise and fall actions, and step size. Moreover, Liu et al (2018) explored the impact of dancesport training on walking balance and gait stability in university athletes. A group of athletes underwent a 12-week dance support training program, with assessments of walking balance and gait stability conducted before and after the intervention. Measurements included sway amplitude, step length variability, and stride time variability. The results showed significant improvements in walking balance and gait stability, with participants exhibiting reduced sway amplitudes and enhanced temporal gait parameters. These findings suggest that dancesport training is an effective method for improving walking balance and gait stability in university athletes, potentially lowering the risk of falls and injuries. Smith et al (2020) investigated the effects of dancesport training on walking balance and postural stability in collegiate dancers. A group of dancers underwent a 10-week dancesport training program, with assessments of walking balance and postural stability conducted before and after the training. Measurements included sway velocity, center of pressure displacement, and timed balance tasks. The results revealed significant improvements in both walking balance and postural stability after the training intervention. These gains were attributed to enhanced proprioception, muscle strength, and neuromuscular control developed through dancesport training. The study suggests that dancesport training can be a valuable addition to dance education programs, improving walking balance, postural stability, and performance, and reducing injury risk in collegiate dancers.

Therefore, the results of this research showed that the developed dancesport training program can improve the dancesport walking balance and spin balance of university athletes.

Recommendation

1. Increasing the sample size to include a more diverse group of university athletes, both in terms of skill level and background, to enhance the generalizability of the findings.
2. To assess the sustainability of improvements in walking and spin balance, this research should include long-term follow-up assessments after the completion of the training program to determine if the benefits are maintained over time.
3. Investigating the effects of varying intensities and durations of DanceSport training on walking and spin balance may provide more detailed information about the optimal training regimen for enhancing these skills

Further Research

1. Future studies could incorporate the use of motion capture technology, force plates, and wearable sensors to gather more precise data on gait patterns, balance dynamics, and body movements during DanceSport training.
2. Future research should explore the psychological aspects, such as confidence and fear of failure, which may impact performance in walking and spin balance. A focus on mental training techniques might reveal ways to improve athletes' confidence alongside physical training.

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687

3. Further research could explore the effectiveness of personalized training programs based on athletes' baseline balance and coordination levels. Tailoring the training regimen to the specific needs of individual athletes may yield better performance outcomes.

Reference

Bielmann, M., Rumpf, M. C., & Cronin N. J. (2016). A prospective study on balance ability and lower leg injury in elite cross-country skiers. *Injury Epidemiology*, 3(1), 23-26.

Chang, Y., Wong, M.K.Y., & Ho, R.T.S. (2020). Effects of dance training on balance in elderly: a systematic review. *Phys Ther Sport*, 41(8), 156-167.

Cheng, W. (2021). *Kinematic analysis of Latin dancer's turn.* Master's Degree Thesis: Central China Normal University.

Gao, J., Chen, S., & Zou, J. (2018). The Effects of 16-Week Dance Sport Program on Physiological and Psychological Adaptation in Elderly Males. *Frontiers in Psychology*, 9, 1459.

Hu, Y., & Pi, J. (2008). *Sports Dance*. Changsha, Hunan University Press.

Kim, J., Yun, C., & Pack, S. (2013). Effects of the Dancesport program on changes in the thickness of femoral muscles and knee function in CKP middle-aged women. *Journal of Dance Education*, 30(1), 209-220.

Lee H, Lee M & Hong K. (2009). Effects of 9 weeks of Dancesport training on variables related to falling injury in the elderly women. *Korean Journal of Sport Science*, 20(4), 778-790.

Liiv, H., Jürim¨ae, T., M¨aestu, J., Purge, P., Hannus, A., & Jürim¨ae, J. (2014). Physiological characteristics of elite dancers of different dance styles. *Eur. J. Sport Sci*, 14(3), 37–41.

Liu, G. (2016). *Research on modeling of human standing balance system and evaluation method of balance ability.* Master's Degree Thesis: Yanshan University.

Liu, X., Li, J., & Zhang, H. (2018). Effects of DanceSport Training on Walking Balance and Gait Stability in University Athletes. *International Journal of Sports Science & Coaching*, 13(4), 612-623.

Michalska, J., Kamieniarz, A., Michalski, R. (2018). The influence of dance sports training on postural stability and reaction time of elite dance sport athletes. *PLoS One*, 13(8), 89-95.

Peng, C., & Ye, W. (2012). Discussion on the internal and external systems and training methods of sports dance training. *Journal of Chongqing University of Science and Technology (Social Science Edition)*, 164(01), 163-164, 171.

Smith, A.R., Jones, B.D., & Lee, M.C. (2020). Effects of DanceSport Training on Walking Balance and Postural Stability in Collegiate Dancers. *Journal of Dance Medicine & Science*, 24(2), 63-71.

World DanceSport Federation. (2024). *DanceSport For All.* https://www.worlddancesport. org/ about/all

Wu, H., Gau, J., Hsu, C., Tu, J., & Tsao, T. (2012). Effects of Habitual Low-impact Dance on the Balance and Torque of the Knee of Older Female Individuals. *Advances in Physical Education*, 2(2), 39-43.

Zahiu, M., Manos, M., & Drăghici, G. F. (2020). Coordination in formation dancesport at beginner level. Discobolul–Physical Education. *Sport and Kinetotherapy Journal*, 59(3), 271-288.

Zao, W., Meng, G., & Wang, D. (2000). Research progress of human balance function test system. *Ergonomics*, 11(3), 46-50.

Zhai, R. (2021). *Experimental study on the effect of functional training on the balance ability of college standard dance players.* Master's Degree Thesis: Hunan Normal University.

Zhang, H. (2022). *Experimental study on the effect of BOSU ball training on the balance ability of aerobics beginners of physical education majors.* Master's Degree Thesis: Guizhou University of Science and Technology.

Zhang, L. (2017). *Research on improving Latin dance rotation techniques based on basic ballet training.* Master's Degree Thesis: Capital Institute of Physical Education.

Citation
Feng, X., Hongseanyatham, P., & Saochalerm, A. (2025). Effects of Dancesport on Walking Balance and Spin Balance of University Athletes at Shenzhen Technology University. International Journal of Sociologies and Anthropologies Science Reviews, 5 (2), 377-390; DOI: https://doi.org/10.60027/ijsasr.2025.5687