High School Students Flexibility Training in Dance

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Abstract

Flexibility is the range of motion of muscles and connective tissue at a joint or group of joint. This study used a quantitative method utilizing descriptive-comparative approach to measure the level of flexibility in dance among high school students. The respondents of the study were thirty grade 9 learners from a secondary school in 3rd District, DepEd Division of Davao City, Region XI. This study is anchored on the theory of Social Learning theory by Albert Bandura (1986) which self-efficacy seeks to explain the individual's belief in their capabilities to execute the actions necessary to achieve specific goals. In the context of flexibility, enabling you to stretch and increase range of motion as a dance performer, you will be able to execute dance steps with greater ease and control, leading to smoother and more polished performances. The study adapted and modified the Survey on Stretching Practices Questionnaire in collecting the data and were analyzed using the mean and analysis of variance. The questionnaire has passed through reliability testing which resulted to Cronbach's alpha score .77 which means reliable. The mean result of the highest indicator in the level of flexibility training was general stretching practice perceived as high which indicates that the learner's flexibility is often evident for the reason of warm-up. In conclusion, in the context of the study the test of difference in the level of flexibility training when analyzed across the profile of the respondents in terms of age and gender do not have an impact among high school students. It is recommended that the strategy is to enhance a flexible stretching program with or without dance sessions to avoid injuries in a year and improve the excellence of being a dancer.

Keywords: Flexibility; Stretching; Injury; Joints

1. Introduction

Flexibility for operational purposes is defined as, "The range of joint motion available in a joint or group of joints, mobility" according to the study of Corbin et al., (1980). In the context of dance, a review of the literature highlighted the importance of stretching exercises in improving flexibility, muscle strength, and range of motion, and suggested specific stretching's that target flexibility (Hamidur et al., 2020). It is suggested that more attention should be given to a balanced stretching regimen as part of the dancers' warmup in an effort to reduce the frequency of illnesses (David et al. 1987).

In China, a study in the effects of eccentric training on hamstring flexibility among your dance students, recommended to use eccentric training when increasing hamstring flexibility (Liang et al. 2024).

Interventions be put in place to reduce the incidence of HIS by addressing modifiable risk factors focused on improving flexibility (Opar et al. 2012). To achieve a comprehensive set of physical skills, flexibility as a foundation should be enhanced in the process of dance performance and training (Kirkendall et al. 1984; Batson, 2013).

In the Philippines, Proprioceptive Neuromuscular Facilitation stretching administered as a post-training flexibility exercise of volleyball varsity players is an effective method in improving agility when compared with the traditional static stretching technique (Ilan et al., 2020). In the context of dancing, according to the study in ankle flexibility and injury patterns in dancers by Wiesler et al., (1996), lower-extremity injuries are common among dancers and cause significant absences from rehearsals and performances. Furthermore, the rigors of dance training causes many of the common overuse injuries found in other sports activities, but they also cause injuries unique to dancers.

The urgency of addressing flexibility in dance students is paramount due to its foundational role in enhancing physical skills and reducing the risk of injuries, as highlighted in various studies. Eccentric training has been recommended to improve hamstring flexibility, while interventions focusing on flexibility can help reduce the incidence of injuries. Flexibility is crucial for comprehensive physical skill development in dance performance and training. In the context of dancing, lower-extremity injuries are common and can lead to significant absences from rehearsals and performances, emphasizing the critical need to address flexibility to prevent such injuries. Therefore, prioritizing flexibility through appropriate training methods like eccentric training and Proprioceptive Neuromuscular Facilitation stretching is essential to enhance performance and reduce injury risks in dance students.

The purpose of this study is to describe the level of flexibility training in dance among high school students. Specifically, it sought to answer to these following questions:

1. What is the level of respondents in terms of:
1.1 age; and
1.2 sex?
2. What is the level of perception of flexibility training in terms of:
2.1 general stretching practices; and
2.2 stretching and injury?
3. Is there a significant difference in the level of flexibility training when analyzed across the profile of the respondents?

2. Methodology

2.1. Research Design

The study was a non-experimental quantitative research design to describe the level of flexibility stretching among high school students and used a descriptive-comparative analysis research method. As claimed by Watson (2015) one of the famous authors in quantitative research, quantitative research encompasses a range of methods concerned with the systematic investigation of social phenomena, using statistical or numerical data.

2.2. Research Locale

The study was conducted among high school students in a public secondary high school students in 3rd District, DepEd Division of Davao City, Region XI.

2.3. Research Respondents

Thirty high school students in grade 9 level from the 3rd District, DepEd Division of Davao City, Region XI participated in this study. A letter of intent to conduct the study was given to the school principal and advisers to ensure the respondents willingness to answer the survey as well to exercise data privacy.

2.4. Research Instrument

An adapted and modified questionnaire on flexibility stretching practices authored by Babault et al., (2021) to collect the data and passed through reliability testing which resulted to Cronbach's alpha score .77. It is a 9-item questionnaire where each question will be measured on a 5-point scale where 1 is regarded as strongly disagree, 2 as disagree, 3 as moderately agree, 4 as agree and 5 as strongly agree. The respondents will provide in part one their demographic profile, followed by the 9-item questions in part two that will have an indicator to measure respondents general stretching practices with 6-item questions and the indicator for stretching and injury consist with 3-item questions. In analyzing the data, mean will be used to determine the level of flexibility and analysis variance will be used for the significant difference in the level of flexibility training when analyzed across the profile of the respondents.

In gathering of data, it will be conducted through traditional survey. The chosen respondents will be asked first about the survey and will give their consent agreeing that they will participate before the researchers give the survey questionnaire. To answer the following questions, the respondents will rate each item according to the given choices, which will correspond to their answer. The respondents will be given not less than 10 minutes to fill in the survey. Once the survey was fully completed by all the respondents, the data will be later analyzed along with the computation. Above all, the researchers must follow research protocols in conducting the survey by including ethical considerations that are necessary for this study.

3. Results and Discussion

The purpose of this study is to describe the level of flexibility training among high school students. This chapter presents the analysis of the collected data, interpretations and statistical techniques that are utilized in the current study.

3.1. Profile of the respondents

This section presents the profile of the respondents in terms of age and gender. Table 1 presents the respondent's profile, frequency, and percentage. In terms of age, the result shows that 14-17 years old obtained the highest percentage of 90.0%, while the lowest percentage is garnered by the 10-13 years old with 10.0%. It means that more than half of the respondents are around 14-17 years old. The next profile variable is gender. It is categorized as male and female. The result shows that 53.3% of the respondents are female, and 46.7% are male. It means that a higher number of the respondents surveyed are female.

Table 1. Demographic Profile of High School Students

Profile	Frequency	Percent
Age		
10-13	3	10.0%
14-17	27	90.0%
18-20	0	0.0%
21-24	0	0.0%
25 above	0	0.0%
Total	30	100.0%
Sex		
Male	16	53.3%
Female	14	46.7%
Total	30	100.0%

Level of Flexibility Training in Dance among High School Students

Table 2 below provides an overview of the flexibility training of high school students. The findings revealed an overall mean rating of 3.36. perceived as moderate that indicates learner's flexibility are sometimes evident. In terms of the first indicator general stretching practice, the rating is 3.74 perceived as high which indicates that the learner's flexibility is often evident. Lastly, for indicator stretching and injury with a result of 2.97 perceived as moderate it indicates that the learner's flexibility is sometimes evident. With the overall mean in the level of flexibility that perceived as moderate, the data is in line to support the claim of Babault (2021) that most individuals acknowledged the existence of different stretching modalities and pointed out the need to improve the supervision of stretching exercises.

Table 2. Summary Level of Flexibility training of high school students

Indicator	SD	Mean	Descriptive Level
General stretching practice	1.19	3.74	High
Stretching and injury	1.23	2.97	Moderate
Overall Mean	1.21	3.36	Moderate

In table 2.1 as shown below, the overall mean of the level of flexibility in terms of general stretching practices is 3.74 perceived as high that indicates learner's flexibility is often evident. This means that learner's flexibility training in terms of general stretching practice perform stretching for the reason of warm-up. Stretching for the reason of warm-up is always practice by dancers among high school students, it is important for the students to execute proper stretching as dancing will require movements of our body.

The data is in line to support the claim of Beaulieu (1981) that the correct target intensity of stretching is very important since many professionals do not know that stretching, like any form of training, can provide a potentially traumatic stimulus to the muscle-tendon units (MTU).

Table 2.1. Summary Level of Flexibility training of high school students in general stretching practices

General Stretching Practices	SD	Mean	Descriptive Level
During flexibility training…			
1. I practice stretching for the reason of wellness	1.21	3.83	High
2. I practice stretching for the reason of warm-up	1.03	4.03	High
3. I practice stretching for the reason of injury prevention.	1.42	3.33	Moderate
4. I practice stretching for the reason to gain	1.03	3.90	High

flexibility			
5. I practice stretching for the reason of recovery	1.19	3.57	High
6. I practice stretching for the reason of health	1.28	3.77	High
Overall Mean	1.19	3.74	High

The table 2.2 below, overall mean of the level of flexibility in terms of stretching and injury is 2.97 perceived as moderate that indicates learner's flexibility is sometimes evident. This means that learner's during flexibility training in terms of stretching and injury thinks that stretching can avoid being injured. Injuries can happen when proper stretching is not executed well, having sprain injury as an example of common injury when dancing can affect muscle and the whole performance of a dancer.

The data is in line to support the claim of De Weijer et al., (2003) that warm-up and stretching are advocated by clinicians to increase muscle length and performance and to limit muscle injuries.

Table 2.2. Summary Level of Flexibility training of high school students in stretching and injury

Stretching and injury	SD	Mean	Descriptive Level
During flexibility training…			
1. I get injured within a year	1.08	2.07	Low
2. I think stretching can avoid being injured	1.28	3.50	High
3. I think stretching contribute the absence of injury	1.32	3.33	Moderate
Overall Mean	1.23	2.97	Moderate

Test of Difference in the Level of Flexibility of High School Students When Analyzed Across the Profile of Respondents

The table 3 below represents the test of difference in the level of flexibility of high school students when analyzed across the profile of the respondents.

Table 3. Test of Difference in the level of Flexibility training of high school students when analyzed across the profile of the respondents.

Profile	F/t-value	p-value	Decision on Ho	Interpretation
Age	.28	.99	Failed to Reject Ho	Not Significant
Gender	.49	.91	Failed to Reject Ho	Not Significant

In terms of age, as shown in table 3 it garners an F-value of .28 with a p-value of .99 which is greater than 0.05 in the level of significance, indicating that there is no significant difference. The null hypothesis cannot be rejected, indicating that the level of flexibility training of high school students does not vary significantly across different age groups.

In terms of gender, as shown in table 3 it garners an f-value of .49 with a p-value of .91 which is greater than 0.05 in the level of significance, indicating that there is no significant difference. It fails to reject the null hypothesis. Moreover, this indicates that the level of flexibility training of high school students is similar between male and female.

These findings indicate that the factors of age and gender do not have a significant impact on the level of flexibility training among high school students. It suggests that the student's overall flexibility is consistent across these demographic factors. It is important to consider other factors or variables that may influence the student's flexibility and tailor interventions or support accordingly to promote their overall flexibility effectively. The result supports the findings of Rubini et al. (2017) that it is common practice to perform a stretching routine before a session and when recommending flexibility exercises, one should

consider other underlying issues, such as the safety of the participants, possible increases in injury risks and unnecessary time expenditure.

4. Conclusion

The level of flexibility training in terms of general stretching practices was perceived high indicating learner's flexibility is often evident as shown based on the analysis of data. Meanwhile, overall results on the test of difference in the level of flexibility when analyzed across the profile of the respondents is said to be statistically not significant in terms of age and gender. Consequently, null hypothesis cannot be rejected. Based on the findings of the study, it is recommended to consider the flexibility training of high school students, given the fact that it increases muscle length and performance during dances. The problems of having injuries during dances affects the whole performance of the learner. Physical education teachers are to discuss the importance of flexibility and create a program that would enhance the flexibility training of the dancers to further avoid injuries easily. Learners must religiously follow the program as scheduled to strengthen their muscles and joints.

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