

Physical Fitness Level as Influenced by Ballroom Dancing

By

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Abstract

This experimental research determined the influence of ballroom dancing in the development of physical fitness level of the first year education students of Capiz State University Main Campus, Roxas City. Employing the pre-test post-test design, data were gathered from the pre and post results of the control and experimental groups using ballroom dancing. The differences and significance were tested using t-test, and Pearson r for the relationship. In the pre-physical fitness level, the experimental group was found to be good in terms of flexibility, average in cardiovascular endurance and below average when it comes to strength. The control group, meanwhile, was good in flexibility and cardio vascular endurance but below average agility and strength. The posttest result shows that ballroom dancing yielded increased physical fitness. Specifically, it resulted to high flexibility, excellent agility, and average strength and good cardio vascular endurance. The control group, meanwhile, which was not exposed to ballroom dancing, showed good flexibility and cardio vascular endurance and average agility and strength. The pre- and post-test results of both groups differ significantly in flexibility, agility, strength and cardio vascular endurance in favor of the experimental group, showing that ballroom dancing developed the participants' positive values and improved their knowledge, skills and creativity. Significant results were also found between the posttest of the two groups' physical fitness level and relationship between the perceptions on ballroom dancing and level of training performance. Cha cha cha and jive were the proposed ballroom dancing activities. The researcher, therefore, proposed an improved instructional guide in ballroom dancing to be integrated in teaching physical education activities specifically in Physical Education 1002 (Fitness Exercise).

Keywords: Physical fitness, Ballroom dancing

1. Introduction

Rationale of the Study

Total fitness is the optimal quality of life and is described as a condition that helps one look and feel. One of its aspects is physical fitness which enables one to perform to the maximum level of his potentials. More specifically, it is the ability of the human body to function with vigor and alertness without undue fatigue and with ample energy to engage in leisure activities and to meet stresses, (Clarke,19760; Safrit,1981; Eviza, 2007). To others, physical fitness is the ability to endure, to bear up, to withstand stress, to carry on in circumstances where an unfit person could not perform. It is the major basis for good health and well-being (Sjostrom, 2006). Flexibility, agility, strength and power, muscular endurance, body mass index, cardiovascular endurance and general alertness are the overt signs of physical fitness.

The best way of attaining high level of physical fitness is to indulge on physical activities. Fitness authorities have been essentially unanimous in viewing physical fitness as a multi-dimensional trait (Gisolfi and Lamb, 1989) related significantly to the capacity of

movements. Various studies and activities conducted by physical fitness experts enabled them to identify health-related and motor- or skill-related components of fitness. To attract the students' interests, basic physical education primarily must focus on the human body, physical activity and physical fitness development. Programs in physical must provide variety of movement experiences that includes rhythmic and dance activities. That school makes provision that the physical education programs must equip students with knowledge and skills on physical fitness and provide them with opportunities to plan their own program of fitness like aerobics, sports activities and ballroom dancing.

Ballroom dance with pattern and rhythmic bodily movements usually performed with music are the best means to develop physical fitness. Dancing is one of the versatile and satisfying activities that one can participate in as a form of expression, reaction or a form of exercise to develop fitness. The physical well-being of an individual is improved with joy and satisfaction. It could also improve response to rhythmic patterns. Frequent exposure to activity like ballroom dancing could help develop poise with good posture and good health. Thus, there is a need for educators to help students move toward the right direction to ensure that the education system develops not only the learners' mind but also their over-all wellness. This study is, therefore, an attempt to determine whether ballroom dancing could help develop the physical fitness level of students of Capiz State University, Main Campus, Roxas City.

Objectives of the study

This study aimed to determine the influence of ballroom dancing activities in the development of physical fitness of the students of Capiz State University, Main Campus, Roxas City for the School Year 2017-2018. Findings of the study will be the proposed activities in ballroom dancing.

This study sought answers to the following::

1. The pre – physical fitness level of the participants in the experimental group and control group in terms of: flexibility, agility, strength and; cardiovascular endurance.
2. The post-physical fitness level of the participants in the experimental group and control group in terms of : flexibility, agility, strength and, cardiovascular endurance.
3. The level of training performance in ballroom dancing activities in terms of: swing, cha cha cha, samba, and jive.
4. The significant difference between the pre-test and posttest of physical fitness level of the two groups.
5. The perception of the participants with regards to their training in ballroom dancing activities in terms of: knowledge, skills, creativity, and values.
6. The significant relationship between perceptions and level of training performance of the experimental group.
7. The significant difference in the posttest results physical fitness level between the experimental and control groups.
8. The ballroom dancing activities can be proposed based on the findings of the study.

Theoretical Background

This study is anchored on the Theory of Sharkey (2000) which states that changes occur only in the muscle fibers employed in the training. Exercises should be tailored to involve appropriated muscle fibers in the fashion one intends to use them. Thus, the outcomes of exercises are directly related to the activity employed as a training stimulus. In formulating successful training program, Sharkey introduced the essential principles to consider which are the principles of specificity, overload, adaptations, progression, individual response, long term

training, warm up/cool down and moderation. The principle of specificity can be briefly stated: “We improve at exactly what we practice.” He further states that the principle of specificity dictates that improvements in physical prowess and fitness will depend in the degree to which one chooses activities and methods of training that are specific to the outcome desired.

This study is also based on the theory of Albert Bandura’s social cognitive theory (2008), which provides a framework for understanding, predicting and changing human behavior. In this purview, physical education students learn dancing as they watch and perform their instructors do it. In this process, the human thought processes are central to understanding personality as environmental stimulus affects behavior. The learners acquire the skills in ballroom dancing by observing their teachers or through the instructions and demonstrations of the dance steps by teacher. The students follow the execution of the correct mechanics of the dance steps and from this, they are transformed to become ballroom dancers, as well.

Likewise, this study is also anchored on the Connectionism Theory, also known as the Stimulus-Response theory proposed by Edward Thorndike. Learning is the outcome of the relationships between stimulus and responses. These relationships become habits and maybe strengthened or weakened depending on the nature and the frequency of Stimuli and responses. Learning behavior is formed when learners find certain stimulus meaningful to them or have the strong connection that they respond to, that if individual is stimulated to perform an act of response and this act or response is accompanied by pleasure or satisfaction, he will remember and repeat the act. Then with practice, the response becomes automatic like any other dull or habit. Therefore, teachers must be strong stimuli for students to respond actively and master the art of ballroom dancing. The transfer of learning depends on the motivational instruction for learners to learn. Learning how to dance through modeling and observation is accompanied by cognitive process and awareness which involve learning, memory and performance.

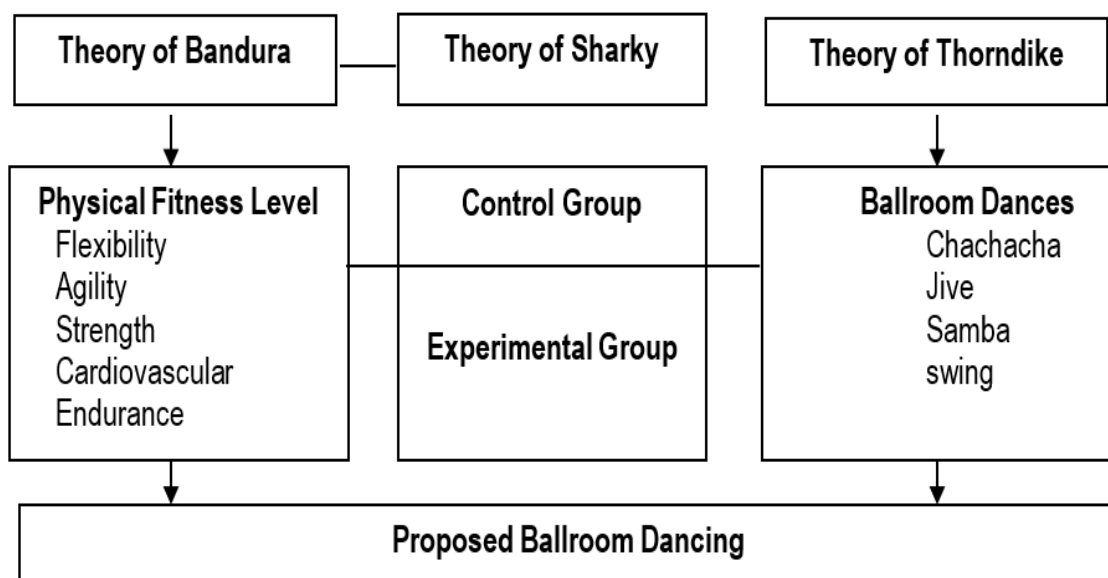


Figure 1. *Theoretical – Conceptual Framework of the Study.*

2. Research Methodology

Research Design

This study employed the experimental research design, using the pre-test post-test

group to determine the effects of ballroom dancing in the development of the physical fitness level with Bachelor in Secondary Education (BSEd) as participants of this experimental study.

A survey instrument in the form of a questionnaire was utilized to find out the control group's perception of their exposure to ballroom dancing activities. This design was appropriated for the present study in determining the influence of ballroom dancing activities in the development of the physical fitness level.

Research Participants

There were 60 participants randomly selected from among the seven sections of 239 First Year BSED students of the Capiz State University during the Second Semester of Academic Year 2017–2018. Thirty students were assigned to each group, composed of 15 male and 15 female participants for the experimental and control groups. Both groups were given pre-test before the intervention and post-test after six weeks of intervention. The control group was exposed to the usual activities while the experimental group was exposed to ballroom dancing as the intervention program or treatment.

Using the simple random sampling procedure, the researcher had chosen students who were enrolled in Capiz State University Main Campus, Roxas City, based on master list from the Office of the Registrar. The researcher decided who would participate in the study through the draw lot method. She wrote the name of a student, one for every piece of paper and then placed it inside a bowl. With the help of experts, the researcher randomly picked 60 students as participants, 30 males and 30 females.

Research Instruments

The data needed to measure the physical fitness level of the students were obtained using the following Philippine physical fitness skill tests:

Sit and reach measured the flexibility of the research participants. This test was specific to the range of motion of muscles and joints of the lower back and hamstring. The equipment used were box or flat board and tape measure or yardstick. The starting position was sitting on the floor with the participant's back against the wall. Shoes were removed and feet fell flat against the box or onward and legs straightened. Participants were instructed to touch with fingers of both hands the zero point of the tape measure placed on the top of the box. The proper position would be back against the wall, arms upward downward to forward reach and push fingers along the tape measure on the box reaching as far as possible. This test was performed three times and the best measurement was recorded in centimeter.

Push ups measured the muscle strength of the participants. Male participants were asked to lie on chest-down with hands at shoulder level, palms flat on the floor and slightly more than shoulder apart, feet together and parallel to each other. Females were told to be of the same position as those of men except that that instead of bending their knees, their feet should be crossed over at the back while doing the push ups.

Three-minute step test for cardiovascular endurance. This was the step on and off the ladder for three minutes straight while keeping a consistent pace. The heart rate was monitored to see how fast it returned to normal after exercise. The lower the heartbeat the better. This instrument was used to measure the capacity of the heart and lungs to sustain the application of force in a period of time.

Illinois run for agility, based on the Philippine Fitness test, described the physical fitness level of the participants. To determine how students perceived their experience in ballroom dancing, a survey questionnaire was distributed to the participants for them to affirm their perceptions towards the training activities.

Data Gathering Procedure

A letter of permission was secured from the President of Capiz State University (CapSU) to allow the researcher to conduct the study with 60 freshmen college students as participants. Furthermore, the permission was also sought for the use of the Physical Education facilities of the university. The list of the freshmen students was secured from the Office of the Registrar. Before the start of the experiment, the participants have undergone medical examination as a requirement before the start of the activity using the Government Form 112, modified by the researcher to suit to her needs in retrieving and recording the personal data of each participant.

The pre-test for physical fitness level was conducted on January 11, 2018 both to the experimental and control groups before the start of the intervention. All participants were instructed to undergo the physical fitness tests. Specifically, they were told to execute the following: sit and reach for flexibility, three-minute step test for the cardiovascular endurance, the Illinois run for agility and push up for the strength. Results of the pre- test were recorded afterwards.

After the pre-test, the participants in the experimental group were instructed to perform ballroom dances; the cha cha cha, jive, samba and the swing. With the use of multimedia facilities, mechanics of the steps were introduced to the participants of the same group. In six weeks they were given time to practice every Monday, Tuesday and Friday at 4:00 to 5:00 pm at the University Auditorium.

The control group was, however, isolated from the influence of ballroom dancing. Instead, they performed the usual activities in the Physical Education 102 (Fitness Exercise) classes. After six weeks of intervention, both groups took the post-test on the physical fitness level. The experimental group had their final performance on the four ballroom dances. Jurors were invited to determine their level of performance in ballroom activities. They were then requested to answer the questionnaire to determine their perception of their training experience in ballroom dancing.

3. Result Discussion

Table 1. *Pre-physical fitness level of the experimental group and control group.*

PHYSICAL FITNESS CHARACTERISTICS	Experimental Group		Control Group	
	Mean	Interpretation	Mean	Interpretation
Flexibility	25.02	Good Fitness	22.00	Good Fitness
Agility	19.51	Average	20.31	Below Average
Strength	20.77	Below Average	24.80	Below Average
Cardiovascular Endurance	110.30	Average	96.83	Good Fitness

Table 1 shows the pre-physical fitness level of the experimental group and the control group. For the experimental group, the mean score (M=25.02) indicates that the participants had “Good Fitness” in terms of flexibility. Their agility (M=19.51) and cardiovascular endurance (M=110.30) were found to be in the average level, while their strength (M=20.77)

rated “below average” before ballroom dancing was introduced in the class.

The group, meanwhile, had “Good Fitness” for both flexibility (M=22.00) and cardiovascular endurance (M=110.30). nevertheless, the group’s agility (M=20.31) and strength (M=24.80) was “Below Average.” The results imply that both study groups showed the possibility of improving their physical fitness given the right intervention to improve their potentials. Following the pre-test, the respondents introduced the intervention to the experimental group.

Table 2. *Post-physical fitness level of the experimental group and control group.*

In terms of:	Experimental Group		Control Group	
	Mean	Interpretation	Mean	Interpretation
Flexibility	29.12	High Fitness	24.08	Good Fitness
Agility	15.96	Excellent	19.04	Average
Strength	31.97	Average	28.53	Average
Cardiovascular Endurance	82.43	Good Fitness	86.43	Good Fitness

Table 2 discloses the post–physical fitness level of the experimental group and control group. The experimental group showed marked improvement in their flexibility, agility, strength, and cardiovascular endurance after the six-week intervention. They showed “Excellent” performance in their agility (M=29.12), “High Fitness” in terms of flexibility (M=29.12), and “Good Fitness” when it comes to cardiovascular endurance (M=82.43). The participants, nevertheless, showed only “Average” performance (M=31.97) in terms of strength, although this was improvement from their “Below Average” pre-test performance.

The control group only showed slight improvement in terms of their physical fitness. Respondents had “Good Fitness” both on cardiovascular performance (M25.83) and flexibility (M=24.08), while they manifested “Average” fitness in terms of agility (M=19.04) and strength (M=28.53).

The results imply that the intervention of ballroom dancing yielded positive effect on the physical fitness of the participants.

Table 3. *Level of training performance in ballroom dancing activities.*

Ballroom dancing	Grand Mean	Description
Swing	92.84	Outstanding
Cha Cha Cha	90.40	Very Satisfactory
Jive	85.56	Satisfactory
Samba	91.23	Outstanding

Table 3 shows the grand mean on the level of performance in ballroom dancing activities. Of the four ballroom activities, the participants performed an “Outstanding” performance in swing (M=92.84) and samba (M=91. 23) as indicated by their respective mean scores. The participants further showed “Very Satisfactory” performance in cha cha cha (M=90.40) while they showed a “Satisfactory” performance with jive (M=85.56). This implies that physical education teachers may have to carefully consider that the dance exercises to be included in the class should only be those that would be highly beneficial for the health and well-being of the learners.

Table 4. Differences between the pre-test and posttest of the physical fitness level of experimental group and control group.

Variables	Mean	Mean Difference	t-value	P-value	Remarks
EXPERIMENTAL GROUP					
Flexibility					
Pretest	25.02	4.10	9.871	0.000	S
Posttest	29.12				
Agility					
Pretest	19.51	3.55	15.699	0.000	S
Posttest	15.96				
Strength					
Pretest	20.77	11.20	11.645	0.000	S
Posttest	31.97				
Cardiovascular Endurance					
Pretest	110.30	27.87	11.776	0.000	S
Posttest	82.43				
CONTROL GROUP					
Flexibility					
Pretest	22.00	2.08	9.871	0.000	S
Posttest	24.08				
Agility					
Pretest	20.31	1.27	5.744	0.000	S
Posttest	19.04				
Strength					
Pretest	24.80	3.73	9.663	0.000	S
Posttest	28.53				
Cardiovascular Endurance					
Pretest	96.83	10.40	7.126	0.000	S
Posttest	86.43				

Data in Table 4 shows the pretest and posttest of the experimental and control groups, respectively. It can be gleaned that significant differences were found on the participants' flexibility, agility, strength, and cardiovascular endurance both in the experimental group and in the control group.

Table 5. Perceptions of experimental group on ballroom dancing activities.

Perceptions	Grand Mean	Description
Knowledge	4.59	Very Sufficient
Skills	4.44	Highly Developed
Creativity	4.27	Very Artistic
Values	4.59	Very Positive

Data with regards to the perceptions of experimental group on ballroom dancing activities (as shown in Table 5) shows that the participants believed that ballroom dancing activities have “Highly Developed” their skills (M=4.44), provided them with “Very Sufficient” knowledge (M=4.59), inspired them to become “Very Artistic” in terms of creativity (M=4.27), and equipped them with “Very Positive” values (M=4.59).

Table 6. Relationship between the perception on ballroom dancing activities and level of training performances of the experimental group.

Variables	N	Mean	Pearson r – value	P – value	Remarks
Perception	30	4.47	0.353	0.005	s.
Level of training performance	30	90.01			

Table 6 shows the relationships between the experimental group's perception on ballroom dancing activities and their level of training performance. The result shows that there was a significant relationship that exists between the two variable, indicating that the participants' perception on ballroom dancing relates to the level of training performance that they had. The participants highly perceived ballroom dancing because of the quality of training performance that they showed in the six weeks that they were exposed to ballroom dancing.

Table 7. Significant difference in the post physical fitness level between the experimental and control groups.

Variables	Mean	Mean difference	Sig.2-tailed	Remarks
Post-Flexibility				
Experimental	29.12	5.04	.006	S
Control	24.08			
Post-agility				
Experimental	15.96	-3.09	.000	S
Control	19.04			
Post-strength				
Experimental	31.97	-3.43	.141	S
Control	28.53			
Post-cardiovascular endurance				
Experimental	82.43	-4.00	.159	S
Control	86.43			

Table 7 shows the significant difference in the post-physical fitness level between the experimental group and control group. It can be gleaned that a significant difference existed in the performance of the participants during the experimental and control group in terms of their flexibility, agility, strength, and cardiovascular endurance.

4. Proposed Improved Instructional Guide in Ballroom Dancing Activities

Rhythmic activities are the physical manifestations of the physical, mental and o emotional responses of the individual to rhythm. In response to different rhythmical patterns, structured movements are formed and come into being. It is the expression of one's emotions through movements controlled by rhythm called dance (jimena, 2006).

Dancing is the act of rhythmically to any sound. It is the expression of one's emotion through movement controlled by rhythm. Since prehistoric times, people always had the desire to dance. That desire evolved from generation to generation. It is then believed, that dancing is an integral part of life itself. All acts of dancing are made up of stretching and relaxing that improve fitness level of individual if regularly done.

In this study, the influence of ballroom dancing activities in the development of fitness level of the participants revealed outstanding results in swing and samba, while satisfactory

and very satisfactory in cha cha cha and jive. The result showed that jive has the lowest mean while swing has the highest mean among the ballroom dances. Based on the results, the researcher formulated the Proposed Improved Instructional Guide in Learning the jive and cha cha cha to be integrated in Physical Education 12 (Rhythmic Activities).

5. Conclusions

Ballroom dancing shows promise in improving not only the physical fitness of students but also in developing their cognitive and affective aspects. Performance and practice as a means to measure learning required mastery, which can be achieved through constant practice. However, there is a need to carefully consider which ballroom dancing activities would best suit to the learners' interest, thus, physical education instructors may introduce varying ballroom dance steps. The output of this study, which is proposed activities in ballroom dancing, is geared to make the teaching of physical fitness more enticing while developing the overall health of the students.

References

Books

- Adami, M. (2002). *Aqua Fitness*. Dorling Kindersley. London.
- Anderson, J. (1981). *The Competitive Edge*. Bantams Books New York.
- Darilag, A.G., and Vergara, L.A., and Mateo, L.A.V. *Enjoy Life with P.E and Health Textbook*. American College of Sports Medicine (2004). *Resources for The Personal Trainer*.
- Berjamen, V. (2007). *The Anthropometric Profile and Motor Fitness*. Unpublished Master of Arts in Teaching Physical Education. Filamer Christian Colloge, Roxas City.
- Baylon, B. (n.d.). *Cardiovascular Endurance and leg Power Development Through Taebo Among High Athletes*.
- Corbin, C., Welk, G., Corbin, R., and Welk, K. (2006). *Concept of Fitness and Wellness (A Comprehensive Lifestyle Approach, 7th Edition*.
- Davis, R., Bull, R., Roscoe, J. and Roscoe, D. (1998). *Physical Education and the Study of Sport.*, USA: Chikago, Mosby Co.
- Doris D. Tulio (2007). *Physical education 2 for college*.
- Eviza, A.E. and Lacema E.B. (2007). *Physical Education 1 (A Worktest for The Tertiary Level)*.
- Jimena, E., Cachero, E. Janeo, P. and Tayona, E. *Intoduction to Physical Education, Physical fitness and Structured Physical Activities*.
- Sarapanan, R.N. JR. *Body Weight Training: It's Effect on Arm Strength and Endurance, Abdominal Strength and Endurance, and Leg Power Development*.

Biographical Sketch

Susan a.diosalan .The researcher is an Associate Professor V at Capiz State University, Main Campus, Roxas City. She became a Physical Education college instructor at Colegio Dela Purisima Concepcion, Roxas City in 1992-1997. She has been a regular classroom teacher for a year in Lucero National High School, Jamindan, Capiz in 1997-1998 before pursuing teaching in the tertiary level.

She finished Master of Arts in teaching Physical Education at Filamer Christian College in 2006 and Doctor of Philosophy (Educational Management) at Colegio Dela Purisima Concepcion, Roxas City in 2009. She later on pursued her Doctor of Education (Physical Education) at University of the Visayas and finished it in 2013.

She was able to present study in the International Research Conference by Philippine Association of Institutions for Research held in Cebu City on October 2015. Published research in the JPAIR Journal and in Harvard Library.