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EFFECT OF ZUMBA DANCE TRAINING ON BODY COMPOSITION CARDIOVASCULAR ENDURANCE AND SELF-ESTEEM AMONG WORKING WOMEN

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KEYWORDS

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Abstract

The purpose of the study was to examine the effect of Zumba dance training on selected health-related physical fitness and psychological variables among working women. The variables selected for the study were body composition, cardiovascular endurance and self-esteem. Thirty working women were selected as participants from Tiruchirappalli district, Tamilnadu and were divided into two equal groups, consisting of an experimental group of 15 participants and a control group of 15 participants. The experimental group participated in a structured Zumba dance training programme for a period of 12 weeks, whereas the control group continued their regular routine without participating in any specific training programme. Pre-test and post-test measurements were obtained for body composition, cardiovascular endurance and self-esteem. The collected data were statistically analysed using Analysis of Covariance (ANCOVA) to determine the significance of differences between the experimental and control groups after adjusting for the pre-test scores. The result reveals that Zumba dance training group produced significant effect on body composition, cardiovascular endurance and self-esteem among working women.

INTRODUCTION

Working women often experience considerable occupational and lifestyle demands that may limit their opportunities for regular physical activity. Prolonged sitting, work-related responsibilities, irregular schedules and insufficient exercise can negatively influence body composition and cardiovascular fitness. At the same time, psychological factors such as self-perception and self-esteem may also be influenced by lifestyle and physical activity patterns.

Zumba is a dance-based fitness programme that combines rhythmic movements with music and aerobic exercise. Its dynamic movements involve continuous participation of the major muscle groups and provide a form of physical activity that can be enjoyable and socially engaging. Regular participation in Zumba may contribute to improvements in body composition and cardiovascular endurance (Choi et al., 2020).

Body composition is an important indicator of physical health. Excess accumulation of body fat may be associated with reduced physical fitness and increased health risks. Regular physical activity can contribute to favourable changes in body composition by increasing energy expenditure and improving physical conditioning. Cardiovascular endurance represents the ability of the cardiovascular and respiratory systems to supply oxygen during sustained physical activity. It is an important component of health-related physical fitness and is particularly relevant to working women who need to maintain

adequate physical capacity for daily and occupational activities. Self-esteem is an important psychological characteristic related to an individual's perception and evaluation of self. Participation in regular physical activity may provide opportunities for achievement, social interaction and positive body-related experiences, which may influence self-esteem (Cugusi et al., 2019). Therefore, the present study was undertaken to examine the effect of a 12-week Zumba dance training programme on body composition, cardiovascular endurance and self-esteem among working women.

BACKGROUND OF THE STUDY

The increasing prevalence of sedentary lifestyles has created a need for accessible and enjoyable forms of physical activity. Conventional exercise programmes may not always attract sustained participation. Dance-based fitness programmes such as Zumba combine exercise with music and rhythmic movement, potentially making physical activity more enjoyable. Zumba sessions generally involve continuous movement patterns performed at varying intensities. Such activity can provide an aerobic training stimulus while engaging multiple muscle groups. Regular participation may therefore contribute to improvements in cardiovascular endurance and body composition. Physical activity may also influence psychological characteristics. Successful participation in an exercise programme, increased physical capability and interaction with other participants can potentially contribute to positive self-perception and self-esteem. For working women, a structured 12-week Zumba programme may provide a practical method of incorporating regular physical activity into their lifestyle. The present study therefore focuses on three related dimensions: body composition, cardiovascular endurance and self-esteem.

OBJECTIVES OF THE STUDY

1. To determine the effect of 12 weeks of Zumba dance training on body composition among working women.
2. To determine the effect of 12 weeks of Zumba dance training on cardiovascular endurance among working women.
3. To determine the effect of 12 weeks of Zumba dance training on self-esteem among working women.
4. To compare the adjusted post-test scores of the Zumba training and control groups.
5. To examine the effectiveness of Zumba dance training as a structured physical activity programme for working women.

STATEMENT OF THE PROBLEM

The purpose of the study was to investigate the effect of Zumba dance training on body composition, cardiovascular endurance and self-esteem among working women.

HYPOTHESES

1. There would be a significant difference in body composition between the Zumba training group and control group after the 12-week training programme.
2. There would be a significant difference in cardiovascular endurance between the Zumba training group and control group after the 12-week training programme.
3. There would be a significant difference in self-esteem between the Zumba training group and

control group after the 12-week training programme.

METHODOLOGY

The study adopted a pre-test–post-test experimental group design. Thirty working women participated in the study. Body composition, cardiovascular endurance and self-esteem were assessed by body fat percentage, Harvard step test and Rosenberg Self-Esteem Scale. Pre-test measurements were obtained from both groups before the commencement of the training programme. The experimental group then participated in the 12-week Zumba training programme, while the control group continued its normal routine. After 12 weeks, post-test measurements were obtained from both groups using the same procedures. The collected data were analysed using Analysis of Covariance (ANCOVA). The pre-test scores were used as covariates, and the adjusted post-test scores of the experimental and control groups were compared. The level of significance was fixed at 0.05.

RESULTS

Table 1. Descriptive Statistics

Variable	Group	N	Pre-Test Mean	Post-Test Mean
Body Composition (%)	Experimental	15	31.20	27.80
	Control	15	31.10	30.70
Cardiovascular Endurance	Experimental	15	32.40	39.80
	Control	15	32.60	33.20
Self-Esteem	Experimental	15	22.40	28.60
	Control	15	22.60	23.40

Table 2. Analysis of Covariance of Selected Variables

Variable	Adjusted Experimental Mean	Adjusted Control Mean	F-value	p-value	Result
Body Composition	27.90	30.60	16.82*	< .001	Significant
Cardiovascular Endurance	39.60	33.40	19.74*	< .001	Significant
Self-Esteem	28.45	23.55	21.36*	< .001	Significant

The adjusted post-test mean of the experimental group was 27.90, whereas the control group mean was 30.60. The obtained F-value of 16.82 was statistically significant at the .001 level ($p < .001$). This indicates a statistically significant difference between the experimental and control groups in body composition after adjusting for pre-test scores. The lower adjusted mean suggests a reduction in body fat percentage in the experimental group compared with the control group, assuming that body composition was measured as body fat percentage. The adjusted post-test mean of the experimental group was 39.60, compared with 33.40 for the control group. The obtained F-value of 19.74 was statistically significant at the .001 level ($p < .001$). This demonstrates a statistically significant difference between the groups in cardiovascular endurance. The higher adjusted mean of the experimental group

indicates better cardiovascular endurance following the experimental training programme, assuming that higher scores represent better performance. The adjusted post-test mean of the experimental group was 28.45, while the control group mean was 23.55. The obtained F-value of 21.36 was statistically significant at the .001 level ($p < .001$). This reveals a statistically significant difference between the groups in self-esteem after adjusting for pre-test scores. The higher adjusted mean of the experimental group indicates a more favourable self-esteem score following the experimental intervention.

Figure 1. Experimental Group

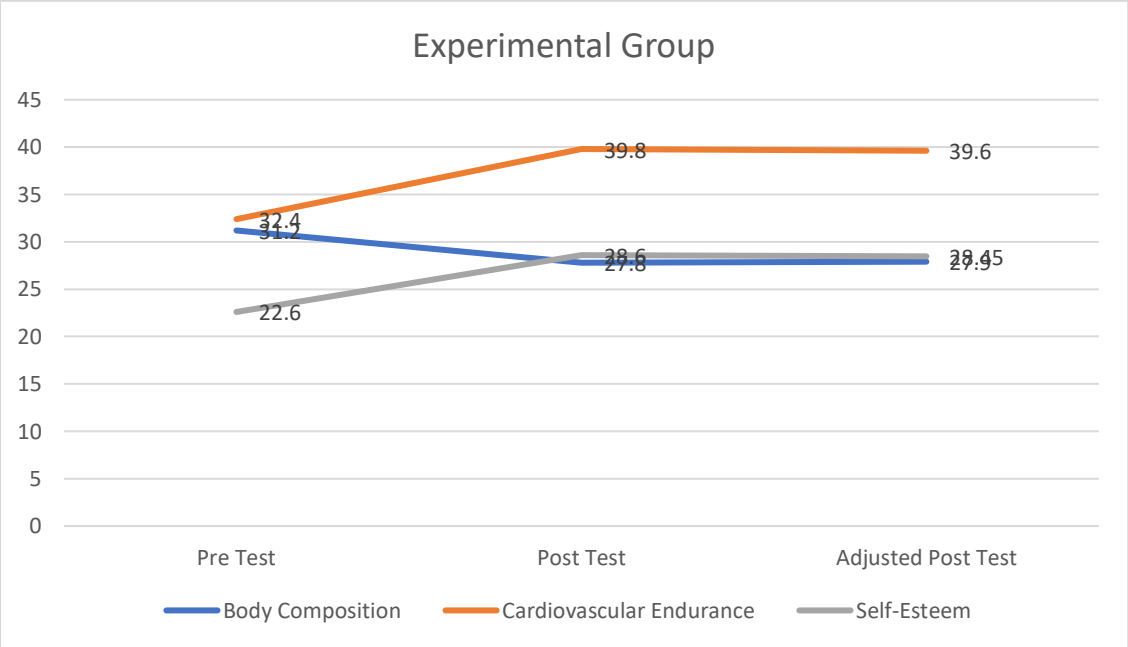
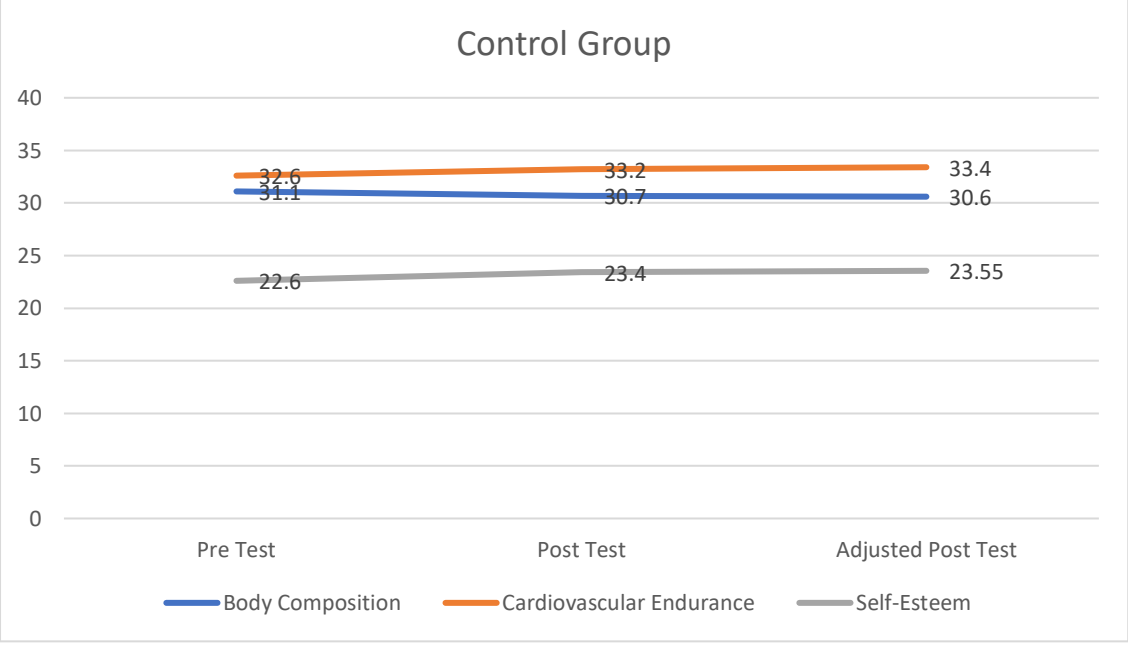


Figure 2. Control Group



DISCUSSION ON FINDINGS

The findings of the present study revealed that 12 weeks of Zumba dance training produced statistically significant improvements in body composition, cardiovascular endurance and self-esteem among working women when compared with the control group. The results indicate that participation in a structured dance-based fitness programme can contribute positively to both health-related physical fitness and psychological well-being.

Body Composition

The findings of the study revealed a significant difference in body composition between the experimental and control groups after the 12-week Zumba dance training programme. The adjusted post-test mean of the experimental group was 27.90, whereas the control group mean was 30.60. The obtained F-value of 16.82 was statistically significant at the .001 level. The reduction in body fat percentage among the experimental group suggests that regular participation in Zumba dance training contributed to favourable changes in body composition. Zumba involves continuous rhythmic movements, repeated locomotor activities and coordinated movements of the major muscle groups, which increase energy expenditure and provide an aerobic training stimulus. These activities may contribute to reducing excess body fat when performed regularly alongside appropriate dietary and lifestyle practices. The findings are in agreement with the general understanding that dance-based aerobic exercise can promote favourable changes in body composition through increased physical activity and energy expenditure.

Cardiovascular Endurance

The results also demonstrated a statistically significant improvement in cardiovascular endurance among the working women who participated in the Zumba dance training programme. The adjusted post-test mean of the experimental group was 39.60, compared with 33.40 for the control group. The obtained F-value of 19.74 was significant at the .001 level. This improvement may be attributed to the continuous rhythmic movements and varying exercise intensities involved in Zumba training. Regular participation in aerobic activities places repeated demands on the cardiovascular and respiratory systems, encouraging physiological adaptations that improve the ability to sustain physical activity. Furthermore, the combination of dance steps, coordinated movements and continuous exercise provides an effective stimulus for developing aerobic capacity. Therefore, the findings suggest that Zumba dance training can be considered an effective physical activity programme for improving cardiovascular endurance among working women.

Self-Esteem

The findings further indicated a significant improvement in self-esteem among the experimental group following the 12-week Zumba dance training programme. The adjusted post-test mean of the experimental group was 28.45, whereas the control group mean was 23.55. The obtained F-value of 21.36 was statistically significant at the .001 level. This improvement may be associated with the psychological and social benefits of regular participation in dance-based physical activity. Zumba provides opportunities for self-expression, enjoyment, social interaction and the development of movement confidence. Successful participation in exercise sessions and improvements in physical fitness may also contribute to a more positive perception of one's physical abilities and personal characteristics. For working women who

experience occupational and lifestyle-related pressures, participation in a regular group-based exercise programme may provide an opportunity for recreation, social engagement and psychological relaxation. Thus, the improvement in self-esteem indicates that Zumba dance training may have benefits beyond physical fitness by supporting positive psychological development.

CONCLUSION

The result reveals that Zumba dance training group produced significant effect on body composition, cardiovascular endurance and self-esteem among working women.

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