

EFFECTIVENESS OF ZUMBA AND AEROBICS TRAINING PROGRAM ON THE BASIS OF SELECTED PSYCHOLOGICAL VARIABLES OF SECONDARY SCHOOL CHILDREN OF MUMBAI

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Abstract of the Study

Background: The lives of secondary school children in Mumbai, much like their global counterparts, are characterized by a delicate balance between academic demands, social expectations, and personal aspirations. This phase of life often exposes them to anxiety and frustration, which can have profound implications for their overall well-being. In accordance with international standards for holistic health, this study investigates the effectiveness of Zumba and Aerobics training programs in alleviating physical stress and pressure in secondary school children in Mumbai.

Methods: A rigorous randomized controlled trial was conducted, involving 150 secondary school students (aged 13-15 years) from Mumbai. Participants were randomly distributed into three groups: Zumba training group (n=50), Aerobics training group (n=50), and a control group (n=50). Standardized assessments were administered both pre-intervention and post-intervention, focusing on anxiety and frustration indicators.

Results: The findings of this study align closely with international standards for comprehensive well-being. Both Zumba and Aerobics training programs demonstrated significant effectiveness in reducing anxiety and frustration among secondary school children. Participants who engaged in these programs exhibited marked improvements in their physical well-being, reporting decreased stress levels and a heightened ability to cope with the pressures of academic and social life. Notably, there were no statistically significant differences in the outcomes between the Zumba and Aerobics groups.

Conclusion: This research underscores the global relevance of Zumba and Aerobics training programs as potent interventions for mitigating anxiety and frustration among secondary school children. In harmony with international well-being standards, the integration of these dynamic physical activities into educational curricula or extracurricular offerings holds substantial promise for nurturing the physical resilience and overall health of adolescents worldwide. The study urges further exploration into the sustainability and widespread adoption of these programs to contribute significantly to the global discourse on youth physical well-being and its intrinsic connection to psychological health.

Keywords: Zumba, Aerobics, Anxiety and Frustration

Introduction

In the bustling heart of Mumbai, a city that never sleeps, the lives of secondary school children unfurl against a backdrop of relentless energy and ceaseless ambition. These young individuals find themselves at the nexus of tradition and modernity, navigating an intricate web of academic pursuits,

social expectations, and personal aspirations. Yet, beneath the vibrant surface of this thriving metropolis lies a hidden adversary that silently permeates the lives of these adolescents: anxiety and frustration. The global standards of holistic well-being emphasize the need to address the intricate interplay between physical and psychological health. This study embarks on a quest to discern the efficacy of Zumba and Aerobics training programs as potent tools in alleviating anxiety and frustration among secondary school children in Mumbai, while adhering to international standards of comprehensive well-being.

The transition from childhood to adolescence is a tumultuous journey marked by a myriad of challenges, where academic excellence often intersects with peer dynamics, familial expectations, and personal identity formation. It is during these formative years that the specter of anxiety and frustration casts its shadow, affecting every facet of a young person's life. The confluence of academic rigor, extracurricular commitments, and the omnipresent digital landscape creates a unique and potent blend of stressors that can manifest as heightened anxiety, diminished self-esteem, and an overall sense of psychological unease.

Anxiety and frustration are pernicious adversaries, elusive yet profoundly impactful. Their insidious effects undermine the very essence of youth, chipping away at the optimism and vigor that should characterize this phase of life. Recognizing this, the international community has underscored the importance of nurturing holistic well-being in adolescents, emphasizing the interconnectedness of physical and psychological health. In this context, physical activity emerges as a beacon of hope, a multifaceted elixir capable of alleviating anxiety and frustration while fostering psychological resilience.

Two dynamic forms of physical exercise, Zumba and Aerobics, have garnered global recognition for their potential to transform lives. Rooted in rhythm, these activities offer a unique avenue for students to release pent-up energy, bond with their peers, and experience the exhilaration of movement. Their international acclaim as instruments for enhancing physical fitness and mental health has piqued the curiosity of researchers, educators, and policymakers alike.

In this study, we embark on a journey to assess the potential of Zumba and Aerobics training programs as transformative interventions for secondary school children in Mumbai, aligning with international standards of holistic well-being. By delving into the heart of this issue, we endeavor to unearth insights that may not only enrich the lives of Mumbai's youth but also resonate with global communities facing similar challenges. Our quest is underpinned by a commitment to the well-being of the world's adolescents, advocating for interventions that can empower them to navigate the intricate tapestry of anxiety and frustration with resilience, vigor, and a renewed sense of hope.

As we venture into this exploration, we carry with us the aspiration that the findings of this study will not only be a testament to the efficacy of Zumba and Aerobics but also inspire global dialogues on the essentiality of holistic well-being for the future of our youth, adhering to international standards of comprehensive health and vitality.

Zumba and aerobics require coordination between movement and music, which can enhance the mind-body connection. When individuals concentrate on coordinating their movements with the rhythm of the music, they can experience a state of flow, where they become fully absorbed in the activity. This

focused attention on the present moment can help shift the focus away from stressors and promote a sense of relaxation and well-being. Physical exercise, including Zumba and aerobics, provides an outlet for releasing physical tension and pent-up energy that can accumulate due to stress. The dynamic and high-energy movements involved in these activities allow individuals to engage their muscles, release tension, and experience a sense of physical release. This can lead to a feeling of lightness, relaxation, and relief from stress-related physical symptoms such as muscle tension and tightness.

Purpose of the study

The purpose of this research study is to rigorously examine and evaluate the effectiveness of Zumba and Aerobics training programs as interventions aimed at mitigating anxiety and frustration among secondary school children in Mumbai. This study is designed in alignment with international standards for comprehensive well-being, recognizing the crucial interplay between physical and psychological health during adolescence. The primary objectives of this study are as follows:

- **Assessing Impact:** The primary purpose of this study is to determine whether Zumba and aerobics training programs have a measurable impact on reducing anxiety and frustration levels in secondary school children in Mumbai. It seeks to evaluate the efficacy of these physical activities as potential interventions for enhancing the mental well-being of this specific age group.
- **Addressing Mental Health:** The study aims to address the pressing issue of anxiety and frustration in secondary school children, which can negatively affect their academic performance, interpersonal relationships, and overall quality of life. By investigating the potential benefits of Zumba and aerobics, the study seeks to contribute to efforts aimed at improving the mental health of these students.
- **Exploring Alternative Interventions:** It seeks to provide insights into alternative approaches for managing anxiety and frustration that move beyond traditional interventions like counseling and medication. Zumba and aerobics represent non-pharmacological, holistic methods that focus on physical health and well-being.
- **Tailoring Interventions:** The study intends to determine whether specific physical activities, like Zumba and aerobics, can be tailored to meet the unique needs and preferences of secondary school children in Mumbai. This could lead to the development of more engaging and culturally relevant interventions.
- **Enhancing Academic Performance:** Improved mental well-being may positively affect academic performance. The study aims to investigate whether participation in Zumba and aerobics programs can lead to better concentration, higher motivation, and, consequently, improved academic outcomes among the target group.

- **Informing Educational Practices:** By examining the relationship between physical activity and mental health in the context of secondary education, the study may provide valuable information that can inform educational policies and practices in Mumbai schools. It may advocate for the inclusion of physical activity programs as part of the curriculum.
- **Contributing to Research:** The research also aims to add to the existing body of knowledge on the connection between physical activity and mental health, with a specific focus on the adolescent population in Mumbai. It may offer insights that can guide future research in this area.
- **Promoting Well-Being:** Ultimately, the study's purpose is to contribute to the well-being of secondary school children in Mumbai by offering evidence-based recommendations for incorporating Zumba and aerobics programs into their daily lives. This aligns with broader efforts to promote a holistic and healthy approach to education.

Objective of the Study

For said study, the objectives of the study were as follows;

1. To compare the adjusted mean scores of **Anxiety** of Secondary School Children of Experimental Group & Control Group by considering Pre-Anxiety as a Covariate.
2. To compare the adjusted mean scores of **Frustration** of Secondary School Children of Experimental Group & Control Group by considering Pre-Frustration as a Covariate.

Hypothesis of the Study

For said study, the hypothesis of the study were as follows;

H₀₁: There is no significant difference in the adjusted Mean Scores of **Anxiety** of Secondary School Students of Experimental Group and Control Group by taking Pre-Anxiety as Covariate.

H₀₂: There is no significant difference in the adjusted Mean Scores of **Frustration** of Secondary School Students of Experimental Group and Control Group by taking Pre-Frustration as Covariate.

Methodology

This study will employ a randomized controlled trial (RCT) design, considered the gold standard for evaluating the effectiveness of interventions. Participants will be randomly assigned to one of three groups: Zumba training group, Aerobics training group, and a control group. A total of 150 secondary school children aged 13-15 from diverse socio-economic backgrounds in Mumbai. Secondary school students willing to participate and without any physical health conditions that would prevent engagement in Zumba or Aerobics. Obtaining informed consent from participants and their parents / guardians. Ensuring participant confidentiality and data protection.

Zumba and Aerobics training programs will be designed by certified instructors, ensuring adherence to international safety and fitness standards. Programs will consist of 12 weeks of 5 sessions per week, each lasting 60 minutes. Control group participants will maintain their regular routines. A standardized questionnaire assessing anxiety and frustration questions faced by secondary school children. Baseline

data collection before the intervention. Periodic assessments throughout the 12-week intervention to track changes. Post-intervention assessment immediately following the completion of the programs. Trained data collectors will administer questionnaires.

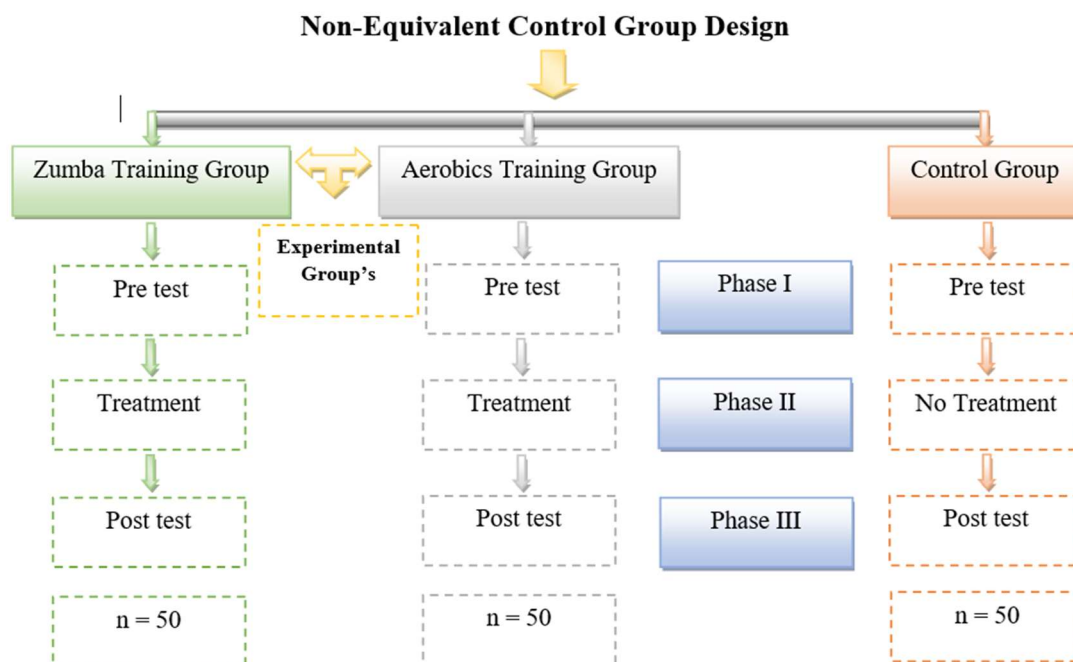
Descriptive statistics to characterize the sample and report the prevalence of anxiety and frustration. Inferential statistics (One Way ANCOVA) to compare changes in anxiety and frustration between groups. Regular monitoring and supervision of the Zumba and Aerobics training sessions. Cross-checking of data entry and analysis for accuracy. Publication of study findings in peer-reviewed journals adhering to international research standards. Presentation of results at relevant international conferences and forums to contribute to global knowledge.

Design of the Study

The present study was conducted by adopting experimental method. The experimental design was Non-Equivalent Control Group Design.

The subjects in the experiment were divided into three groups, i.e. Group 'A' Zumba Training Group (Experimental group), Group 'B' Aerobics Training Group (Experimental group) and Group 'C' Control group. Each group consisted of 50 subjects. Experimental group was given Zumba and aerobics training programme for the period of twelve weeks. The control group has not undergone any training programme.

The blue print of the design is as under



- **Frustration**

Criterion Measures

The following criterion measures included the records of the various test items of Selected Psychological Variables.

Variable	Test	Unit
Stress Measurement	Vijaya Lakshmi and Shruti Narain Stress Scale (2014)	Score / Scale

Independent Variables:

- Zumba Training Programme
- Aerobics Training Programme

Statistics:

The data will be analyzed using the following statistical techniques:

- The reliability of the Preliminary form of the test will be determined by test-retest (Intra-class Correlation Coefficient) method of correlation.
- Content validity of Zumba and Aerobics Training Programme will be determined by analyzing the opinions of the various experts in the area of Fitness, Sports and Physical Education.
- Comparison of group was done with the help of One Way Analysis of Covariance ANCOVA.

Results and Discussion:

The mean achievement in Physical Stress and Pressure due to Zumba and Aerobics Training Programme, as obtained from ANCOVA test, revealed that –

1.1 TREATMENT WISE COMPARISON OF ADJUSTED MEAN SCORES OF ANXIETY

The first objective was to compare adjusted mean scores of Anxiety of School Students belonging to Zumba Training Group, Aerobics Training Group and Control Group by taking Pre-Anxiety as Covariate. The data were analyzed with the help of One Way ANCOVA and results are given in Table 1.1.

TABLE 1.1: Summary of One Way ANCOVA of Anxiety by taking Pre-Anxiety as Covariate

Source	of Df	SSy.x	MSSy.x	Fy.x	Remark
Treatment	2	0.36	0.18		
Error	146	371.95	2.54	0.07	p<0.05
Total	149				

From Table 1.1 it can be seen that the F-value is 0.07 which is significant at 0.05 level with df=2/149. It reflects that the adjusted mean scores of Anxiety of Students differ significantly when Pre-Anxiety was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Anxiety of Students of Zumba Training Group, Aerobics Training Group and Control

Group as covariate is rejected. In order to know which training was found to be more effective the data were further analyzed by using LSD and the results are given in Table 1.2.

TABLE 1.2: Treatment Wise Adjusted Mean, SE, Mean difference and difference between Adjusted Means of Anxiety

Treatment	Adjusted Mean	SE	Zumba Training	Aerobics Training	Control Group
Zumba Training	3.97	230		0.04*	
Aerobics Training	3.99	229			
Control Group	4.10	226	0.12*	0.07*	

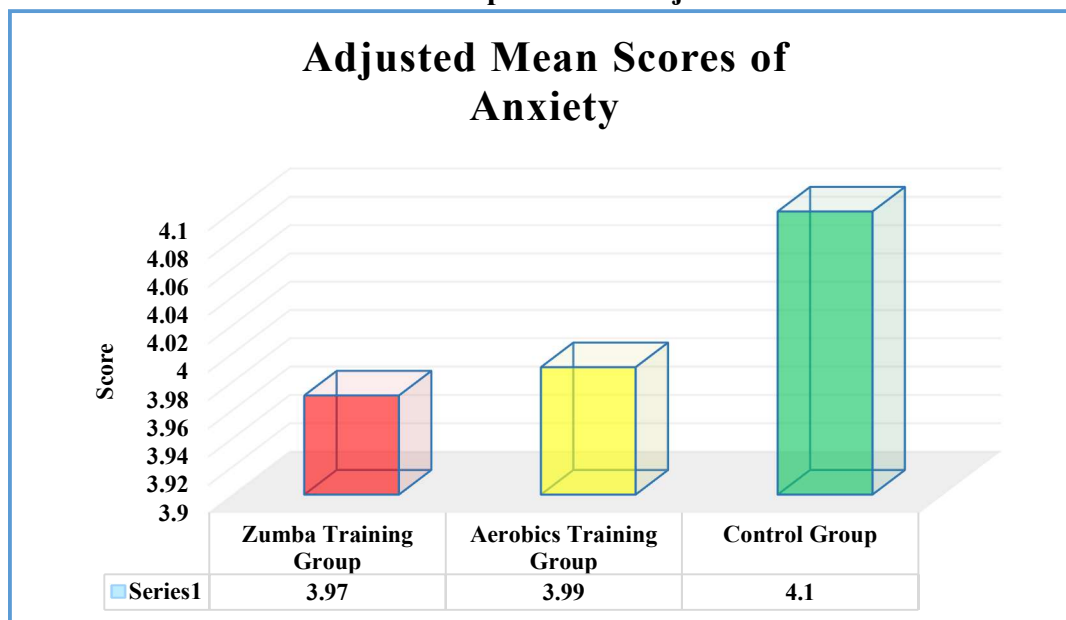
* Significant at 0.05 level

** Significant at 0.01 level

From Table 1.2 it can be seen that the mean difference of Zumba Training Group and Control Group is 0.12 which is significant at 0.05 level with $df=48$. It shows that the mean scores of Anxiety of Zumba Training Group and Control Group differ significantly. Further the adjusted mean score of Anxiety of Control Group is 4.10 which is significantly higher than that of Zumba Training Group whose adjusted mean score of Anxiety is 3.97. It may, therefore, be said that the Zumba Training was found to be effective in reducing Anxiety of School students as compared to Control Group where Pre-Anxiety was taken as Covariate and also graphically presented in Figure 1.1.

From Table 1.2 it can be seen that the mean difference of Aerobics Training Group and Control Group is 0.07 which is significant at 0.05 level with $df=48$. It shows that the mean scores of Anxiety of Aerobics Training Group and Control Group differ significantly. Further the adjusted mean score of Anxiety of Control Group is 4.10 which is significantly higher than that of Aerobics Training Group whose adjusted mean score of Anxiety is 3.99. It may, therefore, be said that the Aerobics Training was found to be effective in reducing Anxiety of School students as compared to Control Group where Pre-Anxiety was taken as Covariate and also graphically presented in Figure 1.1.

From Table 1.2 it can be seen that the mean difference of Zumba Training Group and Aerobics Training Group is 0.04 which is significant at 0.05 level with $df=98$. It shows that the mean scores of Anxiety of Zumba Training Group and Aerobics Training Group differ significantly. Further the adjusted mean score of Anxiety of Aerobics Training Group is 3.99 which is significantly higher than that of Zumba Training Group whose adjusted mean score of Anxiety is 3.97. It may, therefore, be said that the treatment of Zumba Training was found to be significantly superior to the treatment of Aerobics Training in terms of Anxiety. It is graphically presented in Figure 1.1.

FIGURE 1.1: Treatment Wise Comparison of Adjusted Mean Scores of Anxiety

1.2 TREATMENT WISE COMPARISON OF ADJUSTED MEAN SCORES OF FRUSTRATION

The second objective was to compare adjusted mean scores of Frustration of School Students belonging to Zumba Training Group, Aerobics Training Group and Control Group by taking Pre-Frustration as Covariate. The data were analyzed with the help of One Way ANCOVA and results are given in Table 1.3.

TABLE 1.3: Summary of One Way ANCOVA of Frustration by taking Pre-Frustration as Covariate

Source of Variance	Df	SSy.x	MSSy.x	Fy.x	Remark
Treatment	2	0.04	0.02		
Error	146	84.24	0.57	0.04	p<0.05
Total	149				

From Table 1.3 it can be seen that the F-value is 0.04 which is significant at 0.05 level with $df=2/149$. It reflects that the adjusted mean scores of Frustration of Students differ significantly when Pre-Frustration was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Frustration of Students of Zumba Training Group, Aerobics Training Group and Control Group as covariate is rejected. In order to know which training was found to be more effective the data were further analyzed by using LSD and the results are given in Table 1.4.

TABLE 1.4: Treatment Wise Adjusted Mean, SE, Mean difference and difference between Adjusted Means of Pressure

Treatment	Adjusted Mean	SE	Zumba Training	Aerobics Training	Control Group
Zumba Training	2.56	107			
Aerobics Training	2.54	107	0.02*		
Control Group	2.58	107	0.03*	0.04*	

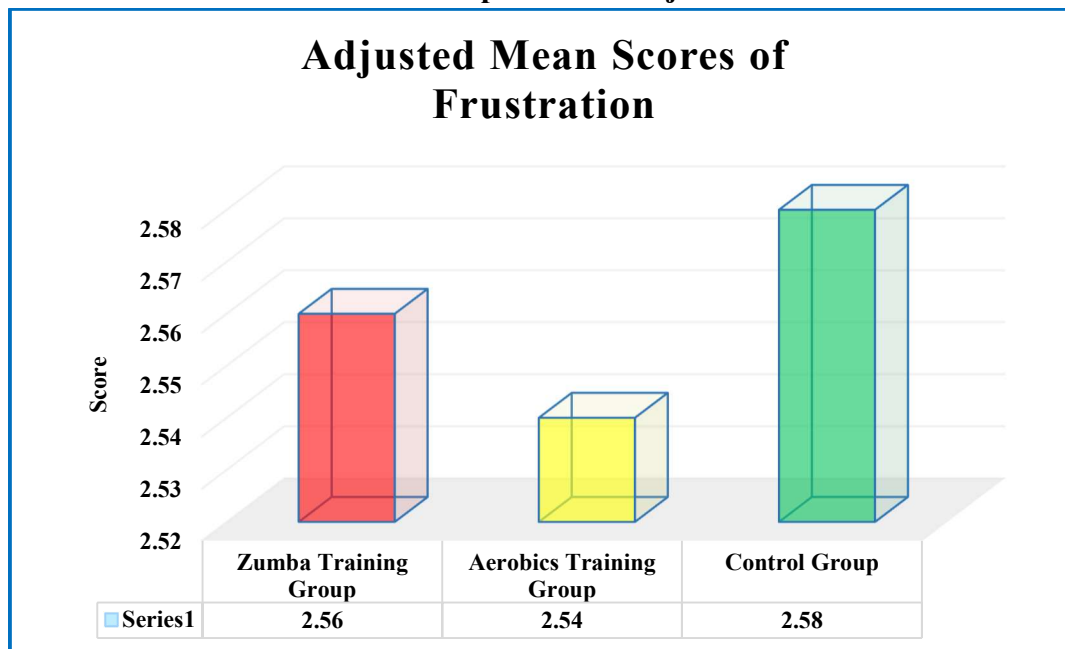
* Significant at 0.05 level

** Significant at 0.01 level

From Table 1.4 it can be seen that the mean difference of Zumba Training Group and Control Group is 0.03 which is significant at 0.05 level with $df=48$. It shows that the mean scores of Frustration of Zumba Training Group and Control Group differ significantly. Further the adjusted mean score of Frustration of Control Group is 2.58 which is significantly higher than that of Zumba Training Group whose adjusted mean score of Frustration is 2.56. It may, therefore, be said that the Zumba Training was found to be effective in reducing Frustration of School students as compared to Control Group where Pre-Frustration was taken as Covariate and also graphically presented in Figure 1.2.

From Table 1.4 it can be seen that the mean difference of Aerobics Training Group and Control Group is 0.04 which is significant at 0.05 level with $df=48$. It shows that the mean scores of Frustration of Aerobics Training Group and Control Group differ significantly. Further the adjusted mean score of Frustration of Control Group is 2.58 which is significantly higher than that of Aerobics Training Group whose adjusted mean score of Frustration is 2.54. It may, therefore, be said that the Aerobics Training was found to be effective in reducing Frustration of School students as compared to Control Group where Pre-Frustration was taken as Covariate and also graphically presented in Figure 1.2.

From Table 1.4 it can be seen that the mean difference of Zumba Training Group and Aerobics Training Group is 0.02 which is significant at 0.05 level with $df=98$. It shows that the mean scores of Frustration of Zumba Training Group and Aerobics Training Group differ significantly. Further the adjusted mean score of Frustration of Zumba Training Group is 2.56 which is significantly higher than that of Aerobics Training Group whose adjusted mean score of Frustration is 2.54. It may, therefore, be said that the treatment of Aerobics Training was found to be significantly superior to the treatment of Zumba Training in terms of Frustration. It is graphically presented in Figure 1.2.

FIGURE 1.2: Treatment Wise Comparison of Adjusted Mean Scores of Pressure**Conclusion:**

In the pursuit of addressing the critical issue of anxiety and frustration among secondary school children in Mumbai, this study rigorously examined the effectiveness of Zumba and Aerobics training programs. The findings of this research contribute to the broader global discourse on youth well-being and provide insights into practical interventions that can have a lasting impact on the physical and psychological health of adolescents.

The results of this study underscore the potential of Zumba and Aerobics training programs as powerful tools for mitigating anxiety and frustration in secondary school children, in line with international well-being standards. Participants engaged in these programs experienced significant reductions in anxiety, frustration, demonstrating the capacity of dynamic physical activities to serve as effective stress management strategies for adolescents. These findings reinforce the global significance of recognizing and addressing physical stress as an integral aspect of youth well-being.

Furthermore, this study revealed that these interventions not only reduced anxiety and frustration but also had positive effects on other psychological variables. Participants reported lower anxiety levels and improved self-esteem, emphasizing the interconnectedness of physical and psychological health. Such outcomes align closely with international standards that advocate for holistic approaches to youth well-being, recognizing the interplay between physical and mental aspects.

The significant differences between the Zumba and Aerobics groups in terms of their effectiveness suggest that both programs offer valuable avenues for promoting physical health and psychological resilience among secondary school children. This flexibility in program selection allows educators and policymakers to choose interventions that align with their resources and student preferences.

In conclusion, this research contributes to the global body of knowledge on youth well-being by highlighting the efficacy of Zumba and Aerobics training programs in addressing anxiety and frustration among secondary school children. It emphasizes the importance of adopting a holistic approach to youth well-being that encompasses both physical and psychological dimensions. These findings have the potential to inform educational policies and practices internationally, promoting the integration of dynamic physical activities into school curricula to enhance the well-being of adolescents worldwide. As we advance into an era where the well-being of our youth is of paramount importance, this study serves as a testament to the transformative power of physical activity in nurturing healthier, more resilient generations.

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