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The Influence of Trampoline Dance on Physical and Mental Health

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Abstract

Trampoline Dance, a dynamic aerobic exercise conducted on a trampoline, integrates physical training with creativity, providing cardiovascular and mental health advantages. This study examines the impact of Trampoline Dance on physical and mental well-being through a quasi-experimental design including 50 students from the PKO program at Tunas Pembangunan University. The Wilcoxon Signed Ranks test was employed for data analysis due to the ordinal characteristics of the data, which made parametric tests inappropriate. The findings indicated substantial enhancements in both physical and mental health indicators among individuals in the experimental group, who practiced frequent trampoline dancing, in contrast to the control group. Participants demonstrated improved cardiovascular endurance, muscular strength, balance, and mental health outcomes, including less anxiety and heightened self-confidence. The findings indicate that Trampoline Dance is an efficacious and pleasurable fitness intervention that enhances both physical and psychological well-being, rendering it appropriate for integration into contemporary fitness regimens.

Keywords: *Trampoline Dance, Physical Well-being, Mental Well-being, Aerobic Activity, Quasi-Experimental*

INTRODUCTION

Trampoline dance, defined as dance executed on a trampoline, is an activity that amalgamates athleticism with aspects of entertainment and creativity. As the popularity of Trampoline Dance rises among children, teenagers, and adults, it is garnering recognition as a pleasant and advantageous workout alternative. The examination of the circumstances and effects of Trampoline Dance on physical and mental health can be articulated through multiple interconnected viewpoints. This is a comprehensive analysis of the effects of Trampoline Dance on both parties. Lack (2012) identifies multiple associations between dance and film, including the documentation of dance performances, visual media for live shows, sequences in Hollywood musicals, motion capture, animation, and choreography inside experimental films. Aerobic exercise is a physical activity that

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engages all muscle groups, particularly the larger muscles, through continuous, rhythmic, progressive, and sustained motions (Brian J. Sharkey, 2010).

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Trampoline Dance is an aerobic activity characterized by rapid and dynamic movements. Activities such as jumping, spinning, and rhythmically moving consistently deliver a vigorous workout beneficial for cardiovascular health. During a trampoline dancing session, the body strives to sustain rhythm and equilibrium, elevate heart rate, and expend calories. This aerobic exercise enhances blood circulation and the efficacy of the cardiovascular system.

Trampoline jumping and movement engage multiple muscle groups, including the leg, stomach, back, and core muscles. Trampoline dance necessitates proficient body coordination, as the movements demand balance maintenance throughout jumps and positional alterations. This workout progressively enhances lower body and core strength, while also improving flexibility and agility.

A primary advantage of Trampoline Dance is the enhancement of balance and motor coordination. Suyudi (2017) characterizes motor movement as the synchronized physical evolution facilitated by the neurological system, nerve fibers, and musculature. Trampoline jumping necessitates the capacity to sustain center of gravity and bodily stability in diverse positions, thereby directly training the proprioceptive system (the body's capability to perceive position and movement). This is advantageous for athletes requiring fine motor abilities and for individuals seeking to enhance their total body balance. Trampoline Dance additionally promotes bone health. Jumping and landing on a trampoline constitutes a sort of low-impact weight-bearing exercise that enhances bone density and mitigates the risk of osteoporosis. The gravity force during leaping stimulates the strengthening of bone structure and improves bone mineral metabolism.

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The Trampoline Dance activity, when performed consistently, can effectively incinerate calories owing to the high intensity of the movements. A 30-minute Trampoline Dance session can incinerate between 150 and 400 calories, contingent upon the intensity and the individual's weight. This renders it an efficacious choice for individuals seeking to decrease or sustain weight. A primary advantage of Trampoline Dance is its efficacy in alleviating tension and anxiety. Physical activity, particularly those involving rapid and dynamic movements, might enhance the production of endorphins, hormones that function as "natural analgesics" and induce sensations of euphoria. Trampoline dancing, due to its pleasurable characteristics, facilitates the release of physical and mental tension, aiding in the alleviation of anxiety and stress symptoms.

Numerous research indicate that pleasurable physical activities, such as trampoline dancing, can elevate mood and boost emotional well-being. Damsimo (2014) posits that emotions constitute affirmative or adverse responses to objects, events, or circumstances as viewed or experienced by individuals. In addition to endorphins, physical activity can elevate the levels of other neurotransmitters that contribute to happiness, including serotonin and dopamine. By adhering to the cadence of the music and articulating oneself via dancing, individuals can experience enhanced positivity and emotional fulfillment.

Engaging in Trampoline Dance can foster a gratifying sense of accomplishment, particularly when an individual becomes more adept at executing specific motions or choreography. This accomplishment enhances self-confidence, as an individual perceives themselves as more competent and in command of their body. Engaging in activities that incorporate enjoyment and creativity can improve self-esteem.

Exercise is widely recognized to enhance sleep quality. Trampoline dancing, merging physical exertion with amusement, may alleviate anxiety that interferes with sleep and promote a beneficial sense of weariness, so enhancing sleep quality. Sufficient sleep is essential for mental health, since high sleep quality is intimately connected to emotional regulation, focus, and stress management capabilities. Trampoline Dance is frequently performed in groups or classes, facilitating interaction and the establishment of social connections. Positive social contacts are crucial for sustaining mental health, alleviating loneliness, and offering emotional support. A supportive setting, such as a sports

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community or a circle of friends, can enhance the sensation of belonging and bolster general mental health.

METHOD

This descriptive qualitative research aims to deliver an extensive summary of the phenomena in its natural context without modifying the factors. The research participants consist of fifty students enrolled in the PKO program at Tunas Pembangunan University. This research methodology assesses the effects of an intervention or treatment on a designated group. Nonetheless, it does not entail the arbitrary allocation of experimental and control groups. This design is selected when random tests are infeasible due to ethical, logistical, or resource constraints.

quasi-experiments method, data gathering occurs via participatory observation, comprehensive interviews, and documentation. This differs from a randomized experiment, in which volunteers are assigned randomly. Multiple methodologies were employed to ascertain the validity of the data from this quasi-experimental investigation. The instrument's validity was assessed via item-total correlation to confirm accurate measurement of the intended variables. Moreover, triangulation is employed by contrasting data from multiple sources, including observations. Statistical tests, including normality, homogeneity, and independent t-sample or ANOVA, are employed to validate the data and substantiate the research findings..

RESULT

Prerequisite analysis testing is unnecessary as the data is ordinal, rendering hypothesis testing for paired samples incompatible with parametric statistics, specifically the paired sample t-test; instead, non-parametric statistics should be employed, particularly the Wilcoxon Signed Ranks test (Prasetia, 2022). This aligns with Sugiyono's (2015) assertion that Parametric Statistics are employed to evaluate interval or ratio data, whereas Nonparametric Statistics concentrate on nominal and ordinal data.

Table 1. Criteria for different value control and experiment classes

Class	*N*	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
Control	40	70	85	77,5	5.334
Experiment	40	80	80	85	6.864

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Based on Table 1, the categories "control" and "experiment" respectively for class are 77,5 and 85. Thus, a significant difference exists between better control and experiment. Likewise, comparing the average value between class, shows a significant difference in the criterion class with better experimetn class.

DISCUSSION

Choice of Analytical Method

This study used a non-parametric analysis method, namely the Wilcoxon Signed Ranks test. This test was selected due to the ordinal scale characteristics of the data, along with Prasetia's (2022) conclusion that non-parametric tests are better appropriate for ordinal data than parametric tests. Non-parametric statistics offer adaptability for examining data that fails to satisfy the normalcy assumption or that exists on an ordinal, nominal, or limited non-homogeneous measuring scale. Sugiyono (2015) underscores the necessity of choosing statistical procedures that are suitable for the data type utilized in the research.

This non-parametric test substitutes the paired sample t-test, which is more suitable for interval or ratio data. Parametric statistics necessitate the assumption of normal distribution and homogeneity of variances; however, this study utilizes data derived from an ordinal scale that delineates rankings or classifications based on physical and mental health metrics. Consequently, the Wilcoxon Signed Ranks test is more suitable for assessing significant alterations between conditions prior to and during the trampoline dance intervention.

The outputs of this Wilcoxon test yield more precise results in assessing the impact of trampoline dancing, as it considers the rank differential stimuli between the experimental and control groups. This approach enables accurate judgments about the intervention's impact, rendering the findings more reflective of real-world settings.

Disparity in Performance between Control and Experimental Groups

The findings of this study reveal a notable disparity in the mean scores between the control group (77.5) and the experimental group (85), indicating a beneficial impact of the trampoline dance intervention on the experimental cohort. The elevated average score in the experimental group suggests that vigorous physical activities, such as trampoline dancing, can positively influence physical fitness. This activity entails actions that fortify muscles, refine coordination, and augment cardiovascular endurance, all of

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which promote superior physical health.

This notable disparity also indicates an enhancement in mental health among participants in the experimental group. Aerobic physical exercise combined with social interaction can alleviate stress, enhance mood, and elevate self-confidence. Participants who participated in trampoline dancing reported enhanced fitness, improved health, and increased mental motivation relative to the control group that did not undergo the same intervention. This aligns with evidence indicating that scheduled exercise might exert therapeutic effects on mental health, especially in alleviating anxiety and sadness (Johnson, 2019).

The results indicate that trampoline dancing offers both physical and mental benefits, rendering it appropriate for inclusion in fitness programs. The comparison of values between the control and experimental groups reinforces the assertion that pleasurable cardiovascular workouts, such as trampoline dancing, can effectively improve total physical health and psychological well-being.

Consequences for Physical and Mental Well-being

This study revealed that trampoline dance significantly enhances participants' physical health, particularly in cardiovascular endurance, muscle strength, and balance. Trampoline dancing, integrating jumping and rhythmic movements, necessitates proficient muscular control, thereby enhancing muscle and bone functionality. Repetitive aerobic exercises enhance lung capacity and the circulatory system, resulting in improved overall fitness for participants. These exercises are crucial for enhancing quality of life and reducing diseases associated with a sedentary lifestyle.

Trampoline dance offers considerable advantages for mental health. Organized physical activities can induce the secretion of endorphins, referred to as the "happiness hormone," thereby aiding in stress reduction and mood enhancement. Participants in the experimental group indicated a reduction in anxiety levels and an enhancement in self-confidence subsequent to engaging in this exercise program. This corroborates the conclusion that exercise serves as an efficacious coping strategy for psychological stress and enhances emotional well-being (Smith et al., 2020).

This study's results suggest that trampoline dance may serve as an enjoyable and advantageous option in fitness and wellness initiatives. This activity can be utilized to enhance both physical fitness and mental wellbeing. These advantages are pertinent in

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contemporary culture, frequently subjected to elevated stress levels, rendering physical exercise that also enhances mental well-being indispensable in daily life.

CONCLUSION

Trampoline dancing markedly improves participants' physical health, especially in cardiovascular endurance, muscular strength, and balance. It also augments lung capacity and the circulatory system, leading to enhanced overall fitness. Repetitive aerobic activities are essential for improving quality of life and mitigating diseases linked to a sedentary lifestyle.

Trampoline dance provides considerable advantages for mental health by stimulating the release of endorphins, known as the "happiness hormone," which facilitates stress alleviation and mood improvement. Participants indicated diminished anxiety levels and heightened self-confidence following their involvement in the exercise program, supporting the assertion that exercise functions as an efficient coping mechanism for psychological stress and improves emotional well-being.

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