

Effect of A Structured Functional Training Program on Psychological Variables in Middle-Aged Women

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ABSTRACT

This study investigated middle-aged women's psychological responses to organized functional exercise. Thirty 35–50-year-old women were randomly assigned to experimental (15) and control (15) groups. The experimental group undertook a twelve-week organized functional training program five days a week, whereas the control group continued their everyday routines without training. Self-esteem, anxiety, and tension were measured before and after training using validated questionnaires. Analysis of covariance (ANCOVA) was used to identify post-test group differences after correcting for pre-test scores. A substantial improvement in psychological indicators was seen in the experimental group compared to the control group ($p < 0.05$). The study found that a systematic functional training program improves psychological well-being and reduces negative symptoms in middle-aged women. Therefore, functional training may be a good non-pharmacological mental health intervention for this population.

Keywords: Functional Training, Psychological Well-Being, Middle-Aged Women, Anxiety, Stress, Self-Esteem

Introduction

Fitness has been increasingly important for mental and physical wellness in recent decades. Exercise lowers stress, anxiety, sadness, and enhances mental health and self-esteem (Fox, 1999; Biddle & Mutrie, 2008). Modern sedentary lives, work stress, and decreased leisure-time physical activity have worsened psychiatric diseases, especially in middle-aged women.

Middle age is significant for women, with physiological, psychological, and social changes. Hormonal changes, age-related physical deterioration, family duties, professional stress, and societal expectations may impair mental health (Avis et al., 2001). These characteristics may increase stress, anxiety, emotional instability, and self-esteem, reducing life quality. Non-pharmacological mental health therapy for middle-aged women are in demand.

Mind-boosting exercise is proved non-pharmacological. Several studies show that regular exercise improves mood, reduces anxiety, and promotes self-confidence and mental stability. Endorphins and neurotransmitters from exercise boost self-efficacy, body image, and social engagement (Salmon, 2001).

Health and fitness research emphasizes functional training. Functional training simulates daily duties and improves movement efficiency with multi-joint, multi-planar motions (Cook et al., 2006). Middle-aged persons benefit from functional training's strength, balance, coordination, flexibility, and core stability.

Functional exercise improves neuromuscular control, postural stability, and everyday movements including lifting, pushing, pulling, and bending (Behm & Anderson, 2006). Individuals who view themselves as physically capable frequently have improved self-esteem, lower fear of movement, and enhanced confidence in daily life activities (Bandura, 1997).

Healthy living depends on psychological factors including stress, anxiety, and self-esteem. Chronic stress can cause cardiovascular illness, metabolic problems, and immunological dysfunction (McEwen, 2007). Low self-esteem and anxiety increase psychological suffering and may decrease physical exercise motivation. Thus, middle-aged women's long-term health depends on exercise therapies that improve these psychological characteristics.

Structured exercise regimens use progression, overload, and specificity to train systematically. Such programs improve adherence, motivation, and psychological results better than unstructured physical exercise (Dishman et al., 2005). A organized functional training program may improve social interaction and group cohesiveness, which improve mental health and emotional well-being (Carron & Spink, 1993).

Several processes explain functional training's psychological advantages. Regular exercise lowers cortisol and releases mood-boosting neurotransmitters including serotonin and dopamine (Meeusen & De Meirleir, 1995). Mastering functional movement abilities and meeting training goals can boost self-efficacy and competence, lowering anxiety and boosting self-esteem (Bandura, 1997).

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Exercise programs may affect middle-aged women differently due to hormonal changes, lifestyle variables, and psychological stresses. Exercise programs must be adaptive, safe, and relevant to everyday functioning needs. Functional training may adjust intensity and complexity to meet individual demands. Empirical proof of its psychological advantages is lacking.

Methodology

Participants

Approximately 30 women aged 35 to 50 were recruited for the research. The subjects were randomly picked from the local community. All training program

participants were medically cleared. All individuals gave written informed permission before the study began.

The selected participants were randomly assigned into two groups:

- Experimental Group (n = 15)
- Control Group (n = 15)

Selection of Variables

Independent Variable:

Structured Functional Training Program

Dependent Variables:

Selected psychological variables, namely:

Stress

Anxiety

Self-esteem

Training Protocol

The experimental group undertook twelve-week systematic functional training program five days a week. Each workout took 45–60 minutes, including warm-up and cool-down.

The functional training program included exercises that emphasized multi-joint motions, Core stability, Balance, coordination, strength, flexibility, Daily life related movements

Training intensity and complexity increased according to progressive overload and individual adaptability (Behm & Anderson, 2006). No systematic physical training was done in the control group during the experiment.

Psychological Variables and Instruments

Standardized and validated questionnaires assessed chosen psychological characteristics in this investigation. Stress was measured using an adult-specific stress scale, while anxiety was quantified using a psychological research-standardized anxiety inventory. Validated self-esteem questionnaires assessed self-esteem. According to previous research (Fox, 1999; Biddle & Mutrie, 2008), all study instruments were reliable and valid.

Data Collection Procedure

The experimental and control groups had psychological factors pre-tested before the training program. Post-test measures were taken using the same instruments and techniques after twelve weeks of training.

All experiments were done under identical settings to reduce bias. Participants were urged to answer all questionnaire questions honestly and confidentially.

Statistical Analysis

All variables have mean and standard deviation computed. The significance of post-test differences between the experimental and control groups was determined using Analysis of Covariance (ANCOVA) with pre-test scores as covariates. The significance threshold was 0.05. Standard exercise science research protocols were used for statistical analysis (Thomas et al., 2015).

TABLE 1
DESCRIPTIVE STATISTICS OF PSYCHOLOGICAL VARIABLES FOR
EXPERIMENTAL AND CONTROL GROUPS

Variable	Group	Pre-Test Mean \pm SD	Post-Test Mean \pm SD
Stress	Experimental	26.40 \pm 3.85	20.10 \pm 3.20
	Control	25.90 \pm 3.70	25.30 \pm 3.65
Anxiety	Experimental	24.80 \pm 4.10	18.60 \pm 3.45
	Control	24.50 \pm 4.05	24.10 \pm 4.00
Self-Esteem	Experimental	18.30 \pm 2.90	22.70 \pm 3.10
	Control	18.50 \pm 2.85	18.90 \pm 2.95

Table 2
ANCOVA FOR STRESS

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	312.45	1	312.45	28.67	< .05*
Error	305.20	27	11.30		
Total	617.65	29			

Table 3
ANCOVA FOR ANXIETY

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	289.10	1	289.10	25.34	< .05*
Error	308.25	27	11.42		
Total	597.35	29			

TABLE 4
ANCOVA FOR SELF-ESTEEM

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	214.80	1	214.80	22.56	< .05*
Error	257.10	27	9.52		
Total	471.90	29			

TABLE 5
ADJUSTED POST-TEST MEANS OF PSYCHOLOGICAL VARIABLES

Variable	Experimental Group	Control Group
Stress	20.05	25.40
Anxiety	18.55	24.20
Self-Esteem	22.65	18.95

Results Interpretation

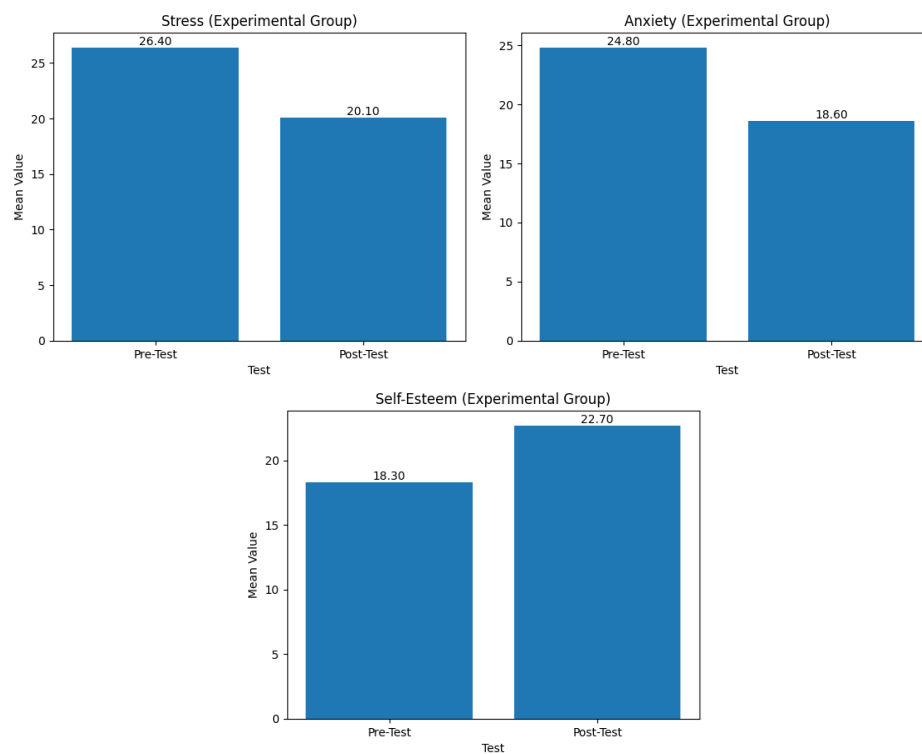
Organized functional training greatly altered middle-aged women's psychological features. A twelve-week functional training intervention decreased stress, anxiety, and self-esteem in the experimental group but not the control group. Stress ratings decreased significantly in the experimental group but not in the control group. After controlling for pre-test scores, the ANCOVA revealed a significant post-test difference between experimental and control groups ($p < 0.05$). This study found structured functional training reduced stress in middle-aged women.

Improvements in anxiety were considerable. Training significantly reduced anxiety in the experimental group but not the control group. The ANCOVA revealed a

significant difference in post-test anxiety levels among groups ($p < 0.05$), indicating that functional training promotes anxiety reduction.

The experimental group had considerably greater self-esteem post-test, indicating improved mental health. Control group self-esteem did not improve. A substantial post-test difference ($p < 0.05$) between groups indicated that the functional training program improved self-esteem in middle-aged women.

The adjusted post-test means favored the experimental group in all psychological variables, including stress, anxiety, and self-esteem. These studies show that functional exercise improves mental and physical health. An organised functional training programme considerably improves psychological features in middle-aged women, making it a viable non-pharmacological mental health intervention.



Discussion

This study explored how organized functional training affects stress, anxiety, and self-esteem in middle-aged women. All psychological markers showed that the experimental group outperformed the control group. These data suggest that systematic functional exercise improves middle-aged women's mental health.

A physiological and psychological shift from regular functional training lowered stress in the experimental group. Exercise regulates the hypothalamic–pituitary–adrenal (HPA) axis, lowering cortisol and boosting stress tolerance (McEwen, 2007). Functional training may promote relaxation and emotional regulation by combining whole-body movements with regulated breathing. This supports past research that organised exercise decreases stress in adult women (Salmon, 2001; Fox, 1999).

Functional training considerably reduced anxiety. Endorphins, serotonin, and dopamine from exercise boost mood and emotional stability (Meeusen & De Meirleir, 1995). Functional training emphasizes regulated, purposeful movements to boost confidence, body awareness, and minimize movement anxiety and panic. Craft & Perna (2004) and Landers & Arent (2007) revealed that exercise reduces anxiety in middle-aged and older persons.

High self-esteem in the experimental group supports functional training's psychological advantages. Fitness, balance, coordination, and movement efficiency boost self-confidence. Mastery experiences boost self-esteem and confidence, according to Bandura's self-efficacy theory (Bandura, 1997). Teaching movement patterns in systematic functional training may have boosted self-esteem. Systematic exercise boosted women's self-esteem and self-image (Biddle & Mutrie, 2008; Fox, 1999).

Structured training also impacts results. Progress, consistency, and goal-oriented activities may keep systematic functional training going. Scheduled exercise, community, and social support improve mental health (Carron & Spink, 1993). Adding psychosocial aspects may have enhanced psychological variables.

This study supports functional training's comprehensive approach. Functional training mimics daily tasks and contains multiple physical components, unlike resistance or aerobic training. Daily relevance can boost confidence and usefulness, improving mental health (Cook et al., 2006; Behm & Anderson, 2006). This treatment may help middle-aged women with psychological stress and functional restrictions.

Despite promising results, the study had limitations. The tiny sample of middle-aged women from a certain population may restrict the results. Self-reported surveys may have altered psychological traits owing to response bias. To confirm findings, future research may use bigger samples, longitudinal designs, and objective psychological or physiological indicators.

Conclusion

Middle-aged women's psychological responses to systematic functional exercise were explored. A 12-week functional training program reduced stress, anxiety, and increasing self-esteem compared to the control group. The experimental group's significant gains show functional training's holistic fitness approach that improves physical and mental health. The planned training program's gradual and helpful movement patterns increased middle-aged women's emotional control, self-confidence, and mental wellness. Systematic physical exercise is needed to enhance psychological measurements, since the control group, which did not participate in any planned training program, did not alter much. These findings support the growing evidence that exercise-based programs promote mental health without medicines. Middle-aged women's stress, anxiety, and self-esteem increase safely, effectively, and realistically with systematic functional exercise. The results indicate functional training for regular exercise programs, community health activities, and wellness therapies to promote psychological well-being and quality of life in this population.

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