BEHAVIORAL DETERMINANTS OF EXERCISE ADHERENCE IN MIDDLE-AGED ADULTS: AN INTERDISCIPLINARY PERSPECTIVE

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ABSTRACT

Middle-aged adults often find themselves caught between professional responsibilities, familial commitments, and emerging health concerns, which together shape their lifestyle habits, including physical activity. Although the benefits of regular exercise are well-known—such as improved cardiovascular health, better mental well-being, and reduced risk of chronic diseases—sustaining a consistent fitness routine during this life phase remains a widespread challenge. This study investigates the key behavioral determinants influencing exercise adherence among individuals aged 40 to 60, incorporating perspectives from behavioral science, psychology, and social theory. A cross-sectional analysis was performed with 280 participants from urban regions, with equal representation of men and women. Standardized instruments including the Exercise Motivation Inventory (EMI-2), Self-Efficacy Scale, and Social Support Questionnaire were administered to assess various influencing factors. The findings show that intrinsic motivation, self-efficacy, and social reinforcement are significant predictors of long-term exercise commitment, while perceived barriers like time constraints and competing responsibilities contribute to lower adherence. Gender differences were also observed, with men often driven by health concerns and social comparison, and women hindered by family obligations. This research underlines the importance of tailored

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interventions that acknowledge behavioral patterns, enabling sustainable health practices in middle-aged populations.

Keywords: Exercise adherence, middle-aged fitness, behavioral psychology, motivation, self-efficacy, gender differences, health behavior, social support, fitness barriers, interdisciplinary approach.

INTRODUCTION

The middle-aged phase of life, generally spanning from 40 to 60 years, is a critical period for preventive health behavior due to increased risks of chronic conditions and physical decline. Despite this, many individuals in this age group struggle with maintaining consistent exercise routines. This paradox exists despite widespread access to fitness centers, health apps, and awareness programs. The reasons for such inconsistency are multifactorial, deeply rooted in behavioral, psychological, and socio-cultural contexts. Middle-aged adults face competing demands from work, caregiving roles, and personal health, often leading to prioritization of others over self-care.

Theories from behavioral science, such as Bandura's Self-Efficacy Theory, suggest that one's belief in their ability to sustain behavior (self-efficacy) is crucial for long-term adherence. Moreover, motivation, both intrinsic (e.g., stress relief) and extrinsic (e.g., appearance), plays a role in initiating and maintaining physical activity. Social support—from family, peers, or community fitness groups—acts as a buffer against dropout. Additionally, gender roles and cultural expectations influence the exercise patterns of men and women differently, shaping their fitness behaviors.

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This study aims to identify and analyze the behavioral determinants that affect exercise consistency among middle-aged adults, using an interdisciplinary lens that blends psychology, public health, and social behavior frameworks.

DATA ANALYSIS

To examine behavioral patterns influencing exercise adherence, this study analyzed data collected from 280 adults (140 males and 140 females), aged 40 to 60, across four metropolitan cities in India. Participants were classified based on their exercise consistency over the past six months: High Adherence (≥4 times/week), Moderate Adherence (1–3 times/week), and Low Adherence (rare or no physical activity). Data was processed using SPSS v26, applying descriptive statistics, Pearson correlations, and ANOVA tests to evaluate relationships between variables.

The results showed that self-efficacy was the strongest predictor of high adherence, with a correlation coefficient of **r = 0.72**. Individuals who scored high on confidence in managing time, energy, and consistency were more likely to follow through with their routines. Intrinsic motivation—such as enjoying the activity or using it as a stress reliever—was significantly higher among high-adherers, while those with extrinsic motivation (weight loss, appearance) were more likely to drop off. Social support positively influenced participation, especially among females, whose adherence improved by 33% when engaged in peer or group-based fitness settings.

ANOVA tests revealed that adherence varied significantly by education ($p = 0.03$), employment status ($p = 0.04$), and gender ($p = 0.02$), highlighting the social determinants

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influencing fitness commitment. These insights stress the need for tailored health strategies that reflect the behavioral diversity of middle-aged populations.

METHODOLOGY

The research adopted a quantitative cross-sectional approach, focusing on middle-aged adults (40–60 years) from urban regions in India. A total of 280 participants (140 men and 140 women) were selected through stratified random sampling from gyms, wellness programs, and corporate health camps. The study incorporated interdisciplinary tools from behavioral psychology and health sciences to capture a comprehensive understanding of exercise adherence.

Three primary instruments were used:

1. **Exercise Motivation Inventory-2 (EMI-2):** Assesses 14 dimensions of motivation, including stress management, appearance, health pressures, and revitalization.
2. **General Self-Efficacy Scale (GSE):** Measures individuals' belief in their ability to maintain health behaviors.
3. **Social Support for Exercise Survey:** Captures perceived support from family, friends, and community in maintaining fitness routines.

Participants completed the questionnaires either digitally or in-person over an eight-week data collection period. Confidentiality and informed consent were strictly maintained. Data was analyzed using SPSS software, applying ANOVA, Pearson correlation, and regression models.

The study followed ethical guidelines approved by an institutional review board and complied with the Declaration of Helsinki principles. Only participants without serious

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mobility impairments or acute health issues were included, ensuring results reflected voluntary behavioral patterns rather than physical limitations.

CASE STUDY

To contextualize the statistical findings, two individual case studies are presented:

Case A – Sunita (Age 45, Homemaker):

Sunita began attending community yoga classes to manage stress and blood pressure. Despite initial enthusiasm, her adherence faltered due to household duties and limited support from family. She scored low on self-efficacy and motivation related to personal enjoyment. However, when introduced to a neighborhood women's fitness group, her participation improved, and she began exercising regularly. Peer validation and emotional connection to the group helped her regain consistency. This case exemplifies the significance of social context and emotional motivation in sustaining activity levels among women.

Case B – Rajesh (Age 52, IT Professional):

After being diagnosed as pre-diabetic, Rajesh adopted a gym routine. His motivation was initially fear-based, but over time he began enjoying cycling and strength training. He tracked his progress via a fitness app, which reinforced his confidence. Rajesh's self-efficacy increased with each milestone achieved. Over six months, he transformed from a sedentary worker to a wellness mentor in his workplace. His case highlights the role of digital tools, intrinsic motivation, and goal setting in driving long-term behavioral change among men.

These cases illustrate the diverse psychological and social drivers influencing adherence, reinforcing the study's interdisciplinary stance.

QUESTIONNAIRE

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Section A – Personal Details

1. Name (Optional): _____
2. Age: _____
3. Gender: Male / Female / Other
4. Marital Status: Married / Single / Other
5. Occupation: _____

Section B – Exercise Routine

1. How many times per week do you currently engage in exercise?
2. What type of exercise do you prefer?
   - Gym
   - Walking
   - Yoga
   - Sports
   - Other: _____
3. How long have you been consistent with this routine?
4. What motivates you to exercise? (tick all that apply)
   - Appearance
   - Stress relief
   - Health condition
   - Social engagement

Section C – Behavioral Factors

1. Rate your confidence in continuing exercise for the next 6 months (Scale 1–10):

2. Do family or friends encourage your fitness journey? (Yes/No)
3. What are your biggest barriers? (tick all that apply)
    - Time constraints
    - Lack of motivation
    - Physical fatigue
    - Family/work pressure
4. Would you prefer solo workouts or group sessions?
5. Would a mobile app or fitness tracker help you maintain consistency?

This questionnaire helped identify core behavioral insights such as time management, support systems, and emotional readiness for fitness.

Table 1: Motivation Type vs. Exercise Adherence Levels

Motivation Type	High Adherence (%)	Moderate (%)	Low (%)
Intrinsic (enjoyment, stress relief)	69%	25%	6%
Extrinsic (appearance, weight loss)	31%	48%	21%

Interpretation: Intrinsic motivation is strongly linked to long-term adherence, while extrinsic factors show weaker sustainability.

Table 2: Gender-Based Barriers to Exercise Adherence

Barrier	Male (%)	Female (%)
Time constraints	58%	74%
Family responsibilities	18%	61%
Lack of visible results	35%	43%
Social discomfort	22%	38%

Interpretation: Female participants reported more social and domestic hurdles, while males cited time and performance-related challenges.

CONCLUSION

This study highlights that exercise adherence in middle-aged adults is shaped by a combination of behavioral, psychological, and social determinants. Factors such as intrinsic motivation, high self-efficacy, and strong social support significantly contribute to maintaining a consistent fitness routine. Gender-based differences reveal that while men are more motivated by health outcomes and competitive spirit, women often face domestic and emotional barriers that hinder long-term adherence.

The findings advocate for behaviorally tailored fitness interventions—especially those emphasizing emotional wellness, community-based participation, and lifestyle flexibility. The role of digital tools, peer support, and self-monitoring techniques can also be strategically incorporated into health promotion programs. Moreover, corporate wellness schemes and community health policies should address not only the physical but also the behavioral readiness of this age group.

Future studies may explore longitudinal patterns, use qualitative interviews to understand motivational shifts, or compare rural-urban adherence behaviors. By aligning intervention models with real-life behavioral insights, we can move toward more inclusive and sustainable public health strategies for middle-aged populations.

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