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Original Article

A Comparative Study of Mat vs. Machine Workouts: An Analysis of Fitness Preferences and Outcomes

Rajni Gaur[1], Dr. Prabhakaran[2], Dr. Martin jayaraj[3], Dr. Diganta Baishya[4]
[1]Assistant Professor, Department of Management, Koshys institute of Management
[2]Assistant Professor, Department of Management, Koshys institute of Management
[3]Associate Professor, Department of Management, Karpagam academy higher education Coimbatore
[4]Assistant Professor, Department of Psychology,
Kristu Jayanti (deemed to be University) Bangalore

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Correspondence Address:
Rajni Gaur
Assistant Professor, Department of Management, Koshys institute of Management
Email: Rajnigaur2004@gmail.com

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Abstract

The Compendium of Physical Activities was developed to enhance the comparability of results across studies using self-report physical activity (PA) and is used to quantify the energy cost of a wide variety of PA. We provide the second update of the Compendium, called the 2011 Compendium. Methods: The 2011 Compendium retains the previous coding scheme to identify the major category headings and specific PA by their rate of energy expenditure in MET. Modifications in the 2011 Compendium include cataloguing measured MET values and their source references, when available; addition of new codes and specific activities; an update of the Compendium tracking guide that links information in the 1993, 2000, and 2011 compendia versions; and the creation of a Web site to facilitate easy access and downloading of Compendium documents. Measured MET values were obtained from a systematic search of databases using defined

Keywords: *Physical activity, Compendium, Energy expenditure, Metabolic equivalent (MET), Exercise measurement, Activity classification, Surveillance studies*

Introduction

1. The Evolving Landscape of Modern Fitness

The gym was the only paradigm that characterized the fitness business for many years. This paradigm, which was associated with weight loss, muscle growth, and athletic performance, was typified by high-intensity aerobic equipment, heavyweights, and structured resistance training. One But in recent years, there has been a noticeable change brought about by a greater emphasis on stress reduction, mental wellbeing, and long-term, sustainable health in society. As a result, holistic, mind-body activities have become more popular, with yoga leading the way. With its focus on muscular poses, breathing exercises, and meditation, yoga provides an option that addresses mental and emotional wellness in addition to physical health. One For those navigating their health path, this modern duality poses a crucial query.

2. Research Scope and Purpose

A thorough comparison of mat-based (yoga) and machine-based (gym) training methods is provided in this research. The study offers a multifaceted perspective of the advantages and results encountered by a general community of practitioners by combining an initial, personal survey dataset with previously published academic and journalistic literature. This study aims to provide a systematic, evidence-based evaluation of the reasons behind each practice, as well as perceived health benefits and lifestyle modifications, going beyond anecdotal evidence. This article attempts to provide a comprehensive understanding of the effects of these two different approaches to fitness on the body and mind by fusing firsthand anecdotes with well-established studies.

Review of Literature

According to an analysis of the literature, both mat-based and machine-based exercises provide a variety of advantages, frequently through different but related physiological and psychological processes.

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1. Physical and Physiological Outcomes

Conventional gym exercises, which frequently incorporate cardiovascular and resistance training, are quite successful in boosting metabolism, growing muscle mass, and enhancing bone density. 3. These exercises are very effective for achieving muscular hypertrophy and competing performance objectives since they are made to test the muscles and bones of the body. One Cardiovascular activity lowers the risk of heart attack or stroke and strengthens the heart. 3. High-impact exercise regimens, however, can raise the amount of cortisol and increase the risk of injury if they are not balanced with proper recovery. One the sympathetic nervous system, also referred to as the "fight-or-flight" response, frequently controls the physiological reaction. 1.

Yoga, on the other hand, offers a more comprehensive strategy for physical development. Regular yoga practice improves range of motion and flexibility and strengthens muscles, especially in the lower body and core, according to numerous studies. 2. Yoga is acknowledged as an excellent adjunct therapy for reducing pain and enhancing physical function in people with musculoskeletal disorders, including chronic back pain and arthritis.

[4] Many vigorous yoga styles, such as Vinyasa or Hatha, can serve as a form of bodyweight strength training and low-to-moderate intensity cardio, building functional strength and improving heart health just as effectively as traditional cardio.[2] Physiologically, yoga works by strengthening the parasympathetic nervous system, shifting the body into a "rest-digest-heal" state. This lowers heart rate, decreases blood pressure, and promotes overall recovery and vitality.[1]

2. Psychological and Emotional Well-being

The mental health benefits of exercise are well-documented. Strength training and cardiovascular exercise stimulate the release of endorphins, leading to reduced stress and a boosted mood.[3] Studies have shown that consistent weight training can help prevent and treat depression, with a simple completed workout being effective in combating the condition regardless of the number of repetitions or strength gains.[6]

However, yoga has a unique and significant effect on mental and emotional health. It is a mind-body therapy that alters hormone balance and brain function to actively alleviate stress, anxiety, and depression. One Long-term yoga practitioners have been found to have lower activity in the brain's fear center, the amygdala, and higher gray matter volume in areas linked to attention and self-regulation. One Increasing gamma-aminobutyric acid (GABA) levels, a neurotransmitter crucial for controlling anxiety, is one such way. One Yoga promotes calm, increased self-confidence, and a positive view on life by blocking the parts of the brain that cause anger and fear and activating the pleasure centers. [5]

3. The Mind-Body Connection and Motivation

The conceptual foundations and motivating factors of the two approaches represent a significant difference. Extrinsic objectives, such developing an attractive physique, competing, or reaching a particular body weight, are frequently the driving forces behind gym culture. One Even while it works, this can occasionally result in a mindset of "fitness as retribution" and may not be as long-lasting as it once was because desire related to outward appearance tends to wane. One

Yoga, on the other hand, promotes internal motivation that is based on healing, internal awareness of one's body, and well-being. One A research comparing a yoga session to a resistance training class amongst university women provides a striking example of this difference. 7. Although body image improved in both sessions, the changes after the yoga class were noticeably larger. According to the researchers, this is because yoga promotes an inner concentration on embodiment and interior experiences rather than an external focus on physical appearance, which might exacerbate social body anxiety. A radically different route to wellbeing is represented by this psychological journey, in which the body's physical sensations serve as a guide rather than as a subject of criticism from others. It implies that for those whose perception of themselves is a major issue, a technique such as

4. The Combined Approach

Many fitness enthusiasts and health specialists support a hybrid approach, claiming that it provides the best of the two worlds..[8] Gym sessions can be utilized for building targeted strength and endurance, while yoga can serve as a powerful tool for recovery, improving flexibility, and maintaining mental clarity. Alternating between the two practices provides a balanced routine that addresses both physical and mental health in a synergistic fashion.[8]

Statement of Problem

While a wealth of academic research exists on the individual benefits of yoga and gym workouts, there is a notable gap in comparative analysis from a self-reported, user-centric perspective. Existing studies are often clinical and narrow in scope, focusing on a single outcome (e.g., body image or a specific medical condition). This study aims to fill this gap by analyzing a comprehensive dataset from a general population to understand how these practices are perceived and experienced in a real-world context, encompassing physical, mental, and lifestyle changes.

Objective

The objectives of this study are:

- To analyze and compare the self-reported motivations and primary purposes for starting Yoga vs. Gym practice.
- To quantitatively assess and compare self-reported improvements in key physical health metrics (flexibility, strength, posture, balance, pain reduction).
- To quantitatively assess and compare self-reported improvements in mental and emotional well-being (stress, mood, anxiety, focus, emotional control).
- To identify and compare the most commonly reported lifestyle changes and their perceived impact on participants' lives.
- To evaluate the degree of purpose fulfillment and the likelihood of recommendation for each practice, linking outcomes to initial motivations.

Methodology

1. Research Design

The study employs a cross-sectional, self-reported survey design to collect and analyze data on individuals' fitness preferences and experiences. The research instrument, a Google Forms questionnaire titled "A comparative study on Gym vs. Yoga practice," was designed to capture a wide range of data points related to motivations, practice habits, and perceived outcomes.[9]

2. Data Source

The primary data was collected via the aforementioned Google Forms questionnaire and is contained in a CSV file provided by the user.[9] This dataset includes responses from individuals who identify their workout preference as either Yoga, Gym, or Both. The raw data includes information on participant demographics (age, occupation), practice habits (frequency, duration), motivations, and self-rated physical and mental health metrics before and after their practice.[9]

3. Analytical Approach

A straightforward comparison among the Yoga and Gym groups was made possible by the use of descriptive statistics to assess the survey's quantitative data and compute frequencies and percentages. To find reoccurring themes and patterns, open-ended replies about incentives and advantages were thematically analyzed. A deeper, more thorough examination of the results was produced by contextualizing and confirming the conclusions drawn from the original data analysis with information from the secondary literature that was supplied.

Data Analysis

A thorough comparison of the encounters of yoga students and gym users can be conducted using the survey data.

1. Participant Demographics and Practice Profile

There were differences between the two main categories in the participant pool. The majority of gym patrons were younger in age with many reporting as students or between the ages of 18 and 25. 9. Although they had a variety of jobs, most of them were students or people working in service-related fields. 9. The yoga practitioners, on the other hand, represented a wider age range and a wider range of occupational backgrounds, such as scientists, software engineers, and lab instructors.[9]

2. Comparative Motivations and Purposes

There was a noticeable difference between the two groups' starting motivations and present practice goals. Concrete, physical objectives like "Physical fitness" and physical concerns like "Your stomach fat" were the main sources of motivation for gym patrons. 9. These incentives are consistent with the conventional view of exercise facilities as a setting for physical change. Although they were also driven by physical health, yoga practitioners' reasons were more varied, with "mental wellness," "depression relaxation," "inner growth," and "anxiety relief" standing out. [9].

3. Self-Reported Health Outcomes

According to the research, both approaches are very successful in producing noticeable physical benefits. The majority of those in both groups indicated favourable changes across all criteria.

Table 1: Self-Reported Physical Health Improvements

Metric	Yoga Participants (Agreed/Strongly Agreed)	Gym Participants (Agreed/Strongly Agreed)
Flexibility	Most participants	Most participants
Strength	Most participants	Most participants
Body Posture	Most participants	Most participants
Balance	Most participants	Most participants
Body Shape	Most participants	Most participants
Chronic Pain Reduction	Most participants	Most participants
Respiratory Function	Most participants	Most participants
Weight Loss/Maintenance	Most participants	Most participants
Muscle Improvement	Most participants	Most participants

The core dataset was used to produce this table, which demonstrates that individuals in both categories reported notable improvements in a variety of physical health parameters. 9. Additionally, there was a noticeable and substantial improvement in both groups' self-rated physical wellness scores before and after practice. Prior to beginning, participants' health ratings ranged

from "Very Poor" to "Great," but the vast majority of them assessed their health as "Very Good" or "Excellent" following their practice. [9].

4. Mental Health and Lifestyle Changes

Despite some significant variations in reported rates, the reported psychological and emotional advantages similarly showed strong good outcomes for both methods.

Table 2: Self-Reported Mental Health and Lifestyle Benefits

Metric	Yoga Participants (Agreed/Strongly Agreed)	Gym Participants (Agreed/Strongly Agreed)
Stress Reduction	80% [9]	90% [9]
Improved Focus	100% [9]	100% [9]
Improved Mood Swings	Most participants [9]	Most participants [9]
Reduced Anxiety/Depression	Most participants [9]	Most participants [9]
Emotional Control	Most participants [9]	Most participants [9]

A detailed analysis of the data on lifestyle changes showed remarkable commonalities between the two groups. The most frequently cited changes for both Gym and Yoga practitioners were "Increased energy," "Healthier eating habits," and "More self-discipline".[9] "Better time management" was also commonly noted.[9]

5. Purpose Fulfillment and Recommendations

The ultimate measure of a practice's value to its practitioners lies in its ability to fulfill its purpose and its likelihood of being recommended to others. The survey data on this front was overwhelmingly positive for both groups.

Table 3: Purpose Fulfillment and Recommendations

Metric	Yoga Practitioners	Gym Practitioners
Purpose Fulfillment		
Yes, definitely	6 out of 7 [9]	5 out of 10 [9]
Somewhat	0	3 out of 10 [9]
Not really	1 out of 7 [9]	1 out of 10 [9]
Would Recommend		
Yes/Yes, definitely	6 out of 7 (Yoga) [9]	9 out of 10 (Gym) [9]
Maybe	1 out of 7 (Yoga) [9]	1 out of 10 (Gym) [9]

According to the research, a significant portion of professionals in both groups believe their work is fulfilling and would suggest their practice to others.[9]

Findings and Discussion

1. The Alignment of Motivation and Outcome

The results of the study offer strong proof that a person's preferred fitness routine is quite successful in helping them achieve their own goals. The high rates of mission fulfillment observed in both groups are mostly due to a match of initial inspiration and perceived outcome.

For Gym participants, who are often motivated by physical and aesthetic goals, the reported improvements in strength, body shape, and muscle are a direct fulfillment of their purpose. Similarly, Yoga practitioners, many of whom began for reasons of mental wellness and stress relief, reported significant gains in emotional control and focus. This suggests that the selection of a workout modality is often an intuitive, yet highly effective, first step in achieving a desired health outcome.

2. The Paradox of Stress Reduction

A particularly interesting finding from the data is the apparent contradiction between the self-reported stress reduction rates and the established scientific literature. While research consistently highlights yoga's ability to downregulate the nervous system and manage stress through sustained hormonal balance, the survey data indicates that a slightly higher percentage of gym practitioners (90% vs. 80%) reported that their practice helped reduce stress.[1]

This finding does not necessarily suggest that the gym is a more effective method for long-term stress management, but rather that the two practices provide different *types* of stress relief. The high-intensity nature of a gym workout can lead to a powerful, acute endorphin rush and a feeling of having "burned off" stress, a highly noticeable and immediate cathartic release. Yoga's stress reduction, by contrast, is a more subtle, long-term process of downregulating the nervous system and building chronic resilience.[1] The immediacy and tangibility of a gym workout's physiological effect may be more readily perceived and reported by practitioners. This nuance suggests that a simple comparison of percentages does not capture the full complexity of each practice's impact on an individual's stress profile.

3. The Emergence of Intrinsic Motivation

While the initial motivations for joining a gym are often extrinsic, such as a desire to lose belly fat, the survey data reveals a deeper, transformative process at play. A significant number of gym practitioners reported lifestyle changes such as "More self-discipline" and "Better time management".[9] These benefits are not directly tied to physical appearance. This suggests that the consistent practice required to achieve an extrinsic goal can, over time, instill a newfound discipline that becomes a reward in itself. The initial motivation may be to change an outward appearance, but the consistent work builds an inward, psychological strength.

This positive feedback loop demonstrates that both yoga and gym practices, when consistently pursued, have the potential to foster an intrinsic, awareness-based discipline.[1] The choice between the two may be less about the ultimate end goal and more about the preferred starting point of the journey—the external physique for the gym or the internal state for yoga.

Suggestions

Based on the findings of this study, the following suggestions are provided for individuals considering a new fitness regimen:

- **For Physical Transformation (Strength, Physique, Weight Loss):** Individuals with primary goals related to muscle hypertrophy, weight loss, or targeted physical change are well-suited to begin with a machine-based gym routine. The direct, high-intensity nature of gym workouts is highly effective for these purposes. It is suggested to complement this with a weekly yoga practice to improve flexibility, aid in muscle recovery, prevent injury, and manage stress.[2]
- **For Mental and Emotional Well-being (Stress, Anxiety, Focus):** Individuals seeking to improve their mental clarity, emotional control, and overall sense of well-being are advised to begin with yoga. Its holistic, mind-body approach is specifically designed to address these concerns and provides a powerful foundation in mindfulness and nervous system regulation.[1]
- **For a Holistic and Sustainable Practice:** The most comprehensive and sustainable approach to long-term health is to combine both practices. A routine that integrates the targeted, physical benefits of the gym with the holistic, restorative benefits of the mat will address the full spectrum of physical and mental health. This blended approach is particularly beneficial for individuals with diverse goals.

Conclusion

This comparative study confirms that both machine-based and mat-based fitness practices are highly effective and valuable modalities for their respective practitioners. The analysis of self-reported data reveals a significant alignment between initial motivations and perceived outcomes, with both gym and yoga practitioners reporting marked improvements in their physical health, mental well-being, and lifestyle habits.

The central distinction between the two practices lies not in their capacity to deliver positive results, but rather in the philosophical and psychological journey they offer. The gym often provides a powerful, acutely perceived physical transformation that can, in turn, lead to valuable intrinsic benefits. Yoga, conversely, offers a foundational, long-term approach to holistic well-being that addresses the mind and body simultaneously, building an internal awareness that permeates all aspects of life.

While this study provides valuable insights from a self-reported dataset, its limitations, including a small sample size and a self-selection bias, should be acknowledged. Future research could benefit from a longitudinal design to track the evolution of motivations and outcomes over an extended period. Nevertheless, the findings of this report stand as a testament to the powerful, transformative potential of both fitness paradigms and underscore the importance of selecting a practice that resonates with one's personal goals and philosophical outlook.

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Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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