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The factors affecting adherence to physical activity in fitness facility settings: a narrative review

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Abstract

Introduction: Given that fitness facilities such as gyms, fitness clubs, and health clubs play an important role in the current era and they have the ability to offer opportunities for daily physical activity and leisure sports to many people, it is important to examine the factors that affect their members in adhering to consistent long- term physical activity.
Purpose: This study examines the factors that influence adherence to physical activity in the long term among members of various fitness facilities settings through a narrative review.
Material and methods: A search for studies and articles relating to adopting and maintaining regular physical activity in fitness facility settings was conducted using four electronic databases (EBSCO, PubMed, Scopus, and Web of Science). Search criteria included terms related to fitness facilities, physical activity, and adherence. Only academic articles that were peer-reviewed and published in academic journals were included.
Results: A total of 19 studies met the inclusion criteria. The main factors affecting consistency and adherence to exercise at the fitness facilities were: social context, habit and past behavior, professional support, and personal characteristics. Motives and barriers also had an effect on the individual's abilities to maintain the physical activity level.
Conclusion: The current review suggests that success in persevering and adhering to long-term physical activity within the fitness facility setting depends on a number of factors, the most significant being support from friends and family, professional support from fitness professionals, habit formation, and fulfillment of basic psychological needs.

Key words*: gym, fitness, facility, physical activity, adherence*

Rezumat

Introducere: Având în vedere că facilităţile de fitness, cum ar fi sălile de sport, cluburile de fitness şi cluburile de sănătate joacă un rol important în epoca actuală şi au capacitatea de a oferi multor persoane oportunităţi de activitate fizică zilnică şi sporturi de agrement, este important să se examineze factorii care afectează membrii acestora în aderarea la o activitate fizică consecventă pe termen lung.
Scop: Acest studiu examinează factorii care influenţează aderarea la activitatea fizică pe termen lung în rândul membrilor diferitelor instituţii de fitness printr-o revizuire narativă.
Material şi metode: A fost efectuată o căutare pentru studii şi articole referitoare la adoptarea şi menţinerea activităţii fizice regulate în cadrul sălilor de fitness folosind patru baze de date electronice (EBSCO, PubMed, Scopus şi Web of Science). Criteriile de căutare au inclus termeni legaţi de facilităţi de fitness, activitate fizică şi aderenţă. Au fost incluse numai articolele academice care au fost revizuite inter pares şi publicate în reviste academice.
Rezultate: Un total de 19 studii au îndeplinit criteriile de includere. Principalii factori care au afectat consecvenţa şi aderarea la exerciţii fizice în facilităţile de fitness au fost: contextul social, obiceiul şi comportamentul din trecut, sprijinul profesional şi caracteristicile personale. Motivele şi barierele au avut, de asemenea, un efect asupra abilităţilor individului de a menţine nivelul de activitate fizică.
Concluzie: Analiza actuală sugerează că succesul în perseverenţa şi aderarea la activitatea fizică pe termen lung în cadrul sălilor de fitness depinde de o serie de factori, cel mai semnificativ fiind sprijinul din partea prietenilor şi familiei, sprijinul profesional din partea profesioniştilor de fitness, formarea obiceiurilor şi satisfacerea nevoilor psihologice de bază.

Cuvinte cheie: *sală de sport, fitness, facilitate, activitate fizică, aderenţă.*

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Introduction

Lack of physical activity coupled with a sedentary lifestyle is a rising trend in our society (Guirado et al., 2021). Data from adults in high-income countries show that most of their waking hours are spent sitting and engaging in low-energy behaviors (Hansen et al., 2012; Matthews et al., 2008). A systematic review published in 2020 showed that university students reported sitting for 7.29 hours per day (Castro et al., 2020). Moreover, 80% of children and adolescents do not reach physical activity recommendations and are not active enough (Guirado et al., 2021). According to recent guidelines, it can be concluded that a person can maintain and improve their health by engaging in two main types of training: cardiovascular aerobic training such as walking, running, cycling, and using aerobic fitness equipment; and resistance training such as resistance bodyweight exercises, use of weights, resistance machines, and accessories that contribute to strengthening the muscles. In accordance with this requirement, it seems that an appropriate solution has indeed been found for the current generation and its modern Western communities that tend to be less active, and this solution is in the form of fitness facilities (gyms, fitness clubs, health clubs, CrossFit clubs, etc.). This is because these facilities play an important role in providing daily activities and leisure sports for many people (León-Quismondo et al., 2020). Fitness clubs are also important arenas for promoting physical activity, as they provide fitness equipment for individuals and groups and they allow a variety of activities for exercise (IHRSA, 2020). These fitness clubs may suit the current generation whose communities are characterized by a Western and modern lifestyle that tends to engage less in physical activity. The clubs tend to be popular as they are located close to people's living areas, and offer a wide range of exercise options. Their hours of operation are flexible and some clubs even offer childcare while parents exercise. The number of fitness clubs stands at about 210,000 with about 183 million members worldwide and it seems that fitness clubs are one of the most popular settings for physical activity (Gjestvang et al., 2020). Despite all the above, one of the significant challenges faced by health and fitness professionals is the promotion of regular exercise. Accordingly, national surveys show that the number of dropouts and withdrawals from physical activity remains high and has been rising steadily in recent years (Rodrigues et al., 2021). The issue of maintaining regular physical activity is quite challenging, and it is estimated that about 50% of people reduce their exercise activity after the first month (Gjestvang et al., 2020), and 40%–65% of individuals initiating exercise are predicted to drop out in the first 3–6 months (Gjestvang et al., 2019). Furthermore, the number of people engaging in structured and consistent physical activity, such as exercising at a gym or health club, has been decreasing (Rodrigues et al., 2020). Additional researchers also have reported low attendance rates in the first three to six months of gym membership (Middelkamp et al., 2016; Sperandei et al., 2016). As the studies and the data above show, fitness facilities do not exactly meet the expectations for many people and the abandonment rates are very high (Gjestvang et al., 2019; Rodrigues et al., 2020; Middelkamp et al., 2016; Sperandei et al., 2016). While fitness facilities try to provide their members with the tools to follow the WHO guidelines regarding physical activity, and health organizations regarding physical training, it seems that they do not place enough emphasis on how to create consistency and adherence in physical activity and training, and it is well known that regular exercise has great value regarding the achievement of health benefits (Bull et al., 2020).

Thus, this narrative review aims to uncover and discover the factors that may affect consistency and adherence to physical activity among members of various fitness facilities including gyms, fitness clubs, health clubs, and the like. Additionally, it raises the need to examine the factors that motivate club members and enable them to succeed in persevering in regular physical activity over time, as well as the need to expose the barriers that affect those who fail to persist and adhere to physical activity and may cause them to retire from the fitness facilities prematurely

Material and Methods

This narrative review aimed to reveal the factors that influence members of fitness facilities (gyms, fitness clubs, health clubs, etc.) to adhere to physical activity at fitness facilities. This review led to use and tracking of the Preferred Reporting Items for Systematic Reviews and Meta-Analyzes (PRISMA) (Page et al., 2021).

Search Strategy

A search was conducted of four scientific databases: EBSCO, PubMed, Scopus, and the Web of Science. Keywords and search terms included different combinations during the searches. Fields that included the primary and secondary search terms were the summary field and the subject field of each of the four databases. The search terms and the various combinations for the fitness facilities were *gym* OR *fitness facility* OR *health club* OR *fitness club*. The keywords for physical activity and fitness were *physical activity* OR *exercise* OR *physical fitness*, and the keywords related to adherence or dropout were *adherence* OR *consistency* OR *dropout* OR *inconsistency*. A search was also made of the various combinations between these words and the connections between them.

Inclusion Criteria

In order for an article to meet the inclusion criteria: (1) it was available in English; (2) the age of the participants was over 18; (3) the subjects were generally healthy, i.e., the study did not test a particular population with a particular disease or condition. That is, the various articles may have examined individuals with different diseases or health conditions, but their disease and health status was not an essential part of the study and was not a limiting factor; (4) the study investigated both genders (men and women); (5) the research was carried out in a fitness facility (fitness club, health club, gym, etc.) or engaged and explored the members of a fitness facility; (6) the article was peer-reviewed and published in an academic journal and; (7) the article was available online (title, abstract, and full text) before January 31, 2022.

Exclusion Criteria

included studies that: (1) examined only one gender, (2) did not examine adherence directly, (3) were editorials, (4) examined unhealthy populations, or (5) reported missing reports in relation to the inclusion criteria, or did not meet the established inclusion conditions for this review.

Study Selection and Data Extraction

All the titles and abstracts of the articles were collected from the four databases. After filtering the articles by headings and abstracts, the full texts of articles that met the inclusion criteria were reviewed. After a full reading of the texts, the articles that did not meet the inclusion criteria were removed, as can be seen in Figure 1. After selecting the most relevant studies for this review, the following data were extracted from each article: article authors, sample (n, sex, age), research design and method, research tools and instruments, objectives, main findings, and fitness facility type (gym, fitness club, health club, CrossFit gym, etc.). After collecting the information from each study included in this review, the studies were classified according to the findings they presented into six main categories.

Results

The initial literature search for this review yielded a total of 365 articles. 283 articles remained after duplicates were removed. 253 papers were excluded following the title and abstract review for not meeting the inclusion criteria. 32 were reviewed in a full-text examination at this stage, and 12 studies that did not meet the inclusion criteria were excluded based on the following: one study examined men only, six did not examine adherence directly, one was an editorial, four studies were performed on unhealthy populations, and one study, based on lack of information and reporting. Therefore, a total of 19 studies are included in this review (Figure 1).

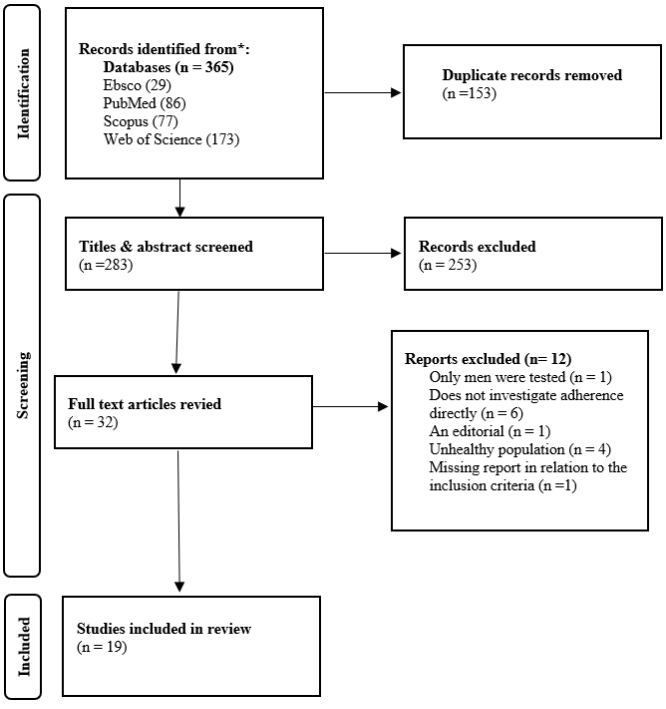

Figure 1. Flow chart of the study selection process (Moher, 2009).

Research overview

The studies included in this review had different designs. Sixteen (84.2%) studies were quantitative, while three (15.8%) were qualitative. The distribution of the studies was as follows: behavioral intervention n=1, cross-sectional study n=6, exploratory study n=1, longitudinal study n=6, prospective studies n=2, and qualitative study n=3. Data collection in the 19 studies included face-to-face interviews and observations n=2, electronic questionnaire and online data collection n=7, follow-up through monthly payment records from fitness centers n=1, frontally in the fitness facility n=7, semi-structured interviews n=1, and in one study, a questionnaires was used as a research tool, but the method of data collection is unknown.

Table 1. Summary of included studies

Article authors	Sample	Research design & method	Objectives	Main findings	Fitness facility
Smith & Biddle, 1999	n=95 MA=34 yrs. Females: 51 Males: 44	Prospective study	This study used the theory of reasoned action that predicts, prospectively, adherence to the training program.	• The magnitude of the effect for those who adhered well to those who did not was small for three measures (behavioural intention, attitudes, behaviour) out of four (behavioural intention, attitudes, behaviour and social norms). • The size of the effect for social norms was small; therefore, it is possible that other factors such as barriers may explain the issue of adherence	Private fitness club
Ortís et al., 2007	n=75 MA=35.34 yrs. Females: 38 Males: 37	Behavioral intervention	To examine the variation in the level of exercise, barriers to physical activity and motivations for physical activity from the baseline phase to the follow-up phase after a cognitive and behavioural intervention aimed at increasing exercise	• External motivation controls the early stages of behaviour change in physical activity, whereas in later stages and for long-term maintenance, the internal motivation dominates. • When subjects increased their external motivation, they reduced their level of physical activity; whereas subjects who increased their level of physical activity, reduced the barriers associated with internal motivation.	University gym
Tappe et al., 2013	n=174 MA=27.5 yrs. Females: 97 Males: 77	Exploratory study	To examine behavioural components of exercise habits such as environmental cuing, temporal constancy of behaviour, and frequency	• Habit formation seems to be relevant to the physical activity patterns of people who exercise regularly. • Establishing an automatic behaviour will result in a lower cognitive requirement and may constitute an advantage and increase the likelihood that people will exercise regularly.	2 member-only gymnasiums in a large metropolitan area
Springer et al., 2013	n=12 MA=54 yrs. Females: 5 Males: 7	Qualitative study	To explore the perceptions of adults regarding the process of long-term maintenance of physical activity and how this may relate to their self-identity	• Changing the meaning of participating and performing physical activity over time was important for adhering to physical activity. • Adherence is likely to occur when the value of participation is internalized over time as a component of the physically active self. • Adherence to long-term physical activity may be strengthened by promoting the satisfaction of a person's basic psychological needs.	Health/fitness facility in a midsized Midwestern city
Teixeira & Palmeira, 2015	n=904 MA=Not mentioned Females: 548 Males: 353	Cross-sectional	To analyse the indirect effects of the quality of motivation on the relationship between need satisfaction and emotional response to exercise	• Satisfying the basic psychological needs associated with exercise in gyms and health clubs predicts better training experiences. • There is a need for fitness professionals to create support for trainees in order to increase their adherence and psychological well-being.	Fitness club
Klain et al., 2015	n=588 MA=43 yrs. Females: 382 Males: 206	Cross-sectional	To predict physical exercise adherence in fitness academy users and subjects following personal training by analysing the validity of the relationships hypothesized by self-determination theory	• Subjects who were in personal training had more self-determined forms of regulation, and they were more adherent to physical exercise.	Fitness academies
Kaushal & Rhodes, 2015	n=111 MA=47.7 yrs. Females: 78 Males: 33	Longitudinal study	To examine what predicts habit by testing a model (Lally and Gardner in Health Psychol Rev 7:S137-S158, 2013), to examine how a dual process approach predicts behaviour and to investigate the behavioural demands that cause exercise habits	• In order to establish physical activity habits, it is necessary to exercise at least 4 times a week and for a duration of about 6 weeks. • Consistency was found to be the most important factor in predicting habit changes. • Exercise promoters should focus on fun and enjoyable training, with appropriate skill and a consistent schedule in order to increase the chances of forming habits.	Gym

Sperandei et al., 2016	n=5240 MA=31.1 yrs. Females: 3084 Males: 2164	Longitudinal study	To evaluate the rate of attrition among members of a fitness centre in Rio de Janeiro and the potential explanatory variables for this phenomenon	• Adherence to physical activity in unsupervised programs is very low. • Young people with a high BMI and high motivation for weight loss are at the highest risk of dropping out of the gym. • Adults with low BMI who are driven by hypertrophy, aesthetics, and health are most likely to be adhere, and will likely continue to exercise for a longer period of time.	Fitness centre
Larson et al., 2017	n=18 MA=49.9 yrs. Females: 10 Males: 8	Qualitative study	To investigate the outcome expectations and perceived outcomes achieved by sedentary adults who completed an 1-year exercise program	• Complex relationship between expectations, results, and motivation for long-term adherence • Commitment to others may play an important role in long-term adherence	Private university fitness
Middelkamp et al., 2017	n=122 MA=42.04 yrs. Females: 83 Males: 39	Longitudinal study	A follow-up study that aimed to test the effects on exercise behaviour over 52 weeks and the long-term relationships of the all Transtheoretical Model of Behaviour Change (TTM) constructs	• During the study, a dramatic decrease in physical activity was observed within 52 weeks, indicating that adherence to physical activity is very weak. • In the short term, an intervention of self-efficacy provided positive results. • 50% of the participants reported after 52 weeks that they are still training in general, while 30% of them are training at another fitness club.	Two fitness clubs
Kaushal et al., 2017	n=181 MA=43.4 yrs. Females: 116 Males: 65	Prospective studies	To investigate how habit strength in a preparatory and performance phase predicts exercise, while accounting for intention, and to determine the strength of potential habit antecedents (perceived behavioural control, affective judgment, consistency, and cues)	• The preparatory habit may be a bridge that transports the individual to the training environment and emphasizes the importance of the preparatory habit over a performance habit for exercise and a change in exercise over a period of 6 weeks.	Kaushal et al., 2017
Whiteman-Sandland et al., 2018	n=100 Age=18-69 yrs. Females: 48 Males: 52	Cross-sectional	To measure "sense of community" in the CrossFit gym model	• CrossFit trainees reported higher levels of social capital and community belonging. • No significant difference was found in attendance rates between the traditional gym and the CrossFit gym. • In the traditional gym, there were a higher number of participants who had friendships for more than two years; however, in the CrossFit gym, more new trainees were found. • The traditional gym trainers were generally older.	Two different gyms: 1. CrossFit gym 2. Traditional gym
Gjestvang et al., 2019	n=125 Age=18-71 yrs. Females: 63 Males: 62	Longitudinal study	To identify motives for fitness club membership and exercise, and to investigate whether the changes in body composition, body weight, and physical fitness are related to exercise attendance and dropout among fitness club members	• The main motives for membership in the fitness club and physical activity were mostly related to physiological factors, with an increase in physical fitness being cited most often (92.8%), and then motives related to health and appearance. • VO2max was associated with a constant presence in the fitness club at the two time points tested (3 and 12 months).	Two local fitness clubs
Rodrigues et al., 2019	N= 544 MA=35 yrs. Females: 294 Males: 250	Cross-sectional	Comparing groups with different characteristics as a way to identify people with a weaker intention, which is believed to be an indicator of a higher dropout risk, and testing a theoretical model, taking into account the dark side of motivational factors regarding intentions towards exercising in the future.	• Social context can, on the one hand, support and, on the other hand, inhibit basic psychological needs. • Men, young adults, and more experienced trainees had stronger intentions for exercise. • Younger and less experienced women show that they have weaker intentions to exercise in the future, which may represent an increased risk of dropping out.	7 gym and health clubs
Rodrigues et al., 2020	n= 437 Age=31.14 yrs. Females: 235 Males: 202	Cross-sectional	To examine the effect of past behaviour and motivational determinants on future exercise adherence.	• Past behaviour was shown the highest cause of adherence to future exercise. • Behaviour contracted directly or indirectly the intention to exercise in the next six months. • Consistent repetition of behaviours and receiving support from a fitness instructor	Portuguese gym and health clubs (n=10)

				can create favorable conditions that promote adherence to long-term physical activity.	
Gjestvang et al., 2020	n= 250 MA=36.4 yrs. Females: 125 Males: 125	Longitudinal study	To compare motives between regular and non-regular exercisers the first year of fitness club membership, to identify motives and barriers to exercise, and to examine proportions reporting regular exercise, non-regular exercise, and exercise dropout.	• Only 37% of participants reported regular adherence during the first year of membership in the fitness club. • Most members were motivated to exercise by factors such as: increased physical fitness, positive health, and mobility. • The most common barrier to adherence to exercise was priorities (such as lack of time). • At all-time points examined in the study, motives regarding positive health strength and endurance were rated highest in the six-point scale. • Adherent trainees rated the motives 'enjoyment' and 'challenge' higher than non-adherent trainees.	Fitness club, 25 multipurpose gyms (resistance and cardio-exercise rooms, and group exercise classes) in one fitness club chain
Gjestvang et al., 2021	n=250 MA=36.4 yrs. Females: 125 Males: 125	Longitudinal study	To investigate different psychosocial factors that might increase the likelihood of reporting regular exercise the first year of a fitness club membership, including self-efficacy, motives, social support, life satisfaction, and customer satisfaction.	• The most powerful predictor of reporting regular physical activity attendance at the fitness club was 'enjoyment' followed by self-efficacy, followed by social support from friends and family. • Higher levels of these motives were the strongest predictors associated with reporting regular exercise attendance throughout the first year of a fitness club membership. • New members of the fitness club do not exercise regularly, but rather exercise intermittently.	The Nordic fitness club chain (25 gyms)
Rodrigues et al., 2021	n=293 MA=36.57 yrs. Females: 166 Males: 127	Quantitative	To test the effect of past behavior on future behavior, considering the motivational sequence proposed by the self-determination theory.	• New clients (<6 months in the fitness club) are more likely to drop out of the fitness club. • Even people with 1+ years of consistent training experience, there is a chance of dropping out although they have a background which holds them back and makes them stay and maintain a commitment to exercise. • The fitness industry should promote a minimum frequency of exercise twice a week consistently (rather than intermittently), as the study data show that trainees who trained twice a week tended to maintain a future training routine. • Past behavior is a significant positive predictor of future behavior, and past experience has a strong prediction about how trainees will behave in the future. • Past behavior has been found to offset the direct effect of intention on future behavior. • For experienced gym members, an indirect effect of all other variables in the analysis on intention acts as a buffer variable.	Gym (n=10)
Chen et al., 2021	n= 15 MA=56.92 yrs. Females: 13 Males: 2	Qualitative research	To examine the role of using a gym as a mechanism for adherence to regular physical exercise among individuals aged 55 and over.	• Veteran trainees (average period of participation in the gym 15.23 years) who receive support from family members persist in physical activity to maintain and improve their health. • The members reinforced their perception that consistency and regular exercise will have a beneficial effect and improve their health.	Three gyms located in an urban area of southern Taiwan

Legend: n=number of participants; MA=mean age.

In this review, the consolidated sample contained 9,358 participants, [5,419 women (58%) and 3,939 men (42%)]. The minimum age of participants was 18. The sample sizes ranged from 12 to 5,248. The most widely used research tool were questionnaires, with 14 of the 19 studies included using this tool. The rest of the studies used other methods such as face-to-face interviews and observations, in-depth interviews, semi-structured interviews, interventions, and observations. Of the 14 studies that used questionnaires, four of them (the majority) used the Exercise Motivations Inventory-2 (EMI-2) (Markland & Ingledew, 1997). The EMI-2 is a valid research tool for evaluating a variety of motives for participation in physical activity among adult women and men, ranging from active and inactive exercisers. The inventory contains a scale of 51 items that includes 14 sub-scales. Participants answer questions and statements about the reasons why they exercise, whether they exercised regularly, and whether they were currently exercising.

Table 1 summarizes and shows the article authors, sample (n, gender, age), research design and method, objectives, main findings, and fitness facility setting.

Theoretical framework

In this review, a total of 13 studies implemented theoretical frameworks: nine of them made use of the Self-Determination Theory (SDT) (Ryan & Deci, 2017), one used the theory of reasoned action (Fishbein et al., 1975), two others used the transtheoretical model of behavior change (TTM) (Velicer et al., 1998), and the last study used a grounded theory research design (Chun Tie et al., 2019).

Findings from the studies

The studies included in this review reported a wide range of participants, outcomes, and factors influencing adherence to physical activity in the various fitness facilities. The factors influencing this adherence were classified into six main categories: social context, habit and past behavior, professional support, motives and barriers, and personal characteristics such as gender, age, and duration of participation in the fitness facility and adherence rates.

1. Social context

Smith & Biddle (1999) found that the attitude and social norm components of the theory of reasoned action accounted for 13.1% of the variance in adherence to physical activity after four months. This study showed that only a social norm predicted intention significantly, and there was no significant result between attitude and intention. However, a weakness in this study was that social norms were measured using only one item asking if continuing the program was something "people who are important to me believe I should do". Also in the social context, Whiteman-Sandland et al. (2018) found that group exercise levels were higher at CrossFit gym compared to regular gym, and that CrossFit trainees reported higher levels of social capital and feelings of community. Gjestvang et al. (2021) found that novice fitness club members who exercised regularly at three time points examined in their study (3, 6, and 12 months) reported greater social support from family and friends compared to those who did not exercise regularly.

Chen et al. (2021) conducted research to examine the role of gym use as a mechanism for maintaining regular physical activity. The subjects were those who had been persistent in physical activity for an average of 15.3 years. This qualitative study, which included face-to-face interviews and observations, found that these participants received social support from their family members, and that this support helped motivate them to continue their training routine. Larson et al. (2017) noted that the ideal is for each person to exercise for internal reasons, but it appears that commitment to others may play an important role in long-term adherence. Rodrigues et al. (2019) expanded the knowledge that social context is a double-edged sword, that is, on one hand, it can support, but on the other, it can inhibit basic psychological needs (BPNs). As an example, they cited the role of the fitness instructor and noted that while these instructors may support BPNs, they may also interfere with them. Thus, they warn that instructors should be aware of behaviors that may possibly inhibit BPNs, especially among younger and less experienced people (and primarily women) because this population has a weaker intention to exercise in the future and their chances of quitting are higher.

2. Habit and past behavior

Establishing automatic behavior results in a low cognitive requirement, which may be an advantage and increase the likelihood of exercising regularly.

Thus, habit formation seems to be relevant to the exercise patterns of people who exercise regularly. Accordingly, the more regular exercise people engage in, the more likely they are to develop stable and robust exercise habits (Tappe et al., 2013). Kaushal and Rhodes (2015) found that in order to establish physical activity habits, it is necessary to exercise at least four times a week and for a duration of about six weeks. In a more recent study, Kaushal et al. (2017) found that forming a preparatory habit may be a bridge that transports the individual into the training environment, and emphasized the importance of the preparatory habit over a performance habit for exercise and a change in exercise over a period of six weeks. Tappe et al. (2013) also pointed out that people who have established regular exercise habits are able to show greater flexibility regarding the regular exercise patterns they have cultivated without fear of losing them. They emphasized that new trainees will need to train regularly and may need a fixed time and place in order to establish such habits. Kaushal and Rhodes (2015) found consistency to be the most important factor in predicting habit changes, and suggested that exercise promoters focus on training that is fun and enjoyable at an appropriate skill level with a regular schedule in order to increase the chances of habit formation.

Past behavior was shown to be a positive and significant predictor of future behavior, and past experience strongly predicts the way in which trainees will continue to behave. It was also found that past behavior offsets the direct effect of intention on future behavior (Rodrigues et al., 2021), and shows the highest adherence to future exercise (Rodrigues et al., 2020).

1. Professional support

Sperandei et al. (2016) found that adherence to physical activity in unsupervised programs is very low. More than 50% of gym members will not complete three months of active participation, and fewer than 5% will continue their gym membership for one year, while only 3.7% of members are expected to continue their membership for more than 12 months Therefore, in order to promote physical activity, it is necessary to understand that supportive behaviors are an integral and essential part of people's daily lives and that the professional staff in fitness clubs need to increase the attention and support they give to new trainees (Rodrigues et al., 2021). As noted earlier, fitness instructors may be a significant part of BPN support or inhibition among certain populations, and they should be aware of possible thwarting behavior (Rodrigues et al., 2019). Thus, receiving support from physical fitness instructors may produce favorable conditions that will lead to the promotion of and adherence to long-term physical activity (Rodrigues et al., 2020). Klain et al. (2015) showed that subjects who had personal trainers had more self-determined forms of regulation, and they were more adherent to physical exercise. Teixeira and Palmeira (2015) emphasized the need for fitness professionals who know how to create support for trainees in order to increase their level of adherence and psychological well-being.

2. Motives and barriers

Gjestvang et al. (2019) found that the main motives for fitness club members and exercise participants were mainly related to psychological factors. Their findings showed that an increase in fitness was the most cited (92.8%), followed by those related to health and appearance. In a more recent study, Gjestvang et al. (2020) noted that club members were most motivated to exercise by factors such as increased fitness, mobility, and positive health. This study also addressed the issue of barriers associated with physical activity adherence, with the most common barrier among fitness club members being priority (as a lack of time). Ortís et al. (2007) stated that in order to facilitate adherence to physical activity and help eliminate barriers that block physical activity and an active and healthy lifestyle, there is a need for feedback on the motives for physical activity, and suggested incorporating tips that will improve physical condition.

Gjestvang et al. (2021) also found that beginner fitness club members who exercised regularly at the three time points tested (3, 6, and 12 months) received higher scores on motive "enjoyment" and "self-efficacy". Middelkamp et al. (2017) showed that an intervention of self-efficacy showed positive results only in the short term.

Chen et al. (2021) conducted a qualitative study among consistent gym trainees in which the average age of the participants was 56.92 (SD = 5.82), and the period of time they were members of the gym was 15.23 years on average. The data showed that the trainees who received support from their family

members adhered to physical exercise to maintain or improve their health. This indicates that this factor motivates them to adhere to the training program, and also shows that the trainees strengthened their perception regarding consistency and that consistency and regular exercise will improve and have a positive effect on their health.

3. Personal characteristics (sex, age, and duration of participation in the fitness facility)

Springer et al. (2013) conducted research with adults (average age = 54) who maintained long-term physical activity, and found that the factors that influenced exercise adherence were the satisfaction resulting from competence, sacrifice, autonomous needs that support internalization, and knowing that an active lifestyle is a formative and worthwhile component of the self. In this study, it was shown that a change in meaning among participants and performing exercise over time were important for adherence to exercise. A change in meaning might be changing goals, for example, from fitness-related goals to performance-related ones**.** In their study, Whiteman-Sandland et al. (2018) examined the comparison between a traditional gym and a CrossFit gym. The findings showed that, in general, traditional gym trainees were older than CrossFit gym trainees. It was further found that, in the traditional gym, there were more veteran trainees such as those who tended to renew their gym memberships over time (more than two years), whereas in the CrossFit gym, there were more new trainees. Sperandei et al. (2016) reported that adults with a low body mass index (BMI) that driven by aesthetics, hypertrophy, and health tend to be more adherent to exercise and that this increases the likelihood that they will persevere with exercise for a longer period of time. In contrast, younger people who are overweight and have a high BMI and they are highly motivated to lose weight, are most likely to drop out. Rodrigues et al. (2019) indicated that young adult men with more than one year of training experience will show more intention for exercise. In contrast, women with short experience in training showed weaker intentions to train in the future and had an increased chance of withdrawal.

4. Adherence rates

In a study by Sperandei et al. (2016), which included a large sample of 5,240 individuals (3,084 women and 2,164 men), the following data were reported: 50% of gym members do not complete three months of active participation in the gym, 5% continued their membership in the gym for a period of 12 months, and only 3.7% of the gym members expected to continue their membership in the gym for a period of more than a year. Rodrigues et al. (2021) noted that even people who had more than a year of experience of consistent gym training had a chance of dropping out, despite having a background that held them back and made them maintain a commitment to exercise, and suggested that the fitness industry should promote a minimum of two workouts per week consistently and not intermittently because the study data showed that a weekly frequency of two workouts per week tends to maintain a future training routine. Gjestvang et al. (2021) confirmed the issue of frequency and noted that the findings of his research show that new members of a fitness club do not train regularly, but rather intermittently. Middelkamp et al. (2017) found that 50% of participants reported that after 52 weeks they were still exercising in general, with 30% of them reporting that they were indeed exercising, but at another fitness club. These findings suggest that the frequency of exercise is not necessarily low, but it is possible that trainees simply find other alternatives. Gjestvang et al. (2020) indicated that only 37% of participants reported regular adherence during the first year of membership in a fitness club. When examining the effect of adherence for different models of fitness facilities, Whiteman-Sandland et al. (2018) found no significant differences in attendance rates between CrossFit and traditional gyms, but at the same time, they did find that in the traditional gym, there was a higher number of participants with long-term gym membership.

Discussion

Maintaining adherence to long-term exercise is very challenging. It is estimated that about 50% of people reduce their activity after the first month (Gjestvang et al., 2020), and 4o%–65% of individuals initiating exercise are predicted to drop out during the first three to six months (Gjestvang et al., 2019). Moreover, the number of people engaging in structured and consistent physical activity, such as exercising at the gym or health club, has been decreasing over the last years (Rodrigues et al.,

2020). Additional researchers reported low attendance rates in the first three to six months of gym membership registration (10% –37%) (Middelkamp et al., 2016; Sperandei et al., 2016). Accordingly, this narrative reviews the factors and motives that affect adherence and consistency to physical activity among members of various fitness facilities, showing that the main factors that affect exercise consistency and adherence at these fitness facilities are social context, habit and past behavior, professional support, and personal characteristics such as age, gender, seniority as a trainee, motives, and barriers. The category of habit and past behavior was merged because past behavior is an appropriate proxy for habit (Ouellette, 1996).

The social context in general, and support from friends and family in particular, may be significant factors that affect an individual's abilities to persevere in an exercise program. This can be seen both when examining this factor for beginner trainees (Gjestvang et al., 2021) and also for veterans (Chen et al., 2021). Larson et al. (2017) found that commitment to others may play a significant role in long-term adherence. It should be noted that these findings should be taken with great caution as the social context may both support or delay achievement of meeting basic psychological needs (Rodrigues et al., 2019) such as autonomy, competence, and relatedness (Van den Broeck et al., 2016). Meeting these needs helps an important backbone to be formed that promotes well-being and optimizes motivation for healthy behaviors such as exercising (Wilson et al., 2008). Likewise, social connections have the potential to both positively or negatively affect health (Seeman, 2000). Accordingly, professional support, which also fits the social context to some extent, is another factor that may negatively or positively affect trainees' adherence and consistency. It can be seen that, in recent years, fitness professionals have taken on a very significant role in regard to managing health behaviors, as they can facilitate health and physical gains, instill a belief in self-efficacy in health, strengthen autonomy, empower the individual, and resolve psychosocial barriers that lead to pro-health behavior (Garrin, 2014). Returning to the double-edged sword metaphor already mentioned, while the behavior of fitness instructors may support basic psychological needs and encourage consistency and adherence, it may also suppress these. Therefore, instructors should be aware of their behavior especially when working with populations that have a tendency to withdrawal early and low physical training intention (Rodrigues et al., 2019). In addition, the professional staff at fitness clubs need to increase their attention and support for new trainees (Rodrigues et al., 2021) because receiving such support may produce conditions that are favorable for long-term physical activity adoption (Rodrigues et al., 2020). Evidence of this can be seen in people who train with personal trainers (Klain et al., 2015). To confirm this finding, the European Survey of Fitness Trends for 2020, where respondents had more than ten years of experience in the fitness industry, reported that personal training was the most attractive and popular fitness trend (Batrakoulis, 2019). Also, in general, adherence to physical activity in unsupervised programs was very low (Sperandei et al., 2016). Therefore, there is a need for physical fitness professionals who know how to create support for trainees in order to raise their level of attachment and psychological well-being (Teixeira & Palmeira, 2015).

Another factor that is essential for consistency and adherence to long-term physical activity is habit formation. Habits are a central component of our cognitive and behavioral lives (James et al., 1890). Thus, establishing an automatic behavior is necessary due to the fact that it will result in a lower cognitive requirement, thus, increasing the likelihood of regular exercise. Accordingly, the more regularly people exercise, the more likely they are to develop stable and strong training habits (Tappe et al., 2013). For that matter, establishing new behaviors can be accomplished by the habit concept mechanism; therefore, many interventions advocate the creation of healthy habits (Lally & Gardner, 2013). Consequently, the obvious question is what the recommended training frequency in order to develop habits may be. The answer may be found in two studies included in this review. One is the study of Kaushal and Rhodes (2015), which suggests that in order to establish exercise habits, one needs to exercise at least four times a week and for about six weeks. The second study (Rodrigues et al., 2021) recommends a frequency of at least two workouts per week. Based on these recommendations, the

present study suggests range of 2–4 workouts per week for six weeks in order to develop exercise habits and to maintain long-term exercise. Also, people who have established exercise habits are able to show more flexibility regarding their exercise patterns without the fear of losing them, while new trainees will need to exercise regularly and may require a fixed time and place to establish their habits (Tappe et al., 2013). Another important finding that emerges from Kaushal and Rhodes' (2015) study is that exercise promoters should focus on enjoyable yet challenging workouts, and a regular schedule in order to increase the chances of habit formation.

As mentioned earlier, past behavior is an appropriate proxy for habit (Ouellette, 1996), and the findings of this study indicate that past behavior was found to be a positive and significant predictor of future behavior. Past experience is strongly predictive of the way in which trainees will behave in the future. It was also found that past behavior offsets the direct effect of intention on future behavior (Rodrigues et al., 2021), and that past behavior has shown the highest adherence to future exercise (Rodrigues et al., 2020). Despite all this, even people who have more than one year of experience in consistent gym training may drop out despite the fact that they have a background in regular exercise training which should help them maintain a commitment to physical activity (Rodrigues et al., 2021).

Personal characteristics are also factors that may influence participation and adherence over the long term in the various fitness facilities. For that matter, adults who engage in long-term physical activity indicated that their personal satisfaction resulted from competence, sacrifice, and autonomous needs that support internalization and knowing that an active lifestyle is a formative and worthwhile component of the self (Springer et al., 2013). Moreover, adults appear to prefer traditional gyms over other versions of the gym. For example, Whiteman-Sandland et al. (2018) found that, in a traditional gym, people were found to be older than in non-traditional gyms such as CrossFit gyms. Also, in the traditional gym, there were more veteran club members and those who tended to renew their memberships in the gym over time (more than two years) compared to CrossFit gyms. In addition, adults with a low body mass index (BMI) who were driven by aesthetics, hypertrophy, and health concerns tended to be more adherent to exercise, and had a greater likelihood that they would persevere for a longer period of time compared to young people who were overweight with a high BMI, even though they may be highly motivated to lose weight (Sperandei et al., 2016). These data are well reconciled with the fact that physical fitness has a significant negative correlation with BMI in underweight and overweight subjects (Kharbanda et al., 2015). From this, it can be concluded that a population with a normal BMI will see greater improvement in physical fitness and, perhaps, they may persevere more in the long term.

It is important to know that another factor that may affect adults' ability to exercise regularly is a change in the meaning of exercise over time (e.g. from the context of fitness to the context of functioning) (Springer et al., 2013).

Another personal trait that needs to be taken into account is the difference between genders. Because women have weaker intentions to exercise in the future, their chances of dropping out are high (Rodrigues et al., 2019). This finding may be supported by others showing that women are generally less active than men. For example, data from surveys conducted between 2001 and 2016 from about 1.9 million participants (Guthold et al., 2018), as well as data from a large Canadian survey (Stephens et al., 1990), and even in studies examining physical activity habits in less modern communities such as the Amish (Bassett et al., 2004) show that women choose more reasons to avoid exercise than men. In contrast, Rodrigues et al. (2019) found that adult young men with more than a year of training experience show more intention for exercise.

Based on this review, it was found that motives such as increased fitness, health, appearance, mobility, enjoyment, and self-efficacy motivate fitness club members to participate in physical activity the most. It should be noted in this context that self-efficacy refers to the individual's belief in his ability to perform behaviors that will achieve a specific performance (Bandura, 1978; Bandura et al., 1999). However, self-efficacy intervention showed only short-term positive results among fitness club trainees (Middelkamp et al., 2017). In addition to these motives both Gjestvang et al. (2019; 2020;

2021), and Chen et al. (2021) found that, support from family members is another important factor that motivates trainees to adhere to physical activity. Gjestvang et al. (2020) showed that "lack of time" was the most common barrier among fitness club members. Confirmation of this can be seen from Cavallini et al. (2020), who also found that to be a hurdle to physical activity among adults aged 18–64 (women and men). However, past data showed that as age increases, the report of "lack of time" decreases (Booth et al., 2002). The above data may explain the findings of Whiteman-Sandland et al. (2018), who showed that, in traditional gyms, there were more older club members in comparison to non-traditional fitness clubs. Furthermore, these members tended to renew their membership in the gym over time (more than two years) compared to younger gym members of non-traditional gyms such as CrossFit gyms. According to Ortís et al. (2007), in order to facilitate trainees to continue physical activity and help eliminate barriers, there is a need for feedback on the motives for physical activity and to incorporate tips to improve physical condition. Smith and Biddle (1999) also emphasized the importance of knowing that barriers may explain why adherence is so difficult.

Many of the studies included in this review used the Self-Determination Theory (STD; Deci, 2017) as a theoretical framework. This is a theory of human motivation that emphasizes the extent to which people regulate their behavior as relatively autonomous or controlled (Rodrigues et al., 2019). The STD stands out as one of the most researched frameworks in relation to physical activity and exercise (Rodrigues et al., 2020), and it was demonstrated to be particularly strong when analyzing the impact of motivational precedents on exercise participation (Rodrigues et al., 2021). The theory assumes that people have three main psychosocial needs, which are autonomy (self-determination), competence, and relatedness, and suggests that motivation exists and fluctuates along the spectrum between internal and external motivation. Thus, people with high internal motivation are interested in engaging in physical activity for challenge, satisfaction, and enjoyment, whereas people with high external motivation exercise more for others, for example, they exercise in order to be attractive and desirable to the social environment (Riebe et al., 2018). Accordingly, Ortís et al. (2007) showed that external motivation is dominant during the early stages of behaviorial change in exercise, whereas at later stages and for long-term maintenance, internal motivation dominates. In their study, subjects who increased their external motivation, decreased their physical activity level, while subjects who increased their level of physical activity reduced the barriers associated with internal motivation. Springer et al. (2013) reported that adherence to long-term physical activity can be strengthened by promoting the satisfaction of the individual's basic psychological needs. Teixeira and Palmeira (2015) found that satisfying the basic psychological needs associated with exercise in gyms and health clubs predicted better training experiences. Gjestvang et al. (2021) reported that the strongest predictor for reporting regular physical activity attendance at the fitness club was “enjoyment”, followed by self-efficacy, and social support from friends and family. Generally, higher levels of these motives were the strongest predictors associated with reporting attendance at regular physical activity during the first year for fitness club members. In their previous study, Gjestvang et al., (2020) also reported that adherent trainees rated the motives “enjoyment” and “challenge” higher than non-adherent trainees. Klain et al. (2015) believe that the self-definition theory can aid in better understanding the quality of motivation that leads those in personal training to adhere or not adhere to physical activity and allows for better professional involvement.

Adherence rates in the studies included in this review were found to be low in general, and many subjects trained intermittently and inconsistently. However, one study found that the frequency of exercise may not be so low, and suggested that the trainees may find other alternatives and exercise in different fitness clubs and other places (Middelkamp et al., 2017). No significant differences in adherence and attendance rates were found between traditional and CrossFit gyms (Whiteman-Sandland et al., 2018).

Strengths

The different types of research (quantitative and qualitative) and research methods and systems in this review provide information about consistency and adherence to physical activity within various

fitness facilities. when these facilities may have a good ability to monitor and track the levels of physical activity and attendance rates of their members. In addition, the review covers the problem of premature dropout from these facilities and raises the important issue of engaging in physical activity to promote one's health. This study addresses a public health topic of great interest, and its formulated conclusions may aid professionals in the field, but also the general population, in increasing adherence to different forms of physical activity.

Limitations

Because the evaluation methods used in the selected studies were quite different, they do not allow a meta-analysis of their results. In addition, the responses to questionnaires may have a subjective component Questionnaires can be a problematic instrument because of biases that originate with respondents, such as the tendency to prefer a certain direction of the answers on the scale, lack of interest, and fatigue that led to superficial reading and evasive answers, social desirability, and more. Moreover, because the review included only people over the age of 18, it does not provide information about the nature of physical activity in facilities for younger age groups. Also, this review provides information about indoor fitness facilities and did not test the consistency and adherence to physical activity in other venues such the outdoors.

Conclusions

Fitness facilities provide an environment where members can train and improve a wide range of fitness components that are both health and skills related. While these facilities can embrace a wide and diverse audience, some groups seem to be able to engage in longer-term physical activity than others (e.g., men more than women and older people more than younger ones). Accordingly, it seems that an individual's success in persevering and adhering to long-term physical activity within the various fitness facilities depends on a number of factors, with the most significant ones being support from friends and family, professional support from fitness professionals, habit formation, and fulfillment of basic psychological needs.

Supervised physical activity seems to yield better adherence in general. However, the professional staff who supervise fitness facilities should be aware of their behavior and work more carefully with populations that have an increased tendency to drop out such as young and untrained women, beginner trainees, and young people who are overweight with high BMI. Moreover, fitness professionals and promoters need to ensure that training sessions are fun and enjoyable, while challenging, and they need to make sure that they satisfy the basic psychological needs of their individual trainees. Satisfying these needs is very important toward promoting well-being and optimizing motivation for healthy behaviors, including physical activity. Moreover, fitness trainers should know that they have the ability to meet these needs and encourage consistency and adherence to exercise among their trainees.

Accordingly, fitness facilities, fitness professionals, health organizations, and decision makers should engage in habit formation-building strategies that will lead to long-term adherence to exercise. It can be seen that the results of the current review report that habit formation can have a significant impact on an individual's ability to continue to maintain physical activity over time, and that habit formation may facilitate this process and provide an advantage.

In summary, practical applications for improving exercise consistency and adherence in fitness facility settings include:

1. A weekly training frequency should be at least 2–4 workouts per week for 6 weeks in order to encourage habit formation.
2. For beginner trainees, it is recommended to train regularly and set a fixed time and place in order to help establish the habit.
3. A supportive social environment must be created by friends and family, and also by fitness professionals.
4. Personal training is an effective tool that can greatly affect an individual's ability to continue physical activity, and should positively be considered for use.
5. Fitness trainers need to create a positive and enjoyable training environment, and provide challenging and self-efficacy training in order to encourage consistency and adherence.
6. Fitness trainers should be aware of their behavior and know that they can support or suppress the basic psychological needs among their trainees, being very careful with populations that tend to drop out.

7. Fitness trainers need to find creative ways and logistical solutions for their trainees to eliminate the most common barrier – which is "lack of time"– and cause trainees to prioritize exercise at the top of their list.
8. Trainees and fitness trainers need to know that in order to maintain physical activity, one must strengthen both intrinsic and extrinsic motivation, and understand that while extrinsic motivation may be used at the beginning, over time, it is necessary to strengthen intrinsic motivation and eliminate barriers that may suppress it.

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