Chapter 9 Correlation between attitude and physical activity levels in gym users at a private University

Capítulo 9 Relación entre actitud y niveles de actividad física de los usuarios de un gimnasio en una Universidad privada

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Abstract

Currently, only 42% of the adult population in Mexico takes part in physical activity during their free time. Among the relevant social determinants in this regard, the figure of a fitness instructor stands out. Objective: to analyze the relationship between attitudes toward fitness instructors and their users' levels of physical activity. Sample: 259 users of the gym, selected in a non-probabilistic way. Method: Two scales applied to measure attitudes towards the fitness instructors; users classified as ACTIVE or NON-ACTIVE according to the hours of physical activity performed per week; the correlation analysis between attitude and level of physical activity performed through the correlation method for the Product Moment interval scale and a linear regression analysis was also performed. Results and conclusions: There is a correlation level of .888 between users' attitudes toward the instructor and their physical activity levels, which confirms that the instructor is an important factor in promoting health through physical activity.

Correlation, Attitudes, Physical activity, Fitness instructor

Resumen

Actualmente en México, solo el 42% de la población adulta practica actividad física en su tiempo libre. Entre los determinantes sociales relevantes al respecto, destaca la figura del instructor de fitness. Objetivo: Analizar la relación entre la actitud hacia los instructores de fitness y los niveles de actividad física de los usuarios de un gimnasio. Muestra: 259 usuarios del gimnasio, seleccionados de forma no probabilística. Método: se usaron dos escalas para medir las actitudes hacia los instructores de fitness. Los usuarios fueron clasificados como ACTIVOS o NO ACTIVOS según las horas de actividad física por semana. El análisis entre actitud y nivel de actividad física fue a través del método de correlación para la escala de intervalo Producto Momento y un análisis de regresión lineal. Resultados y conclusiones: existe un nivel de correlación de .888 entre las actitudes del usuario hacia el instructor y sus niveles de actividad física, lo cual confirma que el instructor es un factor importante en la promoción de la salud a través de la actividad física.

Correlación, Actitud, Actividad física, Instructor fitness

1 Introduction

There is a great amount of evidence that refers to the importance and benefits of regular physical activity on the health of people of all age groups. The most recent guidelines published by the World Health Organization (WHO) recommend a weekly practice of at least 150 to 300 minutes of aerobic physical activity of moderate or vigorous intensity for all adults. However, despite the benefits for people in terms of cardiovascular, musculoskeletal, psychological and functional health, among many others, today only one out of every four adults engages in some type of physical activity. This results in significant health-related effects that entail a high economic cost in direct health care and a decrease in the productivity of the labor force (WHO, 2021). In Mexico, according to data from the 2018 Census Bureau (Instituto Nacional de Estadística y Geografía [INEGI]), 34.2% of males and 54.4% of females are physically inactive within the young adults population between the ages of 18 and 24.

There are many complex factors that influence the regular practice of physical activity; however, the figure of fitness instructors stands out among them. According to some authors, they are authentic leaders and promoters of health, capable of influencing not only the initiation of physical activity practice but also its permanence (De Lyon et al., 2017; Puente y Anshell, 2010; Joseph Polyte et al., 2015). For this reason, there has been a growing interest in recent years in knowing how and in what way aspects such as their procedures, didactic resources, technical knowledge and leadership skills influence people and their permanence in physical activity.

In a study conducted with university students about instructors' interaction styles, it was found that when the instructor's style supports the autonomy and competence of the participant in the activity, feelings of enjoyment are boosted, which in turn generates an increase in the practice of physical exercise. This confirms what has been proposed by authors such as Joseph Polyte et al. (2015), in the sense that the instructor's style can influence the participant's attitude towards physical activity and therefore their adherence to it.

In this same sense, Joseph Polyte et al. (2015) refer to the fact that studies and research should focus on the figure of the educator or leader of the exercise, supporting the positive experiences that can be generated in the participants, who, being surrounded by a positive and quality social environment, will see their involvement and well-being favored during the activity—contrary to what happens in a controlling environment. (p. 58).This is in addition to what has been stated by authors such as Puigarnau et al. (2016) and Edmunds et al. (2007) who affirm that the performance of these instructors influences the satisfaction of basic psychological needs, which will result in the improvement in the constancy and permanence in people's physical activity. In addition to the aforementioned, and for the specific case of a university population, the performance of these exercise professionals is also related to greater adherence to physical activity (Salgado-Núñez et al., 2020). In other words, it can be said that the way a fitness instructor conducts and acts "impacts on cognitive, affective and behavioral aspects of the user, which are relevant to the practice of physical activity, its constancy and possible adherence to it; i.e., it marks the user's attitude" (Salgado-Núñez et al, 2020, p. 280).

When speaking of attitude, the definition that Edwards (2009) provides is considered: "the degree of positive or negative affect associated with a psychological object" (p. 2). This psychological object can be any object, person, situation or symbol, with respect to which a person may have favorable or unfavorable feelings, of liking or disliking.

Knowing the attitude that fitness instructors generate in the people they serve allows one to identify important aspects such as areas of opportunity and improvement in this professional. However, it is necessary to go a step further and know objectively how it impacts on the physical practice of the users of their services and how this feeling generated is reflected in relevant aspects for their health, such as the amount of physical activity they practice, since this is ultimately the main objective of the work of fitness instructors as health promoters, and in this specific case, in a university context.

1.1 Physical Activity and benefits of Health

According to WHO (2021), physical activity is defined as "any bodily movement produced by skeletal muscles that requires the expenditure of energy". The term "exercise," according to the American College of Sports Medicine (ACSM), refers to repetitive, planned and structured activities with a specific purpose that may be related to improvements in physical abilities, self-image, or the attainment and enhancement of a sense of personal well-being.

The ACSM and the American Heart Association (AHA) recommend, as of 2007, that all adults aged 18-65 years perform moderate-intensity aerobic physical activity for a minimum of 30 minutes, five times per week, or 20 minutes of vigorous-intensity aerobic physical activity at least 3 times per week, in addition to the integration of activities aimed at improving muscular strength and endurance twice a week. They note that the benefits will be greater if the minimum volume of this recommendation is increased (ACSM, 2014).

On the other hand, the current WHO recommendation for adults between 18 and 64 years of age reads as follows:

- Should engage in moderate aerobic physical activity for at least 150 to 300 minutes.
- Should participate in intense aerobic physical activities for at least 75 to 150 minutes; or an equivalent combination of moderate and intense activities throughout the week.
- Should also engage in moderate to more intense muscle-strengthening activities that exercise all major muscle groups for two or more days a week, as such activities provide additional health benefits.
- Can extend moderate aerobic physical activity beyond 300 minutes or engage in intense aerobic physical activity for more than 150 minutes or participate in an equivalent combination of moderate and intense activities throughout the week for additional health benefits.

– Should limit the time spent in sedentary activities; replacing time spent in sedentary activities with physical activities of any intensity (including low intensity) is beneficial to health.

– Should try to increase their moderate physical activity to a vigorous one above the recommended level, especially all adults and older adults, to help reduce the detrimental health effects of more sedentary behaviors.

Nowadays, the great benefits that physical activity brings people who practice it is known, as well as the important aspects they encompass in terms of health and physiological, psychological and social well-being. ACSM (2014) places the benefits into four groups: improved cardiovascular function; reduced risk of coronary heart disease; reduced mortality and morbidity; and psychological, functional and independence benefits.

1.2 Social Determinants of Physical Activity

According to various research studies, the practice of physical activity can be favored or affected depending on various factors that include biological, social and economic aspects. As stated by Flores et al. (2009), the practice of physical activity can be affected by variables that influence aspects such as the attendance and permanence of the people who attend. They allude to studies which confirm that multiple aspects, including biological, psychological, environmental and social factors, have been confirmed as influencing exercise and health. These can therefore be considered starting points for the promotion of healthy lifestyles and can be grouped into three parts: (1) Personal factors, referring to the physical characteristics that are inherent to each individual: height, race, age, sex, marital status, genetic factors and psychological aspects.

In relation to the latter, according to Hernandez (2014) "when you move, you not only bring into play your neuromuscular capacity, but you also express your personality, previous experiences, values, previous judgments, personal history and present state of mind" (p.71), so it can be said that aspects such as the motivation and attitudes of individuals influence the way in which physical activity is faced and experienced. (2) Environmental factors, such as man-made and natural environments, accessibility to sports facilities and parks, and safety, among others. Finally, (3) social factors: There is ample evidence that supports the relevance of social factors as an important determinant in the practice of physical activity and exercise. There are several authors who speak of these aspects as determinants for the change of behavior and attitudes or beliefs in people—in this case, in terms of physical activity. Social support according to age, group versus individual context, and the atmosphere in which the activity takes place are all elements that affect the initiation of physical activity and its permanence in it (Burke et al., 2006; Gammage & Lamarche, 2014).

Gammage and Lamarche (2014) expose and highlight that the fitness instructor can be a key element in the context of exercise, that social support is relevant to self-efficacy in people and that this in turn impacts the amount of physical activity.

One of the most consistent findings in the literature is that social support does not directly affect physical activity levels, but that self-efficacy mediates the relationship between social support and physical activity; that is, social support increases self-efficacy, which leads to higher levels of physical activity. (p. 125)

Therefore, the union of both aspects causes one to observe, again, the relevance of the role of instructors as an authentic promoter of health through their work.

1.3 Determining Factors in University Students

Specifically for the university population, some factors are accentuated. Age and sex, academic workloads and psychological aspects such as "self-concept" affect the involvement of students in sports and recreational activities. In relation to psychological aspects, authors such as Olmedilla et al. (2016) refer to the fact that the most active students present a better self-concept of themselves.

Regarding the influential social factors in this population, social support from peers and exercise leaders (e.g., fitness instructors) is associated with higher rates of adherence to physical activity. This is due to higher levels of comfort, enjoyment, concentration and lower levels of negative emotions of the participant in the physical activity and exercise session.

1.4 The Fitness Instructor as an Influencing Factor in the Practice of Physical Activity

When talking about fitness instructors, one refers to the trainers and instructors who instruct, advise and motivate individuals or groups of different ages and fitness levels for the development of physical activity with different objectives through the implementation of exercise sessions composed of cardiovascular segments, muscle strengthening and/or flexibility. Their importance lies in the influence on motivation and attitudes generated in users, both in group classes and personal training and how this ultimately impacts relevant aspects of their health.

De Lyon et al. (2017) in their paper, "The Role of Fitness Professionals in Public Health: A Review of the Literature," say that the fitness instructors' performance is so relevant that they could represent, "a key piece in the war against obesity and inactive lifestyles" (p. 314). In this same work, the authors also state that the performance of instructors as promoters of physical activity influences health aspects including higher levels of physical activity and adherence to it.

Melton et al. (2008), in their paper, "The Current State of Personal Training: An Industry Perspective of Personal Trainers in a Small Southeast Community," state that one of the consistent findings in the literature on the topic of exercise adherence is the influence of exercise leaders and how their actions impact participant self-efficacy.

1.5 Attitudes

Attitude occupies an important place in the practice and promotion of physical activity. Pérez-Samaniego et al. (2010) state that the term "attitude" is considered a "positive or negative psychological predisposition that subjects construct by globally valuing the object of the attitude and the consequences that it could have for them" (p. 286). Attitude is considered to be positive if the tendency to a positive evaluation predominates, and negative if the tendency is the opposite, i.e., to a negative evaluation (good-bad, pleasant-unpleasant).

According to Edwards, (2009, p.2), attitude is "the degree of positive or negative affect associated with a psychological object," the latter being understood as any object, person, situation, symbol, or idea with respect to which a person may have a positive or negative feeling of liking or disliking. "An individual who has associated a positive affection or a positive feeling with a psychological object is said to like the object or to have a favorable attitude toward the object" (Edwards, 2009, p. 2). On the contrary, a negative affect will be related to an unfavorable attitude toward the psychological object; that is, to present dislike toward it. Being that attitude is susceptible to be measured by scales, this allows one to place the individual in categories of favorable, unfavorable or undecided attitude, and to do so by defining the degree of intensity of the feeling with respect to the psychological object in question (Edwards, 2009; Thurstone, 1928).

In light of the aforementioned, taking into consideration the importance of physical activity in terms of health and the fact that, in a university context, the fitness instructor could be one of the most influential determinants in the regular practice by university students, the general objective of this study is to analyze the relationship between the attitude toward the fitness instructor and the levels of physical activity of the users who attend ITESO University's gymnasium in Guadalajara, Jalisco, Mexico. In order to achieve the general objective, the following specific objectives are established: (a) to evaluate the attitude of the users towards the fitness instructors at the ITESO Physical Activity Dome through the Attitude Toward Fitness Instructors Questionnaire (CA-ICF) and Attitude Toward Strength Instructors Questionnaire (CA-IF) instruments, and (b) to evaluate the level of physical activity of the users of the ITESO Physical Activity Dome.

For the purposes of this paper, the following terminology will be used:

Fitness Instructor: term used to refer indistinctly to both the instructors in charge of providing group training sessions called physical classes and the personal trainers in charge of attending to users in the strength and cardiovascular area.

Users: university students, graduates, employees and members of the community who attend the Physical Activity Dome for physical and/or strength and cardiovascular classes indistinctly.

Physical Activity Level: number of hours of physical activity performed by users in the ITESO Physical Activity Dome obtained from the "EFSI Access System" database, which details the accesses registered by each user; according to the number of hours accumulated, they are classified as Active or Low Active. This classification is based on the WHO minimum recommendation of 150 minutes of moderate intensity physical activity per week, due to its beneficial effects in terms of health and prevention of non-communicable diseases. Active users are considered those who do, on average, 2.5 hours or more per week and Low Active ones are those who, on average, do less than 2.5 hours per week in the 16 weeks of the fall 2017 academic semester.

Attitude: positive or negative evaluation of users toward fitness instructors.

2. Methodology

2.1 Research Design

The present study is descriptive correlational study because no variables are being manipulated. It is about observing the phenomenon in its natural context, collecting data at a single moment, in a single time with the objective of describing the variables of users' attitude toward fitness instructors of the Physical Activity Dome and their levels of physical activity, in addition to evaluating the relationship between these variables (Hernández et al., 2014).

Population

The total sample consisted of 259 people, of which 158 (61%) were female and 101 (39%) were male—all of them users of the Physical Activity Dome at ITESO University. The age range of the participants was between 18 and 62 years old. Of the total sample, the CA-IFC questionnaire was applied to 150 users (107 women and 43 men) of the physical classes area. The CA-IF questionnaire was applied to 109 users (51 women and 58 men) of the strength and cardiovascular area.

2.2 Selection Criteria

The participants were chosen in a non-probabilistic way with the following criteria: (1) They had to be a user of the Physical Activity Dome, and (2) they had just completed a physical class session (regardless of the modality) or exercise in the strength and/or cardiovascular area.
The methodological part of this research was carried out in three stages:

2.3 Application of Instruments to Measure Attitudes

According to the selection criteria described above, the instruments were applied to the 259 participants in the sample: the CA-ICF questionnaire was applied to 150 users of the physical classes area and the CA-IF questionnaire to 109 users of the strength and cardiovascular area. The participants in both applications were chosen in a non-probabilistic way under the same criteria used in the pilot application of the instruments: (1) Being a user of the Physical Activity Dome. (2) According to the instrument to be applied: CA-ICF questionnaire, for those who had just completed a session of physical classes; CA-IF questionnaire, for those who had just completed an exercise session, based on a physical work program prepared by one of the instructors of the strength and cardiovascular area.

The results obtained from the application of both instruments were entered into an Excel database and processed to obtain statistical data in the SPSS Statistics 25 software.

2.4 User Classification According to Physical Activity Levels

To determine the physical activity levels of the participants in the sample, the Physical Activity Dome's database, called the EFSI Entry System, was used as a reference. This program allows entrance through the electronic reading of the chip contained in the ID of each user. Once the system detects the chip, four options of activities to be performed in the facilities are displayed on a screen: physical classes, weight training and cardio, physical evaluations and not applicable. The user must select one of the choices, so that the access door opens, thus allowing entrance. With each entry record, the system stores data such as name, user type, user file number, entry date and selected activities. It is worth mentioning that the average duration of the activities (except those referred to as "not applicable") is one hour.

From this database, all admissions made by sample participants in the fall 2017 academic term (in the 16-week duration of the fall academic semester) were accounted for if one of the following options had been selected: physical classes, weight training and cardio, or physical evaluations. Those who had selected "not applicable" were not taken into account since these entries do not have the purpose of doing some kind of physical activity. Once the information was downloaded, the number of times each sample participant entered in order to obtain the total number of hours of physical activity performed in the 16 weeks, and subsequently, to obtain a weekly average of activity during that period, was counted. Based on this result, people were classified into two categories: active, those who worked out an average of 2.5 hours or more per week, and not very active, those who, on average, worked out less than 2.5 hours per week.

2.5 Correlation Analysis of Attitude Variables and Levels of Physical Activity and Linear Regression

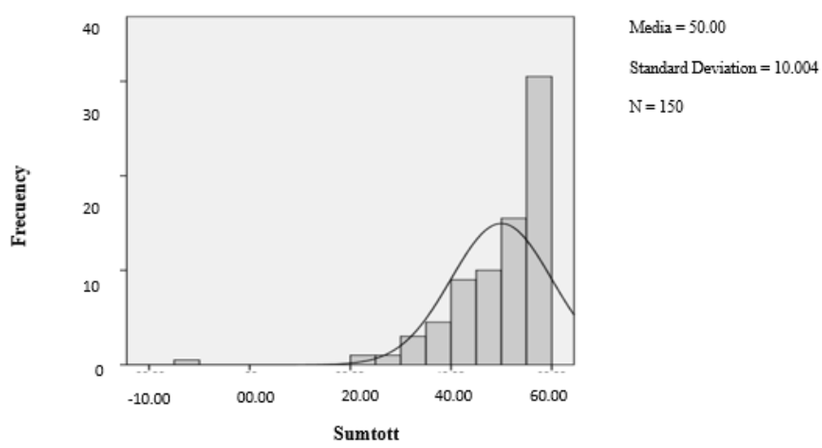
The correlational analysis of the attitude variables and physical activity levels was carried out using the correlation formula for the Product Moment Interval scale with the IBM SPSS Statistics 25 software. Both samples were analyzed separately, according to the applied instruments.
In addition to the correlation analysis, a linear regression analysis was carried out for each of the instruments applied, precisely in order to confirm the existence of a possible causal relationship between the attitude variables and levels of physical activity.

3. Results

3.1 Measuring User Attitude Toward Fitness Instructors

Of the 150 users evaluated with the CA-ICF questionnaire, a mean score of 149.67 was obtained, with minimum values of 14 and maximum values of 171, SD = 21.37 and a variance of 457. The obtained raw data was subjected to the normalization process in order to assign them a population value, and from this, to obtain a distribution curve of scores, as well as the corresponding diagnostic categories. The normalization of the results obtained is presented below in Figure 9.1 and the corresponding table of categories in Table 9.1.

Figure 9.1 Normalized CA-ICF questionnaire results



Note: Sumtott = Sum of the attitude results obtained in the sample of physical class users.
N = number of participants in the sample

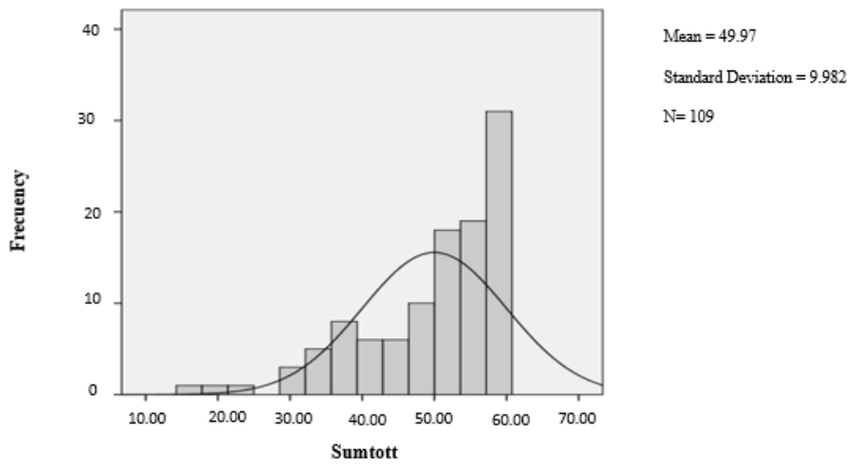
Table 9.1 CA-ICF Result Categories

CA-ICF Rating	Attitude Toward Instructor
T=40	"Unfavorable"
T= >40 y <50	"With areas of improvement"
T= 50	"Functional"
T=60	"Good"
T=>70	"Excellent"

Note: T = obtained result

In turn, the results of the sample to whom the CA-ICF questionnaire was applied indicate that most of the users attending classes (61%) are located in the favorable attitude area; i.e., they like the physical class instructors. The results also indicate that a segment of the users in the sample (13.88%) are located in the unfavorable or low attitude area. Of the 109 CA-IF questionnaire instruments applied, a mean score of 119.46 was obtained, with minimum values of 72 and maximum values of 134, SD = 13.97 and a variance of 195.30. Through the process of normalizing the obtained results, the distribution curve of the scores (Figure 9.2) as well as the corresponding categories of results (Table 9.2) was obtained.

Figure 9.2 CA-IF Normalized Results



Note: Sumtott = Sum of the attitude results obtained in the sample of strength and cardiovascular area users.
N = number of participants in the sample

Table 9.2 CA-IF Result Categories

CA-IF Rating	Attitude Toward Instructor
T= 40	"Unfavorable"
T= >40 & <50	"With areas of improvement"
T= 50	"Functional"
T= 60	"Good"
T= >70	"Excellent"

Note: T = obtained result

The results, relative to the application of the CA-IF questionnaire, indicate that most of the users attending the strength area (63%) are located in the favorable attitude area, which means they like the strength area. The results also show that a segment of the sample users (10%) are in the unfavorable or low attitude area.

3.2 Measurement of Users' Physical Activity Levels

Derived from the classification of the users in terms of physical activity levels, the results were as follows: 90% of the sample participants completed an average of 2.5 hours of physical activity per week in the facilities of the Physical Activity Dome; therefore, they are considered active users according to this study's classification. The remaining 10% were classified as "not active."

The classification by levels of physical activity was also carried out by separating the sample participants according to the questionnaires that were applied to them. Taking in account only those to whom the CA-IF questionnaire was administered, percentages did not variate in a significant manner. Compared to those of the full sample, 89% out of 150 participants entered the classification of active, and the remaining 11% entered the non-active category. Of the 109 participants to whom the CA-IF questionnaire was administered, the results were the same as those of the complete sample, with 90% classified as active and the rest in the non-active category.

3.3 Correlation Between Users' Attitude Toward Fitness Instructors and Physical Activity Levels

The results of the correlation analysis relative to the application of the CA-ICF questionnaire instrument are shown in Table 9.3. They show a correlation coefficient of .868 and a significance level of 0.01.

Table 9.3 Results of the Correlation Analysis Between Physical Activity Levels and Attitude (CA-ICF)

Variable		Sumtott	Levels
Sumtott	Correlation	1	.868**
	Sig. (bilateral)		.000
	N	150	150
Levels	Spearman-Brown Correlation	.868**	1
	Sig. (bilateral)	.000	
	N	150	150

Note: Sumtott = Sum of the attitude results obtained in the sample of physical class users.
Levels = Sum of hours of physical activity from the sample of physical class users.
N= Number of people participating in the sample.
**Correlation significant at the 0.01 level (bilateral).

The results of the correlation analysis with respect to the application of the CA-IF questionnaire instrument are shown in Table 9.4. In this case, the correlation coefficient was .909 and the significance level was also 0.01.

Table 9.4 Results of the Correlation Analysis Between Physical Activity Levels and Attitude (CA-IF)

Variable		Sumtott	Levels
Sumtott	Correlation	1	.909**
	Sig. (bilateral)		.000
	N	109	109
Levels	Spearman-Brown Correlation	.909**	1
	Sig. (bilateral)	.000	
	N	109	109

Note: Sumtott = Sum of the attitude results obtained in the sample of strength users.
Levels = Sum of hours of physical activity from the sample of strength users.
N= Number of people participating in the sample.
**Correlation significant at the 0.01 level (bilateral).

In the case of the correlation between attitude and physical activity levels of the users of physical classes, a correlation coefficient of .868 was found; in the case of users of the strength and cardiovascular area, the correlation coefficient was .909. Averaging both results, the correlation coefficient between attitude and physical activity levels is .888.

In both cases, the correlation is significant at 0.01, which means that both correlation amounts are high and positive, i.e., statistically significant.

3.4 Linear Regression Analysis

In addition to the correlation analysis, a linear regression analysis was carried out for each of the instruments applied, precisely in order to confirm the existence of a possible causal relationship between the attitude variables and levels of physical activity. As a result of this confirmatory linear regression analysis in both instruments, attitude and physical activity levels are observed as unique predictors of each other. In the case of the attitude of users of physical classes through the application of the CA-ICF questionnaire, a prediction index of .752 was obtained with respect to physical activity levels. For the case of the attitude in strength users, measured through the CA-IF questionnaire, the prediction index resulted in .824. Both have an associated probability of .0001. The results of this confirmatory analysis are shown in Tables 9.5-9.8.

Table 9.5 CA-ICF Linear Regression Analysis

Model	*R*	*R*-squared	Adjusted *R*-squared	Estimate Standard Error
1	.868[a]	.754	.752	9.949

Note = Predictors = Constant;
Sumtott = attitude of users in classes;
R = Correlation; R-squared = Regression

Table 9.6 Associated Probability CA-ICF

Model		Sum of	*df*	Quadratic Mean	*F*	*Sig.*
1	Regression	44795.708	1	44795.708	452.553	.000[b]
	Remainder	14649.685	148	98.984		
	Total	59445.393	149			

Note: a = Dependent Variable; Levels b = Predictors (Constant);
Sumtott = Physical Class User Attitudes; df = degrees of freedom; F = ANOVA comparison test; Sig = Significance

Table 9.7 CA-IF Linear Regression Analysis

Model	*R*	*R*-squared	Adjusted *R*-squared	Estimate Standard Error
1	.909[a]	.826	.824	8.588

Note = Predictors = Constant;
Sumtott = attitude of users in classes;
R = Correlation; *R*-squared = Regression

Table 9.8 Associated Probability CA-IF

Model		Sum of squares	*df*	Quadratic Mean	*F*	*Sig.*
1	Regression	37437.929	1	37437.929	507.643	.000[b]
	Remainder	7891.099	107	73.749		
	Total	45329.028	108			

Note: a = Dependent Variable: Levels; b = Predictors: (Constant), Sumtott = Physical Class User Attitudes; df = degrees of freedom; F = ANOVA comparison test; Sig = Significance

4. Conclusions

The main objective of this work is to analyze the relationship between the attitude of Dome users towards fitness instructors and their levels of physical activity. In other words, how the users' feelings of liking or disliking of their instructors influenced the number of hours of physical activity they performed, taking the WHO recommendation as a reference parameter, was examined.

Regarding the results related to the attitude of the users, despite some negative results, the majority of the study population was located in an area of liking toward the instructors in the gym, clearly establishing the preponderance to the positive in terms of attitude. This reflects the users' acceptance of their leadership skills, communication and technical ability, suggesting a good instructor-student relationship; they reflect understanding and emotion and user approval and liking behaviors toward their instructors. However, in future research, it will be necessary to identify which aspects of the instructors had a positive influence and which should be strengthened in order to improve the quality of their work with the user.

Regarding the results obtained in terms of physical activity levels of the participants in the sample, it was found that a high percentage of them comply with the minimum number of hours recommended by WHO (2018) and ACSM (2014). This result is noteworthy, considering that there are several studies that report less favorable results in university students. However, it is necessary to emphasize that, unlike most of the referred studies whose samples were summoned from e-mail, this research was conducted in a population that already attends the university sports facility. It was also during the last phase of the academic semester (the last week of October and first two weeks of November), a period in which the academic load influences the attendance of students in practicing physical activity. This factor could be of less influence (in the negative sense) towards people who are already constant and who have already adopted physical activity as a habit, which is possibly why they continued to attend the Dome in that period despite the academic circumstances. In other words, it could be said that the people who conform the sample are already active and constant and therefore, comply with the minimum recommendations for physical activity.

On the other hand, it is also worth mentioning that the sports facilities of the campus itself and the costs of the service are also referred by some authors as an important factor in the physical activity behaviors of university students (Deliens et al., 2015). As the services in this university are free, this could be an aspect in the research that positively influences the levels of physical activity.

Notwithstanding the above, it is undeniable that the present study confirms what has been expressed by authors such as Gammage and Lamarche (2014) and Burke et al. (2006) regarding the relevance of social support for initiating and maintaining physical activity practice. In this same sense, Farren et al. (2017) and Brown et al. (2014) also agree with the particularity that these authors emphasize the fact that the source of social support, specifically that coming from peers or from one's own social network, potentiates the results in university students. However, it is important to insist here that, although the fitness instructors constitute an authority figure for the users of the facility, they also constitute a close person and a role model for this population. It is common to find that instructors with appropriate pedagogical and communication styles provide emotional and informative support that forms bonds of closeness with the people they serve and that allow users to remain motivated, committed and constant in the practice of physical activity (Puente & Anshell, 2010; Puigarnau et al., 2016). The relevance of this lies not only in the promotion of a more active and therefore healthier youth, but also in the fact that physical activity at the university stage is an important predictor of its practice in adulthood (Moreno et al., 2005).

The results of this research confirm the existence of a high and significant causal relationship between the attitude of the users toward their fitness instructors and the levels of physical activity. That is to say, to each increase in the attitude shown by the users toward their instructor corresponds a high level of participation in physical activity. These findings confirm the importance of the role of fitness instructors and the fact that their performance represents a relevant aspect in terms of positive influence so that the users of their services practice physical activity and remain in it, contributing to that somewhat vulnerable population, and adopt habits that improve their health.

It would be interesting if, in future research, the attitude instruments are applied at the beginning of the semester, when the number of people attending the Dome is made up of frequent users, as well as new students at the university, of whom it is not known whether or not they will remain in the practice of physical activity, and to calculate the number of hours of physical activity until the end of the semester. The present study confirms the need for further research on the role of fitness instructors as promoters of physical activity and health, in order to have greater clarity on the aspects to be strengthened in order to stimulate and maximize positive results in their work in university populations.

There are, undoubtedly, many factors that influence the practice of physical activity and the permanence of individuals in it. This work confirms the existence of a significant positive correlation between the instructor factor and the user's physical activity levels and that the attitude toward instructors is a predictor variable of their physical activity levels in university students.

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