

Fernández, S.; Fernández-Río, J. (2019). Indoor-Cycling Practitioners' Motives and Addiction During a Year of Practice. Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte vol. 19 (76) pp. 673-684
[Http://cdeporte.rediris.es/revista/revista76/artmotivos1101.htm](http://cdeporte.rediris.es/revista/revista76/artmotivos1101.htm)
DOI: 10.15366/rimcafd2019.76.008

ORIGINAL

INDOOR-CYCLING: PARTICIPANTS' MOTIVES AND ADDICTION DURING A YEAR OF PRACTICE

MOTIVOS DE PRÁCTICA Y ADICCIÓN EN PRACTICANTES DE CICLO-INDOOR A LO LARGO DE UN CURSO

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Código UNESCO / UNESCO code: 6105.09. Evaluación y Diagnóstico en Psicología. Validez de test / 6105.09. Evaluation and Diagnosis in Psychology. Test validity.

Clasificación Consejo de Europa / Council of Europe classification: 15. Psicología del Deporte / 15. Psychology of Sport.

ABSTRACT

Indoor cycling is one of the most practiced fitness activities. However, little research has been conducted. The goal of this study was to assess the motivational profile of indoor cycling participants throughout a whole year. 379 practitioners (38.51 ± 10.68 years; 64.6% females, 35.4% males) agreed to participate. At the beginning of the course (September), in the middle (January) and at the end (May), all participants completed a questionnaire to assess motivation for physical activity and exercise addiction. Results showed that these indoor cycling participants' reasons to practice this activity changed significantly throughout the year: in September and January "fitness/health", and in May "appearance". Regarding exercise addiction, this group of indoor cycling practitioners can be considered symptomatic non-dependent; their score significantly increased in May. Both results seem to point to the popularly known "bikini challenge".

KEY WORDS: Motives. Addiction. Indoor-cycling. Longitudinal.

RESUMEN

El ciclo indoor es una de las actividades de fitness más practicadas, pero de la que apenas existen estudios científicos. El objetivo de esta investigación fue analizar el perfil motivacional de practicantes de ciclo indoor a lo largo de un curso entero. 379 practicantes (38.51 ± 10.68 años; 64.6% mujeres, 35.4% varones) accedieron a participar. Al comienzo del curso (septiembre), a mitad (enero) y a finales (mayo), todos contestaron un cuestionario para medir los motivos de práctica y los niveles de adicción al ejercicio. Los resultados mostraron que los motivos por los que realizaban dicha actividad variaron de manera significativa a lo largo del año: en septiembre y enero *fitness/salud*, mientras que en mayo *apariencia*. Respecto a su adicción al ejercicio, todos pueden ser catalogados como sintomáticos no dependientes; presentado un aumento significativo de la sintomatología en mayo. Ambos resultados parecen señalar hacia la conocida como “operación bikini”.

PALABRAS CLAVE: Motivos. Adicción. Ciclo-indoor. Longitudinal.

1. INTRODUCTION

Most studies conducted regarding motivation to practice sport and physical-sporting activities have focused on educational contexts or competitive sporting environments; much fewer have dealt with non-competitive environments such as the programs implemented in fitness centers or gyms, which are currently so popular (Sicilia, Águila, Muyor, Orta and Moreno, 2009). The Sports Council of Spain (Consejo Superior de Deportes, 2010) asserts that the profile of the sporting activity in Spain shows less institutionalization (clubs, sports federations, associations, organizations), and a move away from competition, as 75% of persons who carry out physical activity do it outside of any organization.

This circumstance, together with the major benefits that have been associated with carrying out these activities at the physical, psychological and social level (Taras, 2005), has led to more studies focused on the motives for taking up or keeping the practice of physical activity in fitness centers or gyms. Navarro et al. (2008) conducted one among individuals taking part in non-competitive physical activity, which reported two types of participants: (a) Self-determined: high scores in intrinsic, identified regulation, low in external regulation and demotivation and a practice motivated by enjoyment and the activity's benefits (fitness/health); and (b) Not self-determined: high scores in external regulation and amotivation, low in intrinsic, identified regulation and a participation characterized by the search for external incentives. Moreno, Borges, Marcos, Sierra and Huéscar (2012) assessed the interests and motivations that led adult individuals to take part in physical-sporting activities in fitness centers according to type and frequency of activity. Results showed the major importance that participants gave to “health” for carrying out physical exercise, but also highlighted “skill development” and “improved image”. Those who took part

more than three days a week scored higher in almost all motives (image, affiliation and social acknowledgement) and had greater integrated motivation.

The physical, aesthetic and psychological benefits associated with regular physical exercise have also been studied (Taras, 2005), and they have been acknowledged by the World Health Organization (2010). Unfortunately, what starts as a healthy habit may become a risk factor or turn into a problem when it is carried out at intensities and frequencies that lead to deterioration and / or discomfort. These can also lead to behaviors that go beyond what is strictly necessary to stay in physical shape, bringing physical and / or psychological consequences when the exercise is prevented or stopped. This is an issue of exercise dependence and it is estimated to be present in around 3% of the general population, showing an increase among sport professionals (Sussman, Lisha and Griffiths, 2011). How and why a person goes from having a healthy commitment to their practice of regular exercise to being addicted may be explained by several theories, and all agree that it is a behavior disorder caused by both physiological and psychological factors (Arbinaga and Caracuel, 2007). Most studies regarding exercise addiction have been conducted on specific physical activities (runners, bodybuilders ...), very few have focused on sport centers users, who practice different fitness activities. González-Cutre and Sicilia (2012) assessed the differences in exercise dependence according to gender, age and physical activity practiced in physical fitness centers users and they reported that 45.6% did not show dependence symptoms, 47.4% showed symptoms without being at risk of dependence, and 7% could be considered at risk of exercise dependence. Regarding gender, it was found that men scored higher than women in the different dependence symptoms, showing significant differences, except in abstinence. Regarding age, the results revealed that as dependency increased, it decreased. Finally, with respect to the activities carried out, they were divided into directed, semi-directed and free activities, and it was found that users who practiced directed activities showed a lower risk of dependency.

Based on the above, the purpose of this investigation was to find out whether the motivations of a large group of persons practicing indoor cycling remain stable over a whole course (September-May). The hypotheses proposed were: a) Practitioners of indoor cycling will always have the same reasons to carry out this physical activity, regardless of the time of the year; b) The predominant reason for indoor cycling will be enjoyment; c) Persons practicing indoor cycling will show a level of addiction to low-level physical exercise.

2. METHOD

2.1 Participants

379 practitioners (38.51 ± 10.68 years old) of the fitness activity known as indoor cycling in an Autonomous Community in the north of Spain agreed to take part: 35.4% men and 64.6% women, 53.3% carried out this activity in publicly owned centers compared to 46.7% who carried out this activity in private sports centers / gyms. The inclusion requirements were: a) to complete the indoor cycle for a complete course (from September to June), b) to

complete at least 2 weekly sessions of the indoor cycle and c) to attend more than 80% of the practice sessions of the year. Unfortunately, 32 people did not meet the requirements set and they had to leave the study; their data were not taken into account in the subsequent analysis.

2.2 Tools

Motives for Physical Activity Measure – Revised (MPAM-R; Ryan, Frederick, Lepes, Rubio and Sheldon, 1997). This questionnaire was used to evaluate why participants practiced out indoor cycling. The study used the version validated for the Spanish context by Moreno, Cervelló and Martínez (2007). The original scale consisted of 5 factors or sub-scales, although this investigation used only 4: *Enjoyment* (7 items: i.e., “Because it’s fun”), *Appearance* (6 items: i.e., “Because I want to keep my weight down to look good”), *Social* (5 items: i.e., “Because I like to be with my friends”) and *Fitness/health* (6 items: i.e., “Because I want to be in good physical shape). The questionnaire was slightly changed from its original format to adapt it to the study’s purpose: “I practice indoor cycling...”. Participants answered on a Likert-type scale from 1= “totally agree” to 7= “totally disagree”. Analysis of the results from each sub-scale showed reliability rates (Cronbach’s alpha) of 0.867, 0.853, 0.807 and 0.855, respectively.

The Exercise Addiction Inventory (EAI; Terry, Szabo and Griffiths, 2004). This questionnaire was used to measure participants' degree of addiction to indoor cycling. We used the version validated for the Spanish context by Sicilia, Alías, Ferriz and Moreno (2013). It consists of a single factor of 6 items (i.e., "Exercise is the most important thing in my life"). The scale is preceded by the stem: "To what extent do you agree with the following items". Participants answered on a Likert scale from 1 = "totally disagree" to 5 = "totally agree". The questionnaire showed a reliability index (Cronbach's alpha) of 0.653. This value is slightly below the minimum required of 0.700, but the limited number of items allows researchers to use it (Vincent, 2005).

2.3 Procedure

Firstly, we requested the approval of the researchers' University ethics committee. Secondly, all public and private centers in the Autonomous Community's central region where the study was developed were contacted to obtain a list of places where indoor cycling was taught. The people in charge of each center was contacted, explaining the investigation project and requesting their consent to carry it out. Where this was obtained, the Indoor Cycling monitors were also contacted to obtain their approval. Once obtained, visits were made at the times and on the days agreed to explain the project to practitioners of indoor cycling, obtaining the informed consent of all those willing to participate. This consisted of gathering information from practitioners of this type of physical activity (indoor cycling) at three different times throughout the year (full course). Finally, in September, January and May, before the start of the activity, visits were made at the agreed times and on the agreed days, and participants were asked to fill out the same questionnaire on the three occasions. They were guaranteed total confidentiality of their answers and that

they would not have any impact on the activity's monitor. In both cases, the aim was to answer honestly.

2.4 Data analysis

All data analyses were carried out with the statistical package SPSS version 22.0 (IBM, Chicago, IL). Firstly, data normality was obtained. The Kolmogorov-Smirnov test ($p > .05$) showed that the variables studied followed a normal distribution (Razali and Wah, 2011). Accordingly, from that en on, parametric tests were used to analyze the data. Basic descriptive statistics (mean and standard deviation) and frequencies were conducted. Subsequently, the data obtained at the three collecting times were analyzed and compared, September, January and May, through a repeated measures multiple analyses of variance (MANOVA), also obtaining the effect of size of any variables that showed significant differences.

3. RESULTS

Table 1 shows the results of the basic descriptive statistical analyzes. Regarding the reasons for practicing indoor cycling, these participants showed similar answers at the first two times of data collection (September and January). The most important reason was fitness / health, followed by enjoyment, appearance and social motives. However, their opinions in May changed and showed appearance first, followed by fitness / health, enjoyment and social motives.

Regarding participants' level of addiction, results showed very similar levels at the first two times of data collection (September and January), but much higher in May. In all three cases, the levels obtained indicated that these indoor cycling practitioners can be considered to be individuals with addiction symptoms.

Table 1. Mean and standard deviations in each month of data collection.

	September		January		May		<i>f</i>
	Mean	SD	Mean	SD	Mean	SD	
Enjoyment	5.40 ^a	.95	5.30 ^a	1.06	4.43 ^b	.95	.394
Appearance	4.47 ^a	1.12	4.55 ^a	1.2	5.84 ^b	.91	.527
Social	3.57 ^a	1.25	3.39 ^a	1.21	4.30 ^b	1.11	.266
Fitness / health	5.84 ^a	.86	5.86 ^a	.82	4.81 ^b	.99	.455
Exercise addiction	17.35 ^a	3.87	17.30 ^a	3.83	20.70 ^b	3.75	.346

Note: Different superscripts in the same colum show significant differences at $p > .005$; *f*: effect size.

Subsequent repeated measures MANOVA 3x3 (group, time) were conducted to check whether there were significant differences depending on data collection date (September, January and May), on the different variables observed, and obtaining positive results in several of them. Bonferroni's post-hoc analysis showed that there were significant differences in the reasons for practicing physical activity (in our case indoor cycling): *Enjoyment: Wilks' Lambda = .605,

F (2, 339), $p < .001$, $\eta^2 = .394$, significantly lower in May; *Appearance: Wilks' Lambda = .473, F (2, 339), $p < .001$, $\eta^2 = .527$, significantly higher in May; *Social: Wilks' Lambda = .734 F (2, 339), $p < .001$, $\eta^2 = .266$, significantly higher in May; and *Fitness / health: Wilks' Lambda = 0.545, F (2, 339), $p < .001$, $\eta^2 = .455$, significantly lower in May. Significant differences were also obtained in the Addiction scale: Wilks' Lambda = .654, F (2, 342), $p < .001$, $\eta^2 = .346$, significantly higher in May. Finally, the effect size of the observed differences was obtained, which can be considered substantial in all cases (Vacha-Haase and Thompson, 2004). No significant differences were found according to gender, age, or type of center where the activity was carried out (public or private).

4. DISCUSSION

The main purpose of this investigation was to find out whether the motivations of a large group of indoor cycling practitioners remained stable throughout a whole course of practice, from September to May. The results obtained have shown that the motives for practice are similar at the first two times of the year (September and January): *fitness / health*, followed by *enjoyment*, *appearance* and *social motives*, but its importance changed significantly in May: *appearance*, followed by *fitness / health*, *enjoyment* and *social motives*. The same trend was observed in the participants' addiction level: very even levels at the first two times of data collection (September and January), but significantly higher in May. In all three cases, the levels obtained showed that these indoor cycling practitioners can be considered individuals with addiction symptoms.

Our initial hypothesis was that this group of indoor cycling practitioners would always have the same reasons for carrying out such physical activity, regardless of the time of year. Our results have shown that this hypothesis was not fully met, as participants maintained the reasons for indoor cycling practice stable for most of the year, but they changed at the end of it. In May, there was a significant change in these participants' motives for practicing indoor cycling. Unfortunately, there are no similar studies published to compare the results obtained in this one.

The second hypothesis was that the predominant reason for indoor cycling would be enjoying it. This hypothesis was not met in any case. In September and January, the most important reason for practicing this activity was *fitness / health*, followed by *enjoyment*, *appearance* and *social reasons*. Since there are no previous studies regarding the motives that lead users to practice indoor cycling, these results can only be compared with practitioners of other fitness activities. Among them, in the study carried out by Moreno et al. (2007) with practitioners of different non-competitive, physical activities (bodybuilding, aerobics, water sports, etc.), these reported the same order of preference regarding the motives for practicing such activities as the indoor cycling practitioners of this study (health, enjoyment, appearance and social reasons). Another study by Moreno et al. (2012) also found that practitioners of fitness activities, both individual and collective (i.e., bodybuilding, pilates, aerobics, indoor cycling, swimming, aquatic fitness) gave significant importance to health; results also supported by other previous investigations (García, 2006, Moreno,

Cervelló, Borges and Conte, 2009; Navarro et al., 2008). Moreno et al. (2012) in the abovementioned study with individuals who practiced fitness activities found high scores in similar motives: "skill development" and "image improvement". Similarly, the results obtained in previous studies, Nuviala et al. (2014) among users of sports centers, and Moreno et al. (2016) in practitioners of non-competitive physical activities (bodybuilding, aerobics, spinning, swimming ..), supported the ones obtained in the present investigation, which pointed to the *fitness / health* and *enjoyment* factors as the most often reported. Moreno et al. (2012) believed that enjoyment is a predictor of the fitness / health motive: if an individual enjoys practicing an activity, he/she will continue practicing it.

The most significant result of this investigation was that the motive for practicing indoor cycling in this group of individuals changed significantly in the last data collection period (May), with the highest scores for appearance, followed by fitness / health, enjoyment and social reasons. To our knowledge, there exists only one reference related to indoor cycling that supports this result, where appearance was also the users' main motive for practicing this type of activity (Muyor and López, 2010). Similar values regarding appearance were also obtained in a study conducted by Reche and Gómez (2014) among individuals with eating disorders and physical activity. Researchers found that their main motive for performing physical activity was to improve their performance, physical appearance, followed by pleasure and health improvement. Most studies (Granero-Gallegos, Gómez-López, Abaldes and Rodríguez-Suárez, 2011; Nuviala et al., 2014) showed that appearance is the motive least valued by users of sports centers. One possible explanation for the result found in this investigation is that indoor cycling practitioners in May were concerned about their appearance due to the imminent arrival of summer, caused by the so-called "Bikini challenge" ("Operación bikini"; Córcoles, 2011). Nowadays, physical appearance is highly valued among individuals (Toro, 2013). The media have contributed to divulging a modern-day standard of beauty, with noticeably slimmer females and more muscular males. This concern for physical appearance, self-image and overvaluation of one's body mentioned above, affects both men and women. Currently, this concern has been called the "bikini challenge", which is already referenced by popular media. It is known as the pre-summer period when many individuals decide to lose weight, practice more sport and go on a diet so they can wear a swimsuit or a bikini, showing off a good figure (Corcoles, 2011). The results of this study seemed to confirm that this "Bikini challenge" does actually exist, and that our indoor cycling practitioners are more concerned about their appearance at this time of year close to summer (May).

Regarding the social factor of practice, at the three times that participants completed the questionnaires (September, January and May), this factor obtained the lowest scores. Previous studies into fitness activities' practitioners (bodybuilding, aerobics, indoor cycling, aquatic fitness, etc.) found similar results (García, 2006; Moreno et al., 2012). Conversely, other studies carried out with practitioners of non-competitive physical activities (Granero-Gallegos et al., 2011; Moreno, Águila and Borges, 2011) found that the social motive of practice was the most highly valued. Accordingly, research in other sports contexts, participants of competitive activities, practitioners and competitors in

collective sports showed that adults give more importance than young individuals to social relations (Hodge, Allen and Smellie, 2008). In this investigation, although this reason was the least valued, it showed a significant increase in May.

Based on the ideas presented by Navarro et al. (2008), whose study aimed at determining motivational profiles in healthy physical activity practitioners from the theory of self-determination, results from the present study showed that both in September and January, participants' profile, indoor cycling practitioners, was self-determined, since the reasons most highly mentioned were *fitness / health* and *enjoyment*. In May, the same participants showed a less self-determined profile, since the main reason to practice indoor cycling was *appearance*. As mentioned above, the famous "Bikini challenge" may have produced a less self-determined behavior, more influenced by agents external to the individual. The results obtained in this investigation seemed to reinforce this idea.

The third hypothesis of this investigation was that indoor cycling practitioners will show a low-level of exercise addiction. Results showed that participants' level of addiction was medium and increased significantly in May. On all occasions where data was collected, these indoor cycling practitioners scored an average value of addiction that classifies them as symptomatic non-dependent; this symptomatology was greater in the last quarter. There are few studies that have focused on addiction within the scope of non-competitive physical activities centered on health, and none in indoor cycling practitioners. One of the few studies was conducted by González-Cutre and Sicilia (2012), which analyzed the differences in exercise dependence according to gender, age and physical activities practiced by fitness center users. In general, they found that the highest percentage of users showed symptoms of dependence, but without being at risk; as found in this investigation. This data is also backed by a study carried out with fitness activities' practitioners (Costa, Cuzzocrea, Hausenblas, Larcann and Oliva, 2012) and by another study which compared football subjects with subjects who carried out fitness activities (Lichtenstein, Larsen, Christiansen, Støving and Bredahl, 2014). In the latter, no significant differences were found in the prevalence of addiction among these groups, so it can be said that both groups showed the same risk of presenting symptoms of addiction to physical exercise. The study by Costa et al. (2012) found similar results to those obtained in our indoor cycling study: the highest percentage of practitioners were in the group of symptomatic non-dependent individuals.

Once more, we would like to highlight the data obtained in the month of May, when the main motive for users to practice indoor cycling was *appearance*. The exercise addiction scores were also significantly higher than in September and January. These results corroborate the findings obtained in previous works (Sewell, Clough and Robertshaw, 1995), which indicated that motivation dependent on an individual's body image plays a very important role in the appearance and maintenance of exercise addiction. One of the sports with the greatest relation to body image and exercise addiction is bodybuilding; to such an extent that there is a pathology known as bigorexia or muscle dysmorphia (Arbinaga and Carabel, 2007). Pierce and Morris (1998) also believed that practitioners of muscle-building activities have high dependence levels. In May,

our indoor cycling practitioners reflected the connection between the appearance motive of practicing this activity, and a significant increase in their addiction to practice it.

5. CONCLUSIONS

Throughout a full, year-long course, the motives for a group of participants to practice indoor cycling changed: in September and January the main reason was fitness / health, while in May the main reason was *appearance*. From the point of view of their addiction to physical exercise, the results have shown that this group of indoor cycling practitioners may be classified as symptomatic and non-dependent; being the addiction more noticeable in May.

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