

Características psicológicas del rendimiento deportivo y la motivación en deportistas de patinaje de velocidad

Psychological characteristics of sports performance and motivation in athletes of speed skating

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RESUMEN

Esta investigación tiene como objetivo demostrar como la motivación y el rendimiento en el deporte contiene una correlación importante para un atleta. Este artículo se basa en un estudio de casos, realizado a 6 sujetos pertenecientes a la Selección de patinaje de velocidad del Estado de Campeche. Las pruebas empleadas fueron el Cuestionario de Características Psicológicas relacionadas con el Rendimiento Deportivo (CPRD) y la Estandarización de la Escala de Motivación en el Deporte (EMD). Los resultados obtenidos muestran que la motivación tiene una considerable influencia en el rendimiento deportivo.

Palabras clave: Motivación; Rendimiento deportivo; Patinaje de velocidad; Atleta

ABSTRACT

The objective of this research is to demonstrate how motivation and performance in sports contain an important correlation for an athlete. This article is based on the case study carried out by 6 subjects that are part of to the speed skating team of the State of Campeche. The tests used were; the Questionnaire of Psychological Characteristics related to Sports Performance (CPRD) and the Normalization of the Motivation Scale in Sport (EMD). The obtained results show that motivation has a

considerable influence on sports performance.

Keywords: Motivation; Sports performance; Speed skating; Athlete

INTRODUCTION

Motivation is a characteristic that varies in each individual, so it has an individual character, Dosil, J. (2008) and Reinhard, K.S. (2005), this means that it manifests itself in each one differently and helps to do whatever it likes.

Motivation describes different theories that have stood out over the years, within these is the motivation of achievement.

Within the scope of sport, the motivation for achievement was developed by Murray, H.A. (1938), Atkinson, J.W. (1957) and McClelland, D.C. (1961), who describe that sport is considered as an environment "of achievement" because it competes with others and seeks above all to achieve improvement.

There is also the Self-Determination Theory (SDT) described by Deci, E.L. & Ryan, R.M. (1985), where the effects of the activities carried out by the subject on an extrinsic and intrinsic motivation, and even demotivation, according to Dosil, J. (2008), were studied. On the other hand, with the help of the Self-Determination theory, Vallerand, R. (1997 and 2000) divides the motivation into three levels: global, contextual and situational. The global level is also known as personality-trait, that is what characterizes every individual and explains that each athlete has a different type of motivation (extrinsic motivation, intrinsic or demotivation). The contextual level, or as everyday life, refers to motivational orientation in specific environments. According to Dosil, J. (2008); Hernández, H.; Vasconcelos Raposo, J.; Lázaro, J. and Dosil, J. (2008) the situational level or the state, refers that motivation depends on a specific moment in which the athlete is.

The Self-efficacy Theory (Bandura, A. 1977), which is part of the Social Learning Theory, indicates that the cognitive aspects of each person are fundamental to determine behavior. In the same way it can be defined as the judgments that each individual has about their own competences, which directly influence this behavior: the previous successes, the experiences, the verbal persuasion or the physiological states of the person, at the moment of carrying out the activity sports,

pose Bandura, A. (1986), Weinberg, RS & Stockham, J. (2000); Reigal, R .; Videra A .; Martín I. & Ruiz, R. (2013).

According to these theories, motivation is extremely important for the development of the athlete so that it directly influences in his performance. Therefore it intervenes in the physical, psychological, physiological and tactical (Cox, RH 2009, Moore, R., Bullough, S., Goldsmith, S. & Edmondson, L. 2014, Weinberg, RS & Gould, D. 2010) , since the training preparation to sports competitions.

It is important to emphasize that the coach is a fundamental promoter of motivation for athletes, since it facilitates the experiences of the athletes, encourages sports commitment (García Calvo, T., Leo, F., Martín, E. & Sánchez Miguel, PA 2008, Balaguer I., Castillo I. & Duda J. 2008), and adapt the climate so that the motivation of them is indicated from the individual to teamwork (Mora A., Sousa C. & Cruz J. 2014).

As Dosil, J. (2008) would write, "... a motivated athlete is the best guarantee that he does everything possible to achieve the stated goal."

Sports performance is an important part of the athlete's preparation. According to Ruiz Barquín, R.; & Lorenzo García, O.(2008)Over the years the level of demand in which athletes are is increasing, that is why it is necessary to have enough resources to deal with the growing number and difficulty of sports competitions. It is important that at the beginning of the sport activity (initiation sport), the trainer implements the necessary factors so that in sports growth the athlete would has the proper preparation, so that he can manages the burden of a high performance athlete.

Despite of being a studied subject in recent years, the characteristics of athletes have not yet been fully identified, since the personality of each athlete varies (Reyes, M., Raimundi, MJ, & Gómez, L. 2012). In Rial, A.; Marsillas, S.; Isorna, M.; & Louro, A.(2013) research, the importance of doing personalized psychological profiles is mentioned, in order to detect and evaluate the needs of each athlete, to have a better orientation in the preparation, and with this to get a better psychological intervention in the aspects that need to be improved.

On the other hand Adie, J.W., Duda, J.L. & Ntoumanis, N. (2008), in a study carried out on athletes found that self-esteem is a variable that influences in the performance, being competitions threatening for athletes with low levels, making it a demanding activity to facilitate improvement in sports output.

DEVELOPMENT

The subjects were the speed skating athletes of the youth team of the State of Campeche. It was based on a census type test with 5 athletes, being 5 women (80%) and 1 man (20%) with an age range between 13 and 16 years. The criteria for the subjects' selection were between 13 and 17 years old, practicing a sport constantly for competitive purposes, training with a minimum of 10 hours a week, and finally being selected to represent the State of Campeche in the National Olympiad in its (2017) edition.

Variables and Instruments.

According to Gimeno, F. & Buceta, J. (2010), it is inappropriate to seek a direct relationship between sporting results and motivation, since the intermediate stages of this relationship are omitted. The authors emphasize the importance of considering additional physical performance and behavioral variables. Therefore, in this research to analyze sports performance variables were considered sporting results, physical performance and behavioral variables. The variables of sporting results were determined from the results of the National Olympiad of 2017. The physical performance variable was defined considering the athlete's record time in the stated event. Finally, the behavior variables included in the analysis were the constancy and the performance with which the athlete attends training.

These data were obtained from the observation, official records review of the Olympiad and the coach's binnacle.

To measure the motivation the standardization test of the Motivation Scale in Sport (EMD) was used. The adaptation in Mexico was carried out by López, J.M. (2000). It measures three types of intrinsic motivation (intrinsic motivation to knowledge, compliance, stimulation), three types of extrinsic motivation and amotivation.

It consists of 28 items related to motivation. The test considers seven sub scales: (1) without motivation; (2) external regulation; (3) introjected regulation; (4)

identified regulation; (5) intrinsic motivation to learn; (6) intrinsic motivation as personal satisfaction; (7) intrinsic motivation for the stimulation of the senses. The scales from 2 to 4 correspond to the extrinsic motivation, and from 5 to 7 to the intrinsic motivation.

To measure the Sport Performance fitness variable, the Psychological Characteristics Questionnaire related to Sports Performance (CPRD) contributed by Gimeno, F. & Buceta, J. (2010) was used. The analysis reveals five factors that contain 55 items with saturations higher than 0.30.

This five-factor model explains 63% of the total variance. This test is classified into 5 scales that are: stress control (20 items), influence of performance evaluation (12 items), motivation (8 items), mental ability (9 items), and group cohesion (6 items). The stress control scale includes issues related to self-confidence, anxiety and sports competition. The influence scale of performance evaluation includes two categories of items: the characteristics of the athlete's response to the evaluated situations of his own performance or where he is evaluated by people around him such as the coach. The motivation scale provides information related to the motivation for the sport activity. The mental ability scale explores the use of a series of mental skills, which can affect the performance of the athlete to the benefit of performance, such as goal setting, cognitive functioning and self-regulation, behavioral testing in imagination or objective performance analysis. Finally, the team cohesion scale refers to the degree to which the athlete feels attracted and identified with the sports group.

Sports Performance has many factors so it is difficult to measure and evaluate it so that coach's observations were taken into account, as well as a log that it carries about its athletes where it has registered the best brands and results of them. Interviews were also conducted with the athletes about the time they have been practicing the sport and their best results in their last important competition, that is, the National 2017 Olympiad.

Process.

Once the tests to be used were chosen, the athletes were selected to invite them to participate in the research. By accepting and signing the informed consent, the dates and times of application of the instruments were scheduled

The athletes were visited twice at the High Performance Center (CDAR). The 2 tests were carried out on different days so as not to affect and interrupt the training sessions. The first visit was on February 14 and March 5 of 2017. The athletes were very participative, just as the coach wanted to know the results obtained from the tests. Thanks to the Sports Institute of Campeche (INDECAM), tests and observations were made.

Results

Socio demographic data. Table 1 allows us to know the general characteristics of the cases analyzed. It can be seen that all are young people between 13 and 16 years old, with a high school and high school level. Most cases are women with the exception of one case, and all are between 4 and 6 years old practicing speed skating. To see the types of yields that were measured and the results see table 2.

Table 1. Description of the socio demographic data of athletes.

Athletes	Age	Scholarship	Gender	Years of practice
1	13	High school	Female	5 years
2	16	High school	Male	4 years
3	15	High school	Female	5 years
4	15	Training	Female	6 years
5	15	High school	Female	5 years

Table 2. Output Variables.

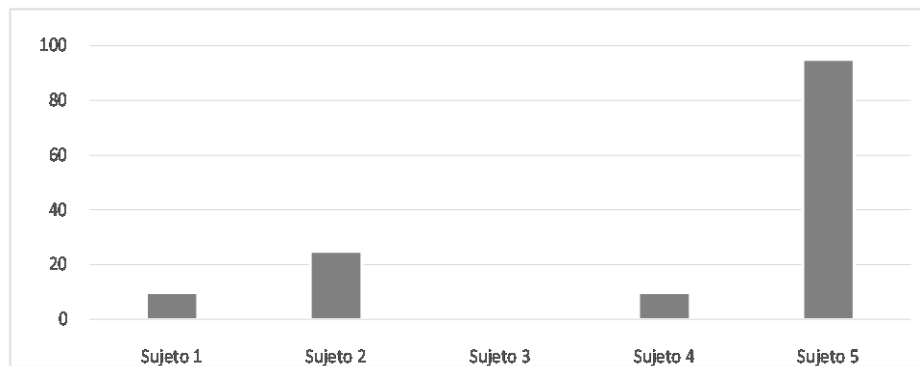
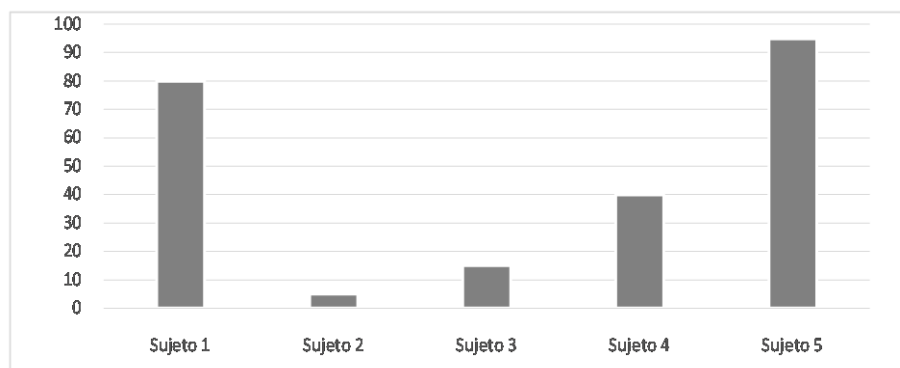
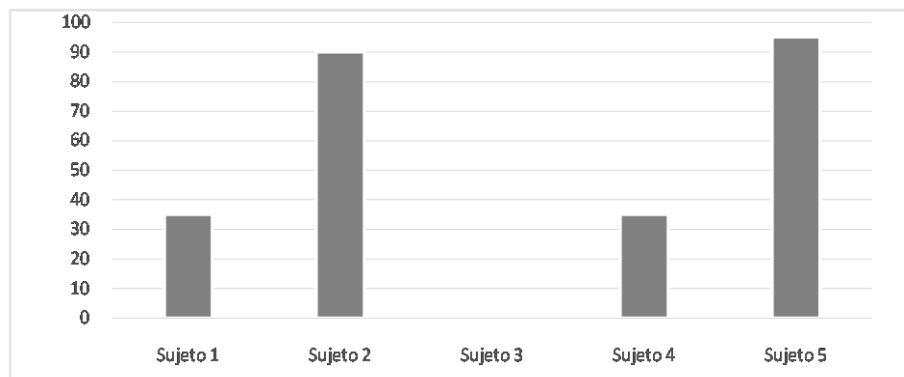
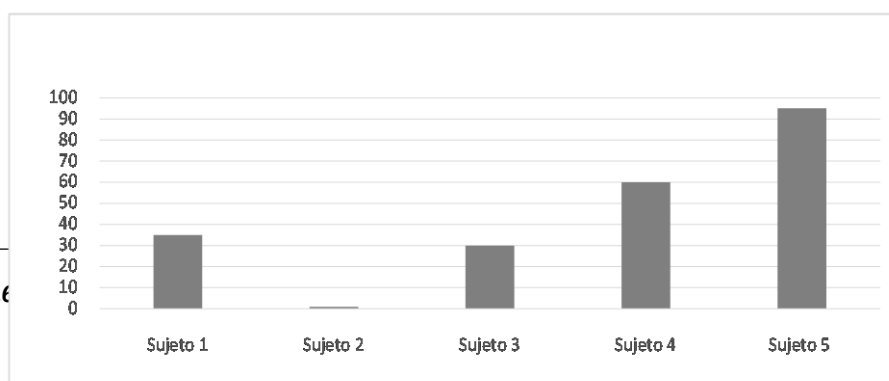
	Sports Results		Physical output	Behavior Variables (coach's criteria)	
Athletes	Outstanding Medals	Best position in the National Olympiad 2017	Best Time	Constance of Assistance to training	Training performance

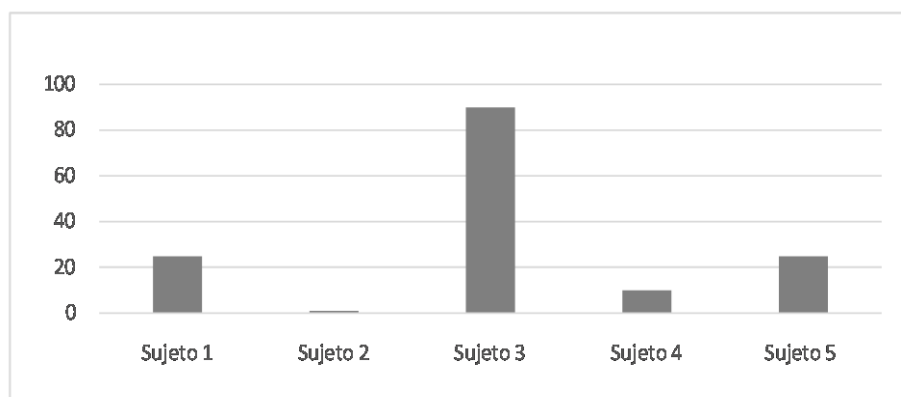
				(Monday to Saturday)	
1	2°. 100 mts crono - 2015. 3° 100 mts crono - 2016. 1° 100 mts carriles - 2017.	3rd place in 100 m lanes.	12.022	Many Assistance	Regular
2	2° 300 mts - 2015. 3° 500 mts - 2015.	6th place in circuit lap.	34.223	Little Assistance	Regular
3	1° level National - 2014 3° Olympiad. relays - 2014	8th place in 100 m lanes.	12.712	Many Assistance	Regular
4	3° level ON. relays - 2014 3° 100 mts lanes - 2015 3° 500 mts crono - 2017	1st place 500 mts.	50.429	Many Assistance	Good
*5	4° level in marathon. ON - 2015 16° marathon interasociations- 2017	The performer presented an appendix surgery for which he could not attend to the event.		Many Assistance	Good

Source: self elaboration from observation, review of the file of the page www.olimpiadanacional2017.conade.gob.mx through the trainer's opinion.

* This athlete presents problems in his physical performance since he has compartmental syndrome.

The Psychological Characteristics of Performance are presented below in individual graphs, where the results of each subject are shown.

Graphic 1. Stress Control Score.**Graphic 2. Influence Score of the Performance Assessment.****Graphic 4. Motivation score.**

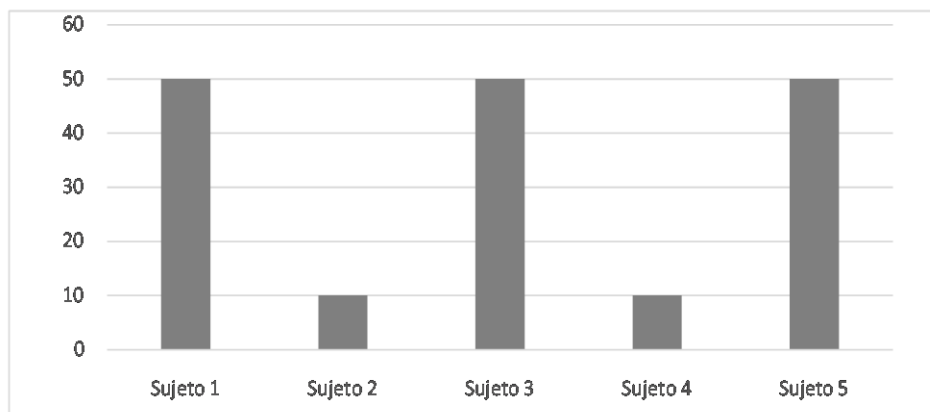
Graphic 5. Team Cohesion Score.

Athlete 2 is the one who obtained lower scores in the motivation area (graph 4), team cohesion (graph 5) and mental ability (graph 3). In the only characteristic that stands out is in the influence variable of the Performance Assessment. This means that the athlete has or knows of resources that help him to control the harmful influence of the evaluation, as well as elements to face the pressure by the presence of judges and people who evaluate his performance (Gimeno, F. & Buceta, J. 2010).

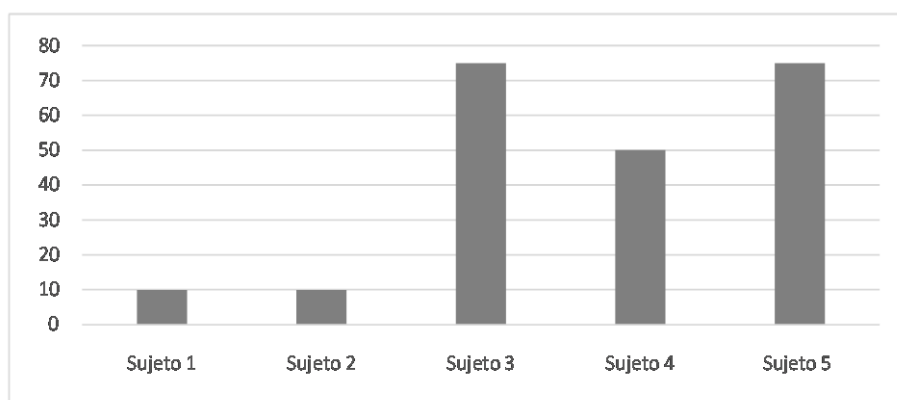
Subsequently, athlete 3 obtained scores below the average, although it stands out in the characteristic of Team Cohesion (graph 5). As it is evident, athlete 5 obtained the highest scores in almost all the characteristics except in the characteristic of Team Cohesion. Stress Control (graph 1) and Team Cohesion (graph 5) are the ones with lower scores. In the psychological characteristic of Stress Control can be found low concentration, low confidence, stress or potentially stressful situations, they must work to learn to have control of these.

The results of the subjects of the standardization of the Motivation in Sport Scale (EMD) are presented below.

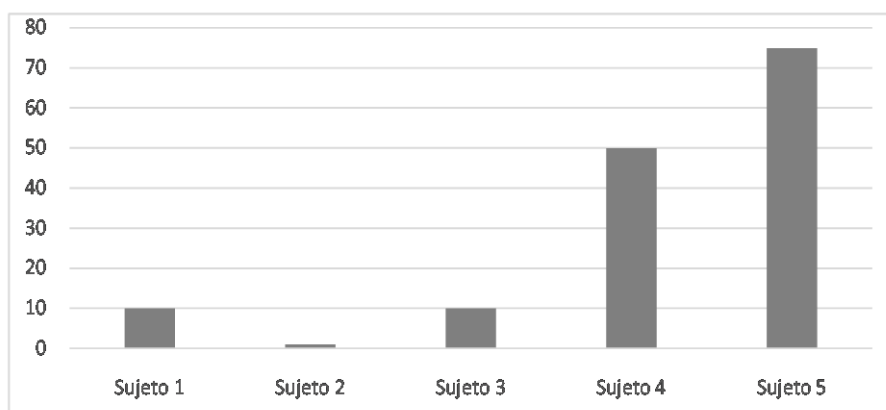
Graphic 1. Extrinsic Motivation Score.



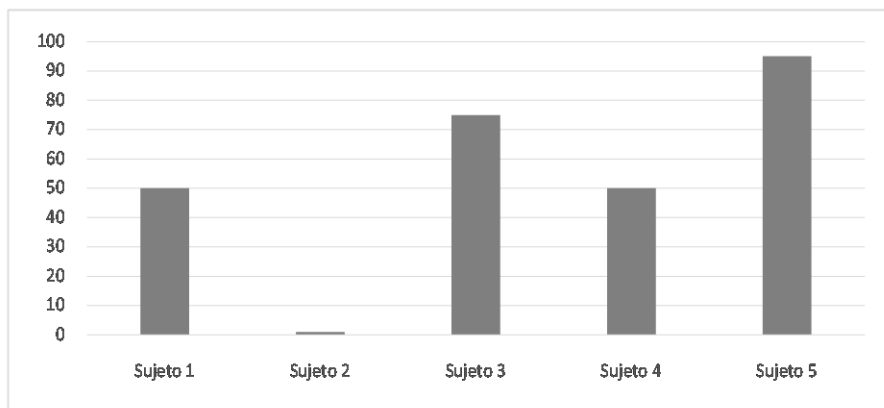
Graphic 2. Intrinsic Motivation to Knowledge Score.



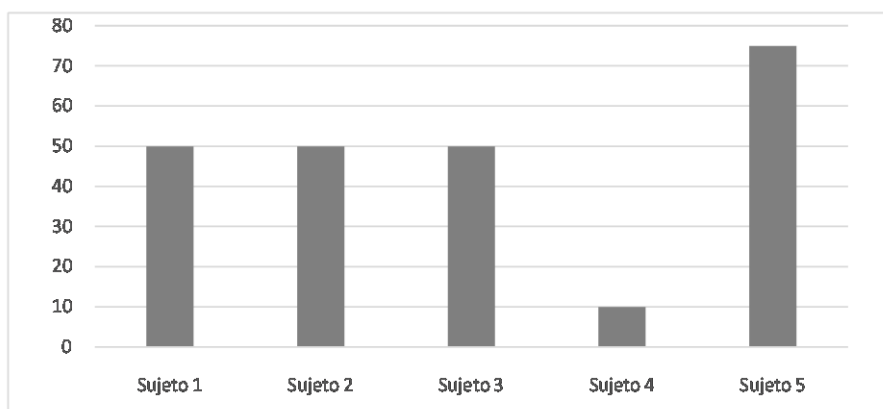
Graphic 3. Amotivation Score.



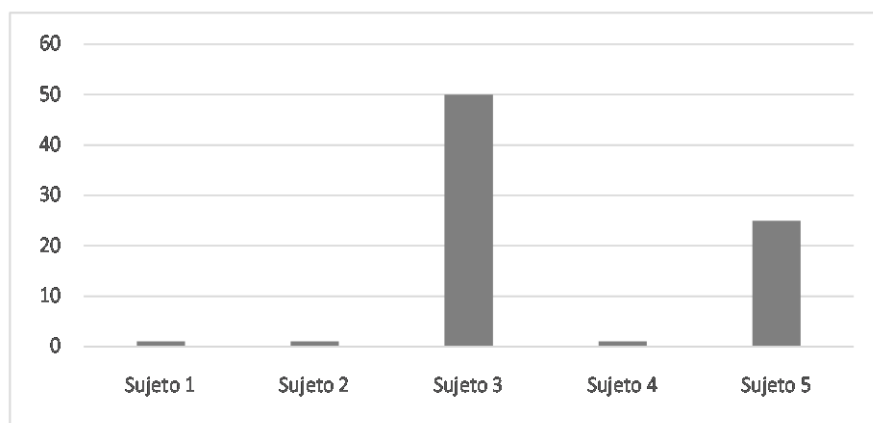
Graphic 4. Intrinsic Score- self-preparation.



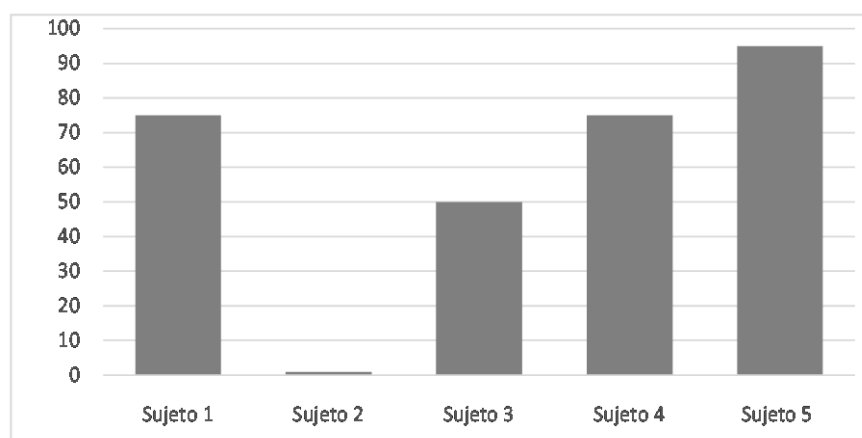
Graphic 5. Integral Motivation Score - sporty.



Graphic 6. Intrinsic Motivation Score – esthetic.



Graphic 7. Intrinsic Motivation score to Fulfillment.



In graph 2, the athlete 2 returns to predominate its deficient scores as in extrinsic motivation (graph 1), intrinsic to knowledge (graph 2), intrinsic-aesthetic (graph 6), intrinsic-self improvement (graph 4), intrinsic compliance (graph 7) and amotivation (graph 3). It should be mentioned that the evaluations and observations made by the coach indicate that this athlete has great potential to do things, but does not do them. As well as athletes 5 and 4 excel and their motivations are above the average, obtaining higher scores in intrinsic-self-improvement (graph 4) and intrinsic to fulfillment (graph 7).

The lower type of motivation that athletes present is the intrinsic-aesthetic one (graph 6).

Discussion.

The objectives of this study are to determine if motivation influences in the speed skating selection of Campeche performance. The obtained results confirm the hypothesis that motivation influences in the athlete performance. Of the 5 studied cases 3 allow to affirm the hypothesis.

Recall that athlete 2 obtained low sports result, low constancy and training output and low level of motivation according to the CPRD. In the motivation test, it is shown that of the 7 characteristics evaluated 6 are below the average of the test. From the observations that were made during the training, it was perceived that the subject has all the potential to be a good athlete, although it was noticeable with great fatigue. It would be important to evaluate other activities carried out outside

training, or what external problems it presents to improve its performance and thus be able to take advantage of its potential.

On the contrary, athletes 4 and 5 present good sports results, good consistency and performance in training, as well as high motivation.

Then it can be said that motivation is influential in the performance to achieve sporting achievements (Weinberg, R. 2009). Many authors point out that the importance of studying motivation in sports is because it helps to give a better understanding, of how an athlete continues to attend the practice of a sport, as well as the understanding of how the withdrawal of people from sports practice is made (Aguirre Loaiza, H., Bermúdez, S. & Agudelo, AM 2015, Dosil, J. 2008, Lavallee, D., Kremer, J., Moran, A. & Williams, M. 2004, Weinberg, R 2009).

A study by Vaquero, P. (2005), mentions that the athlete's intrinsic motivation helps to keep his performance. Several authors point out that when an athlete is intrinsically motivated (such as athletes 4 and 5), it can be indicated that they are practicing sports due to satisfaction, fun and interest that is offered to them during the sports activity (Deci, EL & Ryan, RM 1985, Balaguer I., Castillo I. & Duda J. 2008).

Mora, A., Sousa, C. & Cruz, J. (2014), mention that one of the main points to stay in the sport also includes the coach and peers figure, in order to get a balanced and satisfactory sports environment, where fun is found to help to increase the youth probability to stay in sport. In this case the coach plays an appropriate role, where he not only teaches the technical-tactical part, but also takes into consideration the importance of approaching to his athletes, in order to obtain the adequate confidence with them. Having confidence with the athletes, facilitates the leadership role and manages to increase motivation in the team, according to García Calvo, T., Leo, F., Martín, E. & Sánchez Miguel, P.A. (2008); Torregosa, M., Sousa, C., Viladrich, C., Villamarín, F. & Cruz, J. (2008), Balaguer I., Castillo I. & Duda J. (2008) criteria.

It is important that the coach tries always to keep a basic motivation in his athletes, since that Balaguer, I. (1994) mentions that basic motivation is the stable platform of motivation, which determines the commitment of the athlete with his sport

discipline, but still depends fundamentally on the results and personal performance.

To have a more specific understanding of athletes it would also be important to assess their types of goals they have established, since in the Theory of Achievement goal Theory Nicholls, J.G. (1989); Ames, C. (1992) states that specific goals help improve performance in sports.

It should be noted that this psychological characteristic, that is motivation, is of great importance for an athlete process to achieve an adequate high performance. This also goes hand in hand with the appropriate physical and technical-tactical qualities to obtain good results in his sports evaluations.

In the group cohesion characteristic of the applied test, it obtained a low score in 4 of the 5 athletes. Bohórquez Gómez-Millán, M., Delgado Vega, P. & Fernández Gavira, J. (2017) consider that group cohesion as a distinctive attribute of successful teams is key to the formation and development of teamwork. They also indicate that group cohesion does not automatically make the team perform well, but sometimes these are obtained by the individual sports performance of the team players. However, there is no doubt that this facilitates obtaining good results thanks to cooperation, coordination and communication.

It is not always necessary to have a cohesive team so to get good results. Sometimes these results are obtained thanks to the individual sports performance of the team players. However, when the teams are cohesive, the best results achievement it facilitated thanks to effective cooperation, coordination and communication; thus, the relationship between cohesion and individual sports performance may not exist or be indirect (Bohórquez-Gómez-Millán, M., & Delgado Vega, P., & Fernández Gavira, J. 2017). It should be noted that there have been, not systemic but subsequent observations, (outside the period of the investigation) that have allowed to distinguish the performance trajectory.

CONCLUSIONS

Motivation is important for every athlete who is present every day in their workouts. From the beginning of the sports practice, the athlete must keep in mind what their motivations are, as well as their goals and objectives, since these will help the

athlete to have a more traced path to obtain their desired sporting achievements together with their performance.

Something very important that should be stressed is that the coach's contribution to their athletes influence in their performance and motivations. Apart from a formal training, the coach should try to be closed to their athletes at all times and have a closeness with them, as doing many activities to encourage teamwork.

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