

## EL EFECTO DE UN PROGRAMA DE INTERVENCIÓN PSICOLÓGICA EN LA MOTIVACIÓN DEPORTIVA DE LOS JUGADORES DE FÚTBOL

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**RESUMEN:** La motivación para el deporte se evaluó en 25 jugadores de fútbol del equipo masculino de la Universidad Especializada de las Américas antes y después de un Programa de Intervención Psicológica. La intervención se realizó durante un programa de psicología deportiva de 12 semanas. El cuestionario de motivos deportivos (Butt, 1979) se utilizó para evaluar 5 áreas específicas: conflicto, rivalidad, suficiencia, cooperación y agresión. Este es un estudio comparativo, prospectivo y longitudinal, con diseño de investigación pretest-postest pre-experimental de un solo grupo. La edad promedio de los atletas seleccionados fue de 24 años ( $\bar{X}=24.20$ ,  $SD=4.64$ ). Los datos se analizaron utilizando SPSS © 24. Se realizó una prueba de hipótesis a través del estadístico de Wilcoxon para muestras relacionadas. Los resultados obtenidos permitieron concluir que existe una diferencia estadísticamente significativa, con un 95% de confianza, entre la motivación observada antes y después de la intervención. Además, se encontraron diferencias entre las 5 áreas específicas estudiadas.

**PALABRAS CLAVE:** Futbolistas, Intervención psicológica, Motivación deportiva, Estudiantes universitarios, Psicología del deporte

### THE EFFECT OF A PSYCHOLOGICAL INTERVENTION PROGRAM ON THE SPORTS MOTIVATION OF SOCCER PLAYERS

**ABSTRACT:** The motivation for sports was evaluated in 25 soccer players of the men's team of the *Universidad Especializada de las Américas* before and after a Psychological Intervention Program. The intervention was performed during a 12-week session sport psychology program. The Sports Motives Scale (Butt, 1979) was used to evaluate 5 specific areas: conflict, rivalry, sufficiency, cooperation and aggression. This is a comparative, prospective and longitudinal study, with pretest-posttest pre-experimental research design of a single group. The average age of those selected athletes was 24 years ( $\bar{X}=24.20$ ,  $SD =4.64$ ). The data was analyzed using SPSS © 24. A hypothesis test through the Wilcoxon statistic for related samples was performed. The obtained results allowed to conclude that there is a statistically significant difference, with 95% confidence, between the motivation observed before and after the intervention. In addition, differences were found among the 5 studied specific areas.

**KEYWORDS:** Soccer players, Psychological intervention, Sports motivation, University students, sport psychology.

### O EFEITO DO PROGRAMA DE INTERVENÇÃO PSICOLÓGICA NA MOTIVAÇÃO ESPORTIVA DE JOGADORES DE FUTEBOL

**RESUMO:** A motivação para o esporte foi avaliada em 25 jogadores de futebol da equipe masculina da Universidade Especializada das Américas antes e depois do Programa de Intervenção Psicológica. A intervenção foi realizada durante um programa de psicologia esportiva de 12 semanas. O Sports Motives Scale (Butt, 1979) foi utilizado para avaliar cinco áreas específicas: conflito, rivalidade, suficiência, cooperação e agressão. Este é um estudo comparativo, prospectivo e longitudinal, com delineamento de pesquisa pré-teste pré-teste pré-experimental de um único grupo. A idade média dos atletas selecionados foi de 24 anos ( $\bar{X}=24,20$ ,  $DP=4,64$ ). Os dados foram analisados usando o SPSS © 24. Foi realizado um teste de hipótese através da estatística Wilcoxon para amostras relacionadas. Os resultados obtidos permitiram concluir que existe diferença estatisticamente significativa, com 95% de confiança, entre a motivação observada antes e após a intervenção. Além disso, foram encontradas diferenças entre as 5 áreas específicas estudadas.

**PALABRAS CLAVE:** Jogadores de futebol, Intervenção psicológica, Motivação esportiva, Estudantes universitários, Psicologia do esporte.

In light of the strong competitive sportsmanship among undergraduate students in Panama and given the training they endure to pass the qualifying games for the 2018 Central American University Games, an evaluation of motivation was carried out in 25 university players. They represent the *Universidad Especializada de las Américas* soccer team (the fourth largest national university in Panama).

From the evaluation performed to the team, a Psychological Intervention Program was designed with the objective

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to focus their motivation and optimize their performance inside and outside the field. The psychological preparation proved to be a decisive factor in the outcome of the games and a key strategy for preventing injuries (Brown, 2016; Gledhill, 2018).

González (2012) mentions that González, Rodríguez and García (2001) analyzed the impact of the state of mind and its impact on sports and concluded that the

mental and physical aspects in an athlete are always together since those who received psychological preparation during their study, increased the force in the execution of motor tasks, contrary to those who did not receive it.

Mental rehearsal, focusing of attention, psychic activation, self-confidence, and conviction are psychological preparation strategies currently used with athletes (Buceta, 2004).

Motivation is a term associated with the perception of control over the activity, this is, and the athlete perceives that his/her motivation is directly proportional to the control of his /her performance (Torres, 2012).

In the research carried out by Núñez et al. (2011), the motivation is constructed (associated with internal and external factors), which allowed to obtain a variable that provides predictive and explanatory power. However, the researchers propose to introduce into the study of motivation the concept of, self-esteem, self-efficacy, and self-concept to improve the predictive and explanatory power of the behaviors associated with physical exercise.

On the other hand, a study conducted by Guillet, Vallerand and Lafrenire (2012), proves the integration model, which proposes that autonomous motivation results in positive affect, while controlled motivation leads to negative affect. Through a correlational design, the three forms of motivation, the positive effect, the negative effect, and the objective performance, were evaluated in a task. The results support the fact that autonomous motivation increases performance.

In addition, Guillet, Vallerand, and Lafrenire (2012) revealed that the indirect effect obtained from autonomous motivation on performance was greater than that of controlled motivation. A second conclusion from their study remarks that the positive and negative affect experienced when participating in the activity can measure the positive and negative effects, respectively, of motivation in performance.

As a standard, the Competitive State Anxiety Inventory-2 test evaluates three factors: the state of cognitive anxiety, somatic anxiety, and self-confidence. At the same time, the coach established the competitive level using a checklist (by keeping track of each athlete), and found a direct relation: the lower the self-esteem, the lower the sports per (Sáez, 2017).

Concerning the perception of conflict, Paradis, Carron and Martin (2014), conducted a study with university athletes, in which they confirmed that the perceived conflict contains cognitive, affective and behavioral information. The participants were able to acknowledge that there were negative emotional states, feelings of resentment, frustration, jealousy, and anger in them.

Regarding their behavior, they determined that conflict (e.g. due to improper language or verbal/physical aggression) among teammates interferes with achieving their goals. The conflict goes beyond the disagreement since teammates must also distinguish between the conflict of performing tasks and personal relationship conflict. Hence the need to understand the intragroup conflict in sports teams.

Other aspects to consider are the possibility that conflicts can be addressed from a positive perspective once they are identified, which allows a prompt solution. This is positive reinforcement for athletes, as they perceive that they are in an environment where constructive discussion of the conflicts allows the team to consolidate (Paradis, Carron, & Martin, 2014).

Concerning the topic of sports rivalry, Tyler and Cobbs (2017), approach the concept from a broad perspective that includes rivalry among athletes, sports teams and amateurs. It was found that sports rivalry is a fundamental aspect of social identity.

Prieto (2016) studied competitiveness, social anxiety, motivational orientation, commitment and fun in soccer players. The results showed that the more time dedicated per week to soccer, the greater the competitiveness, which is reflected in less motivation oriented to failure.

The factors associated with sports motivation are diverse since the same motivation generates positive emotions such as hope, the expectation to enjoy, the joy of obtaining results, the pride of achievement and social recognition, among others (Saies, Arribas-Galarrag, Cecchini, Luis-De-Cos & Otaegi, 2014).

Likewise, Saies, Arribas-Galarrag, Cecchini, Luis-De-Cos, and Otaegi (2014) studied soccer players to analyze the relationships between motivation, sports commitment and physical self-concept finding two profiles, those of intrinsic motivations characterized by more self-determined behaviors and those of extrinsic motivations, characterized by less adaptive behaviors, suggesting that the training should be oriented towards tasks to promote self-confidence, competence, and team cohesion (Usán, Salavera, Murillo & Mejías, 2016).

To develop a psychological intervention program, it is necessary to know the characteristics of the athletes, the technical requirements of the sport, the stages (evaluation, competition, competitive training, education, and evaluation of the needs and the acquisition of psychological skills) and the objectives of training in the period in which the intervention will be performed.

Once that information is available, it is suggested that a diagnostic evaluation be made of the psychological abilities of each athlete, adjust the general objectives according to the results to share the proposal with the coach and later with the athletes and interdisciplinary team (González, Rodríguez, & García, 2001).

Matus (2015) proposed to design a program of psychological intervention in eight stages, which also included the five stages of psychological training (general psychological preparation, specific psychological preparation, control, competitive and post-competitive). This is shown in Figure 1.

### METHOD

The Sports Motives Test (MD) (Butt, 1979), has been used in different sports and applied to athletes of different ages. For instance, the test has been applied in a group of 13-and 14-years old swimmers in order to determine the required elements for their self-regulation (González, 2012). In that study, a psycho-pedagogical intervention was required to improve the development of psychological processes, skills, and qualities.

In addition, the MD has been used in a wheelchair basketball team at the beginning of the season to establish their needs and the type of psychological intervention, finding high scores in the variables of cooperation and sufficiency and losses in conflict, aggressiveness, and rivalry, which allowed the intervention to be elaborated effectively (Martínez-Sinovas & Martínez, 2015).

The Motivation Model developed by Butt (1979) proposes that motivation includes biological, psychological and physiological factors and depends on a secondary level of reinforcements (Vasalo, 2013). The secondary level of reinforcements is the sports in itself since every time the athlete makes sports, their motivation level increases as clearly stated by Butt (1979). This Motivation Model is shown in Figure 2.

From the Model, the secondary reinforcements are those that are considered elements related to the history of the athlete, those which are learned throughout the life of the athlete. They meet the secondary needs: love, esteem, respect, self-realization, among others. This document also considers self-esteem as an intrinsic secondary reinforce of the motivation that develops from, for example, the championships won, social recognition or the increase in economic income.

The instrument measures five areas: Conflict, which is understood as the level of execution and preparation (tired, irritable for no reason, guilty for not doing better, very nervous, I want to cry). This area must be evaluated to know the emotional management of the athlete. Rivalry is characterized by a feeling of being the best (the resolve to be number one and winning is of utmost importance, so it's easy to get irritated if there is someone better, shocked at having lost, and now others have more attention than me), reveals the process and level of self-concept and self-assessment that the athlete has associated with an extrinsic motivation by extrinsic reinforcements. Self-sufficiency has to do with the level of preparation, (excited, happier than ever, I'm doing more than I should, very



Phycological training stages

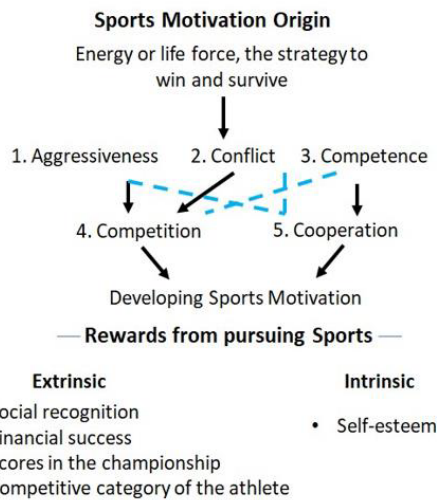
Note: prepared by the authors.

Figure 1. Psychological Intervention Program. Source: (Matus, 2015).

## Motivation Levels

1. Biological motivation
2. Psychological motivation
3. Social motivation
4. Secondary reinforce

- Weak correlation among variables
- Strong correlation among variables



Note: prepared by the authors.

Figure 2. Motivation Model developed by Butt. Source: (Vasalo, 2013).

interested in sports, I'm improving with every training which gives elements to recognize the level of self-esteem and intrinsic motivation that comes with pursuing sports. Cooperation (e.g. how I help and acknowledge my teammate's success, pleased that someone did it well, wanting to do something for the team, wanting to congratulate someone because he did it well) is evaluated to know the level of social motivation and group identity. Finally, Aggressiveness which is the resolve to achieve objectives (e.g. full of energy, impulsive, powerful, with the desire to tackle someone, I want to charge against the world) more focused on biological motivation (Valenzuela, 2008).

It should be noted that the motivation has been widely studied in academic and professional contexts, however, to the best of our knowledge, studies applied to the performance of the physical activity or sports in Latin America has been less explored.

### Objective

To evaluate the motivation level in 25 university players that make up the university team, and to design a Psychological Intervention Program on the performance of soccer players that allows them to focus their motivation and optimize their performance on and off the soccer field.

### Experimental design and type of study

This is comparative research, with a pretest and posttest for a single group (a single team); an intentional non-probabilistic sample of undergraduate students was used; a Likert scale instrument was used to know the sport motivation.

The study is longitudinal, and prospective since the fundamental information of the research was obtained from this study.

The intervention was carried out in 12-week sessions of group work of two hours each, in addition, there were individual interventions according to the needs of the moment. The Psychological Intervention Program was based on self-knowledge, self-concept, self-esteem, self-perception, schedule of the activities associated with sports, group integration, identity, emotions management, cooperation, and competence. From the results of the first evaluation and the performance of each team, the Psychological Intervention Program was strengthened, which also considered the preliminary work with the coach and the delegate, who actively participated in all the stages (Matus, 2015).

The interventions were made, one day before the weekly game (Saturday or Sunday). The team assimilated and adjusted in a very positive way the psychological interventions, which was evident in each game, as they were undefeated until the championship game, where they became champions of the interuniversity league.

### Participants

The participants were 72 undergraduate students who were part of the regional

male teams of all the University campuses (Province of Chiriquí, Veraguas, Coclé, Azuero, Colón, and Panamá). The average age of those selected athletes was 24 years ( $\bar{X}=24.64$ ,  $SD =4.64$ ) and were registered in the second semester of 2017. An intentional, non-probabilistic sample of 25 students was used according to the selection criteria of the coach to form the representative soccer team of the *Universidad Especializada de las Américas* (UDELAS, Panama); they became the sample of the present study.

- H01: There are no statistically significant differences in the motivation of the undergraduate soccer players before and after a Psychological Intervention Program applied to sports.

- HA1: There are statistically significant differences in the motivation of the undergraduate soccer players before and after a Psychological Intervention Program applied to sports.

### Instrument

The instrument is a scale developed by Butt (1979). The scale was modified from a binary scale to a Likert scale, which allows knowing the level of motivation of the athlete. This test assesses five areas of sports motivation namely conflict, rivalry, sufficiency, cooperation and aggressiveness (Medina, Sandi & Andux, 2005), with 26 items.

### Procedure

The technical staff of the university was contacted to provide psychological support to each of the representative teams (i.e. martial arts, baseball, volleyball, among others). From those, only the soccer team was interested in the proposal. The objectives of the evaluation program and possible psychological training routines were established with the assistance of the coach. Several meetings were scheduled to agree on the scope of the intervention and a calendar of activities.

The process began with sensitization to the athletes and the presentation of the proposal for a psychosocial evaluation. A date was established for the physical evaluation, blood test, and psychosocial evaluation of all the participants at the beginning of the season. It was agreed that there would be face-to-face activities for one hour, every week, one day before the game.

The calendar was established with 12 sessions with activities of specific stages, as shown in Table 1.

The instrument was applied to 25 students who practiced soccer, to obtain the construct validity which was 80.44%. This was calculated through a test of reduction, with factor analysis. In order to know the validity of the instrument, an analysis of principal components was carried out as a method of extraction and rotation varimax, converging in seven iterations. For reliability, Cronbach's Alpha analysis was applied, which gave a 0.36 of confidence.

Table 1. Psychological intervention Program for Soccer Players (Matus, 2015).

Psychological Intervention Program for Soccer Players					
Training Program Stages		Objectives	Session	Activities	Techniques
Sports	Psychological				
Preparation for the Sports Cycle	Preparation for the Sports Cycle	Establish scope and schedule the activities according to the cycle	1	■ Coordination of activities ■ Objectives and goals with the coach and the coaching staff.	
Diagnostic Evaluation	Diagnostic Evaluation	Start of the cycle. Evaluate psychological skills.	2	■ Presentation ■ Application of the instrument.	The Sports Motives Test (Butt, 1979).
Candidate Selection	Psychological Rest	Integrate complementary experiences for both physical activity and mental preparation.	3	■ Change of activity ■ Presentation of the psychological training program.	Exposition.
Physical training	General Psychological Preparation	Set daily goals for the preparation cycle	4	Self knowledge ■ Motivation ■ Training ■ Competition	■ Relaxation. ■ Thought control. ■ Auto dialogue. ■ Energization.
		Convert personal achievements into training moments	5	■ Resistance ■ Wellbeing ■ Fatigue ■ Pain	■ Auto dialogue. ■ Visualization.
		Identify the mood	6	■ Self-assessment of the mood. ■ Evaluation of the teammates mood	■ Thought control. ■ Auto dialogue. ■ Acknowledging the other. ■ Roleplay.
		Plan the training	7	Cycle plan based on training: ■ Fatigue resistance ■ Pain resistance ■ Relaxation to ease rest ■ Relaxation for weightlifting. ■ Visualization of energy images to control fatigue.	■ Full Schedule. ■ Improvements diary. ■ Employed Techniques. ■ Work ■ Assessment.
Specific Technical Work	Specific Psychological Preparation	Optimize fine motor skills	8	■ Kinesthetic Psycho Preparation ■ Self-control ■ Self-confidence.	■ Videos for the analysis of biomechanics ■ Improvements Diary ■ Visual perception training ■
		Re-know about the senso-perception of each exercise	9	Acknowledging the specific exercises for each position.	Videos for the analysis of biomechanics ■ Self-evaluation of senso-perception ■ Breathing, Display
		Establish locus of internal control	10	Self-confidence. Self control.	■ Videos for the analysis of biomechanics. ■ Thought control. ■ Auto dialogue. ■ Breathing. ■ Visualization.
Classification to the semi-final					
Prior Competition	Control	Improve automatic response	11	Determine routines: ■ When to eat. ■ What to eat. ■ Self-Dialogue. ■ Breathing. ■ Rhythm. ■ Training Behavior. ■ Competitive behavior.	■ Full schedule improvements. ■ Reevaluation of objectives' diary. ■ Identify the optimal level of activation. ■ Breathing. ■ Attention.
		Minimize the decisions that the athlete must make.	12	Evaluation of the routine	■ Improvement diary. ■ Breathing. ■ Attention.
		Self-assess sport performance	13	Personal brands.	■ Full Schedule. ■ Improvement diary.
Competition	Competition	Evaluate psychological performance	14	Adjustments and real refinement to the place of competition	■ Focus group for visual feedback (videos and photos) ■ Personal feedback
			15	Adjustments and real refinement to the place of competition	Focus group for visual feedback (videos and photos). ■ Personal feedback.
Post competition	Post Competition	End of cycle	16	■ Group evaluation on the objectives set ■ Formal closure of the cycle. ■ Psychometric test.	■ Self-evaluation of sports and psychological performance. ■ Reformulation of individual objectives. ■ Reformulation of group objectives. ■ Butt Sports Motivation Scale.

The data obtained from the applied instrument was analyzed using the Statistical Package for Social Sciences (SPSS © 24) analysis software. A factorial analysis was performed to know the construct validity and the Cronbach's Alpha to know the reliability. In addition, descriptive statistics were carried out by areas, before and after the intervention; also, a correlation test between the areas was calculated and finally, the statistical comparison test of means was applied in order to check the hypotheses.

The Psychological Intervention Program was designed and executed in six stages: diagnostic evaluation, psychological rest, general psychological preparation, specific psychological preparation, control, competitive and post-competitive as shown in Table 1 (Matus, 2015).

It is very important to highlight that the evaluation process on the athletes allowed the authors of the present study to design a psychological intervention program suited for the soccer team. Since the intervention was tailored according to the characteristics of the team, this instrument is not necessarily suited for another team. In this study, a control group is not required. There is only one soccer team at the university.

Furthermore, a 12 week period (the duration of the intervention program) for adult athletes who belong to the university soccer team does not allow for the changes in the team's performance to be attributed to time passing, or personal

maturity or other events in the environment which may have influenced the variables that were measured and, overall, the intervened team. This is, the team went from a little known and low performing team to become the league champions due to the psychological intervention program.

## Results

The average for conflict was two point zero six ( $\bar{x}=2.06$ ) and one standard deviation of zero-point sixty-one ( $SD=0.61$ ). Where one (1) represents that the team members never felt in conflict, that is to say that their level of execution and preparation is very good; two (2), almost never felt in conflict, which means that their level of execution and preparation is good, three (3) sometimes felt in conflict because their level of performance and preparation was not as good as it should be; four (4) almost always felt in conflict because their level of execution and preparation was poor and five (5), they always felt in conflict because their level of execution and preparation was very poor. It can be understood from this indicator that the team almost never felt in conflict because they perceive that their level of execution and preparation was good.

The average for rivalry was two-point eighty-three ( $\bar{x}=2.83$ ) with a standard deviation of zero-point forty-three ( $SD=0.43$ ). Considering, one (1) represents that the team never felt rivalry for being the best, two (2), almost never felt rivalry for being the best, three (3) sometimes felt rivalry for being the best, four (4)

almost always felt rivalry for being the best and five (5) always felt rivalry to be the best. In this case the value is close to three (3) which means that sometimes the athletes felt rivalry for being the team members were never felt satisfied with their level of preparation, two (2), team members almost never felt satisfied with their level of preparation, three (3) sometimes felt satisfied with their level of preparation, four (4) almost always felt satisfied with their level of preparation and five (5) always felt satisfied with their level of preparation. Since the value is close to four (4) it means that almost always felt satisfied with his level of preparation.

The average for cooperation was three-point eighty-nine ( $\bar{X}=3.89$ ) with a standard deviation of zero-point thirty-five ( $SD=0.35$ ). One (1) represent team members never felt cooperative or with the possibility of recognizing their peers, two (2), team members almost never felt cooperative or with the possibility of recognizing their peers, three (3) sometimes team members felt cooperative, were or with the possibility of recognizing their peers, and four (4) almost always felt cooperative or with the possibility of recognizing their peers and, five (5) always felt cooperative and the ability to recognize their peers. In this case, the average value is close to four (4), a communication system that can be interpreted, which are almost always cooperative or with the possibility of recognizing their peers.

The average for aggressiveness was two-point seventy ( $\bar{X}=2.70$ ) and a standard deviation of zero-point sixty-one ( $SD=0.61$ ). Where, one (1) represents team members never look aggressive or energetic to achieve their goals, two (2), represents team members almost felt aggressive or energetic to achieve their goals, three (3) sometimes felt aggressive or energetic to achieve your goals; four (4) almost always felt aggressive or energetic to achieve their goals and, five (5), always felt aggressive or energetic to achieve their goals. The average result of the aggressiveness in the athletes before the intervention can be interpreted in a way that almost never or the aggressive times or with the strength to achieve their objectives.

In relation to the values obtained after the intervention (Table 1), the average for conflict was two-point eighteen ( $\bar{X}=2.18$ ) with a standard deviation of zero-point sixty-seven ( $SD=0.67$ ).

The data showed that the area of conflict in the athletes after the intervention, decreased because they perceived that their level of execution and preparation was better after the intervention than before it.

As for rivalry, the average post-intervention was two-point eighty-seven ( $\bar{X}=2.87$ ) with a standard deviation of zero-point thirty-eight ( $SD=0.38$ ). The data showed a slight increase in the average after the intervention, which revealed a slight improvement over their feeling of rivalry for becoming the best. It was worth to note that the standard deviation decreased considerably, which showed greater homogeneity in the responses.

As for self-sufficiency, the average post-intervention was three-point eighty-four

( $\bar{X}=3.84$ ) with a standard deviation of zero-point sixty-three ( $SD=0.63$ ). In this case, the average decreased, and the standard deviation increased, which suggested that they were almost always satisfied with their level of preparation and that there was a better awareness of their own performance.

For cooperation, the average post-intervention was three-point seventy-seven ( $\bar{X}=3.77$ ) and a standard deviation of zero-point thirty-nine ( $SD=0.39$ ). The average decreased, and the standard deviation increased, which showed that they were almost always cooperative or with the possibility of recognizing their partners.

For aggressiveness, the average post-intervention was two-point seventy ( $\bar{X}=2.70$ ) and a standard deviation of zero-point fifty-two ( $SD=0.52$ ). The average result of the area of aggression in the athletes before and after the intervention has the same value, however the standard deviation decreased, that is, they sometimes feel aggressive or forceful to fight to achieve their objectives. The group was more homogeneous in their responses. All the previous results are summarized in Table 2.

A correlation analysis was carried out among the indicators. The results are displayed in the Table 3. The highest correlation, statistically significant ( $p<0.01$ ) was found between the indicator of cooperation (which is understood as the help provided to others and the recognition of others) and self-sufficiency (the level of physical preparation,  $r=0.70$ ). An inverse correlation ( $r=-0.41$ ) was found between the areas of self-sufficiency and conflict (considered as the level of execution and preparation). Similarly, the areas of cooperation and conflict ( $r=-0.31$ ) but, the correlation, was statistically significant at 95% ( $p<0.05$ ). This is summarized in Table 3.

The correlation for conflict and rivalry was  $r=0.09$ ; self-sufficiency and rivalry,  $r=0.21$ ; aggressiveness and rivalry,  $r=0.24$ ; aggressiveness and self-sufficiency,  $r=0.00$ . For values greater than zero a positive correlation is assumed. Nonetheless, from these results, it cannot be concluded that there was a significant correlation. This is summarized in Table 3.

On the other hand, the areas of, cooperation and aggressiveness ( $r=-0.21$ ) cooperation and rivalry ( $r=-0.01$ ) and conflict and aggressiveness ( $r=-0.05$ ), were related in an inverse manner, but neither showed a significant correlation as summarized in Table 3.

As part of the analysis of the data, the following statistical hypothesis was developed, seeking to make inferences about the sample.

- H01:  $\bar{X}O1 = \bar{X}O2$
- HA1:  $\bar{X}O1 \neq \bar{X}O2$

Where,  $\bar{X}$  is the average observations and  $O_n$  is the number of observations. The Wilcoxon test statistic was used for related samples, the result showed that the null hypothesis is rejected with the analyzed data, which means that there

Table 2. Descriptive statistics for each indicator in the MD before and after the intervention.

Intervention	Pre-Intervention		Post-Intervention		df
	$\bar{X}$	SD	$\bar{X}$	SD	
Conflict	2.26	0.61	2.18	0.67	24
Rivalry	2.83	0.43	2.87	0.38	24
Self-sufficiency	4.04	0.56	3.84	0.63	24
Cooperation	3.89	0.35	3.77	0.39	24
Aggressiveness	2.70	0.61	2.70	0.52	24

Table 3. Correlation among the indicators in The Sports Motives Test.

		Conflict	Rivalry	Self-Sufficiency	Cooperation	Aggressiveness
Conflict	Pearson's correlation	1	0.09	-0.41**	-0.31*	-0.05
	Sig. (bilateral)		0.54	0.00	0.03	0.72
Rivalry	Pearson's correlation		1	0.21	-0.01	0.24
	Sig. (bilateral)			0.15	0.96	0.09
Self-Sufficiency	Pearson's correlation			1	0.70**	0.00
	Sig. (bilateral)				0.00	1.00
Cooperation	Pearson's correlation				1	-0.21
	Sig. (bilateral)					0.15

\*\*  $p < 0.01$ , two tail.

\*  $p < 0.05$ , two tail.

Table 4. Result of the Wilcoxon statistical test for related samples.

	Test of Hypothesis				
	Pre-psychological Intervention		Post-psychological Intervention		df
	$\bar{X}$	SD	$\bar{X}$	SD	
Motivation	2.99	0.20	2.90	0.24	24

\*\* p < 0.05

were a statistically significant difference between the motivation among the soccer players obtained before and after the Psychological Intervention Program applied to sport (Table 4).

### Conclusion

The research process had high expectations not only by the authors but by the young amateur athletes who made up the team, the doctor, the trainer, the coach, and the fans.

The objective of this study was successfully achieved, during the time the psychological intervention program was applied, the team became the undefeated team of the league throughout the season and claimed the championship in 2017. It is worth to mention that in the previous years, the team and the technical team had achieved only two to three wins per season. They never played a championship game before. Nonetheless, it is also possible that some other variables that were not considered in the present study could have had a positive impact on the athlete's performance.

Based on the instrument designed by Butt, a new self-applicable scale of 26 items was generated, with a construct validity calculated using Factorial Analysis, with a total explained variance of 80.44% and with a reliability (Cronbach's alpha) of 0.36 for to evaluate the sports motifs of the national soccer teams of *Universidad Especializada de las Américas*, in Panama.

The percentage of the variance result of the responses of the athletes was 80.44%, however, it was expressed in 8 factors, unlike what was reported in the original instrument, besides the reliability is low, so it is suggested to perform more studies, with larger populations that allow modifications to improve the reliability of the instrument. However, the MD instrument has been a useful tool for the elaboration of a Psychological Intervention Program on the performance of soccer players.

The intervention proposal was presented to all participants and was accepted unanimously.

In the lapse of time between the first session and the last one, there were unpredictable situations such as physical injuries caused by the matches, the absence of some of the participants due to transport problems as some of them live far away from the city (commuting time also increases due to traffic jam), personal and family problems, academic workload, jobs (many of the athletes work/study), the training field was flooded by the intense rains, among other variables.

During the season, as they won each game, the team began to feel more motivated, but at the same time, increased their expectation of being victorious, in this process, the author continued with the intervention as planned, but also worked individually with the young athletes who needed it.

Thus, the Psychological Intervention Program on the performance of soccer players, to improve in the different areas (Table 1), which meant that after the intervention the athletes perceived that their level of execution and preparation improved, rivalry for being better remained almost the same yet in general the results, after the implementation of the psychological program, was more homogeneous. The team was satisfied with their level of preparation and they have a better awareness of their own performance. They remained cooperative and they were able to recognize the skills of their peers, which allowed them to compete with the necessary aggression to achieve the objectives at each game. The results are consistent with those expressed by González, Rodríguez, and García (2001).

A Psychological Intervention Program in coordination with the physical training program allows athletes to consider the importance of evaluating their weaknesses and strengths, both physical and psychological, as well as recognizing

their motivations, measured through the Sports Motivation Scale (González, 2012), at the same time, improved their sense of belonging and precise the role that each athlete plays within the team.

The instrument used was of great help for the elaboration of the Psychological Intervention Program with a specific training plan to establish the concrete actions of intervention in the different stages of the study. When comparing the data obtained before and after the intervention it is concluded that there are statistically significant differences between the results obtained in the motivation of the university soccer players before and after the psychological intervention program applied to sports, which was carried out for a 12-week session with the athletes (Table 3).

Beyond the statistical result, it should be noted the increased participation of athletes in both, sports training and specific psychology sessions. They expressed themselves more confident and less anxious about each game, in addition to having better psychological tools to face everyday challenges.

### REFERENCIAS

- Alzate, F. (2015). Prácticas y formación docente: un escenario propicio para promover la investigación educativa. *Actualidades Investigativas en Educación*, 15(2), doi 10.15517/aie.v15i2.18962 Retrieved from: <https://revistas.ucr.ac.cr/index.php/aie/article/view/18962>
- Buceta, J. (2004). *Estrategias psicológicas para entrenadores de deportistas jóvenes*. Madrid: Dykinson.
- Butt, D. (1979). Short scales for the measurement of sport motivations. *International Journal of Sport Psychology*, 10(4), 203-216.
- Coobs, J., Spark, D., & Tyler, D. (2017). Comparing rivalry effects across professional sport: National Football. *Sport Marketing Quarterly*, 26(4), 235-246.
- Daniel Brown, D. F. (2016). Effects of Psychological and Psychosocial Interventions on Sport Performance: A Meta-Analysis. *Sports Medicine*, 552-557, doi: 10.1007/s40279-016-0552-7
- Dorantes, C. (2018). *El proyecto de investigación en psicología. De su génesis a la publicación*. México: Universidad Iberoamericana.
- Gledhill, A., Dale, F., & Eliot, M. (2018). Psychological interventions used to reduce sports injuries: a systematic review of real-world effectiveness. *British Journal of Sports Medicine*, 1-6, doi: 10.1136/bjsports-2017-097694.
- González, J., Rodríguez, C., & García, G. (2001). *Manual de prácticas de psicología deportiva: las ciencias del comportamiento deportivo: prácticas de entrenamiento mental*. Madrid: Biblioteca Nueva.
- González, M. (2012). *Comportamiento de los principales componentes de la regulación inductora en los atletas de natación de la categoría 13-14 años de la ESFA "Marcelo Salado Lastra"*. Retrieved from <https://view.joomag.com/psicolog%C3%ADa-deporte-y-actividad-f%C3%ADsica-investigaciones-aplicadas/0996753001434648390?page=94>
- Guillet, N., Vallerand, R., & Lafrenire, M.-A. (2012). Intrinsic and extrinsic school motivation as a function of age: the mediating role of autonomy support. *Social Psychology of Education*, 15(1), 77-95, DOI 10.1007/s11218-011-9170-2
- Martínez-Sinovas, R., & Martínez, M. (2015). *Motivaciones deportivas de un equipo de baloncesto en silla de ruedas*. Retrieved from Congreso de psicología del deporte: <http://www2.uned.es/masterenpsicologiadel/deporte/2015/chlpd/poster.htm#11>
- Matus, E. (2015). *Etapas de un Programa de Entrenamiento Psicológico. Psicología para Entrenadores*. Retrieved from Asociación de Psicología del Deporte Argentina: <https://www.psicodeportes.com/etapas-de-un-programa-de-entrenamiento-psicologico-psicologia-para-entrenadores/>
- Medina, J., Sandi, M., & Andux, C. (2005). Evaluación del rendimiento de los voleibolistas mediante minería de datos. *Industrial*, XXVII(2).
- Núñez, M., Fontana, M., & Pascual, I. (2011). Estudio exploratorio de las características motivacionales del alumnado de la ESO. *Electronic Journal of Research in Educational Psychology*, 9(23), 357-382.
- Paradis, K., Carron, A., & Martin, L. (2014). Relación entre competitividad, ansiedad social y compromiso con variables deportivas y académicas en futbolistas jóvenes. *Revista Iberoamericana de Psicología del Ejercicio y el Deporte*, 10(3), 1-18.
- Prieto, J. (2016). Relación entre competitividad, ansiedad social y compromiso con variables deportivas y académicas en futbolistas jóvenes. *Revista Iberoamericana de Psicología del Ejercicio y el Deporte*, 11(2), 193-200.

- Sáez, G. (2017). Ansiedad estado y autoconfianza respecto al resultado competitivo en el deporte. *Revista Ciencias de la Actividad Física UCM*, 18(1), 9-16.
- Saies, E., Arribas-Galarrag, S., Cecchini, J., Luis-De-Cos, I., & Otaegi, O. (2014). Diferencias en orientación de meta, motivación autodeterminada, inteligencia emocional y satisfacción con los resultados deportivos entre piragüistas expertos y novatos. *Cuadernos de Psicología del deporte*, 29(3), 21-30.
- SR/Olimpyc Sports. (2016). *News*. Retrieved from Mark Tewksbury: <https://www.sports-reference.com/olympics/athletes/te/mark-tewksbury-1.html>
- Torres, M. (2012). *La autoeficacia como variable en la motivación intrínseca y extrínseca en matemáticas a través de un criterio étnico. (tesis doctoral)*. Madrid: Universidad Complutense de Madrid.
- Tyler, D., & Cobbs, J. (2017). All rivals are not equal: clarifying misrepresentations and discerning three core properties of rivalry. *Journal of sport management*, 7(31), 1-14.
- Usán, P., Salavera, C., Murillo, V., & Álvarez, J. (2017). Creencias y percepciones del éxito en futbolistas adolescentes. diferencias entre categorías deportivas y posición clasificatoria. *Retos: Nuevas Perspectivas de Educación Física, Deporte y Recreación*, (31), 207-211.
- Usán, P., Salavera, C., Murillo, V., & Mejías, J. (2016). Relación entre motivación, compromiso y autoconcepto en adolescentes: estudio con futbolistas. *Cuadernos de Psicología del Deporte*, 16(1), 199-209.
- Valenzuela, R. (2008, enero 24). *Test de Motivos Deportivos de Butt*. Retrieved from <http://rubensvalenzuela.com/web/articulos/test-de-los-motivos-deportivos-de-butt/>
- Vasalo, C. (2013). *Motivación en el Fútbol Profesional*. Retrieved from <https://gse.com/motivacion-en-el-futbol-profesional-tesis-completa-1488-sa-457cfb2721d340>