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Sports Motivation in Athletes in the Face of Psychosocial Risk and Pandemic Due to COVID 19

Ericka Matus, Lorena Matus and Jay Molino

Abstract

In this chapter, the reader will discover the importance of motivation in general and sports through a tour of the most critical theories in the field. Furthermore, we present the experiences of a group of young athletes during the quarantine due to the covid-19 pandemic in the Republic of Panama. Also, the reader will be able to identify the psychosocial risk variables and how sports is a mitigation factor for covid-19.

Keywords: sports motivation, COVID-19, psychosocial risk, athletes

1. Introduction

Even before the Hellenic greatness of physical culture in Greece, motivation had already been studied and implemented, as shown in the historical records of the time. It is no accident that it had a predominant place in ancient society. Since then, motivation and sports activity have been a powerful combination in the achievement of athletic goals.

Sport is the purest activity where the best human qualities emerge; however, there are psychosocial risks such as poverty and violence, spatio-temporal factors, stress, work overload, poor coverage in education, physical and mental health, among many others, that affect motivation to varying degrees or levels, in this document, an alternative to mitigate some risks is presented.

This chapter also refers to the presence of the SARS-CoV-2 virus that, since December 2019, disrupted all human activities worldwide, generating the collapse of small businesses, the cancelation of sports, artistic, and cultural activities. Educational, physical, recreational, and occupational. Only the priority tasks continued, although with radical changes, such as in the health sector, where all personnel continued to work with high biosecurity measures.

2. Motivation associated with sports environments

Motivation is a psychological process that has taken various paths according to the theory, paradigm, or model. This wealth has allowed it to be treated as a multidimensional concept to be not limited or adjusted to a given plane. For instance, Castro-Sánchez et al. [1] report that motivation is one of the most studied variables

because it explains human behavior. In the context of recreational and professional physical activity, it provides an understanding of factors such as the choice of a sports modality, the persistence, performance, and intensity of a specific sports activity.

Of the motivation theories that stand out in sport psychology for their emphasis on social factors are the self-determination theory developed by Deci and Ryan in 1985 and the achievement goals theory formulated by Nicholls in 1989. These Proposals explain the training and competition situations towards success [1].

There are other proposals aimed at personal improvement, in which the perception of success or failure is a unique interpretation. In addition, other theories explain the search for pleasure, personal image, or social relationships when carrying out sports activities [1].

Likewise, the theory of intrinsic (for pleasure) and extrinsic (for benefits) motivation is used by athletes and coaches. In addition, the theory of attribution also explains the causes of success or failure through three dimensions: control, causality, and stability. Additionally, the expectation theory of value suggests that success depends on the value (evaluation of importance) and expectation (belief in one's capacity) [2].

On the other hand, the motivational climate model is widely used, particularly by the technical team, to obtain higher performance from the athlete [3, 4]. Additionally, studies have been published on users' motivation to sports centers and their psychological profiles [5].

A widely disseminated conception is the protection motivation theory (PMT) that was first developed by Roger [6] to understand the factors that motivate the intentions of individuals and behaviors related to managing the risk of a disease or protecting themselves from health problems.

According to Roger [6, 7], the motivation derives from an individual's assessment and coping of threats in the face of assessing a risky situation. Thus, threat assessment is a process comprising perceived severity (the degree of perceived harm of a threat) and perceived vulnerability (the susceptibility to experiencing damage), while the coping assessment process includes the perception of effectiveness (possibility of preventing or reducing harm), perceived self-efficacy (confidence in carrying out protective measures), perceived costs (economic, temporary and physical), and adopt recommendations.

According to the protection motivation theory (PMT), the coping estimation involves:

- a. Verifying the effectiveness of protective behavior in dealing with the threat.
- b. Believe in one's own ability to handle protective behaviors.
- c. Calculate the effort of the response.

Response effectiveness and self-efficacy are expected to strengthen coping assessment, while the expectation of response cost will reduce it [8]. **Figure 1** shows the protection motivation theory.

PMT uses the combination of two cognitive processes: the intention to protect oneself from a potential threat and the response to a threatening situation that can be protective (adaptive) or risky (maladaptive). It is expected that there will be a balance between the two processes: threat assessment and coping assessment [9].

In short, research suggests that individuals' intentions to perform a task influence real behaviors (cited in [11]), so that a diagnostic assessment of intentionality would allow the identification of actions, behaviors or conducts afterward, and that

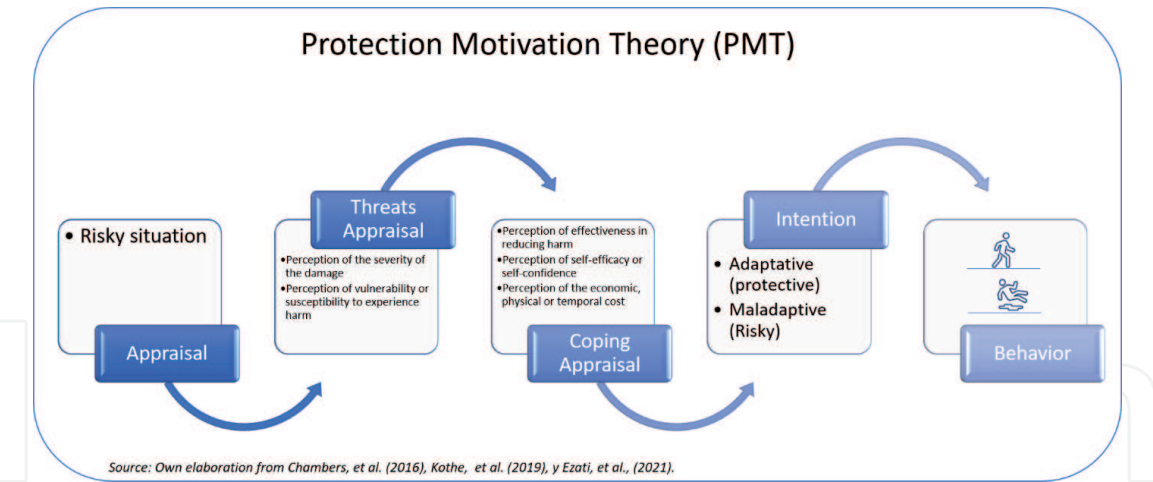


Figure 1.
Protection motivation theory. Source: Own elaboration from Chambers et al. [9], Kothe et al. [10], and Ezati et al. [8].

is the main reason why PMT has been used to develop risk-reduction interventions, for example, [8]) applied the protection motivation theory to predict behaviors during the covid-19 pandemic.

Concerning the theory of training motivation, Chung et al. [12] developed a model based on a meta-analysis in which they included variables that had not been considered in the work of Colquitt et al. [13], as shown in **Table 1**. From **Table 1**, there are five areas that benefit from the theoretical model which is shown in **Table 2**.

Thus, since the end of the previous century, studies focused on motivation to learn (as is the case with the previous model) have been used as a basis in the theory of training motivation [12].

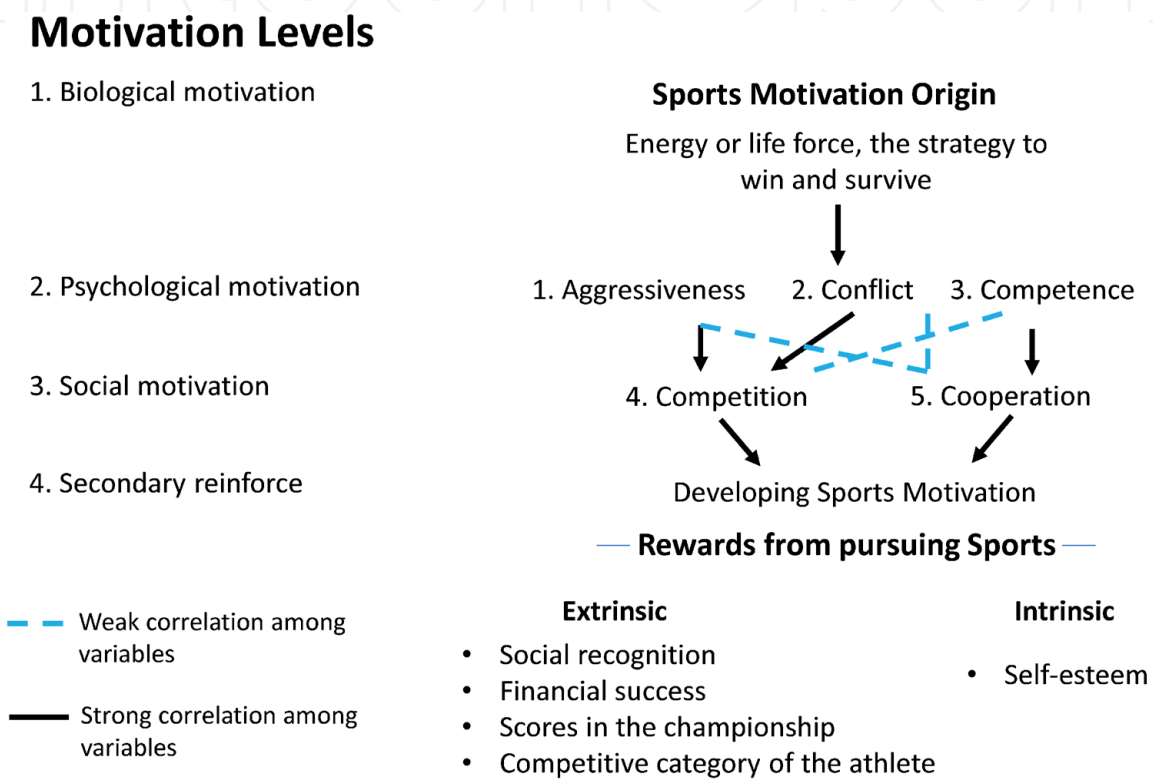
Many scholars have suggested a series of variables and correlations to explain motivation in general and sports in particular: Chung et al. [12], for example, Martinez-Cevallos et al. [5] published research to analyze the motivation for attending sports centers. Likewise, Quesada and Gómez-López [14] suggest that those starting a physical activity with high levels of intrinsic motivation attend the various physical activity sessions more frequently than those with higher levels of extrinsic motivation. Wolska et al. [15] suggest that motivation is one of the best

Personality traits: <ul style="list-style-type: none">• Locus of control (+)• Anxiety for learning (-)• Openness (+)• Conscientiousness (+)• Extraversion (+)• Agreeableness (+)• Neuroticism (-)	Knowledge and skills: <ul style="list-style-type: none">• Cognitive ability (+)• Education (+)	Individual motivation: <ul style="list-style-type: none">• Valance (+)• Pretraining self-efficacy (+)• Learning goal orientation (+)• Performance goal orientation (+)
Job/career variables: <ul style="list-style-type: none">• Organizational commitment (+)• Job involvement (+)	Climate variables: <ul style="list-style-type: none">• Manager support (+)• Peer support (+)• Organizational support (+)• Learning culture (+)	Demographic information: <ul style="list-style-type: none">• Age• Gender

Table 1.
Theoretical model of suggested effects of motivation to learn and its antecedents and outcomes.

Affective-based:	Cognitive-based:	Skill-based:
<ul style="list-style-type: none">• Posttraining self-efficacy (+)• Training reactions (+)• Learning satisfaction (+)	<ul style="list-style-type: none">• Declarative knowledge (+)	<ul style="list-style-type: none">• Learning performance (+)
Work attitudes:	Distal outcomes:	
<ul style="list-style-type: none">• Turnover intention (–)• Job satisfaction (+)	<ul style="list-style-type: none">• Training transfer (+)• Job/task performance (+)	

Table 2.
Theoretical model of suggested effects of motivation to learn.



Stages of training		Objective	Activities	Techniques
Sports	Psychological			
Diagnostic evolution	Diagnostic evolution	Start of cycle. Assess psychological skills	Psychometric tests Observed games	<ul style="list-style-type: none">• Observation• Interview
Candidate selection	Psychological rest	Integrate complementary experiences for both physical activity and mental preparation	Leisure Games Other sports Change of activity. Parents' meetings and code of ethics Parent organization Outcome Locus of control Behaviors that are tolerated Behaviors that are not tolerated Psychometric tests	<ul style="list-style-type: none">• Sociogram• Group-task integration• Group-society• Questionnaires• Communication• Trust• Member growth• Semantic differential• Operational group—define the task• Constructivism
Physical training	General psychological preparation	Set daily goals. Translate achievements at the time of the competition. Psychological goals—good mood Games and personal challenges No half measures while training Plan for training Fatigue resistance to pain Relaxation for easy rest Relaxation for weightlifting Viewing energy images to control fatigue. Modify “I cannot do it”	Self-knowledge Motivation <ul style="list-style-type: none">• Training• Competition Resistance <ul style="list-style-type: none">• Fatigue• Pain Self-confidence <ul style="list-style-type: none">• Work assessment Self-control Psychometric tests	<ul style="list-style-type: none">• Relaxation• Thought control• Self-dialog• Energization• Visualization

Stages of training		Objective	Activities	Techniques
Sports	Psychological			
Specific technical work	Specific psychological preparation	Fine motor skills optimization Relearn about the sensory perception of each exercise. Set internal control locus	Psychokinesthetic Preparation Self-control Self-confidence Get a better multisensory image of the proper execution to achieve self-confidence and hence self-control. Psychometric tests	<ul style="list-style-type: none">• Videos• Improvement Journal• Visual perception training• Biomechanics analysis
Pre-competition	Control	Improve automatic response. Minimize athlete decision making	Create routines. <ul style="list-style-type: none">• When to eat.• What to eat.• Dialog and recommendations• Breathing• Rhythms• Competition behavior• Activity visualization Routine assessment Psychometric tests	Revaluation of: <ul style="list-style-type: none">• Sports goals• Personal goals• Identify optimal activation level.• Air• Attention
Competition	Competition	Performance assessment	Real adjustments and refinement to the competition area Identifying new obstacles and objectives Assessment Psychometric tests	<ul style="list-style-type: none">• Visual feedback (videos, photos)• Group feedback (videos, photos and conversation)• Personal feedback

Stages of training		Objective	Activities	Techniques
Sports	Psychological			
Post competition	Post competition	Cycle Assessment Self-assessment Closing the cycle	Group assessment of set objectives Self-assessment Reformulation of individual objectives Reformulation of group goals Formal closing of the cycle Psychometric tests	<ul style="list-style-type: none">• Establishing a closure• Group dynamics
Matus [18].				

Table 3.
Stages of a psychological training program within a sports cycle.

lucrative human activity; physical culture usually begins in preschool and does not end in old age, so it is a way and lifestyle without forgetting non-professional and professional athletes.

Researchers dedicated to this activity have also proposed schemes, maps, and models to improve results, not only with the idea of motivation for achievement, intrinsic or extrinsic but by analyzing performance, cataloging behaviors, identifying attitudes, designing proposals, and testing them. An example of this is shown in **Table 3**.

4. Psychosocial risk

Psychosocial risk is considered to be all circumstances and adverse situations that prevent or violate biological, psychological, and social equilibrium, which can be prevented, adjusted, or improved through the economy, education, health, and in this case, sports. Under this definition, many associated concepts are found, such as nutrition, residence, and work situation, to name a few.

There are numerous stories of exemplary athletes from all sports disciplines who, despite living and interacting in contexts of psychosocial risk, managed to overcome those circumstances to become role models for children and youngsters from all corners of the world.

Many scales and questionnaires are allowing a psychosocial risk assessment, most of them are directed towards the workplace, i.e., for economically active adults, including burnout syndrome, stress, workplace harassment, alcohol, and drug use; this is because, since 1984, the International Labour Organization of the World Health Organization (WHO) presented in Geneva a paper on psychosocial factors at work: nature, incidence, and prevention.

Although WHO already contemplates sports health, the commitment made is relatively new. That is why our job is to generate a cluster of scientific knowledge that integrates motivation into sports to mitigate psychosocial risk in children and youth populations.

According to Đurović et al. [2], the role of coaches in the process of motivating athletes emphasizes psychology as a key factor, so it is the coach himself who makes the most effort since it requires a deep understanding of basic psychological processes, intrinsic and extrinsic commitment, and finally encourage, stimulate and inspire their athletes to achieve their goals.

Matus et al. [19] presented research involving young university students who wanted to join a soccer team. 72 men, enrolled in a public university in the Republic of Panama, attended the call for the men's team, from all the university's shifts and regional extensions, who were evaluated by the coach through various exercises, physical and endurance tests, forming the team with 25 students. The study aimed to evaluate the university's soccer players' motivation before and after an intervention program in psychology applied to sports.

The intervention program was based on self-knowledge, self-concept, self-esteem, proprioception, activities programming associated with the sport, group integration, emotions management, cooperation, and competition. It also includes preparatory work with the coach and coaching staff, who actively contributed at all stages [19].

The structure was built and founded on six stages: diagnostic assessment, psychological rest, general psychological preparation, specific psychological preparation, control, competitive, and post-competitive [17].

The scheduled activities were held one day before the weekly match. As a result, the team identified, assimilated, and adjusted each of the psychological

interventions, which was evident in each game, as they remained undefeated until the final match, where they were crowned as the inter-university league champions.

During the 12 weeks of activity, there were some inconveniences. Among the problems were physical injuries, participants not attending due to transportation issues, living in a remote location, personal and family troubles, overload of school work, work-related issues since some youngsters, besides studying, had to work for a living, not having their own football field, the only football field they had to train was constantly flooded by heavy rains, among other obstacles.

Research carried out by Matus et al. [19] reveals that with psychological intervention programs, purposely structured, can lead a sports team not only to victory and win a championship but also to improve individual and group expectations, build an identity, gain self-confidence and, above all, reduce psychosocial risks.

5. Covid-19 contingency in sports

Covid forever changed the way children and youngsters practice organized sports. Physical distancing policies prevent the social experience that facilitated athletes' participation and retention in sports clubs in their communities. As a result, more attention is now required in the psychology of motivation, stress, interpersonal relationships, and psychological exhaustion [20].

A pilot study was conducted on 42 Panamanian university athletes who practiced different sports (aerobics, baseball, cycling, CrossFit, physical training, soccer, gym, hapkido, Olympic wrestling, swimming, and running). From those, 85.7% were men and 14.3% women. They were surveyed about their motivation to do physical activity prior the COVID-19 pandemic compared to their motivation in April 2021 (considering the restrictions due to the pandemic). The participants answered a 42 item questionnaire with a Likert-type scale. The study showed that men were more motivated to engage in sports before the pandemic ($\bar{X} = 3.65$, $DS = 1.15$), than after it ($\bar{X} = 3.49$, $DS = 1.07$). As for women, the average motivation before the pandemic was higher before the pandemic ($\bar{X} = 2.79$, $DS = 1.45$) than during the pandemic as well ($\bar{X} = 2.71$, $DS = 1.60$). However, the difference is less than that of the men. When comparing the means between men and women, it was observed that men ($\bar{X} = 3.57$, $DS = 1.08$) are more motivated than women ($\bar{X} = 2.75$, $DS = 1.50$). Finally, statistically significant differences were found at 90% ($p = 0.79$) between the motivation of the athletes before the pandemic ($\bar{X} = 3.53$, $DS = 1.21$), and in April 2021 ($\bar{X} = 3.39$, $DS = 1.15$), with mobility and physical contact restrictions [21].

So far, no similar studies have been found. However, it is expected to continue with systematic research to identify the impact of COVID-19 in athletes.

For elite athletes, the challenges are greater due to lack of sponsorship, financial support from federations, laboratories specialized in sports science, performance bonuses, among other things, so that it could even lead to a generation of athletes frustrated by physical, psychological, social and economic loss [20].

Thus, under this circumstance, to resume sport activity, the 4Cs: Competence, Confidence, Connection, and Character; and the 3Ps: Performance, Participation, and Personal development are not enough. We should restart with the 4Rs: Recognition of emotional struggle, Reconnecting family units and social networks, Reinstating participants, and reimagining the purpose and meaning of youth sports [20].

For sports behavior and physical activity of elite volleyball players in Cameroon, Guessogo et al. [22] reported that covid confinement significantly

Aftereffects	Positive for COVID and recovered	COVID Negative
Physical	Muscle pain Joint pain Headache Fatigue Low oxygen saturation Sleep issues and waking up constantly	Sleep issues and waking up constantly Nutrition issues Issues related to a lack of physical activity
Psychological	Antisocial emotional response Bad mood Stress Anxiety Exhaustion Feeling worried all the time Grief Limited motivation	Stress Anxiety Frustration Tension Sadness Anger Grief Limited motivation

Table 4.
Covid aftereffects.

affected physical and sports activity, particularly among women. They also demonstrated that athletes continued to train by personal motivation, but without supervision, so physical and technical deficiencies led to inadequate training and at risk of injury. Finally, they recommend specific individualized programs to reduce physical and psychological effects and promote a safe return to the sport.

The previous case is related to the contribution of Nikolaidis and Knechtle [23], in which they mention that the covid pandemic dramatically changed all human activities. Yet, people continued to exercise without specialized physical activity monitoring, wondering whether online videos or smart devices replaced sports and health sciences, experts. If so, this behavior will continue after overcoming confinement.

On the other hand, the individual consequences left by the pandemic are divided between those in which people who tested positive for covid recovered and those who remained with negative effects, in both cases with physical and psychological consequences as summarized in **Table 4**.

Matus’s own elaboration [21].

For this reason, youth sports organizations are bound to provide mental well-being to all their members through follow-ups. There will undoubtedly be other catastrophes preventing the free development of sport, so emotional contingency plans and psychological intervention programs must be tested.

6. Conclusions

Playing a sport during childhood and youth reduces psychosocial risk factors. In addition, being part of a sports team promotes protective factors; among the most common are discipline, commitment, responsibility, confidence, resilience, frustration, and failure management.

As already mentioned, sports activity requires motivation as a sine qua non condition. It also requires adequate spaces, equipment, and funds for hiring professionals. Family and society play a role to support successful athletes but also to bolster a healthy generation of community-driven citizens.

We must consider that it is not just about beating records, reaction time, becoming a high-performance athlete, or being named the best. What is expected is a

social change that transcends generations and will reduce the negative impact of the covid 19 pandemics through sports and physical activity.

Thus, we must promote academic, physical, and social spaces for young people to practice physical sports activities, not only in schools but also in family activities. Adults should be responsible for showing their children the variety of sports disciplines, and the many advantages of recreational sports between the ages of five and 12, which guarantees that children can discover the type of sport that amuses and motivates them.

Even though there is so much more to study regarding the effects of covid-19 in young patients who do sports, it is possible to venture to think that the habits acquired by them are maintained during confinement and situations of uncertainty to adapt their activities without leaving home.

In the words of Lao Tse “He who conquers others is strong; He who conquers himself is mighty.”

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References

- [1] Castro-Sánchez, M., Zurita-Ortega, F., and Chacón-Cuberos, R. (2019). Motivation towards sport based on sociodemographic variables in university students from Granada. *Journal of Sport and Health Research*, 11(1), 55-67.
- [2] Đurović, D., Veljković, A. A., and Petrović, T. (2020). Psychological aspects of motivation in sport achievement. *Psihološki Aspekti Motivacije U Sportskim Ostvarenjima. Facta Universitatis: Series Physical Education and Sport*, 18(2), 435-474.
- [3] Escamilla, P., Alguacil, M., and González-Serrano, M. H. (2020). Variables predicting sports motivation in federated and non-federated high school students. *Retos: Nuevas Perspectivas de Educación Física, Deporte y Recreación*, 38, 58-65.
- [4] Lulescu, M. (2020). Motivation and sport: Individual and organisational challenges. *Romanian Review of Social Sciences*, 10(18), 16-29.
- [5] Martínez-Cevallos, D., Alguacil, M., and García-Pascual, F. (2021). Analysis of importance and motivation criteria for choosing sports centres according to sociodemographic variables. *Retos: Nuevas Perspectivas de Educación Física, Deporte y Recreación*, 39, 439-445.
- [6] Roger, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *The Journal of Psychology*, 91(1), 93-114.
- [7] Roger, R. W. (1983). Cognitive and physiological processes in fear appeals and attitude change: A revised theory of protection motivation. In J. T. Cacioppo and R. E. Petty (Eds.), *Social Psychophysiology: A Sourcebook* (153-176). Guilford Press.
- [8] Ezati, R., Mohseni, S., Kamalzadeh, H., Hassani, M., Shahabi, N., Aghamolaei, T., and Norozian, F. (2021). Application of the protection motivation theory for predicting COVID-19 preventive behaviors in Hormozgan, Iran: A cross-sectional study. *BMC Public Health*, 21(1), 466. DOI:10.1186/s12889-021-10500-w
- [9] Chambers, R., Tingey, L., Mullany, B., Parker, S., Lee, A., and Barlow, A. (2016). Exploring sexual risk taking among American Indian adolescents through protection motivation theory. *AIDS Care*, 28(9), 1089-1096. DOI:10.1080/09540121.2016.1164289
- [10] Kothe, E. J., Ling, M., North, M., Klas, A., Mullan, B. A., and Novoradovskaya, L. (2019). Protection motivation theory and pro-environmental behaviour: A systematic mapping review. *Australian Journal of Psychology*, 71(4), 411-432. DOI:10.1111/ajpy.12271
- [11] Jiow, H., Mwagwabi, F., and Low-Lim, A. (2021). Effectiveness of protection motivation theory based: Password hygiene training programme for youth media literacy education. *Journal of Media Literacy Education*, 13(1), 67-78. DOI:10.23860/JMLE-2021-13-1-6
- [12] Chung, S., Zhan, Y., Noe, R. A., and Jiang, K. (2021). Is it time to update and expand training motivation theory? A meta-analytic review of training motivation research in the 21st century. *Journal of Applied Psychology*. DOI:10.1037/apl0000901
- [13] Colquitt, J. A., LePine, J. A., and Noe, R. A. (2000). Toward an integrative theory of training motivation: A meta-analytic path analysis of 20 years of research. *Journal*

of Applied Psychology, 85(5), 678-707.
 DOI:10.1037/0021-9010.85.5.678

[14] Quesada, D.; Gómez-López, M. (2017). Perfiles motivacionales de los usuarios de un centro deportivo público. *Journal of Sport and Health Research*. 9(1):85-96

[15] Wolska, B., Pujszo, R., Janowska, P., Wojdat, M., Zająć, M., and Pujszo, M. (2019). The specificity of motivations in different combat sports and different lengths of the sports career. *Baltic Journal of Health and Physical Activity*, 11(3), 109-116.

[16] Moradi, J., Bahrami, A., and Dana, A. (2020). Motivation for participation in sports based on athletes in team and individual sports. *Physical Culture and Sport Studies and Research*, 85(1), 14-21.

[17] Vasalo, C. (2013). Motivación en el Fútbol Profesional. Tesis. Grupo sobre entrenamiento (G-SE). *Journal PubliCE*, Volumen 0. Recuperado de <https://g-se.com/motivacion-en-el-futbol-profesional-tesis-completa-1488-sa-457cfb2721d340>

[18] Matus, E. (2015). Etapas de un Programa de Entrenamiento Psicológico. *Psicología para Entrenadores*. Asociación de Psicología del Deporte Argentina. Recuperado de <https://www.psicodeportes.com/etapas-de-un-programa-de-entrenamiento-psicologico-psicologia-para-entrenadores/>

[19] Matus, E., Molino, J. and Matus, G. L. (2020). The effect of a psychological intervention program on the sports motivation of soccer players. *Ibero American journal of exercise and sports Psychology*, 15(1) 67-73

[20] Elliott, S., Drummond, M. J., Prichard, I., Eime, R., Drummond, C., and Mason, R. (2021). Understanding

the impact of COVID-19 on youth sport in Australia and consequences for future participation and retention. *BMC Public Health*, 21(1), 1-16. DOI:10.1186/s12889-021-10505-5

[21] Matus, E., Matus, L., Molino, J. and Cuevas, A. (2021). Motivación en atletas panameños durante la pandemia por COVID-19. Submitted.

[22] Guessogo, W. R., Bika-Lele, E. C., Mban-Bian, W., Mandjek, A. R. D., Temfemo, A., Mandengue, S. H., and Assomo-Ndemba, P. B. (2021). Impact of Covid-19 semi-lockdown on sports and physical activity behaviors of cameroonian elite volleyball players: A cross-sectional study. *Electronic Physician*, 13(1), 7813-7821. DOI:10.19082/7813

[23] Nikolaidis, P. T., and Knechtle, B. (2021). Is it time for sports and health in the era of Covid-19 pandemic? *International Journal of Environmental Research and Public Health*, 18(2). DOI:10.3390/ijerph18020372