

UNIVERSIDADE DE LISBOA
FACULDADE DE PSICOLOGIA



**THE PSYCHOLOGY OF FREEDIVING:
PSYCHOLOGICAL STRATEGIES USED BY ELITE
FREEDIVERS**

Susana Maria de Sousa Lourenço

MESTRADO INTEGRADO EM PSICOLOGIA

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Dissertação orientada pelo Professor Doutor Telmo Mourinho Baptista

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“Freediving is about silence... the silence that comes from within.”

– Jacques Mayol

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ABSTRACT

The present investigation aimed to explore and analyze the psychological strategies used by elite professional freedivers in both training and competition scenarios. Following a qualitative approach, the research consisted of a sampling group of 20 elite freedivers from 15 countries, who currently hold or have held National and/or World Records in at least one or more disciplines, and who were interviewed through the semi structured interview method. The interviews were transcribed and the collected data was analyzed using the *QSR NVIVO11* software. The main results demonstrate that the majority of the interviewees acknowledge the impact psychological variables have in their performance, using strategies such as visualization, autogenic training, autosuggestion, Neuro-Linguistic Programming (NLP) and relaxation and meditative practices, and consider freedive to be a psychologically demanding sport rather than physical. Overall, the attained data and results indicate that psychological exercises can have a positive impact when planned and performed correctly and that the psychological preparation within athletes' training plans should not be, by any means, neglected.

KEYWORDS: sport, freedive, psychology, performance, strategies.

RESUMO

A presente dissertação teve como principal intuito investigar e analisar as estratégias psicológicas utilizadas por *freedivers* profissionais em contextos de treino e de competição. Através de uma análise qualitativa, a amostra desta investigação foi constituída por 20 freedivers profissionais de 15 nacionalidades, que mantêm ou já obtiveram recordes nacionais e/ou mundiais pelo menos numa ou mais disciplinas, e que foram entrevistados através do método de entrevista semiestruturada. Posteriormente, as entrevistas foram transcritas e os dados obtidos foram analisados através do software *QSR NVIVO11*. Os principais resultados obtidos demonstram que a maioria dos atletas entrevistados reconhece o impacto de variáveis psicológicas nas suas performances e utilizam estratégias como a visualização, o treino autogénico, a autossugestão, a Programação Neurolinguística (NLP) e práticas de relaxamento e meditativas, considerando que o freedive é um desporto mais exigente a nível psicológico do que a nível físico. De um modo geral, os dados e os resultados obtidos indicam que exercícios e um treino a nível psicológico pode ter um impacto positivo quando planeados e realizados corretamente, e que a preparação psicológica incluída nos planos de treino de atletas profissionais não deverá, de forma alguma, ser menosprezada.

PALAVRAS CHAVE: desporto, freedive, psicologia, performance, estratégias.

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INTRODUCTION

Freediving, apnea diving or breath-hold diving, which consists in diving without a breathing apparatus, is the oldest known form of diving and it is considered to be one of the most extreme sports worldwide. Although breath-hold diving as a recreational sport has grown particularly over the last two decades (Fitz-Clarke, 2006), an era when participation rates in extreme sports started to increase (Pain & Pain, 2005), plenty of archaeological investigations provide enough information to conclude this form of diving has been present for at least 6500 years (Kurra, Lahtinen & Nissinen, 2015). The desire for pearls or the need for food fueled the practice of freediving until the beginning of the 20th century, when modern freediving culture can be considered to have begun (Kurra et al., 2015). By this time, the subsistence aspects of freediving have progressively been replaced by the challenge and thrill of holding one's breath and attempting maximum depths and dive times. Nowadays, even though freediving is still a fairly unknown sport, it has been growing exponentially throughout the years (Baretta, Greco & Steca, 2017).

The simple yet so physiologically complex act of breathing is controlled by the amount of carbon dioxide (CO₂), which is the most important factor, and the level of muscle work (Kurra et al., 2015). The movements the body performs in order to breathe are regulated by the levels of CO₂ in the blood. When these levels are excessively high, one might experience the typical "urge to breathe". Nonetheless, in this situation one is not in need of breathing, but of exhaling the high quantity of CO₂ in the blood flow.

The diaphragm is a muscle that also plays an important role within the physiology of freediving since athletes must be able to control and relax it at depths, as the increasing pressure causes the volume of the lungs to decrease to less than their regular resting state (Kurra et al., 2015). If freedivers aren't able to do so, there won't be enough air for them to perform pressure equalization, an extremely important and challenging maneuver in every depth discipline, which mainly consists in supplying the middle ear with enough air in order to compensate for the environmental pressure in depth (Kurra et al., 2015). Moreover, one of the most demanding physiological responses freedivers experience are the diaphragmatic contractions, which occur whenever the increased level of CO₂ triggers a feeling of discomfort and forces these breathing movements on the diaphragm itself. However, these contractions are experienced differently from one diver to the next.

When diving, an athlete's body experiences a series of reflexes and phenomena. In fact, this involuntary and automatic response is common to all mammals, hence its term: mammalian dive reflex. This reaction is triggered by breath-holding or simply immersion in the water. As a result, different physiological responses are activated, such as a lowered heart rate – also referred to as bradycardia –, relaxation of the muscles, lowered metabolism and contraction of the spleen.

Competitive freediving has achieved its popularity overtime with the organization of official freediving competitions (Baretta et al., 2017). Top level freedivers dedicate their time training for maximum performances in order to achieve certain records in competitions. The AIDA (International Association for the Development of Apnea) rules present eight distinct freediving competition disciplines, which can be further divided into open water and pool events (Kurra et al, 2015):

Pool Disciplines

1. *Static Apnea (STA) – Men World Record: 11 minutes and 35 seconds; Women World Record: 9 minutes and 2 seconds.* In Static Apnea, the main goal of the freediver consists in holding their breath for as long as possible while remaining completely immobile. In this discipline, the ideal posture of an athlete should be as relaxed as possible, since this is a way for the body to conserve oxygen and use it more efficiently throughout the performance. This discipline can be intensely demanding and challenging on a psychological level since there is no body movement and disturbing thoughts can negatively influence an athlete's mindset and, consequentially, their performance. Therefore, and as in any other discipline, calm state of mind is crucial and must be preserved throughout the performance in order to achieve the best possible result.
2. *Dynamic Apnea (DYN) – Men World Record: 300 meters. Women World Record: 243 meters/Dynamic Apnea No Fins (DNF) – Men World Record: 300 meters; Women World Record: 191 meters.* The goal of the athlete in Dynamic Apnea is to swim underwater, with or without fins. In this discipline, the freediver must find the ideal balance between physical effort and velocity in order to preserve oxygen and, therefore, extend the dive as further as possible. Proper technique and relaxation are two very important variables to attain a successful performance.

Open Water Disciplines

1. *Constant Weight (CWT) – Men World Record: 130 meters; Women World Record: 107 meters/Constant Weight No Fins (CNF) – Men World Record: 102 meters; Women World Record: 73 meters.* The aim of this discipline is to swim down to a pre-announced depth and return back to the surface without using a descent line for assistance purposes.
2. *Free Immersion (FIM) – Men World Record: 125 meters; Women World Record: 97 meters.* This discipline is similar to the Constant Weight discipline with the particularity that the athlete specifically uses the descent line in order to pull themselves down to the pre-announced depth and afterwards up to the surface.

The following disciplines are also performed in open water but with the use of a sled, which is a large weighted device made for the diver's transportation. Due to the risks involved in these disciplines, competitions are not organized and are replaced by individual record attempts.

3. *Variable Weight (VWT) – Men World Record: 146 meters; Women World Record: 130 meters.* In this discipline, the diver is assisted by the sled during the descent. After reaching the planned depth, the athlete removes themselves from the device and swims back up to the surface, being allowed to pull the descent line similarly to what occurs in Free Immersion (FIM).
4. *No Limits (NLT) – Men World Record: 214 meters; Women World Record: 160 meters.* In the No Limits discipline, the diver does not free themselves after reaching the intended depth. Instead, they are carried to the surface by a lifting device.

Extreme sports have been associated with a desire to push personal boundaries (Brymer & Schweitzer, 2013) and demand both physical and psychological discipline and control. In fact, the psychological factors are crucial determinants in freediving since the freediver must be resilient to high amounts of effort in extreme conditions as well as to the potential risks involved (Ostrowski, Strzala, Stanula, Juskiewicz, Pilch & Maszczyk, 2012). When enrolling in these particular sports, awareness of one's own strengths and limitations (Brymer et al., 2013) is crucial to avoid any type of consequences.

Although it is unquestionable that being in a good physical condition plays a substantially strong role in an athlete's performance, freediving is often considered to be a psychologically demanding and challenging sport (Kurra et al., 2015) rather than exclusively physical. However, many investigations on the freediving literature have mostly examined the physiological responses and effects of freediving. Therefore, this investigation aims to point out the importance of psychological factors in freediving performances, such as the personal techniques and strategies that are commonly used by athletes in order to attain better results.

METHOD

The main purpose of the present investigation is to comprehend which psychological strategies are mostly used by freedivers to attain a balanced, calm and relaxed state throughout their dives, both in training sessions and in competition scenarios. By analyzing each personal method and comparing both common and distinct techniques utilized by every individual in these contexts, the significant psychological component attached to freedive could be proven to, in fact, exist.

Participants

Considering that the psychology of freediving is a pioneer field of investigation, and in order to guarantee the validity and reliability of this research a high number of participants were asked to take part in it. The sampling group included in this investigation was composed by 20 professional elite divers, 14 of them male, from 15 nationalities (Austria, Belgium, Colombia, Chile, Croatia, England, Finland, Germany, Greece, Italy, Netherlands, Portugal, Russia, Spain and Venezuela) and whose ages ranged from 23 to 56 years old. All of the 20 athletes selected to take part in this investigation currently hold or have previously held National Records or World Records in every freedive discipline mentioned in the section above.

Measures

The semi structured interview was chosen as the qualitative method to select the significant and most relevant data due to the possibility of adapting the script's questions to the interviewees' personal experiences. The questions were shaped in an open and flexible manner to provide the opportunity to reformulate certain themes, if necessary (Mason, 2002). Moreover, and through this method, additional themes could be explored if brought up by the athletes, contributing to the enhancement of the investigation's content. As a result, and throughout the interviews, a minimum of 16 questions was asked:

1. Why and how did you start to freedive?
2. Were you apprehensive when you first started?
3. Can you talk me through your training specifics? How often do you normally train, what kind of training do you prioritize, do you have a training plan? Throughout your training sessions, what do you mainly focus on?
4. What kind of techniques do you use to improve your ability to hold your breath?

5. Do you have a coach? Do you consider it is important to have a coach?
6. Looking back, are there any things you regret doing in your training? Why? What would you change if you had a chance to start over again?
7. Outside of freediving itself, what discipline/sport/activity do you do or think that helps freediving the most?
8. For success in freediving competitions and records, what do you think are the most important things for a freediver to do to be successful?
9. Can you tell me about the kind of psychological preparation/training you do?
10. What do you think about during your dives?
11. Are there any differences between your psychological preparation when you are exercising or preparing for a big dive, and your psychological preparation before an actual dive in a competition?
12. Do you struggle mostly with psychological issues or with physical constraints?
13. How do you overcome psychological obstacles, such as stress?
14. Do you consider a freediver should have specific psychological characteristics? What should those be?
15. What was the most challenging and dangerous experience you've ever had while free diving? Did you ever think about quitting after that? How did you cope with that experience afterwards and, in general, how do you cope with such experiences whenever they happen?
16. Have you ever had any accidents while freediving? How did it happen and did it have an impact on your performance as a professional? How do you cope with the fear of going through the same or a similar situation again?

QSR NVIVO11 was the selected software to analyzed the obtained data due to its main features, which allow the investigator to organize and further define the different categories in which data from all the participants can be included.

Procedure

Due to the distinct current locations of each participant included in the sampling group, it was not possible to interview the athletes in person. Furthermore, the participants were contacted through social media platforms, such as *Facebook* and *Instagram*. After gathering the sampling group, a total of 20 online interviews were conducted through video calls on

Facebook, Skype and Whatsapp. Overall, each interview lasted approximately 1 hour and 30 minutes.

After collecting the data, the interviews were carefully transcribed and analyzed with the qualitative data analysis software *QSR NVIVO11*. Furthermore, and through the process of coding in this software, it was possible to compare the data and create eight specific and major themes on which the investigation was based:

1. Initial And Current Apprehension
2. Physical Training Plan
3. Psychological Preparation
4. Psychological Struggles
5. Psychological Characteristics And Traits
6. Challenging And Dangerous Situations And Coping Mechanisms
7. A Challenging Modality Both Physical And Psychological

In the following section, all of the participants were given numbers 1 to 20 so that the reader would be provided with a clear vision of how many quotes from each athlete were used to illustrate the eight formulated categories.

RESULTS AND DATA ANALYSIS

Initial And Current Apprehension

The concept of apprehension relates to the fear of the possible consequences that might have come from practicing the sport. Moreover, this parameter and the answers provided in this specific phase can be associated with risk perception and management. Only 3 out of the 20 interviewed athletes stated they were in fact apprehensive when they started to freedive.

Athlete 1: *“Yes, yes, of course, yes! Because everything was very new. It's, you know, hold your breath. You just start realizing and really mental, you're not strong at all because you're fighting with yourself and you're losing the battle and you're like “what the- what's going on?!”*”.

A further 3 athletes out of the 20 participants reported they weren't apprehensive at first but immediately after they took their first freediving course, they developed some specific fears and anxiety. One of these 3 athletes attributes the arising of these fears to the occurrence of accidents:

Athlete 9: *“I was not afraid of anything, but after my first dives I started to feel the true dangers of freediving on my skin because of a couple of blackouts¹ and all that.”*

Another one of these 3 participants stated that their fear was due to a dangerous and unsafe situation on which they had no control in, and on which they had to rely on other athletes:

Athlete 11: *“at one point, it was like about five years ago I went to Egypt to train in Dahab, and the instructors, I found that there were so incredibly bad. That was a point where I started to develop fears because we were in huge groups, they were not taking care of us properly and I felt kind of left alone and pushed in for depths that I wasn't really ready for. So this is- that was a point where I developed fear of deep diving and then I didn't do any deep diving for one and a half years because I was just so kind of “this is not the feeling that I want in diving”*”.

However, 14 of the participants stated they were not apprehensive when they started to freedive. Amongst many answers, the majority of athletes report that this was due to their passion for the ocean, to feeling comfortable on the water, to the challenging opportunities

¹ Loss of consciousness that can occur before, during or towards the end of a dive due to the lack of oxygen, also known as hypoxia (Kurra et al., 2015).

freedive could bring them and to their desire and excitement to explore the sport since they knew very little about it:

Athlete 18: *“I was fascinated by the challenge and the fast progress”*.

Other 2 of the athletes who stated they weren't apprehensive ended up suffering a blackout in the beginning of their careers.

Athlete 3: *“No, no. Because I did everything wrong in the beginning! [laughs]”*.

Despite this question not being asked, 7 out of the 20 athletes chose to mention to the apprehension they later developed about the possible consequences of this sport, after many years of practice. 2 of the 3 athletes who developed some fears in the beginning state they currently don't feel afraid or at risk when they dive. However, the third athlete mentions that the apprehension didn't vanish due to his improvement in the sport:

Athlete 9: *“Now, before a deep dive and at the level I am now, I think I'm a bit scared and so I have to control the fear in a specific way... to manipulate, to transform fear into something positive”*.

Moreover, sharing the same fears as this athlete are 4 other freedivers who state they are still apprehensive about pushing certain boundaries like attempting new depths, for instance.

Athlete 19: *“[laughs] -Yeah. When they tell you about the dangers, then the fear comes together, no? It's like “oh, it's dangerous, really... Oh, OK, so now I have to have some fear now”. So in the beginning, if you don't know the danger, you don't have any fear really”*.

Physical Training Plan

Prior to analyzing any physical training, it is important to take into account that 13 out of the 20 athletes mentioned the changes of their training plan and schedule according not only to the season but to the time period until a competition. Another aspect that needs to be taken into consideration is the training schedule of the athletes. The most common answer provided by the sampling group, more specifically by 9 out of the 16 athletes who mentioned their training schedule, was 6 times a week, followed by 4 times a week, which was the answer provided by the rest of the sampling group.

Amongst the exercises practiced by the athletes, the lactic anaerobic training (i.e. training with low O₂) was pointed out by 16 of the 20 freedivers as a part of their training plan in the form of endurance and strength train. These are two highly important variables in freediving, since endurance will help the athlete increase their stamina in order to extend the time of their dives, while strength training should focus on building up the muscles used in diving.

Hypercapnic training's main purpose (i.e. training with high levels of CO₂) is to increase the CO₂ tolerance or, generally speaking, the tolerance to the diaphragmatic contractions an athlete experiences while holding their breath. This training often includes CO₂ tables, a method which includes series of relatively short breath holds with small recovery periods of time in between each one of them, and which main goal is to adapt the body to the hypercapnia² and to increase the tolerance to high CO₂ levels in the blood flow when performing. Although this type of training might seem exclusively physical, and despite this being the exact opinion of most of the freedivers, two of the 20 interviewed elite divers pointed out the contrary, defending the psychological component attached to it. These athletes reported specifically that this CO₂ training is in fact psychological and not physical since the main and crucial task an athlete must be able to perform is to control their emotions and the so-called "urge to breath", which is not an urge to breath but instead to exhale in order to expel the high levels of CO₂ the organism detains during the moment of a breath hold.

Athlete 20: "Freediving has a lot of variables, so you have to train them isolated and then mix them together. But the problem is you have to focus on your weakest points without forgetting about the other variables".

Psychological Preparation

Regarding the nuclear focus of the present investigation, which is the psychological component freedive holds, the athletes were asked to provide relevant information about their psychological preparation throughout their training sessions. It was previously stated these change according to the season and to the time period until the competition.

Only one out of the 20 freedivers stated they don't practice any sort of psychological preparation:

Athlete 14: "I don't do any. I'm just realistic".

² Abnormally high levels of CO₂ in the blood flow (Kurra et al., 2015).

However, the other 19 athletes contributed with their personal experiences, mentioning to which techniques and methods they usually recur to in order to work and develop psychological strategies that they consider to be useful during their performances.

Although this specific training was only mentioned by one of the 20 athletes as an useful technique, the autogenic training seems to have a positive effect on the performance of this freediver. However, they reserve that this method alone is not enough, and that it should be alternated and combined together with imagery training and autosuggestion.

Athlete 10: "So I try to combine the autogenic training and the visualization and with the self talk at same time. Hum. It's like bad anchors, a mental game. If you have a bad feeling during a dive, uh automatically you have an anchor into your— into your brain, OK? And you don't feel so good during performance. You train the situation with mental imagery and the autogenic training, and you can change the anchors. But at the same time, you need to go in a slow pace to training to go to eh, the negative part of the dive. Because eh, the closer you go to, to your um... to your limits, eh, the harder it gets for your mental. So you need to compare, you need to have a good combination of the physical training and mental part. You have to always say to your mind that "OK, the easiest part of the dive", OK? I'm training this situation now, and I try to repeat again, my anchors, and I try to replace the bad anchors with good feelings and emotions. This, this is something that you need to train".

However, this is not how another athlete feels about this method. Out of the 20 interviewed athletes, one athlete pointed out their personal view on this subject which he considers not to be effective:

Athlete 9: "But I don't use autogenic training... I want to feel myself. I don't want to say "I'm calm" when in reality I'm not calm, I don't want to cheat the mind. I just try to listen and feel myself, and feel how I am. If I'm just aware, and if I feel I'm not relaxed, I feel it, I breathe, I try to calm down".

Regarding to the imagery technique described above, visualization was verified to be the preferred method utilized by the athletes, being mentioned and practiced by 16 of all the 20 interviewed freedivers. Three of these 16 freedivers also shared they use music in order to relax and to visualize the dive in a more focused way.

Athlete 8: *“I use visualization to prepare, to see and to imagine how the dive will go and I try to visualize and anticipate any difficulties, and to solve them in advance. So if any difficulties show up in the dive, I already know how to solve it”.*

Athlete 9: *“I visualize meter per meter, every single part of the dive mentally, trying to connect the feeling that I'm gonna perceive and the sickness that the body's gonna give me at a specific meter. So from the beginning, the most critical part is the end of the dive. If I'm visualizing the dive, it's like I'm doing the dive already. But I'm just visualizing. I try to remove negative thoughts, because I know that at some points I will be getting thoughts that will maybe try to make me give up, but I visualize the feelings and the depth distance, meter per meter. I visualize every single aspect of the dive and I see myself doing it, so it's like my brain is actually doing it. So my brain is prepared, if I visualized it it's not going to be the first time. The brain has already done it, the brain has already visualized it thousands of times so it's already normal. In order to understand all the feelings I will get, in order to avoid blackouts, to get out at the right time”.*

Athlete 16: *“I try to make it as realistic as possible and if you do that and you repeat it, you repeat it, you repeat it... everyday for like one, three hours... then, it's like a switch in your head”.*

Athlete 5: *“It's like a program in my brain that helps me to do exactly what I want”.*

This necessity of becoming aware of their feelings, sensations and emotions was a major recurrent topic throughout the interviews. First, the analysis of one's own body is something that needs to be taken into account according to 3 athletes' perspectives:

Athlete 10: *“To understand how your body is working, how is the functionality of the body- how does it work with the land, how does it work with the equalizing, how does it work with the blood shift, how can you change uh... change the situation for your body or how can you turn your body to a better performance. Like... what I really- what really helped me a lot was like... to just understand what happened, what happened during a dive in your body”.*

Athlete 16: *“Try to learn and try to listen how to react your body for every training parameters OK, every training stimulus because this kind of sport- this freediving sport is- it's in you, and eh you need to have a lot of research to see because it's a different sport. And uh, my uh, one of my keys for my success is eh, to have a good observation. You need to have*

observation in order to see how would you react from, from every training sessions and from every training approach in order to find the proper train for yourself”.

This active and necessary analysis points out the importance of self-awareness, which most of the freedivers consider being imperative to succeed in the sport.

Athlete 6: *“So it’s all about getting to know yourself, dive after dive, day by day, and know how to manage your cards with your own mind”.*

One of the strategies 4 athletes apply to their training sessions consists in recreating the competition environment when they are preparing for an event in order to get familiar with all the variables that might be stressful and to cope with their emotions in the most balanced way.

Athlete 11: *“We try to make sure that we assimilate as much as possible the competition situation also during training. (...) The closer gets to competitions, I will also have countdown during my training and um, so you learn like not to bail out psychologically yeah? So you learn to stay focused and be focused on the spot. So sometimes my coach will give me a countdown of four minutes, sometimes only have 1 minute 30, you know, so that I don't get used to is always two minutes or it's always three minutes, but I'm just used to “OK, there's a countdown and as soon as that's done I go”. I don't get fixed too much on uh, yeah, on a routine. So we to simulate that because you don't want to be surprised in the competition, just whatever happens, just let it happen (...) Well, I think for the competitions it's important that the competition- competition dive feels like a training dive. Because when you put yourself into extra stress in the competition- and this competition itself it's already stressed, because some of the, um, the processes would be different from what you've done in training and so on. So I think it's very important not to have too many rituals, um, because they were just, you will not, you cannot make sure that you could follow your rituals in the competition”.*

Athlete 4: *“I try my best not to make any difference between training sessions and real competitions because again, I try to have a carefree, stress less mindset during competition, so I'm viewing the competition just like as if I was a normal training session. Yeah, just as easy like that. But it's- of course I am feeling a little bit of nervous until the last five minutes of the dive, but before that if I tell myself that it is nothing special and if I don't make a big thing out of it, if I try to think like I'm going to the competition just for fun, then it works very, very well for me. So I'm, I am, I'm always, I'm almost never having a problem, problems with nerves”.*

To 2 of these freedivers and to other 2 of the remaining sampling group, it is also highly important to train in different and various environments:

Athlete 17: *“So I always say to my, to my students, train with as much handicaps as you can- as you can because then the handicaps will help you improve a lot, make your more flexible, make the opportunities better because for example, if you train a lot with like- I sometimes train static with my children playing around me so they're jumping into the water screaming, throwing a ball that's bouncing on me. But then if you learn to enjoy all that, then the competition is always more perfect than that”.*

The group was also asked to provide information about how they felt during competitions regarding the amount of variables present in this environment, which cannot be found in training sessions. Half of the athletes state they don't differentiate their psychological preparation between training sessions and competitions. Five athletes also referred that the stress that they usually feel in competition can help them to attain higher performances.

Athlete 17: *“I need the- the stress of a competition to get the most focus. I really think the nerves work. So stress is not a bad thing in life. I have a lot of, I have a lot of students that say “yeah, but um, I feel stress” and I always say “but stress is not a bad thing”. So use to focus and not- be as calm as possible. If you don't have stress, you're in your comfort zone. I really don't believe that- that you can get the best out of yourself without a little bit of stress. And I, I, I really don't think it's that- I'm afraid of, of like bad things, or drowning, or no, it's more the, the big challenge I set for myself and I really want, I really wanted. Then that it gives me a little bit of stress and a lot of stress, but that, that really works and only if you don't have a switch to put the stress off and you get stressed from everything in daily life, then it's a problem. But stress itself, it's good”.*

Relaxation was the second most mentioned parameter after visualization. This subject is presented by 11 out of the 19 athletes through different concepts such as yoga, meditation, breathing exercises prior to the dives, being aware of their own body an overall entering a calm and balanced stage. However, too much relaxation can also be a struggle. One of the 11 athletes states:

Athlete 11: *“So because of the approach that my coach and I have to freediving, relaxation is not a problem for me at all anymore except to the point that I now found out I can get too relaxed because when you're too relaxed you can lose focus. As you probably know,*

equalization can be very tricky and if you lose the focus on some of the parts of equalization, your dive is over. (...) So, um, it, it's, it's very difficult equilibrium you have to find between being really, really relaxed and bringing up enough maybe stress to really have the right focus for your dive. So... it's a very interesting experience. (...) Freediving is very technical and you still have to be very clean on your technique, swimming or equalization. And if you miss out on one of those because you're too relaxed and you lack the focus, um... you'll see the consequences in the end".

Autosuggestion training was pointed out by 6 out of the 19 freedivers as an effective method to the psychological training.

Athlete 4: *"OK, before any training session with long dives or before any competition I prepare myself mentally, so I, I actually even tell myself, I make suggestions to myself that I love this sport. I tell myself I love this sport, I love- I love to hold my breath. I love the feeling of hypoxia and, and this kind of works".*

This technique is usually used through self talk, positive thoughts and beliefs. The autosuggestion method is also related to another major aspect 4 athletes chose to point out which is having a positive attitude right before a competition dive. Although few other athletes mentioned they enter a focused state, 2 of these 4 freedivers state that laughing and engaging in positive conversations with others helps them to become more relaxed instead of exclusively focusing on their performances.

One athlete referred to Neuro-Linguistic Programming (NLP) as a method that was useful to them in the past, as another freediver stated that not only do they still use them but they are a NLP trainer as well.

Athlete 17: *"I'm now an NLP trainer, that really works a lot to me. So sometimes I, like, but sometimes I'd go to colleagues of mine that are in NLP trainers as well. If I, I will would like to have someone to assist me for some exercises and yeah, then you can really make an like just see it, this an onion. You can really go a layer deeper. And a lot of hypnosis as well, and so, so, NLP as a lot to do with how the language of hypnosis to make, uh, like the, the, the program of your thinking and that really helps".*

Dive logs are a method 3 freedivers select not only to keep track of their performances but to analyze their dives on what comes to their emotional experiences and their psychological

component. This strategy of writing down every crucial and significant aspects of the dive can also help freedivers keep in mind what they need to improve and can have a positive impact on their future visualizations as once they understand what they need to change, they proceed to write it and the next time they visualize the dive they can incorporate those modifications. Afterwards, and in the exact moment of the dive, they already visualized it and it's expected to be much easier since they have already performed through visualization. Moreover, the dive log can also shape the way training sessions occur, since the athletes can keep track of their major difficulties in order to work on them and to understand which techniques suits their current struggles the best.

Athlete 20: "And for me it was always important to write down after the dive, how does it feel, when did I have my contractions, what was I thinking about. And so usually when you, when you do maximum performance on a Friday and you do another one on the next, uh on the upcoming Tuesday, um also, it feels hard. It feels tough. Um, you forget it on the next Tuesday and when you then reading your kind of a training you see "no, it was hard and the first 50 meters was good, but then the contractions started and I could overcome it with uh whatever". And yeah, so this helped for me. It's helped me a lot".

Athlete 18: "(...) and one important thing is to have a diary. A log. For me, it's one of the first things I tell people: "start a log now". Because then you'll identify your biggest links and analyze your weakest points in every dive and the reasons why they happened. You're going to link every single variable on your dive. So I plan my trainings according to my biggest links that I've been writting down in the log".

One of the freedivers mentioned they were experiencing stress in competitions, which lead them too lower results. However, after engaging in psychotherapy, they were able to overcome such limitations and improve considerably their performance.

Despite few freedivers stating they don't do as much psychological preparation as they think they should or as they actually wanted to, the little preparation these freedivers did do were analyzed during this part of the current investigation. 2 athletes referred to their almost non-existent past psychological preparation as something they regret since they currently understand the impact of psychological components on freediving:

Athlete 10: "Look, I- if I have the option to come in the past, OK, I would change eh 70% of my training approach. I know [laughs], yes, maybe 80 or 85, I don't know, but yes eh I would

like to change a lot of things in order to protect my mental energy and mental health OK, because if you would like to push yourself eh close to your limits, you have some damage. Mental health damage, you know? Because in the first part of your, of your career, you don't understand, you don't have the ability to understand it, you don't have the experience to know this. And um, sure later you will hit the bottom and when you hit the bottom you need the mental strength to recover this”.

Thoughts During Dives

Following the last category, the time during the dive can be psychologically demanding on what comes to the control balance of the emotions and of other variables such as stress. The thoughts during the dives are sometimes coincidental with the psychological preparation freedivers practice throughout their trainings or even before an actual dive in a competition, and it is important to notice that freedivers provided many answers to this question, frequently reporting they focus on various methods, strategies and techniques during the dive. Since more stress leads to higher oxygen consumption, and based on the sampling group's reports, it is possible to conclude that the focus in relaxing and maintaining a calm and balanced mind state is prioritized by 13 of the 20 athletes.

Athlete 4: *“So, so if you're not relaxed, if you don't have the right mindset, you're gonna be stressed out, you're gonna consume much more oxygen”.*

Athlete 8: *“The psychological part is very important because if we think too much or if we are stressed, we burn much more oxygen. So learning how to slow down the mind and be calmer helps very much”.*

Athlete 9: *“If you're not thinking, it's much better, you're not wasting any oxygen. But the less you think is better. You need to work on removing these thoughts from your mind in order to waste less oxygen as possible”.*

Athlete 3: *“If you start thinking a lot then you are not relaxed and then the concentration goes way”.*

Even though thinking as little as possible is a very common method to reach a meditative state which can help freedivers to relax and achieve greater results, sometimes the focus can be difficult to maintain. Despite thinking about anything and everything seems to work to 2 of

the interviewed athletes, the majority of the sampling group prefers to keep their thoughts as balanced as they can and think as little as possible. When this doesn't happen, sometimes due to physical or psychological fatigue or even stress, it is the moment that three of the athletes specifically mentioned to be negative since whenever one loses track of the focus, they automatically let in many and various thoughts that, sometimes, are very difficult to suppress. Consequentially, this ends up affecting the remaining aspects of the dive such as the equalization and the technique.

Athlete 11: *“When I lose focus I start thinking about like the stupidest things um and that's where then I sometimes lose the air for equalization and I have to turn around”.*

Athlete 8: *“But sometimes when I'm a little bit tired, I have some negative thoughts like "oh, maybe I don't have enough energy to get to the surface, maybe I'll blackout" and those things”.*

When asked about their thoughts during their performances, many freedivers stated they usually don't think about anything whatsoever. Nevertheless, immediately after mentioning this, they proceeded to explain how they are focused on their technique, for instance, that they don't have any time to think about something else. In conclusion, freedivers seem to use the expression “not thinking about anything” when they enter a state of complete focus and utter concentration on their performances throughout the entire dive in order to avoid negative and stressful thoughts that might lead them to fail or not to achieve the marks they previously set themselves to attain.

Athlete 19: *“Yeah, there are many things, uh, I told you about the aerodynamics, moving through your body or touching many part of skin that you still make contact with the water... All the little details that surrounds you, it's all about focusing on the feeling that you can have. Everything that, uh, that keeps your mind busy in the way you want to be busy, so you don't allow your mind to get into survival mode”.*

In conclusion, the best scenario seems to be the one on which athletes are aware and simultaneously focused on specific diving aspects, for instance their technique, instead of letting their minds take control of the performance:

Athlete 2: *“So I'm focus what I do in this exactly moment because for me it's really important to be here and now in the moment and it's really important. My mind is only focus of what I have to do whitout er- other thoughts. Nothing. Because it's important to focus of that”.*

Athlete 11: *“So um... the goal is not to think anything but the tasks that I have to do at that moment, at least on the way down”.*

Two athletes described the ideal state as an autopilot stage similar to falling asleep.

Athlete 16: *“I kind of fall asleep when I go down. When I go down on the rope I- it feels like the dive down, to the bottom, is like just 10 seconds or 20 seconds. It's, it's like you wake up when you reach the bottom (...)I always tell to my students, you need to come- you need to reach a autopilot, like, you dive and you don't think what you have to do. Like you just start the dive and all the schedule needs come by itself because you're kind of sleeping. So if- if you reach this stadium, your dives are just incredible, awesome and this makes you- it's very good for performance”.*

The control of these thoughts leads us to another strategy frequently utilized by freediving athletes: body scanning. This method was mentioned by 4 athletes and consists on analyzing each and every part of the body during the different stages of the dive in order to minimize or, if possible, to eliminate any tension that might interfere with the quality of the performance.

Athlete 19: *“Eh, I scan my body all the time, like from my feet to my head all the time, focusing in, in the body. And you see how the body is reacting. It's uh, sometimes the legs, they just get tense. So you focus on your legs, are you relaxed? “No, it's tense”, so let them go and relax again and then you just scan, and you go to your right arm, “this right arm is going tense” and so let it go. So it's all the time. Your body is, is reacting against the pressure and the... the mind, the fear of the mind because you're going deep is also reacting on the body. So it's, it's so complicated at some point, but it starts in the mind really”.*

Besides focusing on this general body analysis which main purpose is to focus on several points which are getting tense and immediately relax them, 5 athletes prioritize the attention to body sensations and feelings they are experiencing in the different stages of the dive itself. Such sensations can be either positive or negative, and a few examples are the temperature of the water, the contractions caused by CO₂, body tension or simply the water running through their skin. Notwithstanding, one of these athletes chose to point out a specific method they

utilize through which they focus on uncomfortable feelings, analyze them, try to change their own perception of these sensations by understanding them and afterwards associating them with positive thoughts.

Athlete 5: *“Another thinking technique which works very well for me is to try to focus and to locate where the uncomfortable feeling is located. It's, it's always somewhere my- in my throat. So when I feel the CO2, I feel a tightness or a feeling I can't really describe, but it's not nice and I feel it in my throat and when I try to focus on this feeling, try to focus where it is, and to analyze what it is, if it is strong or not, if it is getting better or worse and in that way I kind of loose the fear of hypoxia, I lose the fear of CO2, I lose the fear of the static getting worse because when I really focused on it, I find out that the feeling is not actually that bad like I'm telling myself”.*

Mantras were another strategy raised through the conducted interviews. These mantras vary from athlete to athlete, and even each athlete ends up changing or selecting different mantras on their each dive. It was verified that the mantras utilized by athletes were mostly in the form of songs, words and sentences, depending on specific parameters such as, for instance, the discipline of the dive.

Athlete 12: *“In competition um, I still get stressed. And um, I have moments when I kind of lose control and my mind, and um... being all the thoughts around... and the way I persuade to remove that is to- for me, is to find like a song and I have- for each discipline, I have, um, I have a different song with- with a rhythm [laughs] and to follow and, and it helps me a lot. When I'm doing dynamics I'm pretty slow so I have like a song that's pretty slow and... when I do monofins it's something faster, and for me uh like, uh, it's a way I can escape or something”.*

Athlete 10: *“I have- I have a paper with some good emotions and with bad emotions. Actually words- eh was actually linked with emotions. OK? And I use this a lot during my performance. They are simple- not something complicated, but uh simple words like uh, let's say, “freedom” or “brave” or uh... um... “cold”, because cold is linked to the feeling of fresh, and fresh is linked with something good with me. So yes, I use, I use this method in order to have at 99% of my performance in a good way, in a good feeling. It's not always simple and it's, it's always training. If you train in this direction, it start to, to have automatic*

feelings and it helps me a lot and uh this is something that I would like to improve and eh, in my freediving career, in order to compete”.

Athlete 17: “And then I, um, I made one sentence when I came up, um, I, I knew that it was important to do it for the world record, of course, to do it in one movement. So one, one uh one sled to 130, no break in between and then swimming up. So at the moment, uh, just before 130, I was quite at the end of my equalization, so I was thinking “I should do- will I make it?” and then I made it. So that was the only thing I was thinking coming up, just thinking “I made it. I’m gonna make it, I’m going to make it”. So, so the, the ascend, I was just like, um, had a uh, a word going on like a sentence in your head that on repeat. I’m just gonna tell myself “I’m gonna make, I’m gonna make it, I’m gonna make it” until I was up”.

Similarly, autosuggestion during the dive can also be associated with these mantras and it is another technique freedivers seem to prioritize. Once again, this method is used through self talk and through the imagination of different scenarios.

Athlete 4: “And then another technique which is, which is a little bit similar like the- like this one, it’s uh telling myself that the time is passing by very fast, like... like the static is, it’s just some minutes of the day filled with 1,440 minutes. The dive is just taking up some, just a little tiny amount of these minutes. To tell myself that it actually is not that bad like I’m, like I’m thinking and it works very, very good for me. (...)It’s just, it’s a technique which has a little narcissistic competence into it. So [laughs] so it’s basically telling myself that I’m the best, that I- that I can do it”.

Athlete 11: “At the bottom plates, um, it helps me to imagine some of my best freediving buddies to be down there and cheer for me because freediving is very lonely and you will- if somebody who likes to share their, their happiness, I just imagined, “OK, my friends are here and I’m happy, and they cheer for me that I made it down” because it’s the hardest part for me to go down”.

Athlete 18: “Um, so when I turned, when I did the turn at 75 meters I just, um, thought about OK, um, I think about, uh, a meditation course I took part, so just give me back, take me back in, um, in then in the time or in a place where I was relaxed. So, and I know it’s taking part in the kind of a meditation or a yoga retreat. And when I turned I just said “omm” [laughs]. I thought “oh, OK, now I’m, no, I’m not in the pool at the yoga retreat”. And then I covered these 10 meters and I was back in lane and I could do my, my, uh, maximum performance”.

Finally, and since the equalization is considered to be one of the major struggles freediving athletes experience, 9 out of the 20 freedivers stated they focus on this method as well. Nine athletes considered the physical technique to be one of the highly important aspects a freediver should focus on since it will influence one's oxygen consumption and further endurance during the dive.

Psychological Struggles

Out of the sampling group, 6 athletes stated they don't struggle psychologically and that they don't feel constrained due to any psychological factors while they are training or performing in an actual competition. Instead, these athletes point out physical difficulties such as equalization to be the main factor that eventually ends up holding them back in certain depth attempts in depth disciplines or, for instance, the diaphragmatic contractions which can be experienced during breath-holds and/or dives and which can cause severe discomfort.

Two other athletes stated they were not exactly sure if they could point out a specific difficulty since they considered they have psychological and physical struggles in different parts of their training.

Lastly, 12 freedivers stated they struggle with psychological constraints rather than with physical issues. It is verified that the majority of the sampling group identified the psychological component of freedive to be what can, in fact, limit a performance and work as a barrier between the physical work and the attempted goals.

Athlete 3: "Of course, it's always hard to put your mind in the correct position. It's not easy training, but I think now many athletes are concentrated too much on the physical side. They are not training their mental side so much. That's why they have problems".

Athlete 1: "We are able to do a greater thing. What gonna stop us is the mental blocks. And I got the same thing, still! You know if- you know, OK, I'm working on it, but still, 9 out of 10 times I come out way earlier than I possibly could".

Psychological Characteristics

When asked about the specific psychological characteristics a freediver should have, 3 athletes chose to state that anyone can be a freediver before selecting a specific characteristic.

Despite their opinion on this matter, all of these 3 athletes pointed out the same trait they consider to be crucial to enrol in freediving. Eight other athletes shared the same opinion, as this was the major selected characteristic. All of these 11 freedivers stated that being calm was crucial to become a good freediver, along with being balanced in order to equilibrate their personal problems with the relaxation needed when they perform, and simultaneously patient and with a positive attitude in order not to focus only on numbers and on setting records but instead enjoying this sport, the career they made out of it and their own achievements even when they do not correspond to their or others' expectations.

Athlete 11: *"I think what most freedivers really need to learn is not to chase the numbers, it's not to focus on, on the results, but more focused on the quality. So it's hard to learn because now society, everything, everybody will ask "how deep have you been?". Nobody would ask "how relaxed are your dives?". This is a problem. So just to make yourself free from other people's expectations or the expectations that you kind of... only make up, yeah? You only believe people have those expectations. You don't really know if they really do, but you believe they do, you'll just have to free yourself from this. Uh, I think a freediver has to be at peace with himself and accept his abilities and limitations and don't let himself influenced so much by expectations, be- it- real expectations or just made up expectations. So I think that's the most important trait for a freediver".*

The second most selected trait was self awareness. Ten freedivers mentioned this method as an essential characteristic to succeed due to the fact that an athlete must be able to analyze their own body and understand which physical and psychological methods and strategies suit them better when they perform. From this trait, confidence, which was the third more mentioned characteristic by the athletes, can be developed.

Athlete 20: *"Being confident of what you're capable of and that you will know if something is wrong or right so that you'll make a decision. You need to be able to control your attention so that you become aware of things that are happening in your body and you don't react right away, you just chose a reaction or don't react and chose to observe".*

Challenging Situations And Coping Mechanisms

Throughout their career as elite divers, the occurrence of challenging situations can happen quite often. 16 out of the 20 freedivers stated they have previously suffered from

physiological situations such as ear trauma, lung squeezes, blackouts, sambas³, narcosis and gas embolisms. Four of these freedivers have been through situations that could potentially become dangerous during competitions due to safety errors attributed to the competitions' organization. Other challenging situations were considered to be certain aspects of the dive which don't happen as planned, such as getting a stuck lanyard⁴, crashing into material when surfacing from a dive, "mental blocks" and unfortunate events such as watching other athletes going through the previously described situations or even tragically dying.

From these situations and through the reports of these 16 athletes, and besides the group of 10 athletes who stated they never thought of quitting whenever these situations happened, it was assessed that 6 freedivers initially thought about quitting but soon realized that they wanted to keep practicing this sport.

As a coping mechanism, 6 freedivers consider that keeping a positive attitude can help athletes overcome these situations whenever they happen. Although almost most of them might have a negative impact, keeping a positive mindset might help an athlete evaluating, analyzing and understanding how they can benefit from the situation. That is exactly other coping strategy eight athletes seem to prioritize whenever going through a similar situation, since they feel the need to analyze it properly and become aware of why and how they went through it. This awareness brings up the parameter of risk management and perception, which one athlete felt the need to point out:

Athlete 8: *"When you do this, you also have to accept the idea that you can die"*.

Even though burnout was not included as a specific topic in the interview, this parameter was brought up by eight freedivers throughout the interview, specifically during this segment on which they were asked to provide some information about how they managed to deal or eventually overcome certain challenging situations, often tragic. There seemed to be a constant pattern circling around the burnout topic, which was the chase of numbers and which actually lead few freedivers to eventually stop having fun while performing and focusing too much on prizes, records and numbers, and on fulfilling others' expectations.

Athlete 8: *"I started freediving and I started to get records right away. So when I started to get records, I was feeling like I was just competing because of peoples' expectations."*

³ Loss of motor control (Kurra et al., 2015).

⁴ Freediving safety equipment resembling a rope used in depth disciplines. The lanyard connects the diver to the diving line (Kurra et al., 2015).

Freediving to me was like freedom in the beginning, and because of the records I started to look at it more as a job. So I quit competing for a while, and now I'm competing again. Maybe if I didn't stop back then I'd be in a different and higher level now. Because when I was a teenager I was always thinking about being a champion and this is natural, this is good. But then at a certain point, when you see that you become a champion and you have good money and sponsors, you also see that happiness doesn't come from these things”.

Athlete 11: “And besides that, in the beginning I would say I was um, too much maybe chasing numbers in the beginning. Um, and I had to learn mentally that it's not about the numbers, but the quality of the dive, as soon as the quality improves, the numbers will improve by themselves. Just increasing the numbers doesn't mean that you are dives get better. You just hit a wall at one point, if you just look at the numbers and looking on quality, you will hopefully not hit the wall. So shifting the mindset from numbers to quality- that was something I had to learn first”.

A subtle modification of training methods and techniques might sometimes be useful in order to overcome negative psychological barriers these obstacles might bring whenever they occur.

Athlete 16: “Mostly the athletes they change their trainings, they, they try to always change a little bit to make something new or this time I will do blood shift training, next time I will do uh equalizing training, next time I will do muscle training. You know, it's always a little bit... it's not similar because if you do always the same schedule you will get boring. It's just training. If you're doing seriously and you intensive, then if you get boring then you lose the fun and then it will be really hard to go on with this kind of exercises or what you do. I- I try to change my training all the time to try something new. And that works”.

A Challenging Modality Both Physical And Psychological

Although this question was not directly asked to the group, throughout the interviews it was possible to assess which component the athletes prioritized the most. It was very clear that for two freedivers, the physical part is the major component of this sport, which is the exact one they pay more attention to. It was also possible to verify that the three remaining athletes of the sampling group, despite acknowledging the impact psychological variables have in every freediving performance, had mixed opinions regarding this subject, not being

quite sure how much percentage they would attribute to each physical and psychological component if they were asked to, stating they prefer not to detach the physical and physiological part of the sport from its psychological side.

Nevertheless, 15 out of the 20 freedivers stated they prioritize the psychological aspects of freediving, to which they also end up paying attention during their training sessions. Few of these athletes ended up sharing that despite not training enough the psychological variables which are, in fact, involved during their dives, they also consider that the psychological training is of high importance not only in order to avoid challenging situations such as blackouts, but to reach higher performances and, above it all, to enjoy their dives instead of letting them become an obligation:

Athlete 17: "I think that's this sport almost because like- water has no barriers. It's endless. So the only thing we will meet is ourselves, you understand? So in every other sports you can bail out and, but even in freediving there is no barrier. There's no line you have to cross. There is no, there's the endless water and you. So, so if you meet a barrier, it's your own".

DISCUSSION

Freediving is both a physical and psychologically demanding sport. Despite the existence of physical limits, performances often rely on the psychological state of the athlete. The excitement for fast results might be present in any diver's initial journey as an elite athlete, but it will not take too much time to eventually understand that rushing and pushing limits too soon when one is not prepared causes overloading stress. Generally and physiologically speaking, and because stress levels increase heart rate, the elemental aim in any dive is to stay relaxed and simultaneously focused (Kurra et al., 2015). Furthermore, and from the very beginning, it is crucial that an athlete takes in to account their own limits, expanding them step by step. In freediving, and as in any other extreme sport, a step-by-step and cautious approach is fundamental in order to reach better results while guaranteeing an athlete's own safety.

As an athlete's technique and efficiency increases, so does their confidence and comfort during both training sessions and performances (Kurra et al., 2015). Because confidence seems to be one of the most important psychological characteristics, having been pointed out by 9 out of the 20 interviewed athletes who constituted the sampling group, it is important to create a structured, coherent and specialized training plan to achieve gradually better results in freediving performances. This plan should include physical exercises and the psychological preparation must not be neglected since it is considered by many athletes, including 15 of the 20 interviewees, to be the most crucial part in any training plan or performance. The exercises will depend on which discipline an athlete focuses on, and despite working on their strengths, freedivers should take into account their weakest points in order to improve them and stop them from limiting their dives. Each training plan should respect the genetics of the diver and the fundamental principles of either physical and psychological training (Pelizzari et al., 2004). Moreover, the psychological training must influence, shape and define every physical preparation.

The main goal of physical preparation is to train two fundamental variables, these being the anaerobic capacity and the aerobic power (Pelizzari et al., 2004). A well trained anaerobic capacity allows the tolerance of a higher level of lactic acid, which can increase, for instance, after finning⁵ in apnea (Pelizzari et al., 2004). On another hand, appropriate aerobic training can hold a lot of positive characteristics to an athlete, such as a low resting heart rate and an

⁵ Technique used by divers to to propel themselves and to maneuver when wearing fins (Pelizzari et al., 2009).

elevated vital capacity (Pelizzari et al., 2004). In general, these are the two main priorities in every single training plan, which can be practiced through different exercises.

Cardiovascular fitness means a more efficient blood circulation, resulting in a better muscular oxygenation (Pelizzari et al., 2004). Since freediving is a sport on which good performances are directly correlated with the best oxygen consumption by an athlete's body, cardiovascular fitness is crucial to any freediver. Sports such as cycling, jogging and swimming will stimulate cardiovascular activity and will, as a result, be beneficial for an athlete's physical training and preparation (Pelizzari et al., 2004). Swimming is an important activity to freedive since it involves not only the physical coordination of movements and techniques but the capacity to be comfortable in the water as well, working with both relaxation and awareness. Besides that, strength and endurance seem to be two fundamental basis for each and every training plan and are present whether an athlete chooses to focus on water training, for instance in a pool or in the ocean, or on land training, such as exercises performed at the gym. Since the control of the body's core muscles and the legs is of particular importance, the development of the key muscle groups to a performance will provide a base for proper technique and consequentially a more efficient movement while diving¹. Because one of the main principles of freediving is to maintain resourceful oxygen consumption, muscle training should be highly controlled, and an athlete should avoid increasing muscle mass since muscular hypertrophy increases oxygen consumption¹. Stretching is also a fundamental part of every training plan, since it is important that all muscles maintain their elasticity (Pelizzari et al., 2004). Flexibility has a positive impact in every athlete's performance, turning their movements and technique more efficient (Pelizzari et al., 2004), and it is performed mainly through yoga.

Even though there are plenty of training plans that can be created and adapted to each individual goals, there are still athletes who consider freediving to be the best training for freediving itself. Nevertheless, these are subjective perspectives which depend on each athlete's preferences, perspectives and characteristics. As an athlete mentioned throughout one of the interviews, “(...) *freediving is the best for free diving. I think there are some people that do a lot of trainings that I really think “just go into the water” because if you have your head on the water, you'll learn the most*”. However, a good combination of both apnea trainings and other physical exercises seem to be most of the athlete's priority, who pointed out swimming, endurance training, strength training and sports related to altitudes as some of the activities which can positively influence an athlete's improvement. According to four

interviewees, sports such as mountaineering and climbing can provide similar sensations to the ones that arise through freediving: *“you’re alone, you have to be focused, you have to free yourself so much and it’s very similar and it helps a lot mentally speaking”*.

Since the body goes through various physiological changes through the dive itself, the training sessions should aim the disturbance of the body’s homeostasis as well in order for it to become progressively more accustomed to the environment (Kurra et al., 2015). In case the training stimuli remain the same and aren’t modified for a long period of time, the diver’s body starts adapting to them and his/her progress progressively slows down (Kurra et al., 2015). Therefore, it is essential that training plans are changed whenever needed be. Thirteen elite divers stated their training sessions and plans end up being modified according to each season, goals and time until the competitions.

Each training plan is based on specific goals, and it is important to establish a realistic and balanced goal considering the challenge it represents and the skills it demands (Kurra et al., 2015). Therefore, a training plan should be shaped to these goals and acquiring the ideal training plan takes a lot of practice, experience and expertise. It was verified that 7 out of the 20 interviewed athletes lean on a professional coach to explore the variables they need to work on in order to maximize their results. One major aspect that is indeed prioritized amongst the sampling group is the importance of trying out different types of exercises, analyzing how the body and the psychological components react to them, adapt them if necessary and finally come up with a training method suitable to each individual’s strongest points, struggles and needs. In order to reach new and higher levels of performance, athletes must also work on their weaknesses instead of exclusively relying on their strengths to achieve desired results (Pelizzari et al., 2004). As one athlete mentioned: *“freediving has a lot of variables, so you have to train them isolated and then mix them together, but the problem is you have to focus on your weakest points without forgetting about the other variables”*. Moreover, the construction of precise training routines is also important since they greatly increase psychological strength and consistency in performances (Kurra et al., 2015).

The physical and the psychological components are strictly intertwined, and a strong relationship between muscle memory and psychological activity should always be established in order to achieve greater performances. As one athlete stated: *“your body can do crazy stuff, but your mind needs to believe the same thing”*. This suggestion can be supported through other athlete’s statement: *“for this sport you do not have to do a lot of physical training but*

you have to have the right mindset". Likewise, 15 out of the 20 elite divers seem to think the same way, since all of these athletes prioritize the psychological aspects of freediving over the physical components involved in the sport. Thus, the psychological training plan should focus on stress control and concentration improvement. In addition, and because freedivers experience physiological responses, such as CO₂ contractions, which can trigger psychological reactions, such as stress or anxiety, the exercises within this plan must aim the development of a tolerance to discomfort (Kurra et al., 2015).

When considering the psychological training and preparation of the group, it is important to state that an athlete's psychophysical condition is constantly changing (Kurra et al., 2015). Therefore, the psychological training methods a diver chooses to adopt should be based on their personal mindset, psychological profile and psychophysical characteristics. When asked about the psychological preparation throughout their training sessions, freedivers provided different methods through which they are able to relax and reach a balanced and self-controlled state in order to cope with negative factors that might arise on the competition day, such as stress, and to eventually perform the dives they set themselves to.

Calmness and balance are two other variables pointed out by 11 elite divers as crucial to any performance. A useful technique to improve a freediver's psychological state in a competition is to face the training sessions as competition scenarios, carrying out every procedure the exact way it is done in these situations. This method is regularly applied to the training sessions of 4 freedivers, and this also includes their psychological preparation. In order to avoid any negative emotions like anxiety or physiological reactions like stress in the competition day, on which is important that the athletes remain calm in order to perform, the training dives should resemble actual competition dives and include a similar preparation (Kurra et al., 2015). By applying each competition parameter in their training sessions, such as the countdown until the descent or the protocol related to surfacing, athletes become gradually more comfortable to face and deal with the pressure involved in this type of environment, eliminating the possibility of being surprised by all these procedures in the competition day.

Self awareness was another trait that was considered crucial to success in freediving by precisely half of the sampling group. Since training consists in adapting the body to different physical conditions and situations, it is essential to document such changes in order to be able to modify each training plan to an athlete's needs (Pelizzari et al., 2004). Throughout the

interviews, the dive log strategy was mentioned by 3 athletes. This is undeniably a method from which every athlete could benefit, since its main purpose is to document every aspect of one's training in order for it to be analyzed afterwards. This represents an important task, since athletes assess their training sessions and can also assign specific causes to their performances (Lane, Beedie, Jones, Uphill & Devonport, 2012). By documenting each and every single parameter of their dives, an athlete can better understand how their body and their mind react to specific exercises and, furthermore, adapt each training session or program to suit his or her needs. Because the diving log is a method through which is possible to verify an athlete's performance throughout their training sessions, including one's physical and psychological struggles, this strategy also represents an efficient technique which can greatly improve a freediver's self awareness.

Relaxation training, which also increases self awareness by creating stimuli to which an athlete must be aware of, is crucial to any training plan. In order to reach a relaxed mindset, an athlete must identify any bad psychological habits such as unproductive ways of reacting towards certain stimuli (Kurra et al., 2015). Through the appliance of specific relaxation techniques to an athlete's training plan, a diver should rediscover their balance (Kurra et al., 2015).

Autogenic training was mentioned by one athlete as an effective psychological training method included in relaxation training methods. This type of training, which is proved to be effective in producing cognitive effects, includes meditation, deep relaxation, clinical biofeedback, hypnosis and self-hypnosis (Naylor & Marshall, 2007). Autogenic training basic levels include individual affirmations in the form of "inner talk" that come from the principles of autossuggestion and holds four major components – relax, release, replace and reframe –, each one of them designed to stimulate and support one's own self-healing process (Naylor et al., 2007). Through relaxing and stopping the stressful thoughts and letting the body rest, releasing tension and held emotions, replacing negative beliefs and thoughts by incorporating them into daily practice and reframing personal narratives through a journal, an athlete can experience a modification of both physical and psychological conditions (Naylor et al., 2007). One of the main principles of autogenic training is that by increasing self-esteem and self-confidence, an athlete can make the most out of favorable external factors (Pelizzari et al., 2004). Furthermore, through this method, the aim is to replace negative thoughts with positive ones (Pelizzari et al., 2004). One example is the mental repetition of particular words, for

instance “good”, or sentences, such as “my body is relaxed”. According to the elite diver who chooses to include autogenic training into his psychological training plan, *“when I have bad feelings during the dive I start to talk with myself and try to read these words with good emotions (...) I have a paper with some good emotions and with bad emotions. Actually words- eh was actually linked with emotions. And I use this a lot during my performance. They are simple- not something complicated, but uh simple words like uh, let’s say, “freedom” or “brave” or uh... um... “cold”, because cold is linked to the feeling of fresh, and fresh is linked with something good with me. So yes, I use, I use this method in order to have at 99% of my performance in a good way, in a good feeling. It's not always simple and it's, it's always training. If you train in this direction, it start to, to have automatic feelings and it helps me a lot and uh this is something that I would like to improve and eh, in my freediving career, in order to compete”*.

However, and despite this having positive effects for some athletes, there are other who consider this method to be useless as it ends up affecting one’s self awareness, which is the case of another interviewee who mentioned: *“I don't use autogenic training... I want to feel myself. I don't want to say "I'm calm" when in reality I'm not calm, I don't want to cheat the mind. I just try to listen and feel myself, and feel how I am. If I'm just aware, and if I feel I'm not relaxed, I feel it, I breathe, I try to calm down”*. Through this statement, one could think autogenic training is somewhat contradictory. If an athlete prioritizes self awareness, which is based on focusing in one’s own body experiences, feelings and sensations, then they shouldn’t make self suggestions in order to change that awareness. Nonetheless, and as it was mentioned previously throughout the present investigation, the preferred methods will always and inevitably change from athlete to athlete and this is the case of autogenic training. Whereas some athletes prefer to focus on uncomfortable feelings, experiencing and analyzing them as they come, other seem to rely on positive thoughts in order to improve their confidence and, furthermore, reduce any negative feelings associated with the different variables of each performance.

Autosuggestion is a method which main purpose is to condition one's psychological and behavioral responses in specific situations by repeating a statement or presumption (Pelizzari et al., 2004). Self-talk, which is part of this method, is mentioned by 6 out of the 19 athletes as a part of their psychological training plan: *“before any training session with long dives or before any competition I prepare myself mentally, so I, I actually even tell myself, I make*

suggestions to myself that I love this sport. I tell myself I love this sport, I love- I love to hold my breath. I love the feeling of hypoxia and, and this kind of works. And uh... also what I told you, about the careless mindset, so I also tell myself that it's not a big of a deal". In fact, mental predispositions have particular significance in the "struggle phase", strongly influencing breath-hold duration (Ostrowski et al., 2012). Even though self-talk may bring positive effects on an athlete's performance when used in a productive way, this technique may also have a negative impact when applied in an incorrect way through negative thoughts as, for instance, *"I cannot do it"*.

Throughout the interviews, it was verified that most of the freedivers have mantras on which they think during their performances, these being, for instance, sentences, numbers, words and songs. As a result of repeating these mantras, behavioral patterns tend to adapt themselves to this new conditioning. Therefore, a simple thought can trigger a strong psychological response or a behavioral pattern (Kurra et al., 2015). In freediving, this could indicate positive results in order to modify negative thoughts who end up being associated with several aspects of an athlete's performance. For instance, equalization seems to be a major and transversal problem to all the interviewed athletes. By the creation of suiting mantras, athletes could potentially overcome or at least reduce the negative sensorial experiences, such as stress, which were previously bonded by themselves to situations they might fear or be apprehensive to some extent.

Sports psychologists have recognized the importance of autosuggestion, more specifically positive self-talk, in helping athletes reaching their potential and consequentially achieving better performances. Neuro-Linguistic Programming techniques (NLP), which was mentioned by two athletes as an effective method included in their psychological training plan, can be useful to restructure athletes' self-talk patterns and, afterwards, re-pattern their cognitive process (Savardelavar & Bagheri, 2012). Moreover, such techniques can also increase athletic self awareness, cognitive control and confidence within sports (Lazarus & Cohen, 2009).

The psychological training method used by the majority of athletes of the sampling group, specifically by 16 out of the 19 athletes who stated they had a psychological training plan, is visualization. In freediving, the visualization process involves an imaginary immersion into a scenario on which an athlete is performing, focusing their senses on each detail of such situation: *"I imagine I lay on the surface I breathe, I listen to my breathing, I do the last two breaths and then I dive down. I do the duck dive, and I see the rope and it's just imagination*

and when I go down I see the- the rope and I try to imagine how nice it is when I glide through the water, and I feel the water over my face floating over my face and I imagine it's so wonderful when I go down and this nice blue color of the sea. And then I start freefalling and I imagine that all my body's relaxed. I'm just falling and I, I try to put like each little detail of the dive in my visualization, it's all- I try to make it as realistic as possible and if you do that and you repeat it, you repeat it, you repeat it... everyday for like one, three hours... then, it's like a switch in your head. So it was kind of... it was so realistic visualization. . And when it comes to the real dive and you did so much of visualization, it's like a switch. You start your dive and you are immediately in this movie, the movie you saw 100 times before".

Through this detailed process of visualizing and imagining the same scenario in a calm way, a diver can apply what they thought into their own practice, reducing the negative impact some variables potentially might cause, such as stress or anxiety. Although the standard and most common environment to train visualization is a calm and peaceful space with no factors that could potentially interfere with the athlete's concentration involved, two top level athletes stated they prefer training this method as they listen to music since they consider this to calm them. In fact, music does have positive effects on the level of concentration, which could positively influence to the performance of an athlete as well (Mori, Naghsh & Tezuka, 2014).

Breath holds are part of some athlete's personal psychological training. Although this particular exercise might seem wholly physical, as it was previously stated, one of the main purposes of the psychological training should also be adapting one's body to uncomfortable situations. Due to the excess of CO₂ present in an athlete's blood shift during breath hold, one very well known physiological reaction amongst all freedivers is the arising of contractions. Dealing with such obstacles is, in fact, demanding. The suggestion of an athlete is the following: *"so I always say to my, to my students, train with as much handicaps as you can- as you can because then the handicaps will help you improve a lot, make your more flexible, make the opportunities better because for example, if you train a lot with like- I sometimes train static with my children playing around me so they're jumping into the water screaming, throwing a ball that's bouncing on me. But then if you learn to enjoy all that, then the competition is always more perfect than that. There is everything you can use then to, yeah, to perform good".* Although this might not work for any athlete due to the fact that one might need a calm environment in order to train such relaxation methods, one way of overcoming possible stressful variables in competition situations might be anticipating those scenarios, applying them to the training program. Therefore, if athletes surround themselves with

potentially disturbing factors such as noise, which will very likely be present in a competition environment, they are learning how to adapt their own bodies and minds to them, formulating coping mechanisms to do so, and finally reducing any negative sensorial experiences that might come from them.

Yoga is also included in many training programs, and can be used both in physical and psychological preparation. On one hand, athletes can include yoga and its breathing and stretching exercises in their training plans to work on their flexibility, which is, as mentioned before, a crucial component to successful dives. Nonetheless, yoga is also used by many freedivers as a method to reach a psychological balanced state or mindset and to learn how to deal with stressful variables that might arise before or even during a dive. Although there are many varieties of yoga, Pranayama seems to be the most practiced amongst the freediving community due to the fact that it focuses on breathing and stretching exercises.

Regarding the thoughts that a freediver experiences throughout a dive, there were many different answers provided by the sampling group. Although the majority of freedivers stated they try to relax to the maximum, some specific techniques were verified amongst the strategies athletes use in order to reach such calm and meditative state. As mentioned before, self awareness should be present in each and every moment of the dive, since it is important for athletes to be conscious, mindful and alert of each one of their sensorial experiences. Body scanning, which basically consists on analyzing each and every part of an athlete's body, is a strategy prioritized by 4 athletes. By analyzing the body, screening every single part of it, they can verify which muscles are relaxed and the ones who need to be relaxed in order to achieve a better performance.

Both body and mind need time to adapt to each and every situation in which conditions are different, and when ambition takes over the sense of self-preservation, consequences inevitably occur (Kurra et al., 2015). In freedive, rushing too soon might bring unnecessary risks and consequences to any athlete. Besides, performance levels can eventually decline when athletes forcefully train certain variables (Kurra et al., 2015). Eight freedivers stated they "*pushed too hard*" during a specific period of time of their career. This attitude and the desire for achieving numbers and records culminated into stressful situations: "*in the beginning, I was young and I was crazy on numbers. I was always focused on my performance. I was focused on the meters and depths and everything. So if I could change something, I would maybe focus more on the feelings, on the emotions and on the technique,*

but not so much on the numbers because the numbers, they come by itself, but... I had equalizing problem so I go down during my dive and I struggled with equalizing. So I try to push, I try to uh, equalize. So... for me now, what I learned is that um... if you have a bad dive and you have a problem, drop the dive". Even though currently these athletes acknowledge this was a mistake, they face this initial posture as a learning process which must be carefully analyzed in order to repeat the same mistakes. Likewise, it is crucial to take into account that improvements in performance occur when a conservative and careful approach to freedive is taken. Limits can be pushed and struggles can be worked on with a sensible and structured training adapted to each freediver, rather than with a permanent chase of numbers (Kurra et al., 2015). Therefore, athletes should have a good combination between intrinsic motivation such as the pleasurable feelings this sport provides them, and external motivational factors (Kurra et al., 2015) which would be numbers, records, prizes or simply a social status from being recognized as a champion. Establishing a balance between these two factors is important in building confidence, self awareness and consistency. Despite the motivating factor associated with working towards a certain performance achievement, if the goals become an obsession the work progress can be faster than what would be expected, normal and healthy. Therefore, as an athlete mentioned, one should be *"wanting that goal, but not too much"*. If an athlete tries to push he or herself too much in order to get certain numbers, this posture can bring unexpected consequences along the way. It is important to take into account that these consequences are not only physical. By the time a quick progress ends, freedivers have achieved their goals and are aiming to take the next steps. However, these next steps often include pushing limits even more, exceeding them. By understanding the risks of these situations and often taking training sessions to far, freedivers could potentially experience burnouts.

In freediving, the concept of "flow" refers to an ideal situation in which an athlete's skills and concentration are equally balanced (Kurra et al., 2015). Through flow, freedivers experience a complete immersion in a certain task that almost seems to be done all by itself. Moreover, and during this state, one's perception of their own surrounding environment resembles a blur, and the senses of self awareness and time seem to disappear (Kurra et al., 2015). This experience is described by athletes as extremely pleasing, sometimes being described through other terms: *"I always tell to my students, you need to come- you need to reach a autopilot, like, you dive and you don't think what you have to do. Like you just start the dive and all the schedule needs come by itself because you're kind of sleeping. So if- if you*

reach this stadium, your dives are just incredible, awesome and this makes you- it's very good for performance”.

The opposite condition of flow is stress, as it can be described as an imbalance between an athlete's aims, expectations and skills (Kurra et al., 2015). Stress, which tends to disturb the homeostasis of the body, can increase athletes' performance level when managed effectively (Bali, 2005). Considering that stress in freedive can be caused by many different variables, such as atmospheric conditions, safety procedures and fulfilling personal or others' expectations, these stressors and demands can trigger better stress responses and, as a result, higher levels of performance (Lane et al., 2012). This is exactly what is verified by six freedivers who were included in the sampling group, one of them mentioning: *“for me it's strange because I feel a little bit the opposite. When I- in a competition, I'm much more focused. I take it very serious. I, when I go to the competition I'm- I'm prepared. So for me mostly the, the competition dives are easier than- than the training dives”*. Therefore, and since emotions experienced have been proved to be related to athletes' performance in competition scenarios, self-regulation seems to be an important process which should be taken into account in order to reach better results (Lane et al., 2012).

In fact, fulfilling these external expectations, which can be held for groups of people such as coaches, judges or even sponsors, and pushing one's limits is a very dangerous combination in freediving. Through experiencing stressful situations, burnouts can also occur during many other different occasions. Although earlier it was mentioned that a burnout could happen as a consequence of pushing one's limits too far without a careful approach, through this statement one can verify that the exact opposite can happen as well. Breaking a world record can be exciting, but when training for it, divers may not think ahead and ask themselves what will occur afterwards. Thus, it seems that setting long term goals should be a way to prevent similar situations.

In any extreme sport, fear is a crucial component and it can manifest itself both psychologically and/or physiologically (Kurra et al., 2015). Despite being a highly adaptive reaction, this fear can consequently generate anxiety, which can influence negatively any freediver's performance. Even so, the origin of this fear must be identified and further analyzed in order to manage its consequences. Regarding once again to the beginning of athletes' career, it is possible to verify that 3 out of the 20 interviewed athletes stated they were in fact apprehensive when they started to freedive. The main reason why they felt this

way was because it was a new sport which they had never practiced before. However, the exact answer was given by 14 other athletes, who reported they were not apprehensive when they started to freedive: “*in the beginning if you don't know the danger, you don't have any fear really*”. Overall, a contradiction was brought up: the unknown can both be the cause or the eliminator of fear. Nevertheless, the 3 remaining freedivers mentioned they were not apprehensive at first, but started developing specific fears and anxiety after a while. Four other athletes join this group, stating they still feel fearful for their lives currently, particularly under certain circumstances.

Going through dangerous or challenging experiences can cause a psychological trauma, which can later on develop into specific fears associated with the different variables involved in freediving and which can greatly inhibit future performances (Kurra et al., 2015). However, the way an athlete evaluates a certain situation depends on their personal experiences throughout their career. Whereas an elite diver might face a blackout as a dangerous situation, other athlete might not consider it to be challenging or both psychologically and physically demanding. The discrepancy between two perspectives was verified throughout the interviews, since many athletes emphasized they don't consider their previous physical reactions or conditions – such as blackouts, ear trauma, sambas or even watching others go through these and other tragic events such as death – to be dangerous scenarios. Nonetheless, the contrary is also observed, since other freedivers think exactly the opposite and specifically point them to be accidents.

The coping mechanisms that can be adopted in these situations are many, and were also explored throughout the interviews. Although some freedivers consider a positive attitude to be a significant step towards recovery from these feelings, this method might be difficult to apply when an athlete lacks the motivation to do so after experiencing situations in which trauma is often involved, whether it is physical or psychological. Nonetheless, being aware of the circumstances that lead to a certain negative situation and analyzing it afterwards might be the base for learning and improving in freediving. According to 8 freedivers, carefully analyzing a situation is crucial in order to fully understand it and take some knowledge from it, applying it to future dives. Furthermore, the factors that contributed or which are still contributing to a feeling of fear can be identified through a systematic and careful approach which includes the careful analysis of each situation (Kurra et al., 2015). For the mature and strong minded athlete, a slowdown in a progress indicates that there is a need to analyze and

change training routines. Thus, the modification of a training plan seems to be considered by some interviewed freedivers as a step towards successful, safe and enjoyable dives after the occurrence of such experiences.

The idea that freediving is a psychologically challenge sport seems not to be a misconception since it was possible to verify that the majority of the sampling group, more specifically 19 out of the 20 elite divers, acknowledge the psychological variables associated to this sport, 12 of them even stating they consider it to be mainly psychological: “*I would dare to say that freediving is 99% psychological and only 1% physical*” (Athlete 13). There are many psychological strategies which are and can be utilized by freedivers in order to reach their fullest potential. Even though the physical part seems to be prioritized considering the modest amount of psychological preparation athletes include in their training plan compared to the physical preparation, it is also possible to verify that at least one psychological exercise seems to be present in the majority of the interviewees’ training plan. Nevertheless, combination seems to be the key. It is not enough to exclusively use one training method from which an athlete could benefit on a psychological level. Instead, one should try and come up with the ideal plan, which includes both psychological and physical training exercises that shall be balanced and to which should be given an equal amount of time, attention and effort. As for the idiosyncrasy of each athlete, these methods and techniques are inevitably going to differ from one diver to the next. The most crucial part is for athletes to understand which strategies suit their goals, preferences and needs. Thus, each psychological strategy can be shaped and adapted to these variables, and included in an ideal training plan which should be composed by both physical and psychological exercises, and to which should be given an equal amount of time, attention and focus. In the end, this equilibrium can very much so be the milestone for both physically and psychologically successful dives, and to any other performance in the sports’ world.

CONCLUSION AND FINAL CONSIDERATIONS

It seems somewhat contradictory that even though freediving has been considered to have a strong psychological component attached to its main principles, the psychology of freediving has not been explored nearly as much as its physiological elements. In fact, it is fairly easy to find investigations that aim to look at the physiological reactions athletes' bodies experiences during a dive, but very few point out their emotions, thoughts and coping mechanisms throughout their careers.

Through the interviews to the majority of the elite divers who took part in this investigation, it was possible to verify that despite considering psychological training as a crucial component to each and every workout plan, physical exercises are always much more present and are, perhaps unconsciously, prioritized. Even though psychological preparation is not completely neglected by most of these athletes, it seems that it is still not a priority compared to the physical training included in each freediver's plan. Methods such as visualization, autogenic training and autosuggestion should be combined in order to achieve an ideal balance in each and every athlete's training schedule and plan. Moreover, being aware and analyzing one's own body and its reactions to different variables that might affect an athlete's performance is crucial to safe and pleasing dives.

In freedive, the fascinating connection between an athlete's mindset and their performance is yet barely investigated. Although there is still an indescribable amount of research work that can and shall be done in this field, the present study can be viewed as one significant step towards an ideal future in which a balance between physical and psychological training is prioritized by all freedivers, and in which both of these components are considered to be equally important. If a physical training plan is composed by innumerable exercises that aim to adapt an athlete's body to certain environmental conditions, there should be no differences whatsoever when considering a psychological training plan since both body and mind need to be synchronized in order for a freediver to attain successful results. Moreover, this research aims to provide information about the self-regulation strategies used by elite athletes both in freedive as in any other areas of performance. As this investigation encourages athletes to increase the amount of psychological preparation included in their training plans, perhaps the milestone to the perfect performance lies in the balance of both physical and psychological preparations.

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