



Instituto Politécnico
de Viana do Castelo

Kamila Mlcochova

Internship Report: Training Periodization and Competition Management in
Surf Clube de Viana development team

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Trabalho sob a orientação de:
Professor Doutor Bruno André Ferreira da Silva

Coorientação de:
Mestre Gonçalo Cruz

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Kamila Mlcochova

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Key words: Surfing, Young Athletes, Surf Technique, Performance, Planning

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INDEX

CHAPTER ONE: STATE OF ART	1
1. Activity Context	1
2. Surf Characterization.....	2
3. Techniques and Maneuvers in Surf.....	4
4. Performance in Surf	8
4.1. Physical Factors	8
4.2. Technical Factors.....	9
4.3. Tactical Factors.....	10
5. Surf Competitive Structure.....	12
CHAPTER TWO: INTERNSHIP	14
1. Internship.....	14
1.1. General Objectives.....	14
1.2. Specific Objectives	14
1.3. Characterization of Surf Clube de Viana.....	15
1.3.1. Human Resources	15
1.3.2. Material and Facility Resources	16
1.3.3. Training Resources	17
1.4. Training Classes.....	18
1.5. Groups Organization and Training Schedule.....	22
1.6. Competitive Team Characterization	22
2. Training	25
2.1. Organization and Management of the Training Process.....	25
2.2. Structure and Training Type	25
2.2.1. Training Type	25
2.2.2. Training Structure.....	26
3. Periodization.....	27
4. Activity Report.....	30
4.1. Physical Tests Reports	30
4.2. Training Reports	31
4.3. Training Camps Report.....	35
4.4. Competitions Reports	36
5. Technique and Tactic Analysis	39
5.1. Technique Analysis.....	40
5.1.1. Bottom-turn	40
5.1.2. Cutback.....	42

5.1.3. Snap	45
5.2. Tactic Analysis	46
5.3. Video Analysis.....	46
6. Applied Science.....	54
6.1. Introduction.....	54
6.2. Material and Methods	55
6.3. Results.....	56
6.4. Discussion.....	60
6.5. Conclusion and practical recommendations	61
7. Internship conclusions.....	62
7.1. Strong points	63
7.2. Week points	63
8. REFERENCES.....	64
Appendix I.....	71
Appendix II	91

FIGURE INDEX

FIGURE 1 - ORGANIC STRUCTURE SCV	VII
FIGURE 2 - WEEKLY SCHEDULE 31. JANUARY – 6. FEBRUARY	22

TABLE INDEX

TABLE 1 – SURF CLUBE DE VIANA MATERIAL RESOURCES	17
TABLE 2 - MACROCYCLE OF COMPETITIVE TEAM	28
TABLE 3 - MACROCYCLE OF THE COMPETITIVE TEAM DURING MY INTERNSHIP ..	29
TABLE 4 - MICROCYCLE OF MY ACTIVITY	32
TABLE 5 MESOCYCLE 2, MICROCYCLE 7 COMPETITION TEAM	33
TABLE 6 MESOCYCLE 3, MICROCYCLE 11 COMPETITIVE TEAM	33
TABLE 7 - MESOCYCLE 4, MICROCYCLE 16 COMPETITIVE TEAM.....	34
TABLE 8 - MESOCYCLE 5, MICROCYCLE 25 COMPETITION TEAM.....	34
TABLE 9 - MESOCYCLE 6, MIRCOCYCLE 30 COMPETITIVE TEAM	35
TABLE 10 – SURF CLUBE DE VIANA TRAINING CAMP SCHEDULE.....	36
TABLE 11 VIDEO ANALYSIS BOTTOM TURN FRONTSIDE	48
TABLE 12 VIDEO ANALYSIS BOTTOM TURN BACKSIDE.....	49
TABLE 13 VIDEO ANALYSIS CUTBACK FRONTSIDE	50
TABLE 14 VIDEO ANALYSIS CUTBACK BACKSIDE	51
TABLE 15 VIDEO ANALYSIS SNAP FRONTSIDE.....	52
TABLE 16 VIDEO ANALYSIS SNAP BACKSIDE	53
TABLE 17 - MEANS OF VALUES OF BPNESp AND MTI	57
TABLE 18 VALUES OF SHAPIRO-WILK NORMALITY TEST	57
TABLE 19 - PEARSON'S CORRELATION BETWEEN MTI AND BPNESp	57
TABLE 20 - SPEARMAN'S CORRELATION ANALYSIS BETWEEN MTI AND BPNESp SUBSCALES..	58
TABLE 21 - MEAN VALUES OF MENTAL TOUGHNESS MALES AND FEMALES	58
TABLE 22 - LEVENE'S TEST FOR EQUALITY OF VARIANCES.....	59
TABLE 23 - PEARSON'S CORRELATION ANALYSIS BETWEEN MTI AND AGE.....	59
TABLE 24 - PEARSON'S CORRELATION ANALYSIS BETWEEN MTI AND AGE.....	59

ABSTRACT

This report presents the internship reports that took place in Surf Clube de Viana with a six months duration.

The objectives were to access, monitor, and improve the performance of young surf athletes, understand the management process, and plan the sports season and training plan.

The report is divided into two parts. The first part explains the problem supported by recent literature, and it clarifies what is Surfing and what is Surfing performance. The second part is a practical report of the internship activities, showing the surf performance analysis and planning of the competitive surf season. This second part also have an investigation in to practices with the objective to understand the relationship between basic psychological needs and mental toughness and the influence of gender, age, and years of sporting experience on mental strength.

This internship allowed the development of ground abilities connected to planning and executing a training cycle for a particular preparation period and competing surf seasons. The tasks during the internship were diverse, and it started with the physical evaluation of athletes and went through planning the training units, monitoring the athletes' performance, providing feedback, and enhancing improvement of their capacities. It deepened the knowledge of the surfing field, its techniques, and tactics, to being able to provide more comprehensive feedback to the athletes and accomplishing all the tasks concerning performance in surfing training.

Key words: Surfing, Young Athletes, Surf Technique, Performance, Planning

RESUMO

Este relatório apresenta as tarefas de estágio que decorreram no Surf Clube de Viana com a duração seis meses.

Os objetivos foram avaliar, monitorizar e melhorar o desempenho de jovens atletas de surf, assim como entender o processo de gestão e planeamento de uma época desportiva e respetivas unidades de treino.

O relatório foi dividido em duas partes. A primeira parte explica o problema suportado pela literatura recente, e esclarece o que é o Surf e o que é a sua performance. A segunda parte é um relatório prático das atividades de estágio, mostrando a análise das tarefas de surfing e o planeamento da época desportiva. Esta segunda parte também tem uma investigação ação, com o objetivo de compreender a relação entre as necessidades psicológicas básicas e a resistência mental e a influência do sexo, idade e anos de experiência desportiva na força mental.

Este estágio permitiu o desenvolvimento de capacidades ligadas ao planeamento e execução de um ciclo de treino para um determinado período de preparação, bem como os períodos competitivos. As tarefas durante o estágio foram diversas, começando pela avaliação física dos atletas e passando pelo planeamento das unidades de treino, acompanhamento do desempenho dos atletas, feedback e melhoria das suas capacidades. Desta forma foi aprofundado o conhecimento das áreas do surf, das suas técnicas e tática, permitindo um feedback mais abrangente aos atletas e cumprir todas as tarefas relativas ao rendimento no treino de surf.

Palavras Chave: Surfing, Atletas jovens, Técnicas de Surf, Performance, Planeamento

ABBREVIATIONS LIST

SCV - Surf Clube de Viana

BT - Bottom Turn

TO - Take-off

ST - Sport Training

CHAPTER ONE: STATE OF ART

1. Activity Context

Because it's one thing to teach to surf; another, quite different, is to teach how to "be a surfer." (Macedo et al., 2004, p. 5)

When discussing surfing, we frequently focus on a fun viewpoint, well-being, leisure, the environment, and a new way of perceiving and being in life. It is an activity that evokes passion by providing access to nature, specifically contact with the sea, which produces a range of pleasant sensations that are difficult to explain (Moreira, 2009).

Surf has its origin in Polynesia. In 1590 in Peru, Jesuit missionary Jose de Acosta described a fisherman riding waves on a wooden vessel as the first record in history. Unlike in Peru, the wave-riding was just a side product of serious activity – feeding the community (José de Acosta, 1986).

Modern surf history is directly connected to Hawaii, where the activity was also recreational and part of the culture. Surfing permeates Hawaiian society, religion, and Polynesian Mythology. Revolution in the surf started in 1778 with James Cook when he arrived on Hawaii island and saw a man catching a wave on the top of the wooden plank (Warshaw, 2017).

After Cook's record, European tourists were amazed by surfing and visited Hawaii and surrounding islands. Nevertheless, with Europeans coming, the original population reduced almost to 10% over time caused by land viruses. Even with surf being a part of Polynesian culture, Western missionaries discouraged it and forced it to be seen as immoral, connected to sexuality, nudism, and unabashed exuberance, and started to disappear (Kampion & Brown, 2003; Vrbica et al., 1990).

At the beginning of 20 century, thanks to surfers like George Freeth and Duke Kahanamoku or writer Jack London, surf experienced a rebirth and started to blossom. Waikiki boys created a new perception of this sport, and a new subculture was born. In the 60' longboard surfing was on the top - the Endless Summer movie became known worldwide. Surfboards started to be shorter at the end of 60,' and in 1976, the first foundation of International

Professional Surfers was established and organized the first world competition. It was the beginning of professional surf (Baker, 2007; Vrbica et al., 1990).

For most surf participants, the activity causes a sense of well-being, gratifying feelings, and emotional excitement. It is also the most spiritual experience (Fuchs & Schomer, 2007) and a piece of art (Vrbica et al., 1990). For some, surfing means the most archetypal and symbolic relationship between human, rhythm, and nature forces (Kampion & Brown, 2003). Surfing, for its captivating nature and intrinsically rewarding senses, goes to the point that creates an addiction, and it goes beyond the sphere of being recreational activity and sport to the fact it turns out to be a lifestyle (Fuchs & Schomer, 2007). Surfing when included in Physical Education can be also categorized in Individual Expectations; Self-Confidence and Socialization, with Individual Expectations being the most important factor, being a safe activity and an important mediator for making new friends and being part of a group (Silva et al., 2022).

2. Surf Characterization

As a naturalistic practice, several limits are anticipated, in which the surfer's sensibility promotes both his capacity to react and his interaction with natural forces (Moreira, 2009).

Surfing involves three basic tasks, paddling, take-off, and wave riding (Loveless & Clare, 2010). It is sliding on the wall of the wave while standing on the top of a board, in the direction of the beach. While the board and the water conditions are critical components of this sport, its expression is discovered via maneuvers while surfing the wave. (Moreira, 2009; Moreira & Peixoto, 2014). To ride a wave, the surfer has to paddle out to the line up (the place where the ocean swell is formed into a wave), catch it (Farley et al., 2012), and execute the correct take-off (Moreira, 2009), a technique used to transition from the prone to the standing posture, followed by sliding on the wave wall (Henriquez, 2004). It can be performed professionally or as recreation (Farley et al., 2016).

However, before the actual Surfing starts, practitioners must face one of the most physically demanding components of the activity, paddling (Coyne et al., 2016). Farley et al. (2012) describe two paddle types. "Paddling" as "forward board propulsion" refers to the motion of paddling with alternating arms, used to get after the zone of the wave break, and "paddling for wave" starts at the moment when the surfer turns toward the beach and continues paddling forward as the wave forms until they either use the take-off to ride the wave or get out of it.

Slow paddling can be sustained for more than ten minutes, moderate paddling for just a few minutes, and quick paddling, which is utilized to help the take-off, for only a few minutes. Due to the rapidly changing form of the wave, a surfer must accelerate fast and do a take-off quickly. However, the take-off time is short, too early on feet and the wave gradient is not enough steep for the surfer to achieve the required speed, and the wave will pass by, or too late, and the surfer becomes trapped in the wave's lip, resulting in a wipeout (Henriquez, 2004).

Take-off is an explosive action used to fast stand up on a surfboard. This motion differentiates successful surfers from unsuccessful; it is fundamental to the surfer's proper execution of planned maneuvers. Three sequential phases characterize the take-off:

1. The push-up phase starts with initial contact, after paddling, when the hands are placed parallel under the chest to the point at which both hands leave the board.
2. The transition phase begins when both hands leave the board, and the front and back feet touches the board.
3. The reaching phase begins with the foot touching the surfboard and continues until the surfer achieves stability on the surfboard.

Additionally, surfers must be able to execute the take-off properly in diverse conditions that may alter between or within surf sessions (Borgonovo-santos et al., 2021).

After reaching a standing posture on the board, the front arm is defined as the homolateral front leg and the back arm as the homolateral back leg, with the front rail of the board being on the side of the toes and the back rail being on the side of the heels (Moreira, 2009). There can be a "goofy" standing posture, which means the left foot is in the back and right on the front, or, more usual, a "regular" standing posture with the right foot in the back and left foot on the front (Warshaw, 2003). Typically, the stance on a surfboard is a half-squat with flexed knees. While standing, the back knee is often pressured in a valgus posture as the surfboard accelerates down the wave (Everline, 2007).

One of the characteristics of breaking waves is that they break to the left (left-handed) or right (right-handed) from the view when surfing from the sea towards the shore, depending on various external circumstances (T. Butt, 2014). The direction wherein a wave breaks defines which way the surfer surfs. A regular-footed surfer riding a right-breaking wave is referred to as a surfing frontside due to the surfer's body and head facing the wave's wall in a surfing direction. Backside surfing occurs when the regular-footed surfer's back is turned toward the wave's wall, riding the left-handed wave (Furley et al., 2018).

If we look at surf time-motion analyses, the activities are divided into paddling, remaining stationary, riding a wave, and other activities such as duck diving or board recuperation (Meir et al., 1991). More recently, it added paddling to the wave, represented as sprint paddling when the surfer accelerates to catch the wave (Farley et al., 2012; Secomb et al., 2014). According to studies evaluating professional (Farley et al., 2012, 2018; Mendez-Villanueva & Bishop, 2005) or recreational (Meir et al., 1991) surfing, paddling dominates the activity dynamics with a notably short time spent wave riding.

Farley, Training & Harris (2012) reported that wave riding represented just 8 % of total surfing time. In contrast, Meir et al. found that it contributed 5%, and Mendez-Villanueva & Bishop (2005) found it counted 3,8%. Meanwhile, paddling represented on average 49,8% of heat time, whereas remaining stationary was 35,2% of total time in the studies mentioned above. The same analyses during a 2 hours surf session found that it covered 6293,2 meters, with around 52 minutes paddling (42,6%), 5 minutes sprint paddling (4,1%), 64 minutes remaining stationary (52,8%), and only 3 minutes in wave riding (2,5%) (Secomb et al., 2014). Recent research by Farley, Training & Secomb (2018), evaluating two point-break and one beach break, found that, on average, the time spent paddling remains 44%, and stationary time is 42%. The percentage of the time spend riding waves and other activities is comparable to previous studies.

The same analyses but with a sample constituted by young surfers participants in regional competition with 15 minutes surf heat found a similar pattern with paddling also the most frequent action 57%, then stationary 13%, sprint paddle for wave 3,8%, wave riding 3%, and 23% miscellaneous activities of the total time (Minghelli et al., 2017).

When analyzing external (physical work) and internal (impact of the work on physiological responses) training load of surf athletes in both training and competitive scenarios, the understanding of physiologic and physical effects is optimal (Farley et al., 2017). During surfing, total distance, total time and maximum speed (external load parameters) have an important influence in internal load (Silva et al., 2020a).

3. Techniques and Maneuvers in Surf

Despite the evident significance of maneuvers in professional surfing performance, there is no united classification in the sport. The perspectives and designations vary among coaches and

specialists in the field and the scientific community, despite widespread agreement about the methods' use (Cruz, 2020; Moreira, 2009).

According to Lundgren (2014), the surf technique can be classified into seven maneuvers:

1. Cutback
2. Snap
3. Snap with slide
4. Reverse
5. Floater
6. Tube ride
7. Aerial

Everlyne (2007) characterizes cutback, snap aerial, and barrel (=tube ride) too but adds also:

1. Pumps
2. Stalling
3. Bottom turn

Mulquin and Thouard (2011) describe the technique of ten maneuvers:

1. Take-off
2. Bottom-turn
3. Roller
4. Tail slide
5. Carve
6. Snap
7. Cut-back
8. Tube
9. Floater
10. Aerial

And Moreira and Peixoto (2014) describe nine groups of maneuvers:

1. Take-off:
 - a. Take-off
 - b. Angled take-of
 - c. Vertical take-of

2. Sliding on the Wall:

- a. Drop
- b. Angled drop
- c. Reverse

drop

- d. 80° drop
 - e. Reverse 80° drop
 - f. Air drop
 - g. Trim
 - h. Hopping
 - i. Stalling
3. Bottom turn:
- a. Bottom turn
 - b. 180°
4. Reverse 180°
5. Middle Turn:
- a. Fade
 - b. Pump turn
 - c. Mid face turn
 - d. Cut Back
 - e. Roundhouse
 - f. Rebound
6. Top Turn:
- a. Top Turn
 - b. Vertical Turn
 - c. Over vertical turn
 - d. Extended vertical turn
 - e. Snap 6. 360°
 - f. Reverse 270°
 - g. Reverse 360°
7. Sliding Over the Wave:
- a. Curtain Floater
 - b. Floater Re-entry
 - c. Lip Floater
 - d. Foam Floater
 - e. Reverse 180°
 - f. 360° out
 - g. Lip Slide
8. Airs:
- a. Air
 - b. 90°
 - c. Reverse 90°
 - d. 180°
 - e. Reverse 180°
 - f. Reverse 270°
 - g. 7. 360°
 - h. Reverse 360°
 - i. 90° Switch Stance
 - j. Reverse 180° switch stance
 - k. Long Axis 360°
 - l. Transverse Axis 90°
 - m. Transverse Axis 360°
 - n. Transv90° Frontal90°
9. Sliding Inside the Wave:
- a. Cover Up
 - b. Tube
 - c. One Grab
 - d. Stand UP
10. Final:
- a. Kick out
 - b. Pull out
 - c. Step off
 - d. Nose dive
 - e. Bail out dive
 - f. Bail out jump
 - g. Uncontrolled Wipe out

The execution of maneuvers is the surfer's primary purpose during surfing, and the sorts of maneuvers depend on the athlete's skill level and wave characteristics (Scarfe et al., 2003). During contests, surfers' movements are scored based on their quality and diversity. To advance to the next level of the competition, surfers must ride the wave for a certain amount of time while executing a range of maneuvers and demonstrating progressive and innovative surfing. There is a relationship between wave scores and overall frequency of maneuvers, duration of the ride, and diversity of maneuvers (Peirão & Santos, 2012).

4. Performance in Surf

Surfing performance is determined by physiological aspects, psychological and cognitive capabilities, technical skills, and tactical abilities. The equipment and environment are influence factors (Mendez-Villanueva & Bishop, 2005). Additionally, anthropometric data should be seen as performance facilitators rather than predictors (Coyne et al., 2016).

4.1. Physical Factors

Surfing is a complex dynamic sport that demands the surfer to demonstrate maximal strength, explosive and resistance strength in the lower and upper limbs, as well as aerobic resistance, dynamic balance, reaction and action speed, flexibility, and mobility (Mendez-Villanueva & Bishop, 2005; Silva et al., 2020b; Tran et al., 2015). Surfing is defined by high-intensity intermittent gestures that need certain traits for the surfer to execute maneuvers most radically and effectively achievable (Chantel C et al., 2016). The exercises are chosen because strength and power are critical for explosive moves, whether paddling or executing maneuvers (Bernards et al., 2017).

When surfers return to the line-up after a wave ride or change positions to catch the wave with more potential, paddling endurance seems necessary. Therefore, a high degree of paddling endurance has been claimed to be a critical performance feature since it may also help prevent tiredness from impairing surfing performance towards the conclusion of heat or competition (Farley et al., 2012; Loveless & Clare, 2010; Tran et al., 2015). A study by Furness et al. (2016) showed that professional surfers' peak oxygen consumption intake and aerobic power were substantially more significant than those who practice the sport recreationally. Another critical physiological component to consider is paddling power. It may enable surfers

to have a faster entry into the wave, leading to better positioning and speed in entering to wave. It also allows the surfer to catch the wave with more potential. (Furness et al., 2016; Loveless & Clare, 2010; Sheppard et al., 2012; Tran et al., 2015).

Upper-body strength is theorized to affect both paddling power and pop-up performance during the take-off phase. A quicker take-off enables a surfer to begin riding the wave sooner, increasing the time available for scoring maneuvers (Coyne et al., 2016; Sheppard et al., 2012). Lower-body strength may even more directly affect a surfer's competitive success. Increased lower-body strength helps surfers create a more significant water displacement during a turn, implying a more explosive maneuver (Secomb et al., 2015; Tran et al., 2015).

Also, motor control abilities seem critical, particularly landing and postural control. As the competitors advance up and down the wave's face, they must execute a series of fundamental maneuvers with speed, power, and flow to get a high competition score. To accomplish so, they must maintain constant stability (Forsyth et al., 2020; Paillard et al., 2010).

4.2. Technical Factors

Surfers' technical abilities (i.e., maneuver execution) are critical since they directly determine competition success. While several maneuver variants have varying degrees of difficulty, they may be classified into categories: aerials, turns, and tube rides (Lundgren et al., 2014).

After mastering the technique of controlling the surfboard, technique maneuvers are often tried. Turns are the most fundamental maneuvers as surfers ride from the bottom to the top, turning the board with power in a critical part of the wave (Everline, 2007).

Acceleration is often performed by executing precise rotations up and down the wave, rotating the board in the correct direction with the hips while maintaining an adequate plane angle for the desired velocity. The surfer might "pump" the surfboard by flexing and extending the front hip and knee to achieve more speed (Everline, 2007).

Bottom turns are essential because they allow a surfer to move from going down a wave to returning up. The bottom turn helps to generate speed to climb the wall. If executed from the frontside, it is a through trunk flexion and forward bending, with shoulders parallel to the stringer (wood strip that runs from nose to tail, in the center of the board), to put the board's inside rail in the water, followed by trunk and leg extension along with the turn until the wall rises. The backside execution involves rotating the trunk in the same direction as the slide, with the front arm towards the wave wall. The shoulders are perpendicular to the stringer,

allowing the hips to approach the wave wall to place the inside rail in the water (Moreira, 2009; Souza et al., 2012; Warshaw, 2003)

The cutback is frequently the first surfing move athletes learn. It's a sensitive replacement procedure in sequence, speed, radicalness, and accuracy. This maneuver must sustain initial speed while the wave flattens and slows. Wave energy is recovered by returning to the breaking point. An excellent cutback is associated with a nice rail carving and re-entry (Mulquin & Thouard, 2011).

The snap is associated with a massive rail grip across the whole rail, spray, return to the water, rapid brake, and controlled slide. Climb the wave and counter its velocity by twisting the trunk, hips, and shortboard 180°. The snap involves flexing the lead hip and knee while extending the back hip and knee on the wave's lip and falling again (Everline, 2007; Mulquin & Thouard, 2011).

With an aerial or tube ride, the surfer scores more in the competition than others. Nevertheless, to execute, for instance, an aerial, the athlete must have much experience (Forsyth et al., 2017). According to Macedo (2004), turns, generation speed, cutback, and snap are the techniques and maneuvers an athlete learns during the first years of surfing practice.

Performing aerial, they utilize acceleration and timing for a surfer to extend their surfboard over the lip of a breaking wave before re-landing on the face of the wave to continue or complete their scoring attempt (Forsyth et al., 2020). Surfers position themselves within the breaking wave during a tube ride to spend as much time inside the barrel (Everline, 2007).

Exercises that replicate the sport's specific motions outside of the water may aid in developing the sport's technique in the water; consequently, they have to be included in surfers' training plans alongside standard strength and power exercises (Chantel C et al., 2016; Forsyth et al., 2020).

4.3. Tactical Factors

Decision-making abilities in wave selection are critical components of a surfer's competitive approach. Knowing which waves are the best provides surfers with a competitive advantage over their opponents since they can ride the waves with the most scoring potential. Wave selection significantly improves with increased experience. The activity profile may provide

valuable information about the surfer's heat strategy as one of the tactical instruments for assessing wave decision-making abilities. Through the activity profile, it is possible to analyze wave selection choices and competitive behavior (Farley et al., 2018; Furley & Dörr, 2015). Reading the conditions of the sea and waves is a crucial point. It facilitates the athlete's passage to the line-up and helps the athlete apply the correct maneuver for each wave session. Coach and athlete should observe and discuss the spot conditions at all times, how often the sets come, the number of waves per set, and the best wave in the set (Caetano, 2018).

Priority is a critical component of Surf Competition. When a surfer has priority, they can choose which waves to take and which to let pass. If two surfers return to the line-up, priority is given to the surfer who reaches the take-off zone first. Given the natural variety of waves, it is critical for the surfer to choose the most potential waves with the best shape to set themselves up for success. Priority competitors are given the right to catch any wave of their choice. That enables the surfer to wait for the perfect wave at the ideal spot, enhancing the athlete's chances of achieving a high wave score (Association Surfing Professionals, 2022; Bernards et al., 2017).

As the wave ride score and scoring potential are based on criteria of doing the maneuvers with power, flow, and speed and performing them innovatively with progression, the requirements emphasize the critical nature of athletes having a diverse range of maneuvers (Lundgren et al., 2014). The opening statement is the most crucial aspect of any ride for judging requirements—a big first turn, more profound from the bottom and more vertical from the top. The first motion also propelled the surfer throughout the remainder of the wave, giving speed, strength, and positioning to execute various maneuvers according to judging criteria. Finalization is a final judge's statement. Solid execution and secure complementation of maneuvers are necessary (Kempton, 2008).

Top-down trajectories follow take-off, midface, wave face, or bottom-up trajectories, starting with bottom turns. After bottom-up trajectories, top turns, midface, and wall face turns, sliding over or out of the wave with an aerial are possibilities. Different trajectories allow the athlete to distinguish the maneuvers that can be executed (Moreira & Peixoto, 2014).

The more time a surfer spent sitting, the worse the result was. More activity, which counts as a tactical option, may contribute to competitive success during a heat (Everline, 2007).

The surfer must paddle with high and low intensity through the least resistance. "Channel" refers to that way. This "channel" is unique to each surfing break and often takes advantage of a seaward current flowing outside and behind the area of breaking waves. This "channel" is

often near pier pilings, jetties, sandbar zones, or shallow reefs, which cause danger, but when used properly can be an important mediator of getting back to the outside (Everline, 2007).

Knowing and observing the opponent athletes allows the surfers to have diverse postures in front of each competitor. It allows the athlete to execute innovative maneuvers or wait for the wave with major potential to assure a better score (Caetano, 2018).

5. Surf Competitive Structure

The organizations responsible for organizing contests vary according to their professional or amateur characteristics, location, and surfing discipline. Two associations oversee the international competitive framework.

The World Surf League (WSL) oversees five international circuits, including men's and women's competitions. The Men's Championship Tour (WCT), which features the world's top 34 surfers competing in 11 events worldwide, and the Women's Championship Tour, which features the world's top 16 surfers competing in ten events worldwide, are the world's standard competitions and currently the top of competitive surfing. Additionally, the WSL organizes the world junior, big wave, master, and longboard *Surfing* competitions and the Qualification Series and Challenger (WQS), a series of championships that qualify surfers for the World Championship Tour (Association Surfing Professionals, 2022; Cruz, 2020; World Surf League, n.d.).

The International Surfing Association (ISA) is recognized by the International Olympic Committee as a global regulatory authority for surfing. ISA oversees six surfing championships: World Junior Surfing Championship (ISA WJSC), World Surfing Games (ISA WSG), World Masters Surfing Championship (ISA WMSC), World StandUp Paddle and Paddleboard Championship (ISA WSUPPC), World Longboard Surfing Championship (ISA WLSC), and World Adaptive (Para) Surfing Championship (ISA WASC) (*International Surfing Association*, n.d.; *ISA Rulebook & Contest Administration Manual 2021*, 2021).

On a national level, each country has its surfing organization. In Portugal, the Portuguese Surfing Federation (FPS) is accountable for activity scheduling, federal sports rules, the disciplinary code, athlete, coach, judge and technical training, social responsibility, and environmental responsibility. Men's National Championship Surf Open and Women's National Championship Surf Open are organized by the "Professional Association of Surfers" (ANS) and approved by FPS. The National Championship men's and women's (Liga MEO)

have five stages around Portugal. Additionally, clubs often organize regional and local championships and are authorized by the FPS (*Federação Portuguesa de Surf*, n.d.; *Rulebook FPS*, 2022).

Surfers compete against their opponents in several time-limited heats to progress through the contest's rounds. Competition happens between two, three, or sometimes more opponents. Furthermore, heat duration typically lasts between 20–40 minutes. Athletes try to ride several waves during a competitive heat, with their best two single-wave scores put together to decide the heat winner. The performance is judged from the moment the surfer gets on the board and slides down the wave to the point they leave it. There is a scoring scale of 0-10, with 10 being the highest score for an excellent wave and 0 being the lowest score for a poor wave. Each competitor's wave is judged subjectively by a panel of up to five judges on the following criteria:

- a) commitment and degree of difficulty,
- b) innovative and progressive maneuvers,
- c) combination of main maneuvers,
- d) diversity of maneuvers,
- e) speed, power, and flow (Association Surfing Professionals, 2022; Farley et al., 2018; Klingner et al., 2021; Moreira, 2009).

Thus, a surfer's speed, power, and fluidity are required to execute radical, controlled movements in the wave's most critical parts. When giving points for waves-ridden, innovation and evidence of progressive surfing, diversity, and a combination of high-quality maneuvers will be considered. The surfer who meets these requirements by demonstrating a higher level of dedication and difficulty while surfing the wave will maximize the score possibilities of that wave (Association Surfing Professionals, 2022; Cruz, 2020).

CHAPTER TWO: INTERNSHIP

1. Internship

The internship at Surf Clube de Viana lasted six months, and it began in November 2021 and concluded in April 2022. The objectives were determined before the internship started following the study's program and the club's interests. The aims set are discussed below.

1.1. General Objectives

The main objective of this internship was to apply and deepen the knowledge gained throughout the master's program and the experience gained so far while accompanying the principal coach of Surf Clube de Viana in all activities connected with the athletes' training. General objectives were formed before the start: assessing, monitoring, and improving athlete's surf to observe their development during their training. Also, to assimilate as much information as possible provided by the technicians' knowledge in sports training, conduct research, acquire and use the information gained throughout training and transfer during the internship to expand understanding of the area and analyze and enhance the club's activities. Along with the purpose mentioned above, some specific objectives were set.

1.2. Specific Objectives

- Planning and involvement in specific training units to enhance athletes' technical and tactical skills;
- Accompaniment during the planning of the general sports season;
- Training recording and later technical analysis of athletes' performance;
- Participation in Regional and Intern Surf Competitions;
- Participation in Training Camps;
- Physical testing;
- Technical analyzes;
- Participate in the coach's and technician's meetings every month;
- Promoting surf culture across the athletes.

1.3. Characterization of Surf Clube de Viana

Surf Clube de Viana (SCV) is currently located at the High-Performance Surfing Center on Cabedelo beach in Viana do Castelo (CAR-Surf), responsible for the administration and established its headquarters.

SCV was founded in 1989 and quickly established as Portugal's first surf school in 1990. Two years after its foundation entered the Portuguese Surfing Federation and, later, after two years, to the European Surfing Federation. The entrepreneurial attitude of this non-profit organization reflects the company structure founded on the pillars of innovation, persistence, and precision that have led it to build an impressive record since 1989, significantly contributing to the writing of surfing's national and international history.

Surf Clube de Viana fast achieved renown for its exceptional capacity to organize main European, national and regional tournaments. Additionally, it has distinguished itself by promoting pedagogy and the advancement of this modality through training courses, school sports, social inclusion programs, adapted surfing meetings, exchanges, and environmental awareness.

It is also involved in tourism development through various international cooperation projects and recreational surfing.

The Surf Clube de Viana Training School is built on a structure that combines human, technical, administrative, and financial resources to train all surfers. From beginners taking their first steps to athletes improving their sporting performance and competing at the highest level.

1.3.1. Human Resources

Surf Clube de Viana is composed of Direction Organ represented by:

Presidente: João Miguel Aleixo Zamith

Vice-Presidente: Diogo Manuel Marques

Vice-Presidente: Vânia Maria Brás Ferreira da Cruz

Tesoureiro: José Manuel Maio Gomes Moreira

Secretário: Marco Rui Miranda Gonçalves Areias

The direction consists of six people from whom two also frequently train the athletes. Clube activities are managed by the Technical Coordinator and Head-Coach Gonalo Cruz with a master's degree in sports surf training, and thirteen coaches: Raquel Otero, Tiago Prieto, Sofia Gonalves, Miguel Silva, Hugo Madruga, Joo Cunha, Diogo Marques, Bruno Silva, Joo Rodrigues, Maria de Ftima Carvalho, Mariana Gonalves, Rafael Moraes, and Guilherme Bastos.

1.3.2. Material and Facility Resources

As noted previously, the SCV is currently based at the Viana do Castelo High-Performance Surfing Center, which Branco Cavaleiro Arquitetos designed in 2009 with a sustainable ambition that enhances an evolving structure for practitioners of the modalities. The structure has seven shared rooms inside. Includes changing rooms, warm-up rooms, training rooms, medical offices, massage and recovery rooms, administrative offices, and a kitchen. Externally, the CAR has changing facilities, a storage area for technical equipment, and a hanger for the storage of boards. Surf Clube de Viana also has many material (Table 1) resources essential for surfing and meeting the club's other purposes. The club also has a nine-seat car, jet ski, and wheel-adapted chair.

Additionally, the SCV believes that athletic success must be accompanied by academic performance and that the two complement one another. The club provides an equipped study room for athletes and students to combine training and studies inside the CAR's facilities.

TABLE 1 – SURF CLUBE DE VIANA MATERIAL RESOURCES

Storage Material	Quantity	Fitness Material	Quantity
Surfboard	51	Slackline	1
Longboard	4	Remo WaterRower	1
Bodyboard	37	Bodybuilding Helmets	6
SUP board	5	Weight Bar	1
Leash	32	Gym Ball	3
Signalization T-shirt	125	Balance Board	6
Bodyboard Fins	17	Kinesis Machines	2
Wetsuit	128	Jump Box	1
Skateboard	6	Foam Roller	5
Helmet	6	Punching Bag	1
Protection Accessory	4 kits	Small Training Ball	6
		Kettlebell	6
		Swim Ergometer	1
		Pull Up Mate	1
		Acceleration Squat Excellence	1
		Gym Mats	20
		Hanging Rope Suspension	2 kits

1.3.3. Training Resources

The primary training field is the beaches and ocean in the surfing context. Viana do Castelo is a municipality in northern Portugal. As previously stated, CAR-Surf is situated on Cabedelo beach, where most training sessions also occur. Occasionally, the Surf Clube travels to neighboring beaches to train in different conditions and maintain links with the local surf schools.

The gym is another zone where the training takes place. As stated above, physical condition is one of the critical components of a surfer's performance. The gym at CAR-Surf is fully equipped to promote the improvement necessary to achieve athletes' goals.

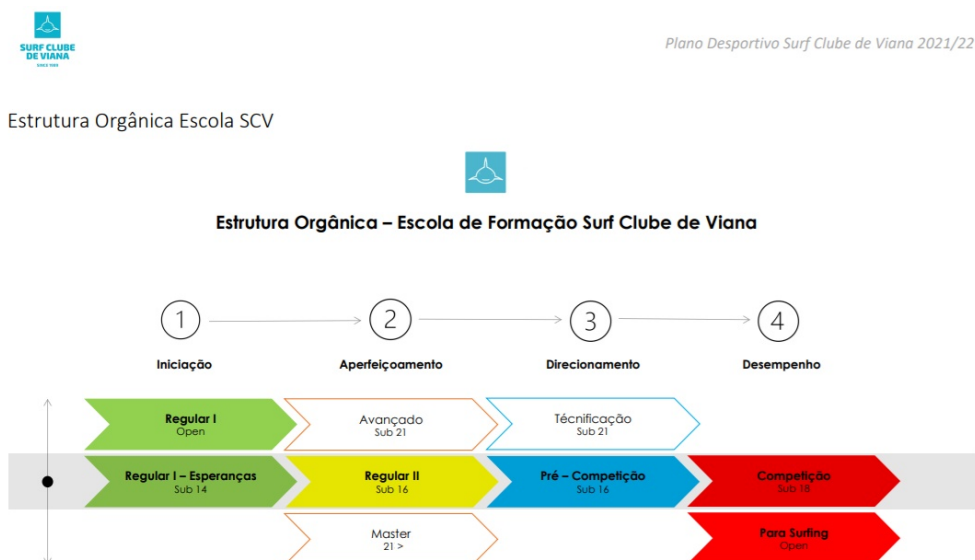
Surfskate is the element helping to increase the surf technique. Its movements can be closely compared to the movements required when surfing. The interaction between modalities of the same group or disciplines within the same surfing modality allows for comparable activities, offering transfer scenarios and aiding the learning process. Special skates prepared for carving turns are used for bottom turns, and top turns fitness (Moreira & Peixoto, 2014).

Video analyses take place in the study room. Camera and interactive television are other elements used in surf training to record the videos and analyze them. Athletes also receive the videos at home.

1.4. Training Classes

The SCV organizational (Figure 1) structure divides the training into several classes, where athletes and practitioners may access information and programs that aim to establish the club.

FIGURE 1 - SURF CLUBE DE VIANA ORGANIC STRUCTURE



REGULAR I - ESPERANÇAS

Training Objectives

1. Safety
2. Ethics and Rules in the water
3. Paddling and technique to pass the waves and reach the Outside
4. Turning the board sitting
5. Catching the unbroken wave
6. Take-off
7. Turning on the wave
8. Trimming
9. Fitness Ability

Class Characterization

Beginner athletes aged 8-12 without autonomy in the water. Athletes have successfully demonstrated progress in the initial phase and first steps of Surfing Techniques, and they also showed interest in learning and improving with future competition potential.

The training goal is to implement the first elements of the competition and promote initial adaptation to the competitive environment. However, the activity is still delightful and based in ludic form. The main objective is to improve the technique to advance to the next category of Regular II.

REGULAR II

Training Objectives

1. Conditions Analysis
2. Reading the ocean and positioning in the water
3. Wave prevision
4. Paddling Improvement
5. Take-off Technique
6. Drop
7. Top-to-bottom wave ride
8. Introduction to Foundation maneuvers
 1. Speed Creation
 2. Bottom-turn
 3. Snap
 4. Cutback
 5. Re-entry
9. Fitness Ability

Class Characterization

Intermediate athletes between 12-14 are partially autonomous in the water. They have successfully demonstrated their progress to pass the category Regular I, and they showed the capacity to learn basic Surfing Techniques and Rules.

The training process in this stage focuses more on improving technical skills, competition goals to foster a competitive environment, and promoting the athlete's complete autonomy.

COMPETITION

Training Objectives

1. Improving and Maintain the Foundation maneuvers
 - a. Speed Creation
 - b. Bottom-turn
 - c. Snap

- d. Cutback
 - e. Re-entry
- 2. Improving the Advanced maneuvers
 - a. Top-turn
 - b. Floater
 - c. Finishes
- 3. Introduction to Elite maneuvers
 - a. Aerial
 - b. Tube Ridding
- 4. Improving Tactical Abilities
 - a. The heat Time Management
 - b. Positioning during Competition
 - c. Priority System
 - d. Psychological Ability
 - e. Improving Decision-making Skills
- 5. Fitness Ability

Class Characterization

Athletes aged between 11-18 years with complete autonomy in the water. They successfully passed the group Regular II and performed all required abilities and skills of competitive athletes. They demonstrate the will and commitment and are sure they want to compete. Athletes can surf waves with confidence, showing correct positioning in the water. They prove confidence when catching waves and taking-off. A variety of maneuvers are performed on their wave ridding.

The training process maximizes the athlete's technical, tactical, physical, and mental potential. Learn how to deal with competition and adversaries.

ADVANCED TECNIFICATION

Training Objectives

- 1. Maintain the Foundation maneuvers
 - a. Speed Creation
 - b. Bottom-turn
 - c. Snap
 - d. Cutback

- e. Re-entry
- 2. Improving the Advanced maneuvers
 - a. Top-turn
 - b. Floater
 - c. Finishes
- 3. Introduction to Elite maneuvers
 - a. Aerial
 - b. Tube Ridding
- 4. Fitness Ability
- 5. Enjoyment of Surfing

Class Characterization

Athletes aged between 14 and 18 years showed the capacity to pass the Competition Skills. Nevertheless, athletes showed the commitment and will to continue to train and progress in their surf; many of them already know they do not want to compete but still, some of them yes.

The training process continues with objectives similar to the competitive group. Training focuses on improving and maximizing the athlete's technical, tactical, and physical abilities with less pressure on results and more attention on enjoyment and pleasure from the activity itself.

PARA-SURF

Training Objectives

- 1. Safety
- 2. Conditions Analysis
- 3. Reading the ocean and positioning in the water
- 4. Wave prevision
- 5. Paddling Improvement
- 6. Take-off Technique
- 7. Drop
- 8. Bottom-turn
- 9. Top-to-bottom wave Ride

Class Characterization

Athletes with partial autonomy showed the ability to learn and pass the first steps and demonstrated the capacity to learn and reach the basis of surf skills.

The training focuses on safety in the water, improving take-off technique, and riding the wave from its bottom to top.

1.5. Groups Organization and Training Schedule

Weekly schedules were established in September and were maintained throughout the school year. Several changes were made over the planning process to suit the coaches' availability, and some alterations happened during holiday times to match availability and the number of athletes present. Schedules were also exposed to occasional periodic modifications during the peak of championships stages.

Sports Training (ST) is scheduled from Wednesday to Saturday. This training group consists of Regular I - Esperanças, Regular II, Competition, Technification Classes, and Para Surf adjusted to the athletes' participation availability. During the internship, I had the chance to follow every class (Figure 2) of the ST group, while the Competition class, with the objective to succeed in championships, I followed the most.

FIGURE 2 - WEEKLY SCHEDULE 31. JANUARY – 6. FEBRUARY

Horário Semanal SCV - 31 Janeiro a 6 Fevereiro													
SEGUNDA - 31		TERÇA - 1		QUARTA - 2		QUINTA - 3		SEXTA - 4		SÁBADO - 5		DOMINGO - 6	
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Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	
Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves		Sofia Gonçalves	
Transporte		Transporte		Transporte		Transporte		Transporte		Transporte		Transporte	
Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva		Miguel Silva	

Surf Clube de Viana. Athletes Surf 5-12 hours a week, from which 5-9 hours are the from training in the club. Participation in training seasons is 2-4 times a week.

For further technique and tactic analysis, I followed three athletes with the most sporting experience and competitive experience. Their breve characterization and the main objectives are below.

Athlete A:

The athlete A has the regular stance, has 3 years of sporting experience, and competes in Under 14 and Under 16 categories. Has good physical preparation and is healthy and athletic. The athlete has excellent self-motivation to train. The knowledge of surf location and spots could improve.

The athlete has good speed generation on the board. He can execute cutback and do the re-entry. He needs to improve the bottom turn and snap. Also needs to enhance the take-off technique and open more the base on the board. The athlete feels confident, has the right wave selection, and needs to concentrate better on training sessions. The athlete needs to enhance the wave entry, maneuver selection, and handle the crowd better in the water.

Technical objectives for current Sport Session:

- Perform maneuvers more consistently
- Improve the take-off technique
- Finish the wave with a solid maneuver
- Feel more confident in more challenging sea
- Being able to deal with the crowd

Athlete B:

The athlete B has the regular stance, has 3 years of sporting experience, and competes in Under 14 and Under 16 categories. Has lacks physical preparation but is healthy and athletic. The athlete could improve the self-motivation to train. Has good knowledge about surf spots and locations.

The athlete can execute cutback and snap, and he needs to improve the bottom turn and cutback. Also, it is necessary to improve the weight distribution on the board, improve the base position, and enhance speed generation. The athlete has the right wave selection, good

wave entry, and suitable maneuver selection. He can handle the crowd in the water but needs to work on self-confidence and overcome the fear of bigger waves.

Technical objectives for current Sport Session:

- The reading of the sea
- Adjust base position
- Execute the bottom turn on the base of the wave
- Do not lose speed doing maneuvers
- Increase consistency

Athlete C:

Athlete C had the goofy stance, has the 5 years of sporting experience, and competes in Under 16 and Under 18 categories. Has lacks physical preparation but is healthy and athletic. The self-motivation to train is on a sound level. The athlete has an excellent knowledge of surf spots and locations.

The athlete can execute cutback and snap, and he needs to improve the bottom turn and cutback. Also, it is necessary to improve flexion and base position and do the take-off faster. However, the athlete has the right maneuver selection and needs to enhance the selection of waves. It is also necessary to work on wave entry and speed generation. The athlete needs to enhance self-confidence and handle the crowd better.

Technical objectives for current Sport Session:

- Fast take-off
- Flexion in maneuvers
- Touching the water with a hand during cutback and re-entry execution
- Execute layback
- Train the speed and projection of maneuvers

2. Training

Surfing as a sport is defined as a very complex coordination modality, and its practice demands the development of various cognitive capacities and physical abilities (Guedes et al., 2018).

When planning the training, we must consider many influencing factors, such as surf ability, understanding of surf rules related to surf zone movement, priority rules, and the surfer's physical condition. Environmental conditions include wave height and intensity, beach breaks, currents, tides, or climate. The kind of wave on which it will take place since there is a relationship between the waves and the maneuvers performed by the surfers. Additionally, the wave type is connected to the surfer's skill level (Moreira, 2009).

2.1. Organization and Management of the Training Process

The organization is carried out by the technical director and then individually by the coaches according to the guidelines designated by the level defined in the technical meetings.

2.2. Structure and Training Type

2.2.1. Training Type

The performance development process includes the evolution of many capabilities during the year, including technical, tactical, physiological, and physical (Farrow & Robertson, 2016).

The technique can be described as executing various maneuvers on the wave's maneuverable parts. Technical preparation is used to develop or enhance certain types of surf techniques (Caetano, 2018). The tactical component is addressed and set in the lead-up to the competition, and it plays a critical role before the contest (Moreira & Peixoto, 2017). Physical abilities include activities involving speed, coordination, strength, and resistance, and these skills are developed by integrating them efficiently while following the fundamental principles and methodological training features (Farley et al., 2012). The psychological component is built subtly via interaction between coaches, athletes, and colleagues throughout the year (Davis et al., 2019).

Thus, during the development of an athlete, all the categories mentioned above affecting the athlete's performance should be improved. The type of training will always depend on the

phase during which the athlete is encountered depending on the training periodization. Volume, intensity, frequency, overload, and recovery are all variables that can be adjusted during the training session.

2.2.2. Training Structure

A training session is divided into smaller parts according to methodology and physiopsychology, enabling the coach and athlete to follow the concept of gradually increasing the activity (Everline, 2007).

The introduction part serves to integrate with the athletes' current state when they come for training and a brief of the session's objectives and organization. It is necessary to explain how the goals must be accomplished to improve their motivation. The introduction part also helps to register the athletes' presence. It takes approximately 5-10 minutes.

The preparatory part - warm-up prepares the athletes' physiological and psychological states. It is divided into two parts – general warm-up and specific warm-up. The general section increases heart rate and prepares all joints and muscles for the next activity. Well-selected RAMP warm-up exercises optimally prepare the athlete for high-intensity performance and improve athletic performance in the long term (Jeffreys, 2017). Specific warm-up belongs to technical movements on the sand. Their repetition adapts the body to the sensation of maneuver execution and improves the performance in the water. The preparatory part goes approximately 15-20 minutes.

The training session objectives are realized in the fundamental part of the training and the major part. Content always depends on several factors, such as the conditions of the surfer, environment conditions, and the training phase. The fundamental part lasts between 40 minutes to one and a half hours.

The conclusion part consists of stretching and brief dialogue. Stretching should gradually return to rest, helping the body relax, improving balance (Costa et al., 2008; Nelson et al., 2012) and group cohesion (Carron et al., 2002). Feedback and the balance of the session are given to the athletes during a finishing discussion. It provides athletes a report of whether their objectives have been fulfilled or not. Moreover, understand what is required to recuperate or to be able to adhere to set rules to preserve coach-athlete harmony. The conclusion part takes approximately 20 minutes.

3. Periodization

The training season is planned in conjunction with the competition calendar to achieve peak performance at the appropriate moment (Guedes et al., 2018). Periodization should be based on the pre-organization and the possibility to adapt (Kiely, 2012).

From the Time-Motion analyses is evident that a significant part of the time surfer spends paddling. While all activities must be considered when planning an annual training plan, paddling and wave riding takes priority (Bernards et al., 2017). Thus, the riding on wave accounts just for 4%, and the athlete's performance is scored on the athlete's ability to execute a variety of maneuvers in the most critical part of a wave (Mendez-Villanueva et al., 2006). More waves must be caught and more time spent riding waves, afterward related to the ride's quality to achieve higher performance (Moreira & Peixoto, 2017). Sessions focusing on wave performance then appear closer to championships, at which point the attempt is to simulate the competitive environment to obtain high-quality performance (Moreira, 2009).

The macrocycle refers to a plan for the entire year. The sports season starts in October and goes to September. The season's peak is the competitive phase beginning on the 12th of February and finishing on the 22nd of May and includes five competitive weekends (Table 2 and 3). The year is divided into five periods: transition, general preparation, specific preparation, pre-competition, and competition. Ten mesocycles refer to those periods. The first mesocycle is at the beginning of the sports season and includes the general preparation. Following specific preparation is divided into two mesocycles in which the objectives slightly differ. The competitive phase is divided into three mesocycles due to a considerable pause between the fourth and fifth competitions. It relates to the fifth, sixth, and seventh mesocycles. Mesocycle 8 refers to a short transitory period, general preparation, and specific preparation. The ninth mesocycle includes the pre-competitive and second competitive phases of the year. The competition occurring in August are the regional championships. At the end of the sports season comes the tenth mesocycle, referring to the transitory period after the summer, when the athletes have time to rest. The SCV summarizes the year and prepares the plan for the following sports season. October starts a new sports season with the first mesocycle referring to the general preparation period. The microcycle corresponds to a week, whereas the competitive team has six training seasons. Each athlete trains on average 2-3 times per week, depending on their availability.

TABLE 3 - MACROCYCLE OF THE COMPETITIVE TEAM DURING MY INTERNSHIP

2021										2022																		
MESES		Novembro				Dezembro				Janeiro					Fevereiro				Março				Abril					
FINS DE SEMANA		7	14	21	28	5	12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24		
CALENDÁRIO COMPETITIVO	CRN																											
	SCV																											
CALENDÁRIO ESTÁGIOS																												
PERIODIZAÇÃO	Periodo	PE								PC					C								PE					
	Mesociclo	M2				M3				M4					M5								M5					
	Microciclo	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
FASES / CAPACIDADES	Técnico																											
	Tático																											
	Físico																											
	Psicológico																											
APRENDIZAGEM DE MANOBRAS																												
TOMADA DE DECISÃO/LEITURA E UTILIZAÇÃO DO																												
RENDIMENTO NA ONDA/SIMULACAO DA PARTE																												
CAPACIDADES FÍSICAS	Coordenação																											
	Flexibilidade																											
	Velocidade/Potência																											
	Força																											
	Resistencia																											
FINS DE SEMANA		7	14	21	28	5	12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24		

4. Activity Report

During the internship, I accompanied the head coach and intervened in the following activities: physical tests at the start of the season, ninety training sessions, three training camps, one intern competition of the club, and two competitions of Circuito Regional de Surf do Norte.

4.1. Physical Tests Reports

It is necessary to know the athlete's current state, ability, and condition to organize the training. Knowing the athletes and adapting the training to their demands may be a great decision that ensures higher adequacy and optimization. Furthermore, understanding the impacts of training loads, the immediate implications on athletes, and the reflexes on their adaptations are all reasons to analyze and control training (Clemente & Silva, 2021).

The physical evaluation was conducted at the CAR-Surf de Viana. During the measurement of the physical tests, a professor from the Polytechnic Institute of Viana do Castelo was responsible for the accuracy, execution, and measurement results. There was also a head coach. The following tests were implemented according to the tests' standards, and every athlete has access to a final report (Appendix I). Physical examinations are carried out twice a year—the beginning of the year is the first one, and the second is at the start of the new Sports Season.

1. Anthropometric measurements

- a. Age
- b. Height
- c. Weight
- d. IMC
- e. % of muscle mass
- f. % of body fat
- g. TBM

2. Functional Movement Screen

- a. Deep Squat
 - b. Shoulder Mobility
 - c. Trunk Stability Push Up
- 3. Shoulder Assessment
 - a. Isometric Force in Internal and External Shoulder Rotation
- 4. Lower Limb Assessment
 - a. Squat Jump
 - b. Counter Movement Jump
- 5. Dynamic Balance
 - a. Y Balance Test
- 6. Range of Motion
 - a. Dorsiflexion Capacity Test
- 7. Upper body strength
 - a. Push Ups

4.2. Training Reports

The microcycle in the planning of the sports season corresponds to a week. During one microcycle, I had five training units per week of all classes from the Training Sports group (Regular I Esperanças, Regular II, Competition and Technification, and Para-Surf). The registration form contains the mesocycle's objectives, specific training units, environmental conditions, training objectives. Table 4 is an example of the microcycle of my activity. Of 5 training units, I had 3 of them with the competitive team. The registration form contains the microcycle's number, specific mesocycle objectives, environmental conditions, and training session objectives. The example of microcycles from each mesocycle during my internship (Tables 4,5,6,7,8,9).

TABLE 4 - MICROCYCLE OF MY ACTIVITY

Microcycle 9					
Objectives: learning the technically correct maneuvers					
25.11.		26.11.		27.11.	
TU5		TU6		CANCELED, PHYSICAL TESTS	
Coach	Goncalo, Kamila	Coach	Kamila	Coach	
Class	RII, C, ADP	Class	C, RII	Class	
Time	2h	Time	2h	Time	
Local	Cabedelo, after rocks	Local	Cabedelo, pontão	Local	
conditions		conditions		conditions	
Wave	0,5m, right+left	Wave	0,5m, right+left	Wave	
Peak	slightly undefined	Peak	defined	Peak	
Wind	without	Wind	light west	Wind	
Tide	low tide	Tide	low tide	Tide	
objectives		objectives		objectives	
10' warm up + 10' cutback		10' warm up + 10' TO with launch			
p1° 12' 4 waves, p2° 20' cutbacks, p3° 20' cutbacks		p1° 15' free surf, p2° 20' fast TO with launching and speed generation, p3° 20' wave until the finish			
TU7		TU8			
Coach	Goncalo, Kamila	Coach	Kamila		
Group	C	Group	RI, RII		
Time	2h	Time	2h		
Local	Cabedelo, middle rocks	Local	Cabedelo, CAR		
conditions		conditions			
Wave	0,5m, left	Wave	0,5m, left		
Peak	defined	Peak	slightly defined		
Wind	strong north	Wind	strong north		
Tide	middle tide, going up	Tide	middle tide, going up		
objectives		objectives			
10' warm up + 10' mannevers sim.		10' RAMP+10' condition explication			
p1° 20' A3 + A4 bottom+snap, A1+A2 cutbacks, p2° 20' same objectives, p3° heat A1 ridden distance, heat A3+A4 snap, execution pontuation 3,2,1		p1° 20' major number of waves, p2° at least one wave, A3 cutback, A1+A2 wave to side, p3° at least 2 waves			

TABLE 5 MESOCYCLE 2, MICROCYCLE 7 COMPETITION TEAM

Microcycle 7					
objectives: learning and improving of the take-off and bottom turn techniques					
11.11.		12.11.		13.11.	
TU 1		TU 3		TU 5	
Coach	Gonçalo	Coach	Gonçalo	Coach	Gonçalo
Class	C	Class	C	Class	C
Time	2h	Time	2h	Time	2h
Local	Cabedelo Pontao	Local	Cabedelo, Pontao	Local	Cabedelo, middle rocks
conditions		conditions		conditions	
Wave	0,75m, right+left	Wave	0,75m, right+left	Wave	0,5m, right
Peak	undefined	Peak	undefined	Peak	undefined, hollow
Wind	medium south	Wind	medium south	Wind	without
Tide	mid tide	Tide	mid tide	Tide	mid tide
objectives		objectives		objectives	
10' warm up + 10' bottom turn back+front		10' warm up + 10' take-off		10' warm up + 10' bottom turn back+front	
p1° 20' focus on the compression and inclination in BT, p2° 20' focus on the hand touching the water while BT, p3° 20' focus on execution of BT on the base of the wave		p1° 15' doing the take-off in the top of the wave - paddling, p2° 15' focus on correct execution of take-off, p3° 15' achieve 6 points with good take-off technique		p1° 20' compression and leaning in BT, p2° 20' extending the body after executing the BT and generate speed	

TABLE 6 MESOCYCLE 3, MICROCYCLE 11 COMPETITIVE TEAM

Microcycle 11					
objectives: learning and improving of the bottom turn, cutback and snap techniques					
9.12.		10.12.		11.12.	
TU 21		TU 23		TU 25	
Coach	Kamila	Coach	Gonçalo, Kamila	Coach	Kamila
Class	C	Class	C	Class	C
Time	2h	Time	2h	Time	2h
Local	Cabedelo, CAR	Local	Cabedelo, CAR	Local	Cabedelo, Luzia Mar
conditions		conditions		conditions	
Wave	0,5m, left	Wave	0,75m, left	Wave	0,5m, right+left
Peak	defined	Peak	defined	Peak	defined
Wind	light north	Wind	light north	Wind	without
Tide	high tide	Tide	high tide	Tide	high tide
objectives		objectives		objectives	
10' warm up + 10' cutback back+front		10' warm up + 10' bottom turn front+back		10' warm up + 10' snap front+back	
p1° 20' focus on the compression and inclination in cutback, p2° 20' focus on the hand touching the water, p3° 20' execution of 2 complete cutbacks		2x 15' BT faster, more closed, and more in wave base to perform a vertical trajectory		p1° 20' focuss on compression and inclination towards the down wave-face, p2° 20' focus on look over the shoulder and turning the body, p3° 20' execute 2 complete snaps	

TABLE 7 - MESOCYCLE 4, MICROCYCLE 16 COMPETITIVE TEAM

Microcycle 16					
objectives: simulation of competition, increase consistency and rhythm ride the wave till the finish					
13.1.		14.1.		15.1.	
TU 47		TU 49		CANCELED, SCV COMPETITION	
Coach	Kamila	Coach	Gonçalo, Kamila	Coach	
Class	C	Class	C	Class	
Time	2h	Time	2h	Time	
Local	Cabedelo Pontao	Local	Cabedelo, Pontao	Local	
conditions		conditions		conditions	
Wave	1m, right+left	Wave	0,75m, right+left		
Peak	undefined	Peak	undefined		
Wind	medium south	Wind	medium south		
Tide	low tide	Tide	low tide		
objectives		objectives		objectives	
10' warm up + 10' cutback		10' warm up + 10' snap			
p1° 20' as many waves as possible, p2° 20' catch the wave with biggest potential and finish it till the end, p3° 20' focus on the first maneuver		p1° as many snaps as possible, p2° focus on the snap on the first section, p3° 20' heat			

TABLE 8 - MESOCYCLE 5, MICROCYCLE 25 COMPETITION TEAM

Microcycle 25					
objectives: increase consistency and rhythm, ride the wave till the finish, wave performance, decision making					
17.3.		18.3.		19.3.	
TU 69		TU 71		TU 73	
Coach	Kamila	Coach	Kamila	Coach	Gonçalo, Kamila
Class	C	Class	C	Class	C
Time	2h	Time	1,5h	Time	1,5
Local	Cabedelo, CAR	Local	Cabedelo, middle rocks	Local	Cabedelo, AR
conditions		conditions		conditions	
Wave	0,5m, left	Wave	0,75m, right+left	Wave	0,75m, right+left
Peak	slightly undefined	Peak	defined	Peak	defined
Wind	without	Wind	light north	Wind	medium north
Tide	high tide	Tide	high tide	Tide	high tide
objectives		objectives		objectives	
10' warm up		10' warm up + mentalization of comp.		10' warm up + mentalization of comp.	
p1° 20' 1 wave in every 5', p2° 20' pontuation of the first maneuver, p3° 15' heat		2x15' heat, 1x20' heat		p1° 20' heat, p2° 20' heat - every athlete defines their own strategy, after the performance analysis of the strategy	

TABLE 9 - MESOCYCLE 6, MIRCOCYCLE 30 COMPETITIVE TEAM

Microcycle 30					
objectives: increasing the progression of maneuvers					
21.4.		22.4.		23.4.	
TU 81		TU 83		TU 85	
Coach	Kamila	Coach	Kamila	Coach	Kamila
Class	C	Class	C	Class	C
Time	2h	Time	2h	Time	2h
Local	Cbedelo, middle rocks	Local	Cabedelo, Rhodanho	Local	Cabedelo, Rhodanho
conditions		conditions		conditions	
Wave	0,75m, right	Wave	0,75m, right+left	Wave	0,5m, right
Peak	slightly undefined	Peak	defined	Peak	defined
Wind	light west	Wind	without	Wind	strong north
Tide	middle tide	Tide	middle tide	Tide	middle tide
objectives		objectives		objectives	
10' warm up + 10' BT+snap		10' warm up + 10' BT+cutback		10' warm up	
p1° 15' focus on bottom turn, p2° 15' focus on snap, p3° 20' 2 BT followed by snap		p1° 20' 3 execution of BT followed by cutback on the first section, p2° enjoy the good contitions		p1° 20' 1 wave in every 5' till the end, p2° 3 waves with execution of 3 BTs, p3° 15' achieve 6 points with executions of snap	

4.3. Training Camps Report

Christmas Training Camp is one of the programs that Surf Clube de Viana offers to athletes from the Sports Training group (Regular I - Esperanças, Regular II, Competition, Technification). It is an internship to develop surf techniques and tactics and prepare surfers for the new sports season. The Camps have a strong technical focus to deliver participants an opportunity to improve fundamental skills. The Camps hover the technical focus with a social focus. Social programs occur every evening. In total, three training camps were happening.

Camps Objectives:

- Preparation for the 2022 sports season;
- Technical and tactical training;
- Preparation and analysis of "*technical analysis sheets*";
- Development of the Surf culture;

- Awareness of healthy daily habits, nutrition, and rest time;
- Team cohesion, perseverance, and fun.

Camps Activities:

- Surf Training - helps athletes enhance their technical, tactical, and physical components through the practice. It consists of specific exercises, including heats, tag team, and surf-drills with specific objectives. Exercises are recorded for further technical analysis;
- Technical Analysis Sheets – Individual technical evaluation of each athlete;
- Routines - Sessions of muscle stimulation or relaxation for increased performance or rest;
- Briefings - opportunities for dialogue and reflection with the goal of ongoing development.

Camps Schedule (Table 10):

TABLE 10 – SURF CLUBE DE VIANA TRAINING CAMP SCHEDULE

Schedule	Day 1	Day 2
07h30 - 08h00		Morning Routine
08h00 - 08h30	Reception	Breakfast
08h30 - 09h00	Initial Briefing	Surf Training 3
09h00 - 11h30	Surf Training 1	
12h30 - 14h00	Lunch	
14h00 - 17h00	Surf Training 2	Freesurf
17h00 - 18h00	Snack	Final Briefing
18h00 - 19h00	Technical Analysis Sheets + Stretching	
20h00 - 21h30	Dinner	
21h30 - 22h00	Night Routine	

4.4. Competitions Reports

Each athlete needs to participate at least on 3 circuit events and compete to meet the rules of championship.

Competitions Objectives:

- Gain experience in a competitive environment;
- Participate in competitive activities;
- Acquire the necessary skills to handle both success and loss in competition;
- Exercising self-discipline and self-sacrifice to success;
- Develop physical talents to the maximum potential;
- Problem-solving and decision-making experience;
- Test technical and tactical abilities acquired during the training progression;

Competitions Activities:

- 1) Before the competition start:
 - a) Come to the place where the competition takes place at least 1 hour before the start
 - b) Find a place where to make the team basecamp
 - c) Observe the place and surf conditions
 - d) Dress up and prepare the material
 - e) Warm-up
 - f) Go surfing before the competition starts
 - g) Come back and make a check-in
- 2) Before the athlete's heat starts (2 heats before)
 - a) Dress up and prepare material
 - b) Warm-up
 - c) Get the competition dress
 - d) Observe the current surf and competitive conditions
 - e) Set the goals and strategy
 - f) Combine signs
- 3) After the athlete's heat
 - a) Give back the competition dress
 - b) Analyze and discuss the results of the done heat
 - c) Unequip

Report from the Competition:

Northern Regional Surf Circuit 2022

19 and 20 March | Cabedelo Beach | Viana do Castelo

Categories: Sub 12, Sub 14, Sub 16 Fem, and Sub 18 Fem

Registration: Portuguese Surfing Federation (until March 16)

Athlete A:

Competing in Sub 14 category.

The coach was one heat before the athlete's A heat observing the conditions and setting the strategy. While that, he was also working on the psychological part and supporting the athlete to feel confident and paddle out to catch the bigger waves.

The objective of the first heat was to pass it. The strategy was to catch the first two waves and finish them until the end. Catch the right-hand waves and do cutback and execute the Off-the-lip maneuver.

Athlete A was able to follow the strategy set, he executed the maneuvers set, and he fulfilled the objectives. Passed the first heat.

The objective for the second heat was to pass it. The strategy was to catch right-hand waves with major potential and to execute good cutback, finish the wave till the end.

Athlete A followed the strategy and fulfilled the objectives. Passed the second heat.

The objective for ¼ final was to pass it. The strategy was to catch the wave on the peak and finish it till the end, especially the first ones to have the two waves scored. Connect the maneuvers and read right the wave.

Athlete A was able to follow the strategy, catch right-hand waves, execute cutbacks, carves, and Off-the-lip maneuvers, and he fulfilled the objectives. He passed the ¼ final.

The objective for the ½ final was to pass it. The strategy was to use the opportunity to catch bigger waves with major potential due to decreasing size of the wave. Also, use the priority. Catch the first two waves and finish them until the end.

Athlete A was able to follow the strategy set. He caught waves with major potential and was able to finish it till the end with maneuvers executed. He fulfilled the objectives, but he did not pass to the finals.

Athlete B

Competing in Sub 14 category.

The coach was one heat before the athlete's B heat, observing the conditions and setting the strategy. While that, he was also working on the psychological part and supporting the athlete to feel confident and stay calm during the heats.

The objective for the first heat was to pass it. The strategy was to keep active while the heat, stay on the side where the sea waves are not that big, and paddle inside to catch the wave. Catch the left-hand waves and finish them until the end. If not catching the wave, paddle back outside.

Athlete A was able to follow the strategy. He caught left-hand waves, finished them till the end, and executed cutbacks. He fulfilled the objectives, and he passed the heat.

The objective for the second heat was to pass it. The strategy was very similar to the first one. Stay on the side, and paddle inside to catch the wave. Catch the first two and finish them till the end to have two waves scored and try to execute cutbacks and Off-the-lip maneuver or snap.

Athlete B followed the strategy, but he was not able to catch many waves. He executed cutbacks, but the score was not sufficient to pass the heat.

Athlete C

Athlete C did not compete in this event because there was not Sub 16 category that he competes.

5. Technique and Tactic Analysis

Training at sea is the most usual and focuses on wave riding, although it is just 3-4 percent of practice time (Mendez-Villanueva et al., 2006; Minghelli et al., 2017). According to that, the wave ride must include observing and analyzing factors such as

entrance into the wave, surfer's speed and time of take-off, surf speed or intensity, execution of maneuvers on the base, wall, and top of the wave, and maneuver choice (Moreira & Peixoto, 2014, 2017).

Surfing performances are evaluated to offer feedback on a surfer's technique, decision-making, or competition score. To help a surfer, the coach must give detailed and accurate comments. Accurate comments and personalized feedback are crucial here. To accomplish this correctly, the coach needs to know:

- The various areas of performance relevant on any given day
- The surfer's performance level and developmental maturity
- The surf conditions when assessment happens, and the consequences to the sort of performance possible (Dunn, n.d.).

5.1. Technique Analysis

The following maneuvers were the focus of athletes A, B, and C from the technical analysis, that are presented in Appendix II.

5.1.1. Bottom-turn

Bottom-turn (BT) is a technique categorized as a turning point defined by the curve in the wave's base that helps the surfer generate speed and reach the top of the wave to do another maneuver in response to this one (Moreira, 2009). Bottom-turn is a crucial technical aspect in the development of surf moves. The longer the surfers stay in BT bigger the wave bottom area covers, allowing them to launch the board correctly and reach a higher score. Athletes who focus on this component might optimize their potential output (Souza et al., 2012). Bottom turns create power from the bottom of the wave, giving speed and height to maneuvers executed from the top (Dunn, n.d.)

Frontside

- The head position and the look
The look is directed where the surfer wants to go due to the optimal head posture - straightened upright and facing the look.
- The shoulder line

The shoulder line should be parallel to the board's rails or slightly ahead of the rotation direction.

- The back arm

The back arm should not exceed the shoulder line and stay in front of it. The arm can touch the water.

- Front arm

It may be put around the front leg's knee, but it must be held and not placed chaotically. It must progress, and it indicates the trajectory's direction.

- Support

The stability lies on the front and back legs. First, a light back leg allows the board to elevate the board to the inside rail, especially with toe support. Then the stability lies on the front foot. The front foot is the main supporting leg during the bottom phase. The front foot lets the surfer steer the board, grip the rail in the water, and maintain or gain speed.

- Flexion

At the beginning of the bottom, the surfer must bend a lot before the board gets an angle, especially the thighs and knees. Flexion must be along with the body's center related to the board and maintained along the curve to execute an extension associated with speeding up. That enables the surfer to push the board to take the rail and accelerate to project himself towards the rest of the ride.

Backside

- The head position and the look

The look follows the direction. The head cannot rotate 180° behind, and this head motion to orient the view will also open the shoulders. The head, shoulders, and torso rotate progressively when shifting the board's direction. Surfer rotates the body before turning the board.

- The shoulder line

It is 20° in front of the rail and helps attach the sight.

- The back arm

Along with the rotation of the shoulder line, it should be slightly in front of this line. The arm cannot go over the head.

- Front arm

It is toned and balanced. The hand should show direction, and the arm must be horizontal, not frozen near the knee or in sight. The front hand may skim the water along the inside rail to pivot.

- Support

The support is on the back foot to move the inside rail back at the beginning of the turn. Then the front foot is used to maintain the board's projection. At the lowest point of flexion, support is towards the board's center and front.

- Flexion

Surfer lowers the back leg to maintain the stance. The hips and knees go low. The rail extends at the curve's lowest point to keep the water grip. The hips and knees are extended without stretching the legs.

5.1.2. Cutback

In flat parts of waves, cutbacks are utilized to connect maneuvers. Cutbacks can enable a wave to re-build, allowing for a possibly steeper following maneuver section, resulting in a higher-quality maneuver opportunity (Dunn, n.d.).

At this level, the athletes learn and improve the 1st turn most commonly, sometimes try to execute the 2nd turn.

Frontside 1st Turn

- The head position and the look

The head should rotate more than 45°, which improves the look. The eyes keep on the wave's To shift direction, anticipate the stance. It begins with a slow shoulder rotation. Before beginning the turn, the shoulders should establish a 45° angle with the board. During rotation, the opening angle is maintained. breaking point.

- The shoulder line

- The back arm

It follows shoulder rotation. The arm should be horizontal and aligned with the shoulders. In advanced accompaniment to the first turn, the arm should pass in front of the shoulder line.

- Front arm

Forearms must be toned. Should open forward and "downward." Exaggerated flexion lets the hand contact the water.

- Support

Any front foot or back foot support, only balanced support relative to the center of gravity. The board is flat. The surfer must be on top of the flat wave to start this initial turn. It begins with small back support to get out of the nose, then uses the inside edge grip to recover. The back foot progressively gains support. The transition must be gradual and between the feet at the center of gravity.

- Flexion

Preparation requires considerable flexion. After this bend, the extension should be over.

Frontside 2nd Turn

- The shoulder line

A proper opening of the shoulder line enables the surfer to position the head towards the point of rotation the surfers have chosen. When rotating, the shoulders are in front of the board. This half-turn starts with a head-and-shoulder rotation. This tonic rotation must end parallel to the desired direction.

- The back arm

It may be a "guide" to the rotation point during the initial approach phase and not too high or too low. Accompanying shoulder rotation, it stops around the front knee.

- Support

The back foot supports with toes that permit a quick U-turn. The front foot maintains speed throughout this half-turn. Two choices: 1. If the second turn accomplishes without contact with the breaking wave, the front foot grabs the water to avoid slipping. 2. To reach the breaking point in the second round, the front foot maintains the board flat.

- Flexion

To flex, there needs to be first an extension. The body is stretched after the first rotation and before the second. Also necessary is thigh flexion. Both thighs rotate simultaneously.

Backside 1st Turn

- The head position and the look

Head along the line of the shoulders, with slight anticipation in the direction of board rotation. Head position affects the look. Place the board on the wave's lip for the initial backside cutback turn. Look at the wave's bottom from the beginning of the board's rotation. Then, the eyes immediately target the breaking spot.

- The shoulder line

The shoulder line must stay parallel to the board or slightly ahead, 20°. Shoulders must softly accompany the board rail.

- The back arm

It accompanies shoulder rotation. The hand might fall on the water slightly ahead of the line, and the back arm slides behind the shoulder line after the action.

- Front arm

Tonic and balances. The hand should remain around the front knee. A firm hold will help balance. The front hand may skim the water along the inside rail to pivot to go back to the breaking wave.

- Flexion

Knees bend, and chest goes slightly to the front. Significant leg flexion. When the surfer is on the wave's slope with a firm rail grip, the back foot faces fingers towards to ankle extension.

Backside 2nd Turn

- The head position and the look

The head rotates towards the wave trough in sync with the shoulder line. The look accompanies head movement and downwards to anticipate a bottom, then towards the continuation of the wave.

- The shoulder line

The shoulder line establishes its anticipatory role, and it must have a 20° advance of the board.

- The back arm

The back arm will be a dynamic companion of the chest rotation. It moves voluntarily and generously in front of the shoulder line to favor the rotation.

- Front arm

The front arm moves forward and upward, "opening" the shoulder line.

The back foot is critical support. The front foot on the heel to maintain the inside rail in water or foam and provide board control.

- Support

This support must be consistent until the finish of the first curve. Front footrest consistency is less crucial than the back.

- Flexion

Significant flexion of both legs must be maintained.

5.1.3. Snap

Snap movements are used to achieve a significant direction shift without losing speed at the top of waves (Dunn, n.d.).

Frontside and Backside

- The head position and the look

Head rotation opposes board rotation, and it accompanies shoulder rotation. In the second half of the maneuver, it resumes rotation for the final snap phase. The eyes follow the back toes through the back leg extension and the first curve during the initial phase. In the second phase, the head rotates to face the wave's bottom to anticipate the drop and the next bottom.

- The shoulder line

A smooth surf involves upper body and board rotations in succession. When the board and the surfer system are aligned with the wave to execute the snap, the board will drop the wave and the shoulder line rotation will reverse at the board's rotation.

- The back arm

The back arm moves behind the line that accompanies the reversed rotation of the shoulders relative to the board's rotation. The back arm goes to the water behind the heel of the back foot.

- Front arm

The front arm balances the maneuver, reversing the shoulders' rotation relative to the board's. Forearm and hand are in a high posture, aligned with shoulders.

- Support

Both feet are supported. Then the support is transferred to the heel of the back foot. Snap requires significant heel pressure to push the board. When the board "stops" declining, the weight shifts to the front foot by resting on the toes to flatten the board.

- Flexion

Both knees are bent. The board rotates with an inside rail grip. The ankle supports the heel while the back of the thigh extends and the front of the knee flexes. When the back thigh nearly stretches, the front ankle flattens the board and brings it beneath the body, under the hips.

5.2. Tactic Analysis

The tactic is the proper application of technique by the surfer through his physical ability considering accurate heat conditions such as time to finish the heat, heat location, priority, quantity of individual maneuvers, and quantity of opponent's maneuvers and attitude (Caetano, 2018). The training session should include simulations of heats and activities designed to obtain competition-level results (Lundgren et al., 2014). As discussed in the chapter Surf Characterization, in the competitive heat of 15 minutes, the young surfers spend 57% of the time paddling, 13% stationary, and just 3% wave riding (Minghelli et al., 2017). That shows that time management must be certainly managed.

As the objectives of the mesocycles are set (Table 5,6,7,8,9), the other tactical components are trained. Decision making, the number of the waves, positioning in the line-up, the trajectory of the wave ride, and opening maneuver of the wave. The analysis takes place through the continual feedback provided by the coach during the training sessions and through the video analysis.

5.3. Video Analysis

Video recording takes place on average 2-3 times a week. The coach continuously analyzes and comments on the athletes' performance with them during the training.

Then he sends the videos with a short commentary so that they are always available to the athletes. On the day when the conditions for water training are not appropriate, a general video analysis takes place in the study room on interactive television. General analyses take place about once a month. During these analyses, I accompanied the head coach and did the video analysis myself last month.

In the general analysis, the videos are broadcasted on interactive TV. The maneuver is divided into three moments:

- Preparation
- Execution
- Recovery.

The video is stopped in these phases, and the athlete's performance is evaluated. Every maneuver has key points that have to be executed. The execution of these key points is divided into three stages and supported with colors (Table 11, 12, 13, 14,15, 16):

- Correct execution – green color
- Partially correct execution – orange colour
- Poor execution / not executed – red colour.

TABLE 11 VIDEO ANALYSIS BOTTOM TURN FRONTSIDE

Bottom Turn Frontside			
Phase	Key points	Performance	Evaluation
Preparation	1. Extends the body before bending 2. Knees and waist bend	 A photograph of a surfer in a dark wetsuit riding a wave. The surfer is in a crouched position, preparing for a turn. A black dot is placed on the surfer's head to indicate the point of focus.	
Execution	1. Leans off the surfboard, reaches forward, and targets the lip 2. Holds the compressed body position 3. Extends the body	 A photograph of a surfer in a dark wetsuit riding a wave. The surfer is leaning forward and reaching out towards the wave's lip. A black dot is placed on the surfer's head to indicate the point of focus.	
Recovery	1. Rotates upper body	 A photograph of a surfer in a dark wetsuit riding a wave. The surfer is rotating their upper body to complete the turn. A black dot is placed on the surfer's head to indicate the point of focus.	

TABLE 12 VIDEO ANALYSIS BOTTOM TURN BACKSIDE

Bottom Turn Backside			
Phase	Key points	Performance	Evaluation
Preparation	1. Extends the body before bending 2. Knees and waist bend		
Execution	1. Leans off the surfboard, reaches forward, and targets the lip 2. Holds the compressed body position 3. Extends the body		
Recovery	1. Rotates upper body		

TABLE 13 VIDEO ANALYSIS CUTBACK FRONTSIDE

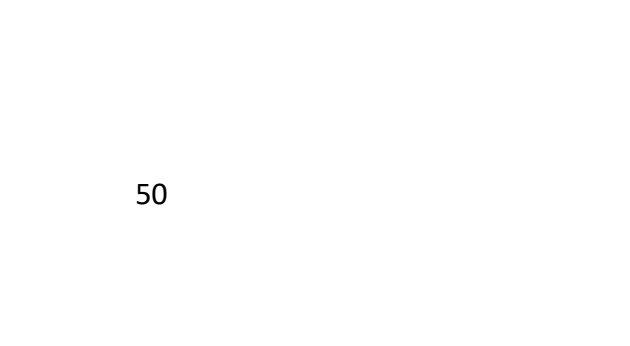
Cutback Frontside			
Phase	Key points	Performance	Evaluation
Preparation	1. Drives out and up from the foam		
Execution	1. Compresses body at start of cutback 2. Leans off their surfboard and reaches for the wave-face		
Holding	3. Maintains the body bent until they spot the top of the whitewater 4. Extends out the body with rotation 3. Rotate away from the whitewater before its impact		
Recovery	1. Compress low and center over the board's stringer		

TABLE 14 VIDEO ANALYSIS CUTBACK BACKSIDE

Cutback Backside			
Phase	Key points	Performance	Evaluation
Preparation	1. Drives out and up from the foam		
Execution	1. Compresses body at start of cutback 2. Leans off their surfboard and reaches for the wave-face		
Holding	3. Maintains the body bent until they spot the top of the whitewater 4. Extends out the body with rotation 3.Rotate away from the whitewater before its impact		
Recovery	1. Compress low and center over the board's stringer		

TABLE 15 VIDEO ANALYSIS SNAP FRONTSIDE

Snap Frontside			
Phase	Key points	Performance	Evaluation
Preparation	1. Perform a quality bottom turn		
Execution	1. Compress, lean, and reach down towards the wave-face 2. Turn the head to look over the surfer's shoulder 3. Extend, rotate the trunk and lift both arms towards the foam		
Recovery	1. Re-center over the stringer of the surfboard		

TABLE 16 VIDEO ANALYSIS SNAP BACKSIDE

Snap Backside			
Phase	Key points	Performance	Evaluation
Preparation	1. Perform a quality bottom turn		
Execution	1. Compress, lean, and reach down towards the wave-face 2. Turn the head to look over the surfer's shoulder 3. Extend, rotate the trunk and lift both arms towards the foam		
Recovery	1. Re-center over the stringer of the surfboard		

6. Applied Science

6.1. Introduction

Self-determination theory is an approach to human personality and motivation. Deci & Ryan (2000) proposed that social development, well-being, and motivation are based on three basic psychological needs (BPN): relatedness, competence, and autonomy. Relatedness is the feeling of being socially connected; competence means a fundamental need to feel efficiency and mastery; autonomy is the need to self-regulate the experiences and actions. Satisfaction of these three basic needs indicates autonomous motivation, health, and well-being (Ryan & Deci, 2000).

On the contrary, if engagement in an activity does not satisfy these needs, participation in the action is not for intrinsic motives (Hollembek & Amorose, 2005; Spray et al., 2006). Moreover, research has shown that the more the athlete's fundamental psychological needs are satisfied, the more their level of motivation might improve performance (Almagro et al., 2020; Standage et al., 2005; Vallerand & Rousseau, 2001).

Mental toughness (MT) is a human capacity to create consistently high levels of subjective or objective commission despite daily situations and pressures and significant setbacks (Jaramillo et al., 2021). It is a comprehensive notion encompassing self-assurance, positive thinking, and buoyancy, leading to a widespread view that mental toughness is complex (J. Butt et al., 2010).

The self-determination theory of motivation and personality has been offered as a potential hypothesis for explaining mental toughness development (Mahoney et al., 2014). Researchers believe that contextual factors such as a healthy coach-athlete connection, developing independence, giving coping tools, providing hard competitive practices, and improving problem-solving abilities promote the development of mental toughness (Clough et al., 2002; Cook et al., 2014; Mahoney et al., 2014).

According to BPN theory, social environmental elements may help satisfy people's fundamental needs. BPN theory also asserts that meeting one's essential psychological needs consistently will result in beneficial functional results, such as behavioral, cognitive, and emotional variables. (Ryan & Deci, 2000). Mental toughness is connected to self-determination theory's motivational factors, psychological health, and objective athletic performance (Mahoney et al., 2014).

Males outperformed females on the overall mental toughness in its four subscales (challenge, regulate emotions, control life, and confidence ability). These disparities may be attributable to variances in the underlying expression of mental toughness characteristics in men and females or to socialization processes. Age and experience predicted higher scores on the overall MT at the challenge, commitment, and life management subscales. (Crust & Keegan, 2010; Nicholls et al., 2009).

Hypothesis

1. Higher satisfaction of basic psychological needs leads to higher mental toughness.
2. Males will demonstrate a higher level of mental toughness than females.
3. Older athletes have a higher level of mental toughness than younger ones.
4. Athletes with more years of surf experience have a higher level of mental toughness.

6.2. Material and Methods

Participants

A total of 13 athletes participated in the research, of which 9 were male ($M=15\pm$, $SD=1.5$) and 4 females ($M=15.25\pm$, $SD=2.75$). The participants are divided into two sport groups, Competition, 6 athletes, and Technification, 7 athletes. On average, the years of sporting experience are between 2 to 8 years ($M=4.6\pm$, $SD=1.7$).

Instruments

The satisfaction of basic psychological needs of athletes was measured through the Basic Psychological Needs in Exercise Scale questionnaire (Vlachopoulos & Michailidou, 2006) translated and validated into Portuguese language (BPNEsp) (Moutão et al., 2012). BPNEsp, specifically for the setting of physical exercise, evaluates participants' assessments of how practice satisfies their psychological needs. The questionnaire contains twelve items that indicate the level for the three elements of autonomy (items 3, 6, 9, 12), competence (items 1, 4, 7, 10), and relatedness (items 2, 5, 8, 11). The responses are rated on a five-point Likert scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree").

Mental Toughness Index (MTI) was measured by MTI questionnaire (Jaramillo et al., 2021) translated and validated in Portuguese language (Jaramillo et al., 2021). Gucciardi (2015) created the MTI to validate an individual's self-perception of MT for a particular activity. This questionnaire contains eight items that assess MT in a unidimensional manner, focusing on seven specific characteristics of a tough mind: generalized self-efficacy (item 1), attention regulation (item 2), emotion regulation (item 3), success mindset (item 4), context knowledge (item 5), buoyancy (items 6 and 7), and optimism (item 8). The statements are rated on a seven-point Likert scale ranging from (1) "False, 100% of the time" to (7) "True, 100% of the time."

Procedure

The president, the Technical Coordinator and Head-Coach of Surf Clube de Viana were informed about the research objectives, and the club positively responded to the request, adding this activity to the annual plan of the competition team. Next, the coaches, the athletes, and parents of those under 18 years old were informed about the study's aims and procedures. Participants gave their consent and parents or those athletes over 18 years of old provided informed consent before data collection began. The study was voluntary and anonymous, and the ethics guidelines for research were guaranteed. Next, the researcher informed the participant how exactly to complete the survey. The questionnaires were sent as an online form and filled out as an online survey. The athletes had one week to respond to the questionnaire, which took approximately 15 minutes to complete.

6.3. Results

The sub-dimensions are the average gross scores of the 4 items listed. Total BPNEsp is the average of all 12 items (Table 17). As the MTI is a one-dimensional tool, the average and standard deviation of all 8 items are calculated. The basic statistical characteristics of the newly created MTI and BPNEsp variables are shown in the Table 17.

TABLE 17 - MEANS OF VALUES OF BPNEP AND MTI

	Min.	Max.	M (SD)
Basic Psychological Needs in Exercise Scale	3.9	4.9	4.6 (0.3)
Mental Toughness Index	5.4	6.9	6.2 (0.4)

To analyse normality distribution for small sized sample we used Shapiro-Wilk Test of Normality (Table 18). The total BPNESp data from the normal distribution (p-value=0.174). Data of MTI come from the normal distribution (p-value=0.560).

TABLE 18 VALUES OF SHAPIRO-WILK NORMALITY TEST

	Sig.
Basic Psychological Needs in Exercise Scale	0.174
Mental Toughness Index	0.560

Hypothesis evaluation

Since both BPNESS and MTI variables are numerical, we will use a correlation coefficient to evaluate the hypothesis. Since MTI and total BPNESp come from a normal distribution, we use the parametric Pearson correlation coefficient for evaluation. Since the total BPNESp and MTI p-value is less than the significance level $\alpha=5\%$ (Table 19), we reject the tested hypothesis H1.0 at this significance level. There is a statistically significant relationship between overall Satisfaction of Basic Psychological Needs and Mental Toughness.

TABLE 19 - PEARSON'S CORRELATION BETWEEN MTI AND BPNEP

Factors		1	2.1
1	Mental Toughness Index	–	0.010*
2	Basic Psychological Needs in Exercise Scale	–	–

*p<0.05

If we follow the relationships of MTI and subscales that have data from a non-normal distribution, it is necessary to use a nonparametric Spearman correlation coefficient

(Table 20). However, this relationship does not apply to subscales; Autonomy and Relatedness do not have a statistically significant effect on MTI values ($p\text{-values} > \alpha = 0.05$). We observe a statistically significant relationship only for the Competence dimension ($p\text{-value} = 0.004$).

TABLE 20 - SPEARMAN'S CORRELATION ANALYSIS BETWEEN MTI AND BPNEP SUBSCALES

Factors		1	2.1	2.2	2.3
1	Mental Toughness Index	–	0.449	0.004*	0.715
2.1	BPNEp: Autonomy	–	–	0.126	0.446
2.2	BPNEp: Competence	–	–	–	0.940
2.3	Bpnesp: Relatedness	–	–	–	–

* $p < 0.01$; BPNEp – Basic Psychological Needs in Exercise Scale

The resulting distribution of MTI by gender is shown in Table 21. The average toughness rate for males is 6.3 points, for females it is 6.0.

TABLE 21 - MEAN VALUES OF MENTAL TOUGHNESS MALES AND FEMALES

	Min.	Max.	M (SD)
Mental Toughness Index males	5.5	6.9	6.3 (0.4)
Mental Toughness Index females	5.4	6.5	6.0 (0.5)

Whether the differences are statistically significant must be verified using a two-tailed test. Since both samples come from a normal distribution, we use a parametric two-sample t-test to verify the hypothesis. In the first step, Leven's test of variance agreement was performed, which we do not reject at the level of significance $\alpha = 5\%$ ($F = 0.015$; $p\text{-value} = 0.904$) showed in the Table 22. Based on the performed t-test ($t = 0.920$; $p\text{-value} = 0.377$), we do not reject the tested hypothesis H2.0 at the significance level $\alpha = 5\%$. Although male have a slightly higher MTI, there are no statistically significant differences in Mental Toughness Index between males and females.

TABLE 22 - LEVENE'S TEST FOR EQUALITY OF VARIANCES

		F	Sig.	t	Sig.
Mental Index	Toughness	0.015	0.904	0.920	0.377

The Age variable comes from the normal distribution (Shapiro Wilk's test; p-value=0.516), as well as the MTI variable, so we use the parametric Pearson correlation coefficient ($R=0.121$; p-value=0.694) to verify their relationships (Table 23). Since the resulting p-value is higher than the significance level $\alpha=5\%$, we do not reject the tested hypothesis at this significance level. There is no statistically significant relationship between age and MTI.

TABLE 23 - PEARSON'S CORRELATION ANALYSIS BETWEEN MTI AND AGE

Factors		1	2.1
1	Mental Toughness	—	0.694
2	Age	—	—

*p<0.05

The variable Years of Sporting Experience data come from the normal distribution (Shapiro Wilk's test; p-value=0.350). Therefore, we can again use Pearson's correlation coefficient ($R=0.208$; p-value=0.495) to verify the relationship with MTI (Table 24). Since the resulting p-value is higher than the significance level $\alpha=5\%$, we accept the tested hypothesis H4.0 at this significance level. There is no statistically significant relationship between the length of internships and the MTI value.

TABLE 24 - PEARSON'S CORRELATION ANALYSIS BETWEEN MTI AND AGE

Factors		1	2.1
1	Mental Toughness Index	—	0.495
2	Years of Sporting Experience	—	—

*p<0.05

6.4. Discussion

The purpose of this research was to examine (a) the relationship between motivational factors specified in BPNT and the mental toughness levels of teenage athletes, (b) differences between gender influence on mental toughness, (c) the influence of the age on mental toughness, and (d) the relationship between the number of years of sporting experience and mental toughness.

The research by Mahoney, Gucciardi, Ntoumanis, and Mallet (2014) presents the first evidence that satisfaction of basic psychological needs is positively associated with mental toughness among teenage runners. On the contrary thwarting of BPN is negatively associated with MT. The same results were demonstrated in the current study. Autonomy, relatedness, and competence satisfaction encourage ideas of personal control, self-efficacy, and self-worth. Satisfaction of fundamental psychological needs was shown to moderate long-term growth and comprehensive quality preparation for mental toughness (Chunxiao et al., 2019). A significant relationship was observed between the competence need and mental toughness. From that, we can suppose that athletes who feel more confident about their capacities are mentally stronger. As proposed by Mahoney and colleagues (2014), the satisfaction of three fundamental necessities can be promoted by the social environment, such as the coach-athlete relationship. The coach who involves the athlete in the coaching process by taking into consideration the athlete's perspective, discussing with them performs tasks and goals, communicating expectations, and showing a sincere interest in the life of the athlete can increase the athlete's commitment and closeness toward the trainer and as well increase athlete's well-being (Lafrenière et al., 2011). Also, coaches and athletes that find themselves in positive social situations are more likely to reach their performance-associated outcomes (Davis et al., 2019).

This study did not confirm the hypothetical premise that men display higher levels of MT than women (Nicholls et al., 2009). Although men have a slightly higher mental toughness index, there are no statistically significant differences in mental toughness rates between men and women. To conclude, gender differences also came from Crust & Keegan (2010). The study results displayed that men reported significantly higher mental toughness and more self-assurance in their competence. We suggest that the different results in the recent study can be due to the small or specific sample of

participants. These results must be researched in a representative surf competitors sample.

Overall, mental toughness was not significantly associated with age in this research. As in the same study from Crust & Keegan (2010), this investigation used an undergraduate athlete sample, and the age range for this group was to some degree limited. The current and Crust & Keegan (2010) studies revealed similar results in the relationship between MT and age. In contrast, Nicholls and colleagues (2009) found a substantial and positive connection between age and mental toughness in a large, diverse sample of athletes.

According to Nicholls and colleagues (2009), increasing age is closely related to increasing sporting experience, which positively influences MT. The results from the current investigation displayed any significant relationship between years of sporting experience and mental toughness. However, the research from Nicholls and colleagues (2009) suggests that there is.

6.5. Conclusion and practical recommendations

Satisfaction of three psychological needs in young surf athletes leads to higher mental toughness. There are no differences in mental strength between male and female young athlete; older athletes did not display a higher level of mental toughness than younger athletes. The surfers with more years of sporting experience did not present higher mental strength than athletes with less experience. To develop mental toughness, young athletes must be systematically exposed to challenging training and competing conditions rather than protected from them (Crust & Clough, 2011).

7. Internship conclusions

The internship allowed me to experience and deepen my knowledge about management and organization of surf training, especially in such a big surf organization, and apply previously acquired knowledge.

In the beginning, I only observed the activities connected with athletes' training and discussed the process with the head coach. I needed to get to know the athletes and create relationships with them. When I learned the system and understood the athletes more, I started to have more responsibility in planning their training sessions. Internship objectives to assess, monitor, and improve athletes' surf to observe their development during their training were accomplished.

The primary task was planning and monitoring the specific training units to enhance athletes' technical and tactical skills, supported by feedback from the training sessions. Planning the training and giving feedback requires a significant understanding of the technical and tactical components of surfing and also environmental conditions.

Another internship task was to investigate the psychological component of the athletes. I wanted to understand the influence of satisfaction of basic psychological needs on mental toughness and also if there are differences in mental toughness between primarily the Competitive class and Technification class. In the Competitive class are younger athletes with less Sporting experience and less competitive experience. I supposed that older athletes from the Technification class with higher experiences would be mentally stronger than those from the Competitive class. The results showed that years of experience do not significantly affect an athlete's mental toughness. There was also no difference between male and female mental strength.

I consider this study the first step to further understanding the relationship between social environments, such as the coach-athlete relationship, and its influence on athletes' well-being and outcomes, such as intrinsic motivation and performance.

7.1. Strong points

The strongest point of the internship I consider the opportunity to accompany the head coach, that has significant knowledge in the surf, surf technique and surf training areas. As well, it allowed me to conduct the research activities and develop an initiative based on a project in psychology. Also, an internship in surf training gave me considerable curricular experience that I can use for my future career.

7.2. Weak points

My weakest point during the internship was my beginner level about surf techniques. My sports experience in the field of surfing is not as a competitor, leading to more challenging's, study and questions. Given that, my biggest struggle was providing feedback to athletes and planning the exercises for training. Meanwhile, my understanding deepened during the internship, and the process became more accessible and adjusted to the athlete's needs. Anyway, in my opinion, to train surf, it is necessary to have significant knowledge and significant surf experiences.

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Manual de procedimentos para avaliação física

TESTE: Composição corporal

Propósito:

avaliar as proporções corporais e níveis de massa gorda e massa muscular;

Instrumento: Omron Body Composition Monitor BF511 (Omron Healthcare Co. Ltd., Japan), estadiometro Seca 206 (Seca Medical Measuring Systems and Scales, Hamburg, Germany)

Protocolo de Avaliação:

A avaliação será dividida em diferentes fases, contando com peso, altura e composição corporal por bio-impedância.

Para aferição da altura:

Equipamento necessário:

Estadiometro;
Folha de registo.

Fatores a garantir:

o avaliado tem de estar com roupas leves, descalço e sem adereços da cabeça;
o avaliado deve ser colocado no meio do estadiómetro, pés ligeiramente afastados com os calcanhares encostados à base da parede;
os ombros, nádegas e nuca encostados à parede;
cabeça organizada segundo o plano de Frankfurt (Figura 1);
baixar a placa da cabeça até o ponto mais alto, com pressão suficiente para comprimir os cabelos;
Pouco antes da medição, o participante deve ser instruído a inspirar profundamente e reter a respiração, mantendo uma postura ereta;
Registar o valor mais próximo de 0,1 cm.

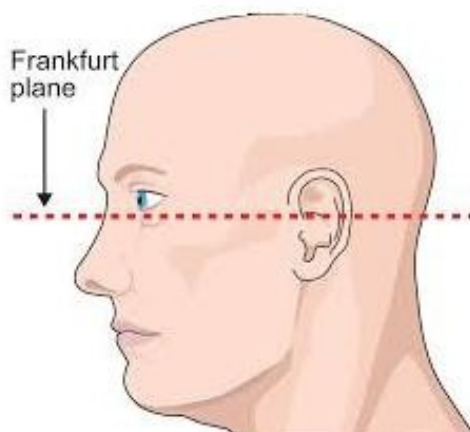


Figura 1 - Plano de Frankfurt retirado de https://media.gosh.nhs.uk/documents/Appendix_1_-_Frankfurt_plane1.pdf

Para aferição da composição corporal segundo bio impedância:

Equipamento necessário:

Balança Omron BF 511;
Folha de registo;
Material de escrita.

Fatores a garantir:

- 1- a bioimpedância depende determinantemente dos valores totais de água corporal logo não deve ser aferida após treino;
- 2- a ingestão de diuréticos pode influenciar determinantemente os resultados;
- 3- pessoas com pacemaker não podem realizar o teste;
- 4- mulheres grávidas ou com suspeita de gravidez não devem realizar o teste;
- 5- pessoas com próteses metálicas não devem realizar o teste;
- 6- objetos metálicos devem ser removidos (anéis, cordões, pulseiras, relógios metálicos, etc);
- 7- evitar a ingestão de alimentos e bebidas cerca de 4 horas antes do teste;
- 8- não consumir bebidas alcoólicas um dia antes do teste;
- 9- não estar em período menstrual (mulheres);
- 10- ter urinado pelo menos 30 minutos antes da realização do exame.
- 11- a avaliação deve ser realizada descalço e sem meias.

TESTE: Functional Movement Screen

Propósito: avaliação dos padrões de movimento funcionais sem locomoção, segundo padrões de mobilidade e estabilidade

Instrumento: FMS Kit (Functional Movement Systems, Southern Virginia, USA)

Equipamento necessário:

Kit avaliação Functional Movement Screen;
Fita métrica inextensível;
Folha de registo;
Material de escrita.

Protocolo de Avaliação:

O Functional Movement Screen (FMS) abrange sete movimentos fundamentais, dos quais apenas será considerado DeepSquat (DS), Shoulder Mobility (SM), Trunk Stability Push-Up (TSP) .

São permitidas três repetições de cada teste, sendo considerada a melhor repetição. A cada padrão é atribuído um resultado de 0 a 3 pontos, representado, de acordo com os critérios de execução: 0 - dor em qualquer parte do corpo; 1 - incapaz de completar o padrão de movimento ou é incapaz de assumir a posição para executar o movimento; 2 - capaz de completar o movimento, mas observam-se compensações na realização do movimento fundamental; 3 - realiza o movimento corretamente, sem qualquer compensação, atendendo às especificações do padrão de movimento.



A avaliação é realizada com aproximadamente 10 segundos de descanso entre as repetições e um minuto entre os testes, onde os avaliados retomam a posição inicial entre cada tentativa.

Exceto para o DS e TSP, cada lado do corpo é avaliado unilateralmente, permitindo a identificação de assimetrias.

DEEP SQUAT**Objetivo:**

O DS desafia a mecânica total do corpo quando realizado adequadamente, usado para avaliar a mobilidade bilateral, simétrica e funcional da cintura pélvica, joelhos e tornozelos. O bastão acima da cabeça permite

avaliar a mobilidade simétrica bilateral dos ombros e da zona torácica, bem como a estabilidade e o controle motor da musculatura da zona média.

Descrição:

O avaliado assume a posição inicial colocando os pés aproximadamente na largura dos ombros e os pés alinhados no plano sagital, assumindo o ajuste das mãos segundo o bastão a um ângulo de 90 graus entre o braço e antebraço com o bastão pousado na linha escapular. Em seguida, o bastão é pressionado acima da cabeça, com os cotovelos em extensão, de modo este fique diretamente acima da cabeça. O avaliado é instruído para descer o máximo possível para uma posição de agachamento, mantendo o tronco na posição vertical, e os calcanhares apoiados e o bastão bem posicionado. Se os critérios para a pontuação “3” não forem alcançados, o avaliado será solicitado a realizar o teste com o bloco 2x6 sob os calcanhares.

A pontuação de “3” para o DS é classificada segundo o padrão demonstrado na Figura 2: frontal (a) e lateral (b).

Nota: O tronco tem de apresentar paralelo à tibia ou na vertical, o fêmur está abaixo da horizontal, os joelhos estão alinhados sobre os pés e o bastão também está alinhado sobre os pés.

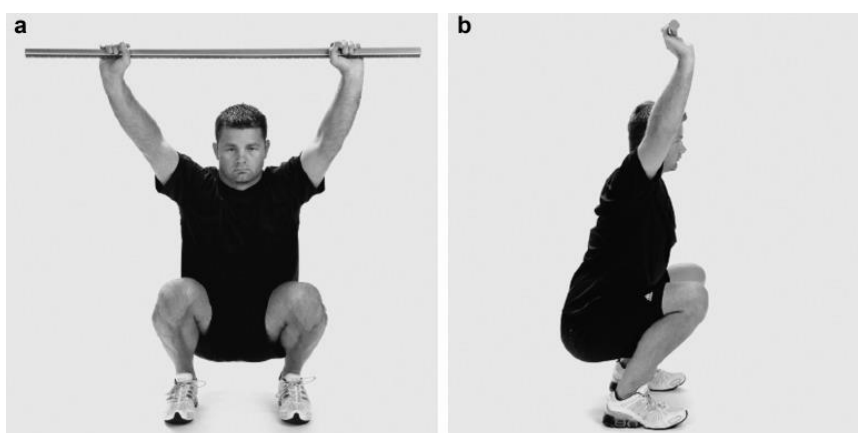


Figura 2 - Deep Squat pontuação de “3” retirado de Cook, G. (2011). Movement: Functional Movement Systems: Screening, Assessment and Corrective Strategies (1ª Edição). On Target Publications.



A pontuação de “2” para o DS é classificada segundo o padrão demonstrado na Figura 3: frontal (a) e lateral (b).

Nota: O tronco encontra-se paralelo à tibia ou na vertical, o fêmur está abaixo da horizontal, os joelhos estão sobre os pés, o bastão está alinhado com os pés, porém os calcanhares estão apoiados sobre a plataforma.

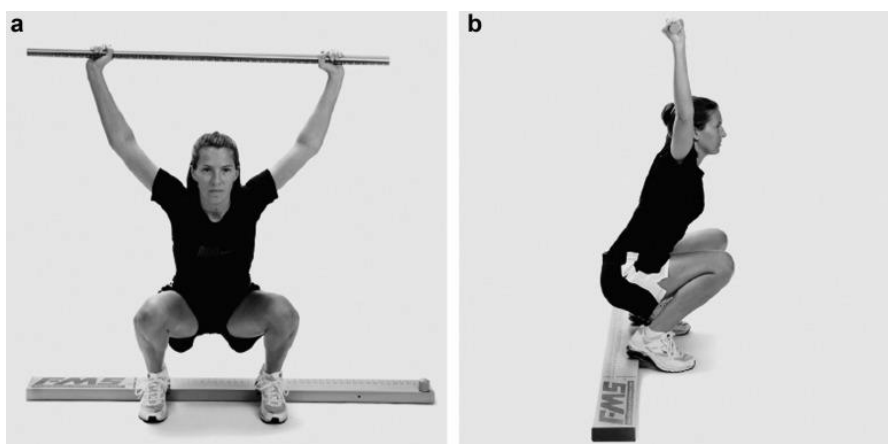


Figura 3 - Deep Squat pontuação de “2” retirado de Cook, G. (2011). Movement: Functional Movement Systems: Screening, Assessment and Corrective Strategies (1ª Edição). On Target Publications.

A pontuação de “1” para o DS é classificada segundo o padrão demonstrado na Figura 4: frontal

(a) e lateral (b).

Nota: a tíbia e o tronco não estão paralelos, o fêmur não está abaixo da horizontal, os joelhos não estão alinhados sobre os pés ou é observada flexão lombar. Os calcanhares encontram-se apoiados sobre a plataforma.

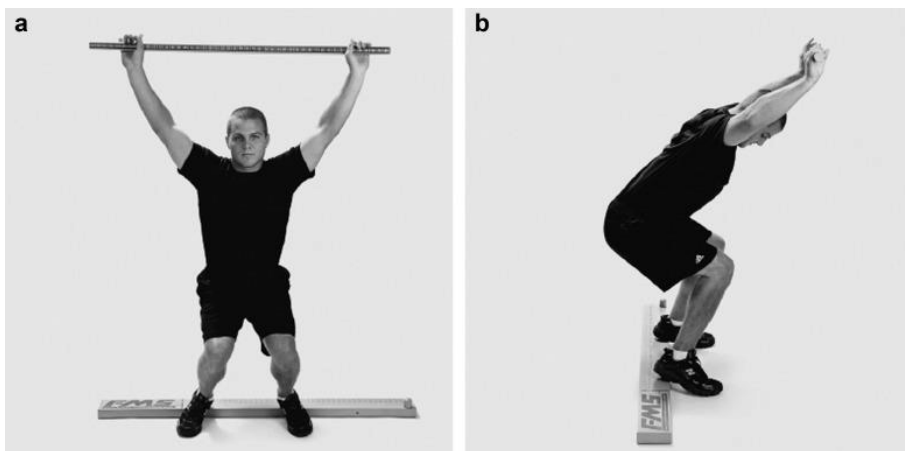


Figura 4 - Deep Squat pontuação de "1" retirado de Cook, G. (2011). *Movement: Functional Movement Systems: Screening, Assessment and Corrective Strategies* (1º Edition). On Target Publications.

Fatores a garantir:

- 1- Em caso de dúvida, assumir uma pontuação baixa;
- 2- Não interpretar a pontuação durante o teste;
- 3- Analisar a vista lateral.



Shoulder Mobility

Objetivo

O SM avalia a amplitude de movimento bilateral e recíproca do ombro, combinando rotação interna com adução e rotação externa com abdução do ombro contralateral. O teste também requer mobilidade escapular normal e extensão da zona torácica.

Descrição

O avaliador determina em primeiro lugar o comprimento da mão, medindo a distância do vincodistal do pulso até a ponta do terceiro dígito. O avaliado é depois instruído a fazer um punho com cada mão, colocando o polegar por dentro. São solicitados a assumir uma posição maximamente aduzida, estendida e rodada internamente com um ombro e uma posição maximamente abduzida, flexionada e rodada externamente com o ombro oposto. Durante o teste, as mãos devem permanecer em punho e os punhos devem ser colocados nas costas em um movimento suave. O avaliador mede a distância entre as proeminências ósseas mais próximas. Realize o teste bilateralmente.

A pontuação de "3" para o SM é classificada segundo o padrão demonstrado na Figura 5.

Nota: Os punhos estão a um comprimento de mão.



Figura 5 - Pontuação "3" Shoulder Mobility retirado de Cook, G. (2011). *Movement: Functional Movement Systems: Screening, Assessment and Corrective Strategies* (1º Edition). On Target Publications.

A pontuação de "2" para o SM é classificada segundo o padrão demonstrado na Figura 6.

Nota: Os punhos estão a um comprimento e meio da mão.

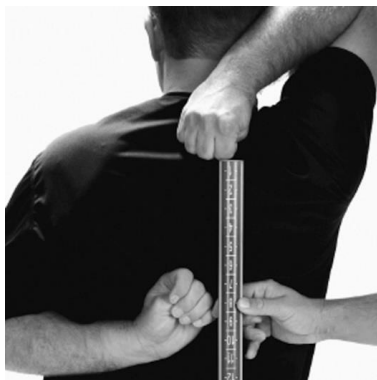


Figura 6 - Pontuação "2" para o Shoulder Mobility retirado de Cook, G. (2011). *Movement: Functional Movement Systems: Screening, Assessment and Corrective Strategies* (1º Edition). On Target Publications.

A pontuação de "1" para o SM é classificada segundo o padrão demonstrado na Figura 7.

Nota: Os punhos não têm o comprimento de uma mão e meia.



Figura 7 - Pontuação "1" para o Shoulder Mobility retirado de Cook, G. (2011). *Movement: Functional Movement Systems: Screening, Assessment and Corrective Strategies* (1º Edition). On Target Publications.

Fatores a garantir:

O ombro em rotação externa identifica o lado que está a ser avaliado;

Se a medição da mão for exatamente a mesma que a distância alcançada, atribuir pontuação abaixo;

Se o teste de verificação for positivo, atribuir pontuação de "0" ao respetivo lado/lados;

Certificar-se sempre que o avaliado não tenta "caminhar" as mãos em direção uma da outra.

Trunk Stability Push-Up

Objetivo:

O TSP testa a capacidade de estabilizar o "core" e a coluna vertebral nos planos anterior e posterior durante um movimento dos membros superiores em cadeia cinética fechada. O teste avalia a estabilidade do tronco no plano sagital enquanto é realizado um movimento simétrico de flexão dos membros superiores.

Descrição:

O avaliado assume uma posição de decúbito ventral, com os pés juntos, as mãos colocadas à largura dos ombros, de acordo com os critérios descritos posteriormente. Durante o teste, homens e mulheres são colocados em posições iniciais diferentes. Os homens começam com os polegares alinhados com o topo da testa, enquanto as mulheres começam com os polegares ao nível do queixo. Os joelhos estão totalmente estendidos e os tornozelos em dorsiflexão, em que o corpo tem de ser elevado como uma unidade (em prancha), não se verificando nenhum movimento deve ser verificado na zona lombar ("atraso" na subida ou aumento da lordose). Se o avaliado não conseguir fazer uma flexão nessa posição, os polegares são movidos para a próxima posição mais fácil, o nível do queixo para os homens, o nível dos ombros para as mulheres e a flexão é tentada novamente, num máximo de três tentativas.

Para obter uma pontuação de "3" Figura 8_A - O corpo eleva-se como uma unidade (em prancha) sem visíveis alterações nas curvaturas fisiológicas naturais. Os homens realizam uma repetição com os polegares alinhados com o topo da cabeça; as mulheres fazem uma repetição com os polegares alinhados com o queixo. Para obter uma pontuação de "2" Figura 8_B o corpo se eleva como uma unidade (em prancha) sem visíveis alterações nas curvaturas fisiológicas naturais. Os homens realizam uma repetição com os polegares alinhados com o queixo. E as mulheres, Figura 8_C fazem uma repetição com os polegares alinhados com a clavícula.

Para obter uma pontuação de "1" Figura 8_C o avaliado não consegue executar uma repetição (com o corpo levantado como uma unidade) nas posições das mãos da Figura 8_B, em que os homens mantêm os polegares alinhados com o queixo e as mulheres com a clavícula.

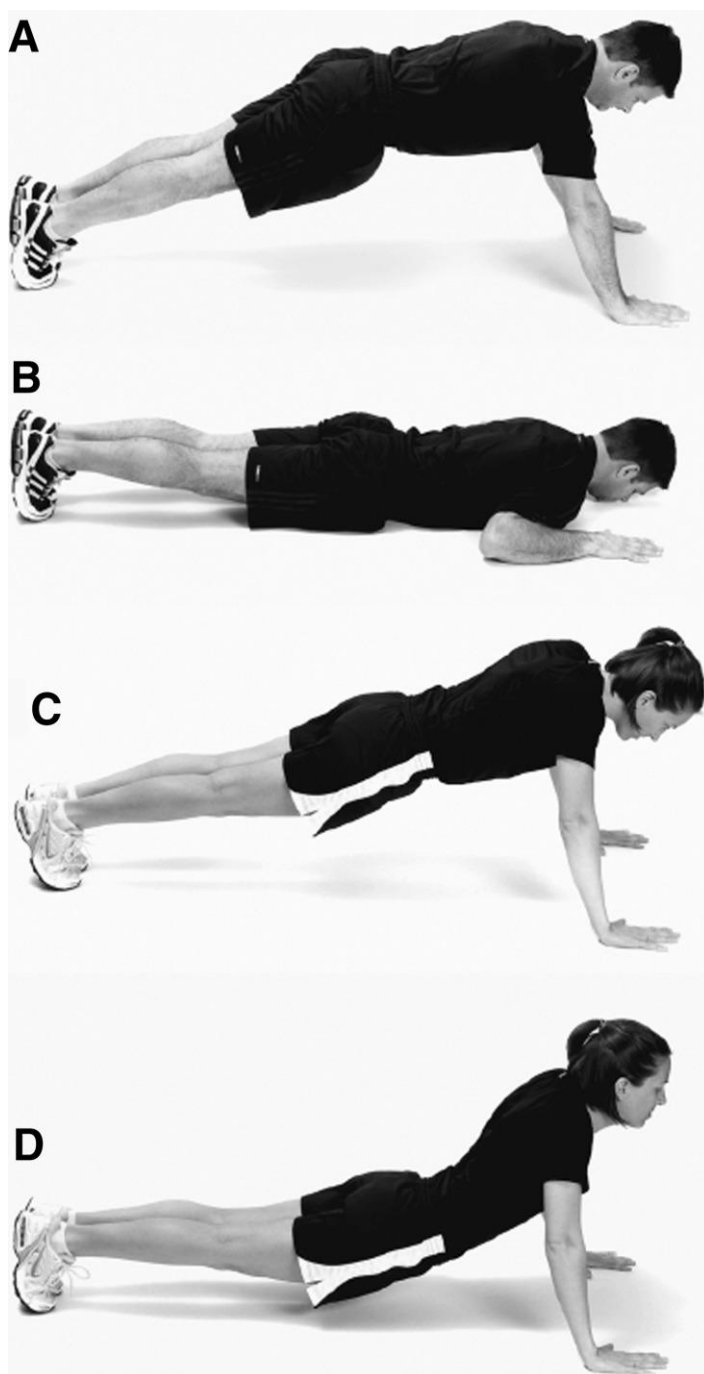


Figura 8 - Pontuação para o Trunk Stability Push-Up (ver descrição pois difere a pontuação entre homens e mulheres) retirado de Cook, G. (2011). *Movement: Functional Movement Systems: Screening, Assessment and Corrective Strategies* (1ª Edição). On Target Publications.

Fatores a garantir:

- O avaliado levanta o corpo como uma unidade (em prancha);
- A posição inicial das mãos tem de ser mantida, não permitindo que estas saiam da posição enquanto se preparam para realizar o movimento;
- Certificar que o peito e a zona do estômago saem do chão em simultâneo;
- Em caso de dúvida, pontuar abaixo;
- 5- Se o teste de verificação der positivo assumir a pontuação de “0”.

TESTE: Avaliação perfil de força do ombro – rotação interna externa

Propósito: medir a força isométrica de rotação interna e externa do ombro

Instrumento: MicroFET2 (HOGGAN Scientific LLC, Salt Lake City, USA)

Equipamento necessário:

Dinamómetro handheld;

Marquesa;

Toalha;

Folha de registo;

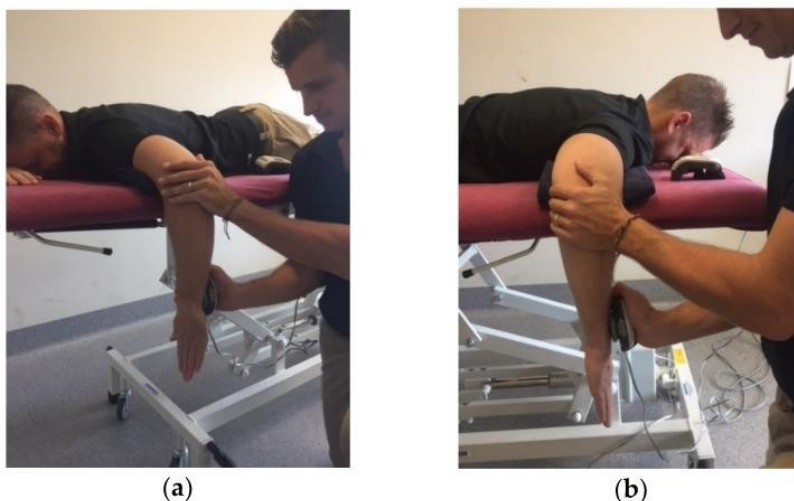
Material de escrita.

Protocolo de Avaliação:

Posição do avaliado para a realização do teste

O avaliado será posicionado em uma marquesa, em decúbito ventral, com o Membro Superior (MS) a ser testado posicionado lateralmente, enquanto que o MS contrário se posiciona de modo a que o avaliado coloque a testa apoiada na mão (Figura 9).

Figura 9 - Posicionamento do avaliado para avaliação da força isométrica do ombro retirado de Furness J, Schram B,



Cottman-Fields T, Solia B, Secomb J. Profiling Shoulder Strength in Competitive Surfers. Sport (Basel, Switzerland) 2018;6. doi:10.3390/sports6020052.



O ombro a ser testado encontra-se posicionada aproximadamente 90 ° de abdução e 90 ° de flexão do cotovelo com a palma da mão aberta e rotação neutra do ombro com uma toalha a suportar o apoio do braço na marquesa (Figura 9).

Posição do avaliador e dinamómetro para a realização do teste

O examinador manteve uma posição de apoio frontal à direção do movimento, com o dinamómetro colocado na mão do examinador mais próxima da marquesa. A outra mão é utilizada para estabilizar o cotovelo do avaliado limitando a abdução ou adução compensatória da articulação glenoumeral.

O dinamómetro é colocado aproximadamente a 2 cm do processo estilóide radial (Figura 40) na zona ventral (rotação interna) ou dorsal (rotação externa) do antebraço distal dos avaliados.

Tem de ser registado o comprimento do antebraço, medindo o comprimento a partir do epicôndilo lateral até 2 cm proximal da estilóide radial.

O avaliado deve ser familiarizado com o movimento, em que o examinador move passivamente o braço a ser testado através da ação apropriada e depois o avaliado realiza o movimento, mantendo apenas cerca de 50% da força máxima. Só depois completa duas repetições para rotação interna e externa, realizando força máxima garantindo pelo menos 3 s de contração.

Deve ser garantido um período de descanso de 10 s entre cada repetição e 30 s entre os testes de cada movimento individual.

Deve ser dada Instrução verbal e incentivo ao participante dando início ao teste com uma contagem de "1-2-3-começa" e mantendo incentivo verbalmente o tom e o volume consistentes com a frase "empurra-empurra-empurra-empurra-relaxa".

Fatores a garantir:

- o avaliador tem de estar numa posição confortável e estável para garantindo suporte no cotovelo do avaliado e que vai conseguir suportar a força produzida;
- o dinamómetro deve estar calibrado e com as unidades de medida de acordo com o pretendido;
- garantir que a cervical do avaliado se encontra na posição neutra;
- o avaliado tem de saber que é para realizar um esforço máximo, manter tensão constante durante os 3 s de contração;
- o avaliador deve transmitir informação verbal e não verbal de incentivo para que o avaliado produza força máxima durante todo o teste;
- garantir os tempos de pausa após aquecimento e entre repetições;

TESTE: Squat Jump e Countermovement Jump

Propósito:

avaliar a força explosiva dos membros inferiores;

avaliar a força explosiva membros superiores nos atletas com limitação nos MI.

Instrumento: Plataforma de contacto Chronojump (*Chronojump-Biosystem, Barcelona Spain*) ou Plataforma de força Pasco (*Pasco Scientific, Roseville, USA*)



Protocolo de Avaliação:

De entre os vários testes o para a estimativa da força e potência da musculatura extensora dos membros inferiores o salto vertical, onde está inserido o Counter Movement Jump (CMJ) ou salto vertical com contramovimento e o Squat Jump (SJ) ou salto vertical, como os mais amplamente utilizados. O CMJ consiste em um salto que potencialmente emprega um maior usado ciclo de alongamento-encurtamento, implicando na maioria dos casos uma maior altura de salto. Existem vários protocolos, sendo observado que quando usado o balanço do membros superiores no CMJ existe um aumento da altura de salto em 10% ou mais. Assim é necessário seguir um protocolo uniforme para evitar erros de medida.

Para o SJ (Figura 10) o avaliado deve assumir uma posição estática com os joelhos fletidos a 90º durante 2 segundos antes de realizar cada tentativa, com as mãos colocadas firmemente na cintura pélvica.



Figura 10 - Execução Squat Jump test retirado de Atabas EG, Yapıcı Öksüzoğlu A, Turel S, Akca H. The relationship of polymorphism with explosive forces in ACTN3, ACE, and UCP3 genes in soccer players. Progr Nutr

Para o CMJ (Figura 11) o posicionamento é semelhante embora em vez de partir de uma posição estática a 90º, o avaliado parte da posição bípede, executando um agachamento até aos 90º executando de seguida o salto vertical, mantendo sempre as mãos firmemente posicionadas na cintura pélvica.



Figura 11- Execução Countermovement Jump test retirado de Atabas EG, Yapıcı Öksüzoğlu A, Turel S, Akca H. The relationship of polymorphism with explosive forces in ACTN3, ACE, and UCP3 genes in soccer players. Progr Nutr

O teste inicia ao sinal do avaliador, sendo permitidas 3 tentativas, com pelo menos 15 segundos de intervalo entre si, e 2 minutos entre testes, considerando-se o melhor salto para análise e/ou conjugando a média das três tentativas.

Fatores a garantir:

- garantir que os avaliados realizam um aquecimento standard, consistindo em 5 minutos de exercícios de mobilização articular, 5 minutos de exercícios de resistência cardiovascular (corrida, exercícios calisténicos, etc.) e que executa pelo menos 3 repetições do salto a realizar antes de proceder à avaliação;

- antes de começar a avaliação verificar que a plataforma se encontra sincronizada com o computador e está selecionado o teste correto.

- o avaliado estar com roupa confortável e calçado apropriado; 4 - permanecer na zona central da plataforma;

5 - as tentativas serão anuladas se:

- o participante dobra os joelhos durante a fase de voo ou não mantém o corpo em completa extensão;

- o participante intencionalmente faz por acelerar o movimento caindo primeiro com os calcanhares na plataforma;

- a receção ao solo é feita longe da posição inicial;

- deliberadamente balança os membros superiores mesmo que sem retirar as mãos da cintura pélvica;

- na receção ao solo o participante não apoia os pés em simultâneo;

- na receção ao solo o participante cai fora da plataforma ou um pé está detro e outro fora da plataforma;

- em qualquer momento da execução as mãos perdem o contacto com a cintura pélvica;

Nota: os atletas com deficiência que os impeça de executar com os membros inferiores realizam o mesmo procedimento apoiando as mãos na plataforma e os joelhos no chão.

TESTE: Y balance Test



**SURF CLUBE
DE VIANA**
SINCE 1989



**SURF CLUBE
DE VIANA**
SINCE 1989

Propósito:

Controlo postural e equilíbrio dinâmico dos membros inferiores e potencial risco de lesão na versão de Membros inferiores;

Mobilidade e estabilidade de tronco e membros superiores em cadeia cinética fechada na versão Membros Superiores.

Instrumento: OctoBalance (*OctoBalance, Check your Motion, Albacete, Spain*)

Equipamento necessário:

Octabalace;

Folha de registo;

Material de escrita.

Protocolo de Avaliação – versão Membros Inferiores:

Embora o Star Excursion Balance Test (SEBT) seja muito semelhante ao Y Balance Test, é importante entender que eles são diferentes, com o Y Balance Test apresentando uma versão mais recente e simplificada do SEBT.

A sua avaliação pode ser realizada segundo uma plataforma específica designado por Y-BalanceTest kit ou através da plataforma em forma de octógono descrita para o SEBT. As direções estabelecidas (Figura 12) são medidas de acordo com o pé de apoio e reportam-se apenas às direções alcance anterior (YB-A), posteromedial (YB-PM), alcance posterolateral (YB-PL).

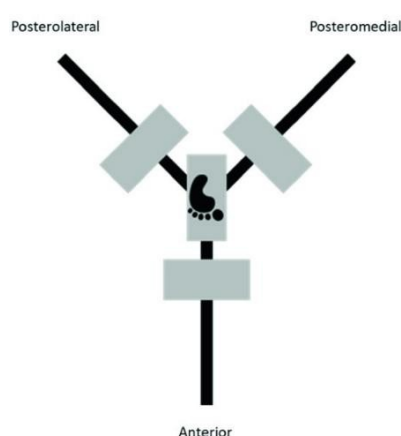
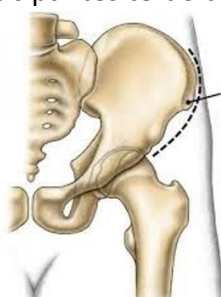


Figura 12 - Execução Y Balance Teste com apoio pé direito (pé esquerdo com designação contrária) retirado de <http://mlg.ucd.ie/ybt/>

Para a avaliação de cada tentativa, a fita métrica terá de ser colocada a uma distância mínima de 30 cm para iniciar a excursão. Cada tentativa é validada por uma inspeção visual garantindo que o avaliado permanece com os calcanhares na linha ântero-posterior da plataforma sem colocar os dedos dos pés no ponto marcado. Todas as medidas serão arredondadas ao centímetro mais próximo.

Durante o teste, os participantes terão de manter as mãos na cintura e permanecer



Face anterior da
Crista Ilíaca



Maléolo Lateral

descalços. Antes da realização da medição e segundo o apoio de cada um dos MI, cada participante realiza pelo menos três repetições em cada uma das direções a avaliar. Estas repetições não serão contabilizadas cumprindo apenas com o objetivo de predispor o corpo para a avaliação. Posteriormente e com 10 segundos de recuperação passiva entre repetições e são registadas três tentativas em cada direção a avaliar. Considerando a normalização dos resultados para a comparação entre populações e diferentes indivíduos terá de ser contabilizado o comprimento de cada um dos membros inferiores, tendo como referência a posição de decúbito dorsal, a face anterior da crista ilíaca e o maléolo lateral (Figura 13).

Figura 13 - Pontos anatómicos medição Membros inferiores

Os valores alcançados poderão ser considerados segundo **distância total (cm)**; **distância relativa (normalizada)** e **distância composta (%)**, segundo as fórmulas:

Distância total (cm) = (alcance 1 + alcance 2 + alcance 3) / 3;

Distância relativa (normalizada) (%) = Distância de alcance absoluta / comprimento do membro * 100;

Distância composta (%) = Soma das 3 direções de alcance / 3 vezes o comprimento do membro * 100

Fatores a garantir:

1 - Os participantes devem aquecer antes da realização do teste, correspondendo à natureza biomecânica e fisiológica do teste;

para a medição segundo os **membros inferiores** o avaliado deve

- estar com roupas leves e remover o calçado;

- permanecer na plataforma central, com as mãos colocadas firmemente na cintura pélvica e atrás da linha vermelha;

- as tentativas com falha incluem o seguinte:

não pode tocar o pé no chão antes de retornar à posição inicial;

qualquer perda de equilíbrio resultará em uma tentativa falhada;

não pode colocar o pé em cima do indicador de alcance para obter apoio durante o movimento;

não pode pressionar ou chutar o indicador de alcance para obter um melhor desempenho.



TESTE: Capacidade de Dorsiflexão

Propósito: aferir a mobilidade da articulação tibiotársica de forma ativa e em cadeia cinética fechada

Instrumento: Leg Motion (*Check your Motion, Albacete, Spain*)

Equipamento necessário:

Leg Motion;

Câmara de filmar ou telemóvel com câmara de filmar;

Folha de registo;

Material de escrita.

Protocolo de Avaliação:

A realização do teste compreende que o avaliado se apresente descalço, com as mãos colocadas na cintura, registando-se três medidas para o pé direito e pé esquerdo (Figura 14).



Figura 14 - Aplicação do Sistema Leg Motion retirado de <https://checkyourmotion.com>

O pé a ser avaliado está posicionado mais à frente, mantendo sempre o calcanhar em contacto com o solo, o joelho alinhado com o segundo dedo do pé e as mãos na cintura (Figura 15).

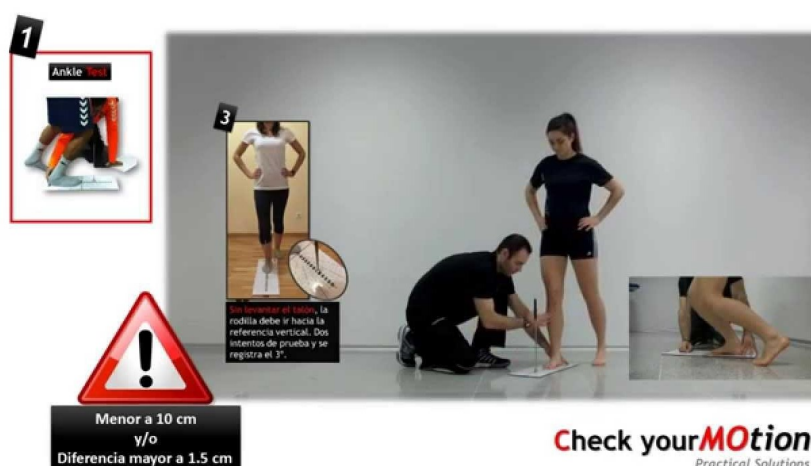


Figura 15 - Especificações de aplicação do Sistema Leg Motion retirado de <https://checkyourmotion.com>

O avaliado avança o joelho na direção do bastão de metal que está posicionado à distância de 10 centímetros, sendo instruídos para avançar o joelho com movimento de flexão, mantendo o contacto do joelho com o bastão metálico e o calcanhar no solo.

A dorsiflexão máxima é considerada como a distância máxima do dedo grande até ao bastão de metal, enquanto mantém contato do calcanhar no solo e o joelho no bastão de metal por um período de pelo menos três segundos.

O contato do calcanhar com o solo tem de ser monitorado pelo avaliador colocando levemente os dedos no calcanhar para sentir o movimento do calcanhar, enquanto também examina visualmente o calcanhar quanto do movimento.

O registo deve ser considerado até aos 0,1 cm mais próximos realizando três tentativas por membro inferior.

Fatores a garantir:

- 1- o avaliado tem de estar descalço para a realização do teste;
- 2- o pé deve estar alinhado tendo como referência a linha média da plataforma e a linha

limitede indicação para os dedos dos pés;

3- o avaliado deve realizar o movimento mantendo as mãos na cintura sem perder o equilíbrio;4- o joelho deve tocar no bastão sem que o calcanhar perca o contacto com o solo;

5- a posição deve ser mantida por 3 segundos antes de confirmar a medição em que o calcanharcontrário ao tornozelo a ser aferido pode não permanecer em contacto com o solo;

6- o registo deve ser efetuado até ao 0,1 cm mais próximo como avaliador colocado lateralmente.


SURF CLUBE DE VIANA 1989 2019

Surf Performance
gonalocruz@surfingviana.com
Avaliação Física
Athleta A

página 1/2

Data 1ª Avaliação:

27.11.2021

Data 2ª Avaliação:

Avaliador(es): 00.01.1900

Posição na prancha: Regular

Classe: Sub14

Idade: 13

Antropometria

Bioimpedância						Perímetros					
	Altura	Peso	IMC	%MG	%MM	TMB	Braço	Coxa	Gémeo	Abdominal	
1ª avaliação	137,8	30,4	16,1	15,5	34,3	1182	sd	sd	sd	sd	
2ª avaliação	141	31,6	15,9	15,1	34,2	1195	0	0	0	0	
	*cm	*kg	*kg/m2	*percentagem	*quiloCalorias		*cm	*cm	*cm	*cm	
Índice de Massa Corporal						% de Gordura Corporal				% Massa Muscular	
2ª momento			15,9			15,1					34,2
	Baixo Peso			Normal			Normal				

Observações: Valores dentro do esperado para a idade, deves continuar a treinar para melhorar o teu surf e chegar a resultados ainda melhores.

Functional Movement Screen

	Shoulder Mobility	Direita	Esquerda	TRUNK PUSH UP
1ª avaliação	sd	1	2	3
Score	Sem Dados	Baixo	Normal	Excelente
2ª avaliação	3	2	2	3
Score	Excelente	Normal	Normal	Excelente

Observações: Valores dentro do esperado e de acordo com os padrões de movimento testados, apesar de ainda poderes melhorar a mobilidade da cintura escapular (ombros).

Perfil de Força do Ombro

Lado Direito				
	Rot. Interna	Rot. Externa	Rácio RI/RE	% diferença
1ª avaliação	139,9	112,7	1,2	24,1
2ª avaliação	155,1	130,6	1,2	18,8
*newtons				

Lado Esquerdo				
	Rot. Interna	Rot. Externa	Rácio RI/RE	% diferença
1ª avaliação	126,75	100,5	1,3	26,1
2ª avaliação	161,7	125,0	1,3	29,4
*newtons				

Observações: Deves vigiar o aparecimento de desconforto e/ou dor durante e após treino de surf, já que apresenta valores de força isométrica nos músculos rotadores do ombro fora dos valores esperados, verificado no rácio e na percentagem de diferença (superior a 15%).



SURF CLUBE DE VIANA 1989 2019

Surf Performance
goncalocruz@surfingviana.com
Avaliação Física

página 2/2

Data 1ª Avaliação:

27.11.2021

Data 2ª Avaliação:

Potência Membros Inferiores

1ª avaliação

Squat Jump

Counter Mov. Jump

2ª avaliação

Squat Jump

Counter Mov. Jump

Tempo de Voo	Altura	Potência	Velocidade Inicial
0,418	21,42	305,19	2,05
0,420	21,65	306,85	2,06
0,438	23,53	332,52	2,15
0,444	24,20	337,24	2,18

*segundos

*cm

*watts

*m/s-1

Flexões

1ª avaliação

sd

2ª avaliação

21

Observações:

Parabéns! Valores acima da média o teu escalão.

média rapazes: 16 nr

Observações:

Valores abaixo do esperado para a tua idade, não conseguindo aproveitar o contra movimento para alcançar uma maior altura de salto. Necessita de melhorar a coordenação e agilidade no treino fora de água para potenciar o teu surf.

Dorsiflexão

1ª avaliação

Dir.

Esq

12,83

12

2ª avaliação

Dir.

Esq

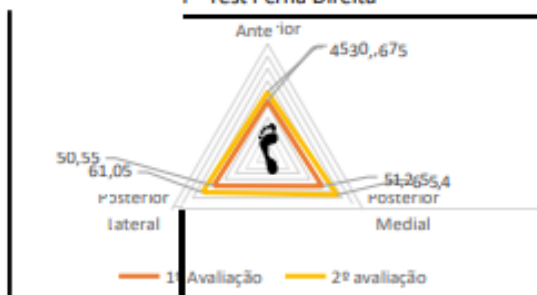
14,0

13,2

*centímetros

Observações:

Valores de dorsiflexão dentro do esperado para a tua idade.

Equilíbrio Dinâmico
Y - Test Perna Direita

Y - Test Perna Esquerda

Observações:

O controlo postural dinâmico é determinante para a performance no surf. Deves procurar melhorar esta capacidade e assim potenciar o teu surf.




SURF CLUBE DE VIANA 1989 2019

Surf Performance
goncalocruz@surfingviana.com
Avaliação Física
Athleta B

página 1/2

Data 1ª Avaliação: 27.11.2021

Data 2ª Avaliação:

Avaliador(es): 00.01.1900

Posição na prancha: Regular

Classe: Sub14

Idade: 12

Antropometria

Bioimpedância						
	Altura	Peso	IMC	%MG	%MM	TMB
1ª avaliação	145,5	40,4	19,1	19,5	36,6	1348
2ª avaliação	154,5	46,6	19,5	16,2	38,8	1461
	*cm	*kg	*kg/m2	*percentagem	*percentagem	*quilocalorias

Índice de Massa Corporal

2ª momento

19,5

Normal

% de Gordura Corporal

16,2

Normal

% Massa Muscular

38,8

Normal

Observações: Valores dentro do esperado para a idade, deves continuar a treinar para melhorar o teu surf e chegar a resultados ainda melhores.

Functional Movement Screen

	Shoulder Mobility	Shoulder Mobility		Trunk Push Up
		Direita	Esquerda	
1ª avaliação	sd	3	3	2
Score	Sem Dados	Excelente	Excelente	Normal
2ª avaliação	2	3	3	3
Score	Normal	Excelente	Excelente	Excelente

Observações: Valores excelentes de acordo com os padrões de movimento testados. Parabéns!

Perfil de Força do Ombro
Lado Direito

	Rot. Interna	Rot. Externa	Rácio RI/RE	% diferença
1ª avaliação	123,7	117,4	1,1	5,3
2ª avaliação	140,6	170,4	0,8	-17,5

*newtons

Lado Esquerdo

	Rot. Interna	Rot. Externa	Rácio RI/RE	% diferença
1ª avaliação	135	117,85	1,1	14,6
2ª avaliação	149,9	195,5	0,8	-23,3

*newtons

Observações: Deves vigiar o aparecimento de desconforto e/ou dor durante e após treino de surf, já que apresenta valores de força isométrica nos músculos rotadores do ombro fora dos valores esperados, verificado no rácio e na percentagem de diferença (superior a 15%).



SURF CLUBE DE VIANA 1989 2019

Surf Performance
goncalocruz@surfingviana.com
Avaliação Física

página 2/2

Data 1ª Avaliação: 27.11.2021

Data 2ª Avaliação:

Potência Membros Inferiores

	Tempo de Voo	Altura	Potência	Velocidade Inicial
1ª avaliação				
Squat Jump	0,420	21,61	407,39	2,06
Counter Mov. Jump	0,436	23,27	422,75	2,14
2ª avaliação				
Squat Jump	0,488	29,14	545,60	2,39
Counter Mov. Jump	0,439	23,65	491,61	2,15

*segundos *cm *watts *m/s-1

Flexões

1ª avaliação sd

2ª avaliação 20

Observações:

Parabéns! Valores acima da média o teu escalão.

média rapazes: 16 nr

Observações:

Valores dentro do esperado para a tua idade e melhores do que a última avaliação. Parabéns!

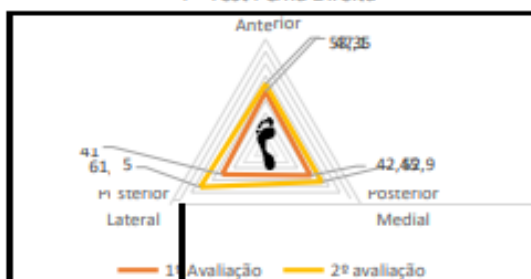
Dorsiflexão

1ª avaliação	Dir.	Esq
	12,83	12
2ª avaliação	Dir.	Esq
	12,3	12,5

*centímetros

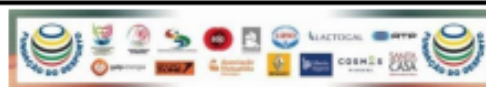
Observações:

Valores de dorsiflexão dentro do esperado para a tua idade.

Equilíbrio Dinâmico
Y - Test Perna Direita

Y - Test Perna Esquerda

Observações:

O controlo postural dinâmico é determinante para a performance no surf. Deves procurar melhorar esta capacidade e assim potenciar o teu surf.





Avaliação Física

Athleta C

página 1/2

Data 1ª Avaliação: 27.11.2021

Data 2ª Avaliação:

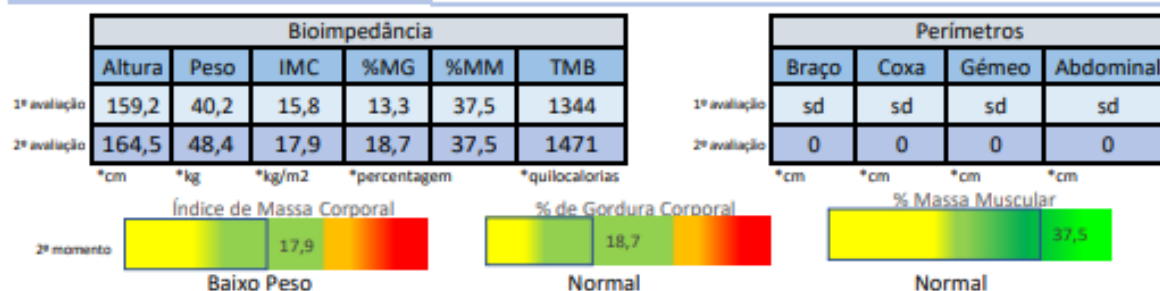
Avaliador(es): 00.01.1900

Posição na prancha Goofy

Classe: Sub16

Idade: 14

Antropometria



Observações: Valores dentro do esperado para a idade, deves continuar a treinar para melhorar o teu surf e chegar a resultados ainda melhores.

Functional Movement Screen

	Qual	Shoulder Mobility		Trunk Push Up
		Direita	Esquerda	
1ª avaliação	sd	3	3	0
Score	Sem Dados	Excelente	Excelente	Lesão
2ª avaliação	3	3	3	2
Score	Excelente	Excelente	Excelente	Normal

Observações: Valores excelentes de acordo com os padrões de movimento testados. Apesar de ainda poderes melhorar a tarefa mais específica para o surf (Trunk Push Up).

Perfil de Força do Ombro

Lado Direito				
	Rot. Interna	Rot. Externa	Rácio RI/RE	% diferença
1ª avaliação	84,7	91,8	0,9	-7,7
2ª avaliação	115,2	146,5	0,8	-21,3
	*newtons			

Lado Esquerdo				
	Rot. Interna	Rot. Externa	Rácio RI/RE	% diferença
1ª avaliação	97,15	71,1	1,4	36,6
2ª avaliação	134,7	155,7	0,9	-13,5
	*newtons			

Observações: Deves vigiar o aparecimento de desconforto e/ou dor durante e após treino de surf, já que apresenta valores de força isométrica nos músculos rotadores do ombro fora dos valores esperados, verificado no rácio e na percentagem de diferença (superior a 15%) principalmente à direita.




SURF CLUBE DE VIANA 1989 2019

Surf Performance
goncalocruz@surfingviana.com
Avaliação Física

página 2/2

Data 1ª Avaliação: 27.11.2021

Data 2ª Avaliação:

Potência Membros Inferiores

1ª avaliação	Tempo de Voo	Altura	Potência	Velocidade Inicial
Squat Jump	0,417	21,33	402,38	2,04
Counter Mov. Jump	0,466	26,64	450,09	2,29
2ª avaliação				
Squat Jump	0,439	23,59	509,82	2,15
Counter Mov. Jump	0,443	23,99	514,24	2,17

*segundos *cm *watts *m/s-1

Flexões

1ª avaliação sd

2ª avaliação 4

Observações:

Valores abaixo da média para o teu escalão.

média rapazes: 16 nr

Observações:

Valores abaixo do esperado para a tua idade, não conseguindo aproveitar o contra movimento para alcançar uma maior altura de salto. Necessita de melhorar a coordenação e agilidade no treino fora de água para potenciar o teu surf.

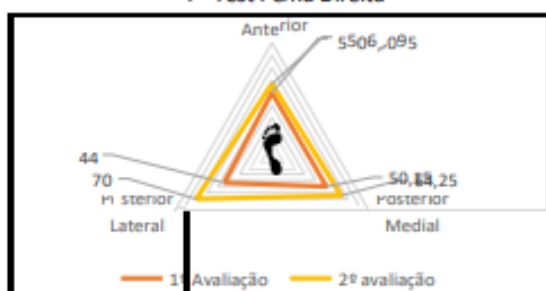
Dorsiflexão

1ª avaliação	Dir.	Esq
	12,83	15
2ª avaliação	Dir.	Esq
	11,3	12,2

*centímetros

Observações:

Valores de dorsiflexão abaixo do esperado. Deves procurar melhorar a mobilidade do tornozelo.

Equilíbrio Dinâmico
Y - Test Perna Direita

Y - Test Perna Esquerda

Observações:

O controlo postural dinâmico é normalmente afetado pela prática de surf. No entanto deves procurar melhorar as assimetrias detetadas, principalmente no alcance posterior lateral do teu lado não dominante, considerando a posição de surf.



Appendix II



Folha de Análise Técnica - Competição

Nome: Atleta A	Grupo: C
Idade: 13	Treinador: Gonçalo Cruz

Avaliação Geral	1ºT	2ºT	3ºT	4ºT	Observações
1 - Conhecimento Local	não				
2 - Preparação física	sim				
3 - Saudável e atlético	sim				
4 - Motivação p/treinar	sim				
Total em %	0,75	0	0	0	

Análise Técnica		1ºT	2ºT	3ºT	4ºT	Observações	
1 - Confiança	sim					*surfista forte e motivado, pode melhorar a concentração no treino *melhor o TF é coisa prioritaria *no geral deve ser mais calmo ...	
2 - Seleção de onda	sim						
3 - Gestão Crowd	não						
4 - Seleção de manobra	não						
5 - Entrada na onda	não						
6 - Gerar Velocidade	sim						
7 - Bottom turn	não						
8 - Cutback	sim						
9 - Batida/reentry	sim						
10 - Snaps	não						
11 - Floater	não						
12 - Finalização	não						
13 - Ligação de manobra	não						
Total em %	38,46%	0,00%	0,00%	0,00%	0,00%	Ev.Anual	Ev.Mensal
Total Geral	47,06%	0,00%	0,00%	0,00%	0,00%	0%	0%
Evolução Parcial	n/a	-47,06%	0,00%	0,00%	0,00%	T Superior:	3ºT
Fatores Psicológicos	100%	0%	0%	0%	0%	0%	0%
Fatores Teóricos	67%	0%	0%	0%	0%	0%	0%
Técnica de Base	33%	0%	0%	0%	0%	0%	0%
Leitura de Onda	33%	0%	0%	0%	0%	0%	0%
Manobras	38%	0%	0%	0%	0%	0%	0%
						Ev.Anual	Ev.Mensal
Total Técnica Específica	16,67%	8,33%	0,00%	0,00%	0,00%	-8%	-8%
Gerar Velocidade	17%	0%	0%	0%	0%	0%	0%
Bottom Turn	50%	0%	0%	0%	0%	0%	0%
Cutback	10%	0%	0%	0%	0%	0%	0%
Snaps	0%	0%	0%	0%	0%	0%	0%
Floater	0%	0%	0%	0%	0%	0%	0%
Batida/Reentry	30%	0%	0%	0%	0%	0%	0%
						Ev.Anual	Ev.Mensal
Frontside	17%	0%	0%	0%	0%	0%	0%
Backside	17%	0%	0%	0%	0%	0%	0%

Folha de Análise Técnica - Competição

Nome: _____ Grupo: _____
Idade: _____ Treinador: _____

Análise Técnica Específica

Gerar Velocidade	1ªT	0,167	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Comprime e estende o corpo	sim	Não						
Eleva os braços ao nível dos ombros	não	Não						
Executa o movimento na parte correta da onda	não	Não						

Bottom turn	1ªT	0,5	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Comprime o corpo fletindo os joelhos	não	sim						
Inclina o corpo (mão na água)	sim	sim						
Aguarda a posição comprimida?	não	não						

Cutback	1ªT	0,1	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
BT correto para o ombro da onda?	sim	não						
Comprime o corpo e aguarda a posição	não	não						
Estende o corpo e executa a rotação ar	não	não						
Comprime o corpo e aguarda a posição	não	não						
Estende o corpo e executa a rotação ar	não	não						

Snaps	1ªT	0	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Realiza um bottomturn adequado	Não	Não						
Roda o corpo antes do impacto	Não	Não						
Recentra o peso na prancha	Não	Não						

Floaters	1ªT	0	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Tem uma entrada horizontal no lip?	Não	Não						
No deslize está centrado sobre a prancha	Não	Não						
Executa a rotação antes de descer a onda	Não	Não						
Aterragem com o nose apontado para a onda	Não	Não						
Recentra e comprime sobre a prancha	Não	Não						

Batida/Reentry	1ªT	0,3	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Executa um bom bottom turn?	Não	Não						
Executa a rotação antes do impacto?	Não	sim						
Afasta a cabeça e tronco do lip?	Não	Não						
Pé da frente a cima da espuma no impacto	Não	Não						
Recentra e comprime sobre a prancha	sim	sim						

Folha de Análise Técnica - Competição

Nome: Atleta B

Grupo: C

Idade: 12

Treinador: Gonçalo Cruz

Avaliação Geral	1ºT	2ºT	3ºT	4ºT	Observações
1 - Conhecimento Local	sim				
2 - Preparação física	não				
3 - Saudável e atlético	sim				
4 - Motivação p/treinar	não				
Total em %	0,5	0	0	0	

Análise Técnica	1ºT	2ºT	3ºT	4ºT	Observações	
1 - Confiança	não				*surfista forte fisicamente, mas podia revelar mais motivação para o treino físico *boa remada, mas pode melhorar .. *executa CB e Snap ..	
2 - Seleção de onda	sim					
3 - Gestão Crowd	não					
4 - Seleção de manobr	sim					
5 - Entrada na onda	sim					
6 - Gerar Velocidade	não					
7 - Bottom turn	não					
8 - Cutback	sim					
9 - Batida/reentry	não					
10 - Snaps	sim					
11 - Floater	não					
12 - Finalização	não					
13 - Ligação de manob	não					
Total em %	38,46%	0,00%	0,00%	0,00%	Ev.Anual	Ev.Mensal
Total Geral	41,18%	0,00%	0,00%	0,00%	0%	0%
Evolução Parcial	n/a	-41,18%	0,00%	0,00%	T Superior:	3ºT
Fatores Psicológicos	0%	0%	0%	0%	0%	0%
Fatores Teóricos	100%	0%	0%	0%	0%	0%
Técnica de Base	33%	0%	0%	0%	0%	0%
Leitura de Onda	100%	0%	0%	0%	0%	0%
Manobras	25%	0%	0%	0%	0%	0%
total Técnica Específic	33,33%	14,58%	0,00%	0,00%	Ev.Anual	Ev.Mensal
Gerar Velocidade	33%	0%	0%	0%	-19%	-19%
Bottom Turn	67%	0%	0%	0%	0%	0%
Cutback	50%	0%	0%	0%	0%	0%
Snaps	50%	0%	0%	0%	0%	0%
Floater	0%	0%	0%	0%	0%	0%
Batida/Reentry	20%	0%	0%	0%	0%	0%
Frontside	38%	0%	0%	0%	Ev.Anual	Ev.Mensal
Backside	29%	0%	0%	0%	0%	0%

Folha de Análise Técnica - Competição

Nome: _____ Grupo: _____
Idade: _____ Treinador: _____

Análise Técnica Específica

Gerar Velocidade	1ªT	0,333	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Comprime e estende o corpo	sim	sim						
Eleva os braços ao nível dos ombros	não	Não						
Executa o movimento na parte correta da onda	não	Não						

Bottom turn	1ªT	0,667	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Comprime o corpo fletindo os joelhos	sim	sim						
Inclina o corpo (mão na água)	não	não						
Aguenta a posição comprimida?	sim	sim						

Cutback	1ªT	0,5	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
BT correto para o ombro da onda?	sim	sim						
Comprime o corpo e aguenta a posição	sim	não						
Estende o corpo e executa a rotação ar	não	não						
Comprime o corpo e aguenta a posição	não	não						
Estende o corpo e executa a rotação ar	sim	sim						

Snaps	1ªT	0,5	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Realiza um bottomturn adequado	Não	Não						
Roda o corpo antes do impacto	Não	sim						
Recentra o peso na prancha	sim	sim						

Floaters	1ªT	0	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Tem uma entrada horizontal no lip?	Não	Não						
No deslize está centrado sobre a prancha	Não	Não						
Executa a rotação antes de descer a onda	Não	Não						
Aterragem com o nose apontado para a onda	Não	Não						
Recentra e comprime sobre a prancha	Não	Não						

Batida/Reentry	1ªT	0,2	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Executa um bom bottom turn?	Não	Não						
Executa a rotação antes do impacto?	Não	Não						
Afasta a cabeça e tronco do lip?	sim	Não						
Pé da frente a cima da espuma no impacto	Não	Não						
Recentra e comprime sobre a prancha	sim	Não						

Folha de Análise Técnica - Competição

Nome: Atleta C	Grupo: C
Idade: 14	Treinador: Gonçalo Cruz

Avaliação Geral	1ºT	2ºT	3ºT	4ºT	Observações
1 - Conhecimento Local	sim				
2 - Preparação física	não				
3 - Saudável e atlético	sim				
4 - Motivação p/treinar	sim				
Total em %	0,75	0	0	0	

Análise Técnica	1ºT	2ºT	3ºT	4ºT	Observações
1 - Confiança	não				
2 - Seleção de onda	não				
3 - Gestão Crowd	não				
4 - Seleção de manobra	sim				
5 - Entrada na onda	não				
6 - Gerar Velocidade	não				
7 - Bottom turn	não				
8 - Cutback	sim				
9 - Batida/reentry	não				
10 - Snaps	sim				
11 - Floater	não				
12 - Finalização	não				
13 - Ligação de manobra	não				

Total em %	23,08%	0,00%	0,00%	0,00%	Ev.Anual	Ev.Mensal
Total Geral	35,29%	0,00%	0,00%	0,00%	0%	0%
Evolução Parcial	n/a	-35,29%	0,00%	0,00%	T Superior:	3ºT
Fatores Psicológicos	33%	0%	0%	0%	0%	0%
Fatores Teóricos	67%	0%	0%	0%	0%	0%
Técnica de Base	0%	0%	0%	0%	0%	0%
Leitura de Onda	67%	0%	0%	0%	0%	0%
Manobras	25%	0%	0%	0%	0%	0%
Total Técnica Específica	0,00%	0,00%	0,00%	0,00%	Ev.Anual	Ev.Mensal
Gerar Velocidade	0%	0%	0%	0%	0%	0%
Bottom Turn	0%	0%	0%	0%	0%	0%
Cutback	0%	0%	0%	0%	0%	0%
Snaps	0%	0%	0%	0%	0%	0%
Floaters	0%	0%	0%	0%	0%	0%
Batida/Reentry	0%	0%	0%	0%	0%	0%
Frontside	0%	0%	0%	0%	Ev.Anual	Ev.Mensal
Backside	0%	0%	0%	0%	0%	0%

Folha de Análise Técnica - Competição

Nome: _____ Grupo: _____
Idade: _____ Treinador: _____

Análise Técnica Específica

Gerar Velocidade	1ªT	0	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Comprime e estende o corpo	não	Não						
Eleva os braços ao nível dos ombros	não	Não						
Executa o movimento na parte correta da onda	não	Não						

Bottom turn	1ªT	0	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Comprime o corpo fletindo os joelhos	não	não						
Inclina o corpo (mão na água)	não	não						
Aguenta a posição comprimida?	não	não						

Cutback	1ªT	0	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
BT correto para o ombro da onda?	não	não						
Comprime o corpo e aguenta a posição	não	não						
Estende o corpo e executa a rotação ar	não	não						
Comprime o corpo e aguenta a posição	não	não						
Estende o corpo e executa a rotação ar	não	não						

Snaps	1ªT	0	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Realiza um bottomturn adequado	Não	Não						
Roda o corpo antes do impacto	Não	Não						
Recentra o peso na prancha	Não	Não						

Floaters	1ªT	0	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Tem uma entrada horizontal no lip?	Não	Não						
No deslize está centrado sobre a prancha	Não	Não						
Executa a rotação antes de descer a onda	Não	Não						
Aterragem com o nose apontado para a onda	Não	Não						
Recentra e comprime sobre a prancha	Não	Não						

Batida/Reentry	1ªT	0	2ªT	0,00	3ªT	0,00	4ªT	0,00
	F	B	F	B	F	B	F	B
Executa um bom bottom turn?	Não	Não						
Executa a rotação antes do impacto?	Não	Não						
Afasta a cabeça e tronco do lip?	Não	Não						
Pé da frente a cima da espuma no im	Não	Não						
Recentra e comprime sobre a prancha	Não	Não						