ADAPTIVE SURFING: LEISURE, COMPETITION OR THERAPY?

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Abstract. Adaptive surfing is an outdoor sports activity which is practice in a natural, dynamic and high challenging environment. The moving waves, rip currents, tides and the beach appears as an innovative approach if compared to other traditional adaptive water sports (such as swimming, rowing or sailing). In this basis we can divide adaptive surfing in three major types of interventions: as recreative/leisure activity and play, as sportive competition and high-performance sports; or as therapeutic technic or with rehabilitation proposes. Nowadays adaptive surfing is finally being considered as highly important not only by surfers, therapists and social workers but also by the general public and a number of politicians as a crucial instrument for social inclusion worldwide. We hope to see more adaptive surfing programs and projects worldwide in the next years and hope it will gain more attention from governmental and non-governmental organizations in order to obtain more funding to support these programs. More funding would enable researchers to conduct this kind of work more often and produce more extensive data to support the case for the usefulness of adaptive surfing.

Keywords: adaptive surfing; inclusion; therapy; competition.

INTRODUCTION

Adaptive sports for people with disabled were introduced in the mid-20th century as a rehabilitation method for injured war veterans. It was developed to cover all ages, abilities, and nearly all sport and recreational activities, from gardens to school grounds to national, international, and Paralympic competitions. The recent year's development has led adaptive sports away from its clinical and rehabilitation roots to school- and community-based programs focused on wellness, fitness and development, rather than on illness and impairment.

Based on Mandela´s speech "*Sports has the power to change the world. It has the power to inspire. It was the power to unite people in a way that little else does. It speaks to youth in a language they understand. Sports can create hope where once there was only despair",* the United Nations Office on Sport for Development and Peace (UNOSDP) was introduced by Kofi Annan[1] in 2001. Its mandate is to coordinate the efforts undertaken by the United Nations Organization in promoting sport in a systematic and coherent way as a means to contribute to the achievement of development and peace.

Specification of adaptive aquatics sports is that they can offer essential physical activity and educational programming to people with disabilities and these benefits are more pronounced and significant than for their able-bodied peers (Koury, 1996). Similar benefits could potentially be derived in outdoor activities such as surfing.

Sports, Disability and Discrimination

The physiological benefits of participation in sport and physical activity are widely recognized and well established in the research literature. Having a disability or impairment may prevent persons from participating in their social roles and being active members of their community. According to Andrews' approach involving the benefits of participation in sport identified in the literature, the evident benefits appear to be the indirect outcomes of the context and social interaction possible in sport rather than the direct outcome of participating in sport.

The long-term health benefits of sports have long been established for people with or without disabilities, but those who have some kind of disability tend to be marginalized members of society. On the

[1] https://en.wikipedia.org/wiki/Kofi_Annan

other hand, a review of the literature confirms that individuals, especially children and youngsters, tend to move to indoor spaces when they are upset or anxious. The outdoors offers a rich and wide scope of sensory experiences that stimulate the whole body, whereas enclosed indoors environments have regulated air, temperature, sound, smell, and texture so the sensory range is much more limited. People with disabilities are generally a very vulnerable group as they face stigma and discrimination at all levels of daily life. Their discrimination is caused by two major factors: (a) the characteristics of the disability itself and the impairment of the person experiencing trauma or disease, and (b) the specifics of the environment that creates physical and social-cultural barriers.

Adaptive Surfing as an Alternative Approach to Traditional Adaptive Sports

As an outdoor sport and with water in the background in constant motion, surfing appears as a great option compared to traditional sports. It has a broader approach, covers several areas of occupational performance (ADL's – Activities of Daily Living such as dressing, bathing/showering, personal hygiene and grooming, functional mobility, etc.; community mobility; safety and emergency maintenance; Education/Work and educational participation; Play, Leisure and Social Participation), as well as various physical (range of motion, balance, strength, etc.); sensorial (vestibular, taste, smell, proprioceptive, and touch functions) and psychosocial (affective/emotional, cognitive and perceptual) skills of the individual, in one single activity. Adaptive surfing can play a significant role in the life of a person with disabilities, just as for any individual. Sport can promote physical well-being, combat discrimination; build confidence and a sense of security, while playing an important role in the healing and rehabilitation process for individuals affected by crisis, discrimination and marginalization. We will discuss the intervention of sports projects that aim to promote social inclusion as well as provide rehabilitation through surfing.

Types of Adaptive Surfing

Adaptive surfing is an outdoor sport which is practice in a natural, dynamic and high challenging environment. The moving waves, rip currents, tides and the beach appears as an innovative approach if compared to other traditional adaptive water sports (such as swimming, rowing or sailing). In this basis we can divide adaptive surfing in three major types of interventions: as sports leisure and play, as competition and high performance; or as therapeutic technic or with rehabilitation proposes.

In the first type we can include adaptive surfing in all kind of informal practice, like sports tourism, recreative activities or simple free-time or getaway activities. At a competition level the adaptive surfer is more compromised with high performance and results. It has a more formal commitment since the sports practitioner becomes a professional sports athlete, obeying the restrictive rules of training, feeding and rest, in order to focus on competition results. In this type of intervention, the surfer/athlete is focus on achieve better results than other surfers. The last type is the therapeutic intervention that is similar to the last one, since there are specific goals to achieve in motor, psychological and social skills. Although in this type of intervention the surfer/patient is focus on achieve better results, he/she is focusing is performance on his/her rehabilitation and social inclusion, by accomplishing independence and functional autonomy on his/her daily living, and not on getting a better result than the other surfer.

Adaptive Surfing towards Functional Autonomy

One characteristic that is present in all types of adaptive surfing, is that due to its dynamic and natural challenge, it can be compared as the process overcoming barriers (physical, mental and social) that the surfer experience in his/her daily living. So waves, rip currents, tides, all this oceanic features have a huge potential on the individual resilience process, since he/she is used to find ways to overcome these barriers.

In general, adaptive surfing has a wide approach that covers several areas of Occupational Performance: 1) *ADL's - Activities of Daily Living*; 2) *Education*; 3) *Play and Leisure*; 4) *Social Participation* and 5) *Work*, as well as various physical, sensorial and psychosocial skills (Lopes, 2015):

1. *Activities of Daily Living or ADL* ("...dressing; bathing/showering; functional mobility; personal device care; personal hygiene..."");
2. *Education*, (formal educational participation, including the "...categories of extracurricular activities like sports..." as well as informal personal education participation such as "...participating in classes, programs, and activities that provide instruction/training in identified areas of interest..."");
3. *Play and Leisure* (play and leisure exploration, which includes "...identifying interests, skills, opportunities and appropriate play and leisure activities, like exploration play and leisure, practice play, pretend play, games with rules, constructive play, and symbolic play..." as well as play and

leisure participation, which includes "...participating in play and in appropriate leisure activities, maintaining a balance of play and leisure with other areas of occupation, and obtaining, using, and maintaining equipment, and supplies appropriately...");

4. *Social Participation* ("...engaging in activities that result in successful interaction at the community level..."; "...engaging in activities that result in successful interaction in specific required and/or desired familial roles..."; and "...engaging in activities at different levels of intimacy, including peer and friends..."); and
5. *Work* (employment interests and pursuits, which includes "...identifying and selecting work opportunities based on assets, limitations, likes, and dislikes relative to work..."; as well as "...employment seeking and acquisition...", which includes "...identifying and recruiting for job opportunities; completing, submitting, and reviewing appropriate application materials; preparing for interviews; participating in interviews and following up afterward; discussing job benefits; and finalizing negotiations...").

Surfing can play a significant role in the lives of people with disabilities by promoting physical well-being, combating discrimination, building confidence, as well as playing an important role in the rehabilitation process. Adaptive surfing is a complete, integral, therapeutic and inclusive activity due to its diverse features associated with performance in areas of occupational performance, performance skills and also different environmental contexts. We can identify four major factors that focus on the intervention through adaptive surfing: 1) *Aquatic Environment*; 2) *Environment – Individual Interaction*; 3) *Individual - Coach/Therapist Interaction*; and also 4) *Group Interaction*:

1. The specific physical properties of the *Aquatic Environment* (open water – ocean) play an important role in functional rehabilitation (improving balance, strength and flexibility). It is highly stimulating (sensorial) and has a relaxing effect (motor). The absence of gravity in salt water improves mobility, which improves the cardio-respiratory function and is an integral muscular workout. Finally, the pleasure it provides is also an important factor;
2. Regarding the *Environment – Individual Interaction*, the beach and shoreline are environments with a wide range of stimuli (salt water, wet and dry sand, seaweed, rocks, aquatic fauna and flora), so it provides a wealthy approach in sensory integration terms. Considering this, we will describe in more detail some examples of the various types of sensory stimulation experiences in surfing: (a) visual: through the reflection and refraction of light on the ocean surface associated with the continuous motion of the waves; (b) gustatory and olfactory: by the taste of the intense saltiness of the oceanic water and the smell of the sea and algae that is more noticeable during low-tides; (c) tactile and proprioceptive: issues like buoyancy, sliding over the surface of the sea, the simple passage of the hands through the water as they paddle and take-off on the wave, or the tactile stimulation of the feet on the sand and on the surfboard deck; (d) auditory: through the sound of the waves and the movement of the sea; and (e) vestibular: by the constant imbalance and rebalance intrinsic to this activity;
3. In relation to the *Individual-Coach / Therapist Interaction*, the trust relationship between the instructor or therapist and the adaptive surfer allows the individual to explore his/her intra-personal conflicts and find solutions. Expressing emotions and sharing feelings (from joy to frustration); non-verbal issues like look or gaze, physical presence, touch, movement; engaging in intrapersonal and interpersonal interactions; and improving self-concept and self-esteem are all part of these relationships; and
4. *Concerning Group Interaction*, although surfing is not team sport, adaptive surfing is done by a group of people with and without disabilities, which contributes in a playful way to the motivation of a group. It establishes a suitable climate for socialization and interpersonal interaction as well as develops social skills, leadership, mutual respect, mutual help.

Due to water's buoyancy many people with disabilities, that would typically show an impaired mobility on land, are able to function independently in an aquatic environment. Often this can be done without the assistance of mobility devices such as braces, crutches, or walkers.

METHODS

The main purpose of this case study is to demonstrate how adaptive surfing can be an important tool to promote physical health and well-being, mental health and psychological well-being along with the social interaction and inclusion of persons with disabilities, regardless of their age or disability. The present data was collected by the authors as a systematic review of the main adaptive surfing programs and projects around the world, as well as the detailed data collected from the recent first European adaptive surfing camp, as well as some adaptive surfing projects/programs case-studies worldwide.

First European Adaptive Surfing Camp – Goals

1. To track down the children and youth with a disability in three European Union (EU) Member States;
2. To use the Sport of Surf and Surfing camps to create an environment that facilitates interaction and exchange of learning methods in Adaptive Surfing instructors from trans-frontier nations involved in the project;
3. To provide the know-how for future development camps for children and youth at a national level;
4. To use competition education to raise awareness of the importance of environmental protection and sustainability; and
5. To create through the camps an environment that fosters tolerance, inclusion and facilitates interaction between the children/youth from the trans-frontier nations involved in the project.

The tasks ahead are:

1. Promoting sport at the grass-root level between the children and youth with impairment from the EU Member States;
2. Creating an interaction and exchanges between the EU Member States regarding the safety and methodology in adaptive surfing;
3. Creating a network of instructors, youngsters with impairment and organizers;
4. Educating and giving the tools to the youth in how to use sport in a powerful way; and
5. Creating standards to guide the development and implementation of the Adaptive Surfing.

Foundation of the basis in Adaptive Surfing methodology with the three EU state members

Through the camps we enhance sport development: helping with the progression of the methodology, focusing on the different impairments and the development of specific adapted equipment. In addition, the camp structure offers an opportunity for progression in safety methodology system for the future.

The goals pursued are:

1. To use the camps to implement a safety methodology system as a vital contribution to the holistic development of sport, fostering the safety and the technical aspects;
2. To encourage a healthy life style between the young European participants;
3. To create an environment that fosters tolerance, inclusion and facilitates interaction between the instructors and youth from the trans-frontier nations involved in the project; and
4. To use sport as an icebreaker, a non-threatening way to bring people into direct contact with one another.

The specific tasks ahead are:

1. Creating an on-line methodology system, with video support and tutorials;
2. Organizing a summit with experts to tackle the different methodology systems; and
3. Teaching the attractiveness and fun of practicing adaptive surfing.



Figure 1. Adaptive surfer during the first European Adaptive Surfing Camp (Fuerteventura – Spain) Source: Play and Train.

Expected main outputs and results:

In line with the objectives defined above, the main outputs and results the project intents to produce are:

1) Improved physical and physiological aspects of all participants with an impairment (using GAL scale and Google® forms to evaluate improvements);
2) Improved education about impairments in a friendly environment (using Google® forms to evaluate the impact of volunteers and stakeholders);
3) Organized the 1st European Adaptive Surfing Seminar, counting with the participation of experts, speakers, 10 and between 40 and 80 attendees; and
4) Elaborated a Good Practices Manual and a Handbook of Safety Adaptive Surfing practices in EU members states; and video tutorials (on-line format).

Learning progress and results widely disseminated to defined target audiences, by means of institutional partners' websites, project blog, social network updated, and other dissemination actions.

RESULTS

Interest in adaptive surfing has been growing worldwide. Over the last decade not only as a sport, but also as a social and an economic activity associated with therapeutic surfing programs, adaptive surfing tourism and adaptive surfing events.

In the early years adaptive surfing was only used has a tool in the rehabilitation of people with some kind of disability or an alternative approach to traditional adaptive sports. Nowadays it has become a competitive and organized sport. The growth of adaptive surfing it's obvious and has led to an increase number of organized events worldwide.

The previous edition of the ISA World Adaptive Surfing Championship counted with 22 Nations in a total of 77 athletes divided into 6 divisions according with their disabilities (AS-1, Surfers that ride in a standing or kneeling position; AS-2, Surfers that ride in a standing or kneeling position; VI, Visually Impaired; Assist, surfers who need assistance catching waves; Prone, Surfers who ride lying down; Upright, Surfers who ride a waveski and sit in an upright position on the board propelled by a paddle) (Isasurf, s.d.). A growth of 4 Nations and 8 athletes was registered compared with the first edition in 2015 (Adaptive Surfing Magazine, s.d.).

In the Hawaii, the Annual Adaptive Surf Competition is a reference has an international adaptive surfing event. Organized by AccesSurf, in 2016 counted with 60 adaptive surfers from 7 countries around the world to compete in the beach of Waikiki, the event is a part of the Duke's Ocean Fest and features six competitive divisions including Sit, Stand/Kneel, Prone, Assisted, Deaf, and Wounded Warrior (Accessurf, s.d.; Isasurf, s.d.)

Several Countries already host their national circuit

In South Africa, the first ever South African Adaptive Surfing Championships took place at Muizenberg Pavilion Beach on the October 16th of 2016, the competition was organized by Adaptive Surfing South Africa and counted with 30 participants (Surfing South Africa, s.d.) this contest were also used to select the team who would participate in the ISA World championship (Isasurf, s.d.).

On the USA the first Adaptive Surfing Championship took place in 2015 only with 9 participants in 2016 counted with 30 and it was also the qualifier to earn a spot on the team that will represent the Unites States in the 2016 ISA World Adaptive Surfing Championship (Theinertia, s.d.).

Australia hosted the inaugural Nudie Australian Adaptive Surfing Titles in June 2016. They took place in New South Wales, Cabarita, with the same divisions of the world championship in order to select their team for the ISA (Isasurf, s.d.)

In Brazil the first adaptive surf meeting was in 2010 and it's called the ADAPTSURF it is for people with disabilities or reduced mobility (adaptsurf, s.d.). Spain and France are also two countries who organize a national championship (cesurf2016, s.d.; Isasurf, s.d.).

In Portugal, SURFaddict has organized 10 events between 2012 and 2013, five in each year, disabilities have ranged from limb amputations, spinal cord injuries, Downs Syndrome, autism, spina bifida, cerebral palsy, and visual impairments, among others. In 2012 the events counted with a total of 187 participants, 86 with motor disability, 4 visual impaired and 97 with and intellectual/cognitive disability. In 2013 were registered 134 participants, 78 with motor disability, 21 visual impaired and 35 with and intellectual/cognitive disability (Taborda Lopes, 2015).

In Angola, on the past 15th of April (2017), the first Adaptive Surfing Event in was held at Praia dos Surfistas, in Cabo Ledo. This event was organized by the Surf School Kionda, with the special participation of the Occupational Therapist João Taborda (responsible for the event and technical coordination of the adaptive surfing), and with the support of the Communal Administration of Cabo Ledo, the Lwini Foundation, Physical Medicine and Rehabilitation Center of Luanda, the Physical Medicine and Rehabilitation Service of Americo Boavida Hospital and also with the support of the Fire and Civil Protection Corps of Cabo Ledo.



Figure 2. Adaptive surfer and team coaches during the first Angolan Adaptive Surfing Event (Cabo Ledo – Angola) Source: Kionda Surf School.

This initiative was attended by 07 children aged between 04 and 16 years old, with several pathologies within all areas of disability (motor, mental / intellectual and sensory), namely Poliomyelitis, Cerebral Palsy, Autism, Blindness, Psychomotor Impairment and other Brain Injuries. It was very gratifying to see the smile and pleasure expressed on the faces of these children, but also from their parents, and even the coaches, and even the general public who was watching the event on the beach. We believe in the inclusive and therapeutic potential of sport, and therefore this type of initiative will serve as a pilot project for a more systematic intervention so that we can measure the true impact that this modality has on the lives of these

children / people. In this event, it was also done the donation of two amphibious chairs (tiralô) by the Lwini Foundation, under the Praia for All Program.



Figure 3. Adaptive surfer resting on one of the amphibious-chair (tiralo) during the first Angolan Adaptive Surfing Event (Cabo Ledo – Angola) Source: Kionda Surf School.

More recently Viana do Castelo has held the first European Adaptive Surfing Camp from 23th to 29th of April of 2017, the organization was a partnership between Surf Clube de Viana, PlayandTrain and Happywheels, the event counted with 18 participants with different types of impairments (Cerebral Palsy, visual impairment, intellectual impairment, spinal cord injury, stroke, SAF and Autism).

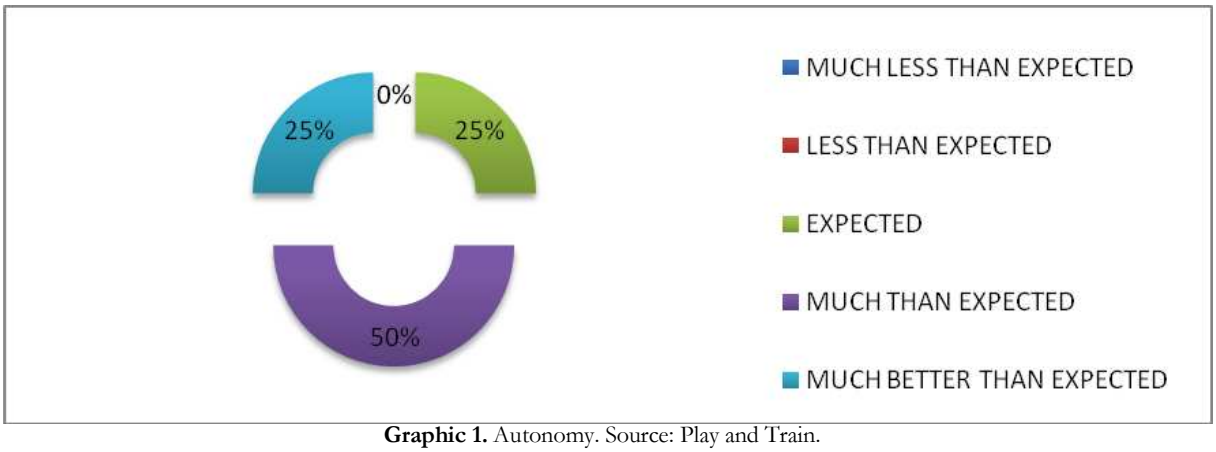


Figure 4. Adaptive surfer during the first European Adaptive Surfing Camp (Viana do Castelo – Portugal) Source: Play and Train.

Assessment of the participants with impairment in adaptive surfing program using Goal Attainment Scaling (GAL)

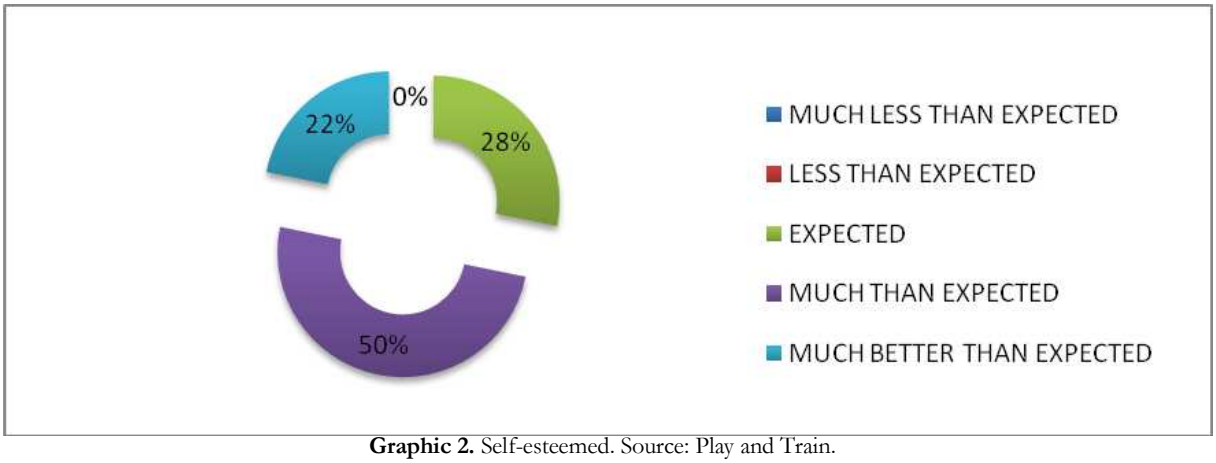
Between 2013 and 2015 this assessment was based on 300 participants.

In terms of autonomy (Graphic 1):



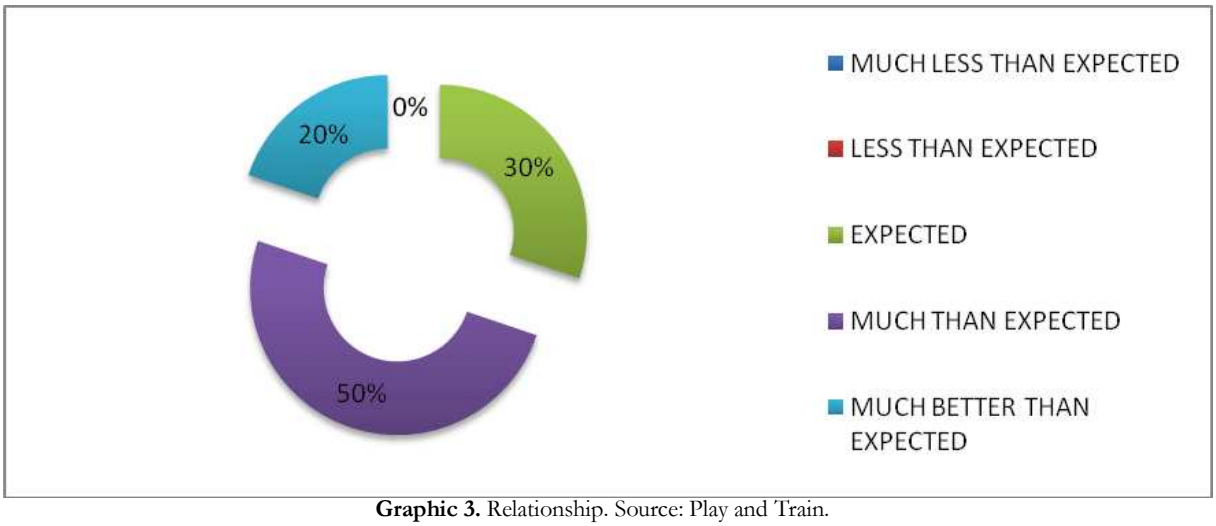
Graphic 1. Autonomy. Source: Play and Train.

In terms of self-esteemed (Graphic 2):



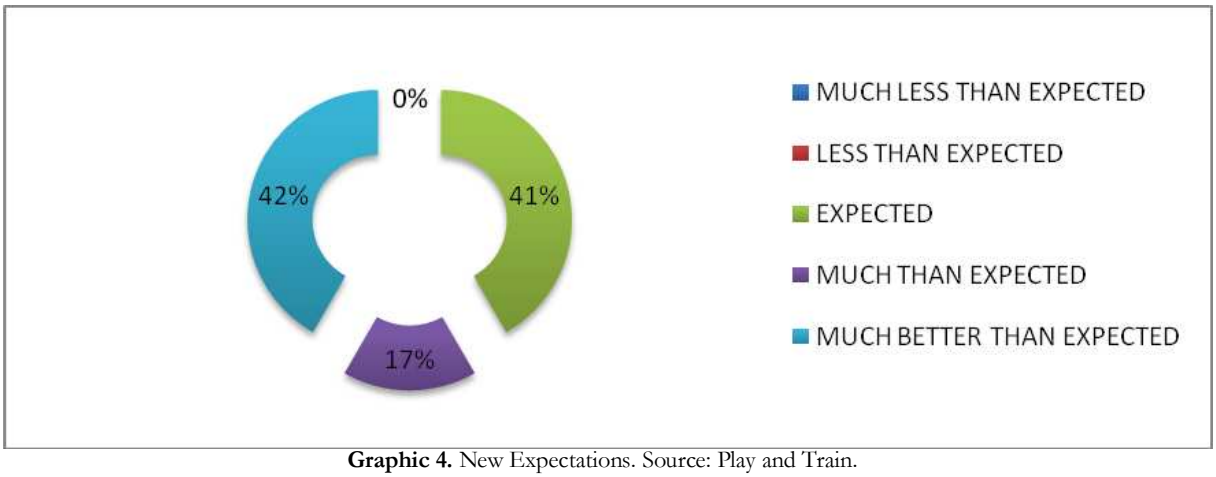
Graphic 2. Self-esteemed. Source: Play and Train.

In terms of relationship (Graphic 3):



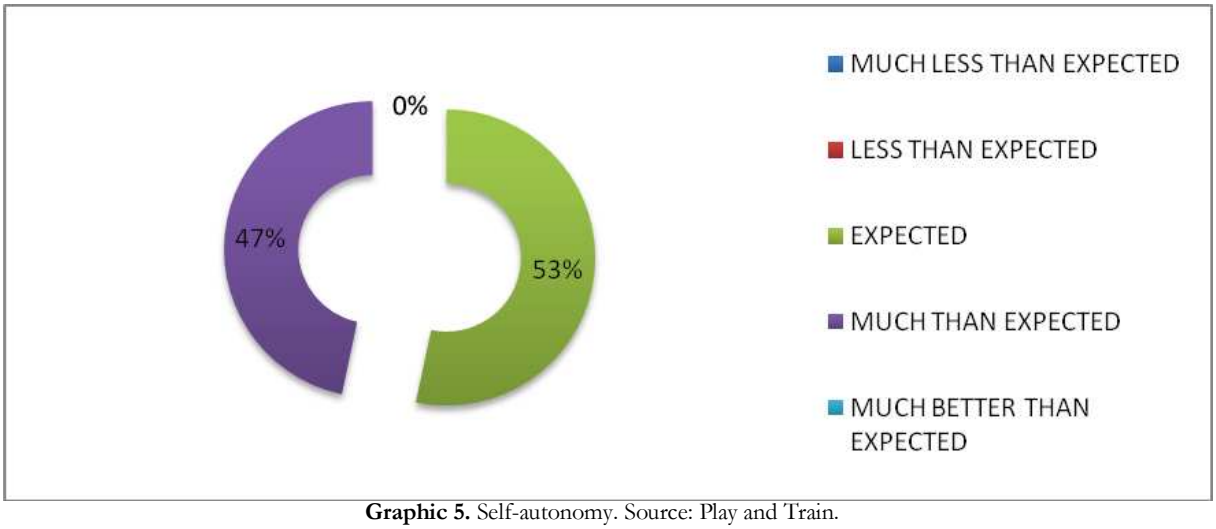
Graphic 3. Relationship. Source: Play and Train.

In terms of new expectations (Graphic 4):



Graphic 4. New Expectations. Source: Play and Train.

In terms of self-autonomy (Graphic 5):



Graphic 5. Self-autonomy. Source: Play and Train.

We can say the Adaptive Surfing program provides a unique opportunity as it relates to the integrated development of four core sectors of interest to the EU; **Sport, Youth, Disability and Education**. This leads the fact that it allows to create sustainable cross-sectorial valorization at the European level that shall create better transparency and understanding of youngsters with disabilities towards their potential and abilities.

We can admit that adaptive surfing is becoming more structured and we start to see events and projects with consistency spread around the world. There is still a lack of information about the participants of this sport worldwide and the necessities of each one. To keep growing further, more research and analysis about the activities that are performed, and the participant must be done.

Surfing can be seen as bringing added value in the prevention and treatment of many pathological conditions by contributing to social inclusion, helping to prevent sedentary lifestyles and stress, improving self-esteem and encouraging teamwork. In addition, it stimulates the protection of the environment and quality of life.

DISCUSSION

Adaptive surfing events are attracting a number of participants, several of whom attended consecutive events in the same year. Social networks such as Facebook ® were used to advertise most of the events, and this is the main communication channel used the adaptive surfing to meet and exchange ideas worldwide.

Feelings such as fear, anxiety, and apprehension were frequently observed in the beginning due to the newness of the activity, lack of experience and training, and the absence of previous contact with surfing.

During and after the practices participants expressed emotions such as pleasure, overcoming, autonomy and happiness (Lopes, 2015).

As mentioned before, surfing can be seen as bringing added value to the prevention and treatment of many pathological conditions, which contributes to social inclusion, the avoidance of sedentary lifestyle and stress, improvements in self-esteem and encouraging teamwork as well as stimulating the protection of the environment and quality of life (Lopes, 2012; Clapham et al., 2014). However, there is still a lack of information and studies using surfing as a therapeutic tool and little research that includes surfers and surf coaches with specific knowledge about disability.

Nowadays adaptive surfing is finally being considered as highly important not only by surfers, therapists and social workers but also by the general public and a number of politicians as a crucial instrument for social inclusion worldwide.

CONCLUSION

Sport, physical activity, and play are identified in the Convention on the Rights of Persons with Disabilities as providing support for the increasingly well-recognized right to participate in sport and physical activity. This article points out the question of whether surfing can be seen as an inclusive sport and also a tool for physical, mental and social rehabilitation. This can be assessed using four factors: (a) empowerment; (b) social interaction and integration; (c) physical rehabilitation, and (d) awareness-raising.

Through empowerment, adaptive surfing instructors can provide the opportunity and the necessary space for persons with disabilities to find new ways of dealing with the challenges of daily life. By growing self-esteem and self-confidence, persons with disabilities may feel encouraged to try and find an active role in society in lieu of feeling so burdened by their disability. Surfing allows social interaction and inclusion, especially among children and youngsters as a result of participants learning and applying social interaction rules, taking on and playing an individual role within a team, and being part of individual socialization. As in other mixed sport groups, in adaptive surfers with and without disabilities face challenges together, especially because all of them have to leave their "comfort zone" (dry land) and enter an unknown environment (the ocean). Surfing also presents a great opportunity for them to grow in knowledge and mutual appreciation, which increases the empathic skills for everyone involved. Adaptive surfing, as an aquatic sports activity that takes part in an environment with a wide range of stimuli also has numerous therapeutic benefits. It acts as an important therapeutic instrument for physical rehabilitation especially in the orthopedic and neurological fields. Persons with disabilities benefit from improved balance and motor coordination and consequently handle medical devices better, making them more autonomous in their daily life. Additionally, adaptive surfing activities allow awareness-raising, since these activities serve as a forum for information and discussion for families, friends, and the broader community. People with disabilities can seek information on the causes and treatment of disabilities, how to avoid risk and decreased symptomatology. These sport experiences can raise awareness about the situation of persons with disabilities, the rights of persons with disabilities and various topics such as health risk factors and primary health care.

Adaptive surfing can and should be seen as bringing added value to the prevention and treatment of many pathological conditions since it contributes to social inclusion, improves self-esteem, facilitates teamwork, discourages sedentary lifestyle and exclusion (self and social), as well as stimulates protection of the environment and enhancing the quality of life.

Surfing can play a significant role in the lives of people with disabilities by promoting physical well-being, combating discrimination, building confidence, and playing an important role in the rehabilitation process. Four major factors were identified through surfing: Aquatic Environment; Environment – Individual Interaction; Individual - Coach/Therapist Interaction; and also Group Interaction. Adaptive Surfing is that given the low frequency of activities that have been analyzed, there is a need to increase the number of activities that are analyzed per year in order to obtain a more extensive sample that can more explicitly determine the true therapeutic results from surfing. In this way, the main therapeutic benefits for each group of persons with disabilities can be obtained with the aim of improving future interventions by finding the therapeutic indication patterns for each group. We hope in the near future that adaptive surfing will gain more attention from governmental and non-governmental organizations in order to obtain more funding to support these programs. More funding would enable researchers to conduct this kind of work more often and produce more extensive data to support the case for the usefulness of adaptive surfing.

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Over 15 year's experiencein adaptive sports, search to achieve a more equal society with more respect to those who are disabled, through adaptive sports. Have been working in several national and international ski schools. Previous CEO of the Cataluña´s Physical Impaired Federation of Girona, been part of the Spanish Paralimpic Team as a guide, howadays working in Play and Train as vice-president for 6 years now.



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