



The role of sports and exercise programs on addiction recovery

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Topics

- **Addiction definition**
- **Exercise and alcohol**
- **Exercise addiction**
- **Drug addiction and exercise**
- **Adventure therapy and against addiction**
- **How to organize effective intervention programs**

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What is addiction

- According to the Diagnostic and Statistical Manual of Mental Disorders, substance use disorders are complex conditions that appear when the repeated use of a substance (**e.g., alcohol, tobacco, and other legal and illegal substances**) (e.g., cocaine, crystal methamphetamine, anabolic steroids, heroin, cannabis). These substances lead to clinically significant psychophysical distress and impairment, including increased use over time, craving, tolerance, and social harm.
- **Addiction is a complex condition, a disease of the brain that occurs with heavy substance use, despite harmful consequences.** People with addiction, have an intense focus on using a certain substance(s), such as alcohol or drugs.

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What is addiction

- Addicted people, keep using alcohol or a drug even when they know it will create problems (American Psychiatric Association)
- Addiction **is a global problem** that costs many millions of lives each year and causes suffering and serious health problems.
- It can involve licit and illicit psychoactive drugs (e.g. **alcohol, nicotine, opioids, stimulants, steroids, or cannabis**) or other kinds of behaviors (e.g. **gambling, computer gaming**).

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Preliminary studies. Very few studies in the area

The effects of physical exercise on the treatment of alcohol abuse

- Beneficial effects of exercise include the release of endorphins, which can generate feelings of pleasure, improve mood, and reduce depression, control stress, increase self-efficacy and social support.
- Exercise will result in elevated levels of beta endorphin which in turn will cause a euphoric feeling avoiding the intake of alcohol
- **Physical exercise seems to help in alcohol abstinence, as an adjunctive strategy, during and after alcohol abuse treatment.** Baathman et al, 2011

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What is exercise addiction

- Stereotyped pattern of exercise, of once or more a day
- performing excessive amounts of exercise, against physical health,
- spending too much time exercising, against personal and professional life,
- exercising regardless of physical injury.
- It may also involve a state of dependence upon regular exercise which involves the occurrence of severe withdrawal symptoms when the individual is unable to exercise.

* Have you got any idea how to cope with exercise addiction?

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Strategies to avoid exercise addiction

- Keep an exercise plan 3-5 times per week.
- Train with hard and easy days.
- Alternate low and high-intensity workouts.
- Try to find a partner to work with.
- Schedule a rest days as part of exercise plan
- Make sure full recovery after an injury.
- Set realistic short and long-term goals.
- Use relaxation techniques



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The importance of exercise on drug addiction

- Statistics:
- 246 million people, or 1 out of 20 individuals aged from 15 to 64 years old- used illicit drugs in 2013, whereas 10% of them have been addicted to one or more psychoactive substances.

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What is drug addiction

- Drug addiction is defined as a cluster of cognitive, behavioral, and physiological symptoms that indicate a person has impaired control over substance use and continues to use such addictive substances despite the ensuing severe adverse consequences
- Addiction is caused when the excessive use of a drug affects the reward system of the brain.
- Almost 50% of the drug-dependent clinical population, is suffering from at least one personality disorder while emotional, anxiety and psychotic disorders are also coexisting.

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Addiction is a complicated phenomenon

- Addiction is a complicated phenomenon resulting from interactions between individual, family and social factors and represents a means of alleviating the difficulties of everyday life.
- Addiction is associated with many causes as risk factors for substance use involve an individual's genetic and personal characteristics as well as environmental and social impacts.
- Antisocial behavior, mental and emotional disorders such as depression and post-traumatic high risk-seeking and reward-seeking, impulsivity and recklessness, represent some of the most important factors predicting involvement with substance use from childhood.

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Sports, Exercise and drug addiction

- **Small literature on the field**
- **Sports and Physical Activity:**
 - reduces anxiety and depressive symptoms,
 - improves self-confidence, self-esteem and body image,
 - enhances mood states, general well-being and quality of life,
 - offers participants the opportunity to attain a pleasant mental state without substance use
 - adopt a positive lifestyle change
- These psychological changes, are linked to positive substance-related outcomes:
 - reduced drug intake, increased abstinence rate, reduced craving, the higher completion rate of the rehabilitation program, altered behavior and relapse prevention.
- Positive social outcomes, development of friendship networks

* Diamantis, P. (2017). The role of physical exercise in the treatment of addiction to psychotropic substances. Unpublished Master thesis. University of Thessaly.

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Finding of a qualitative study

- 12 adult male participants.
- The rehabilitation program lasts six months. Exercise sessions are implemented five days per week for at least one hour.
- *Findings:*
- Participants reported improved self-esteem, confidence and mood, increased self-awareness, communication and various changes in behavior.
- These outcomes contributed to the retention of treatment and prevention of premature dropout, reduced the resistance to therapy and influenced positively the entire treatment process.
- **The social interaction, enjoyment and changes in body sensation and body image were key in bringing out these results.**
- Exercise should be included in the philosophy of any rehabilitation program for drug addiction (Diamantis et al., 2018)

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Findings

- Participants stressed that exercise helped improve their mood.
- Tension release, both physical and mental, anger management.
- Self-esteem enhancement.
- Higher energy levels,
- Improved body image and body sensation, and healthier eating habits were adopted.
- participants reported, that they reduced smoking or had even been thinking about giving it up.
- **The exercise seemed to have a positive effect on various behavioral changes, depending on the personality of each participant.**

(Diamantis et al., 2018)

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Topic for discussion 1. Sports against addiction

- <https://www.youtube.com/watch?v=tqmjhfxOlGo>
- Nick Galis delivers his speech upon being enshrined to the Naismith Memorial Basketball Hall of Fame as part of the class of 2017
- The most important part of his career,

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<http://www.rtsport.eu/>



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<https://www.youtube.com/watch?v=c4cvevWE5lo&feature=share> the “Reintegration Through Sport” project

- The project focused on the benefits of outdoor sports activities in order to create a secure environment, giving ex-drug addicts equal opportunities, and contributing to their treatment and social reintegration. Adventure therapy (AT) is an experiential and interactive intervention, based on psychosocial and educational theories.
- AT utilizes outdoor adventure activities as a primary therapeutic tool, promoting real or perceived physical and psychological risk, as a clinically important factor in achieving desired outcomes and can be applied either as an exclusive, or parallel therapeutic tool to a wide range of mental disorders.

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<https://www.youtube.com/watch?v=c4cvevWE5lo&feature=share>

- AT utilizes outdoor adventure activities as well as a range of activities including goal setting, confidence and problem-solving approaches, that are physically and/or psychologically demanding, to promote personal change such as positive reinforcement of the self-esteem and self-efficacy of the individual.
- Successful completion of these activities could enhance self-efficacy especially when performance is the result of individual competence rather than external events.

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Adventure therapy

- AT deals with the reveal of the positive effect of nature, active and direct involvement and responsibility of clients in their treatment, and with the focus on positive change, and positive use of stress.
- AT supports active involvement via personal motivation in the form of energy, involvement and responsibility.
- This active and direct involvement of the individual contributes
- **to enhancing self-esteem and self-efficacy,**
- An essential ingredient of AT is the **use of unknown adventure activities**, which aim at enhancing one's sense of meaning, by recognizing new experiences and developing new skills, focusing on positive changes in current and future behavior.

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Psychological effects of an adventure therapy program in the treatment of substance use disorders.

- The aim of this study was to examine the effects of a short-term adventure therapy program on the self-concept of individuals in treatment programs for substance use disorders.
- In this light, this study investigated the effects of a 5-day adventure therapy program on two psychological constructs related to participants' self-concept: self-esteem and self-efficacy.
- Pre and post-data were collected from 14 drug addicts utilizing two self-report instruments: the General Self-Efficacy Scale and the Self-Esteem Scale.
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Description of a 5-day adventure program in the countryside and nature under very difficult living conditions, rain, cold, and difficult activities, and sports that would be participating for the first time

- Outdoor adventure activities
- as camping, rafting, rappelling, fire building, cooking, orienteering, MTB, archery, and River trekking/canyoning, as well as trust activities, cooperative activities, and initiative activities.
- The selection, the planning and the sequence of the activities were directly linked to the desired outcomes and they were geared towards the therapeutic goal of preventing relapse by enhancing self-esteem and self-efficacy, as well as developing coping and problem-solving skills.
- During the program, participants linked their experiences with the therapeutic process and goals through reflection and discussion with their facilitators and peers

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Data Analysis

Table 1. Mean SD, Intercorrelation and Cronbach's α

Variable	Mean	SD	1	2	3	Cronbach's α
1 SE 1	3.15	.287				.756
2 SE 2	3.36	.287	.536*			.700
3 GSE 1	2.73	.291	.465	.157		.632
4 GSE 2	3.00	.369	.635*	.583*	.326	.746

Repeated measures analysis of variance indicated that there is a statistically significant increment in the self-esteem and self-efficacy of the participants, supporting, that adventure therapy interventions can work as a parallel therapeutic tool into traditional addiction recovery counselling.

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<https://www.youtube.com/watch?v=c4cvevWE5fo&feature=share>

video Conclusion

Adventure Therapy offer an alternative therapeutic approach to addiction counseling by creating positive changes.

- The study provides supportive evidence that participation in an adventure-based therapy program had a significant impact on the addicted person's self-concept by enhancing the psychological factors of self-efficacy and self-esteem (Panagiotounis et al. 2020).

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Topics for discussion 2

- The benefits of adventure therapy programs on addicted behaviors. What is thought to be the advantage of an adventure therapy program over a well-known sport or exercise program?
- What about your reaction? Do you feel confident enough to participate in a relevant group with addicted individuals?

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Sports Against Addiction

- 1. **Sports reduces the level of stress and** psychological tension.
- 2. **Peaceful sleep.** Regular workout improves sleep both in its amount and quality.
- Playing sports or doing yoga can significantly change sleep patterns in a positive way and enhance general well-being.
- 3. **Energy boost.** Active exercises push blood through the heart which increases oxygen levels in the body. It makes the cardiovascular system stronger which allows it to perform daily activities much easier
- 4. **Better mood.** Most addicts are willing to take drugs to experience positive and relaxed states of mind. Luckily, substance intake is not the only way to pleasure.
- 5. **Healing the brain.** Long-term substance abuse causes significant harm to the brain, especially its white matter which consists of connections linking brain cells.
- Modern experiments show that endurance workout helps in the secretion of neurotransmitters which are linked to neuroprotection and plasticity which are essential for successful addiction recovery.
- Aerobic exercises enhance the brain's recovery after substance addiction.
- 6. **social support.** Sports games provide addicts with social support which is essential for drug seekers.
- 7. Depression is one of the most common disorders in substance abuse.

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Social inclusion through sports for addicted



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Social inclusion



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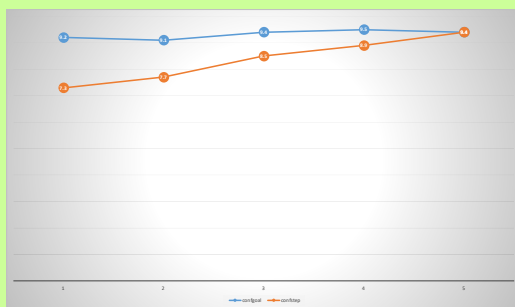
How to run 10 Km race by using Goal setting strategies

- **Methodology**
- The present study concerns the implementation of a sport training program for the preparation of people with substance use problems (under therapy) in a 10 km run race. This intervention was designed to reinforcing their motivation to continue drug therapy by empowering them to transfer their experiences and the benefits from the activity with their treatment process.
- In this context, this intervention had five components: (1) autonomy in the choice of distance and intensity; (2) the setting of weekly distance goal and their attainment; (3) weekly treatment goals (4) team support; (5) supervision by a trainer.
- The intervention was the implementation of a 5-week sport training program to prepare participants for a 10km race. Throughout the program, the participants continued the substance abuse treatment.
- **Participants**
- Participants were 14 ex-former users of psychotropic substances involved in drug treatment in a KETHEA Therapeutic Community in Greece, 12 men, and 2 women, with an average stay in the main treatment phase, 75 days (min 7 - max 165). The age average was 33 years.
- **Data collection tools**
- Participants completed an improvised self-report questionnaire at the beginning of each week and prior to the training sessions. They recorded the distance goals they wanted to achieve at the end of each week and whether they were sure they would achieve it (rating of 1 not at all sure to 10 absolutely sure). They also recorded the steps they will follow to achieve the distance goals and whether they were sure they would achieve it (rating of 1 not at all sure to 10 absolutely sure). Then, they recorded their weekly therapeutic goals and how their participation in the sport program would help them to succeed in these goals.
- At the beginning and during each session, the participants were encouraged to utilize Positive Thinking Strategies.

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- **Real distance (realist):** The actual distance was the sum of the actual kilometers the participants ran. This distance was recorded by the trainer.
- **Estimated distance (goalist):** It was the average estimated distance the participants set at the beginning of the week.
- **Self-confidence** of achieving the weekly distance goal (confgoal)
- **Self-Confidence** of following the steps of achieving the weekly distance goal (confstep)
- We observe that each week the participants increased the overall distance goal, while at the same time they felt more confident in themselves that they will achieve their goal. Also, they felt confident that they will commit and will follow the steps to do so.

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the steps they said they would do to achieve the weekly distance goal were

- Dedicated to training
- Concentration
- Looking at my feet and observing my steps
- I follow my team
- Cigarette reduction
- Positive thinking
- Be disciplined
- Keep pace, run - breath
- To concentrate on my breath
- Empty any thoughts that disorganize
- Prepare psychologically before training
- Stay focused on my goal, Don't lose training, I cut out the evening meal, Be committed to my goal
- Losing weight, Be consistent, Be confident

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Their experience of participating in the sports program had a significant impact on the treatment process as it helped them achieve the therapeutic goals they had set for each week.

- "... these two goals are perfectly connected ... To run the 10km and my treatment effort..."
- "...gives me strength ..." "... I want to complete both ..."
- "... My attempt to achieve one goal, strengthens the other one..."
- "... I feel good when I run ... I do something for myself ..."
- "...it's one of the things that has kept me in the therapeutic community ..."
- "... I feel more confident and concentrated ..." "... I feel better about myself ..." "... I feel healthy ..."
- "...if I manage to run the 10km I will get great strength and confidence ..."
- "... helps me think ... helps me think about my goal ..." "...gives me faith in being able to live a clean life ..."
- "...is a continuation of the new identity I am creating ..." "...makes me even more convinced that I will succeed ..." "...step by step fulfill my 10km goal ..."
- "...preparing for the race will keep my body and mind clean so I can stay sober ..." "...keeps me motivated ..."

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Workshop

- Work in groups:
- “how to help drug addicted in their reintegration process”
- According to the information from the lecture and the information given below, try to organize an intervention exercise program, in order to help:
- drug addicted in their reintegration process.
- Please try to use as many:
- psychological skill strategies,
- behavioral modification strategies,
- variety of sports and physical activities
- analyze the benefits and
- prepare strong arguments in order to persuade the clients/patients

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Activities/psychological strategies	Team building	Self-esteem	Self-efficacy	Goal setting	Commitment	Collaboration	Healthy life style	Stress regulation	Current focus	Use part of the program	Safety guidelines	Conflict resolution	Other
Team sport													
Gym/fitness exercise													
Adventure therapy activities													
Rafting													
River trekking													
Archery													
Recreation exercises													
Orienteering													
Kayak													
Climbing													
Rappel													
MTB													
Other activities													
Cooperation activities													
Please describe													

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A race for life: A promising event, 3 hours in total, running or walking, or both. We organized a road race, where people chose and declared in advance (goal setting and self-determination), how long they would run or walk, within a period of hours. what is important, is to approach their personal goal, and their desire

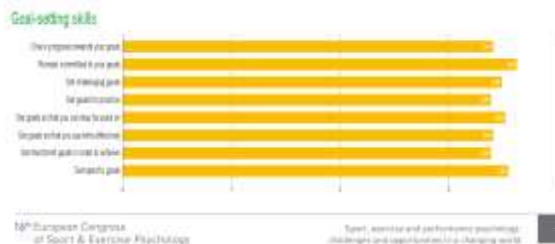
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Goal-setting skills

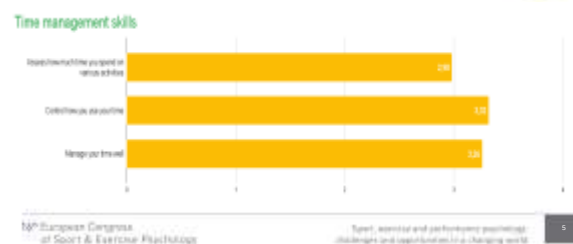
Rate how much your sport has taught you to perform the skills listed below...



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Time management skills

Rate how much your sport has taught you to perform the skills listed below...

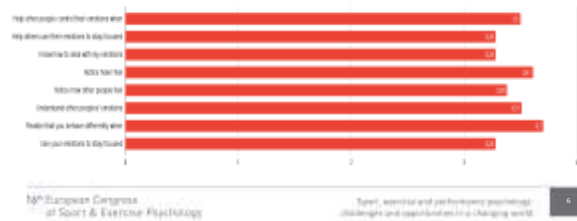


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Emotional skills

Rate how much your sport has taught you to perform the skills listed below...

Emotional skills

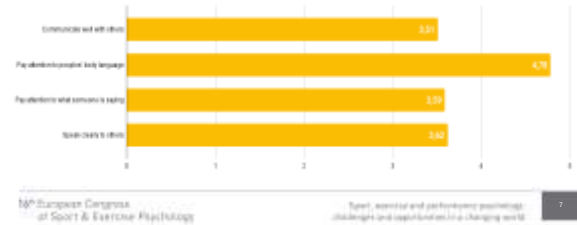


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Communication skills

Rate how much your sport has taught you to perform the skills listed below...

Communication skills

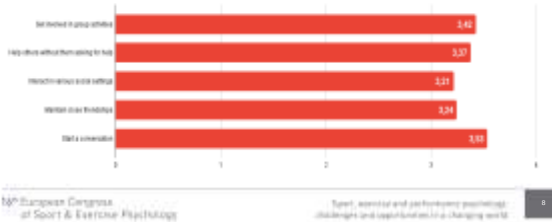


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Social skills

Rate how much your sport has taught you to perform the skills listed below...

Social skills

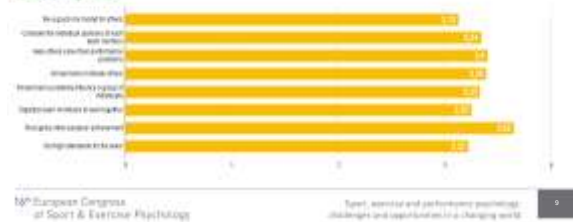


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Leadership skills

Rate how much your sport has taught you to perform the skills listed below...

Leadership skills



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Problem-solving and decision-making skills

Rate how much your sport has taught you to perform the skills listed below...

Problem-solving and decision-making skills



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The message, to cooperate as a team against addiction



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Topic for discussion:**The case of a great fighter, Panagiotis Karaiskos**

- **The hero of the 40th Authentic Marathon** 2023, who came back from heroin hell.
- After a nightmarish 5 years that, as Panagiotis has said, "passed like a moment of my life because of the addiction", he made the big decision to enter a drug addiction recovery program always with the help and guidance of his parents. The first months were difficult. Not only was he not seeing improvement but things were getting worse. His body ached, he vomited, and his psychology was in a bad state. Then he went to the KETHEA STROFI where he had to change everything.
- In 2012 he was with his friends in Kallimarmaro as a spectator and saw the runners who were crying when they finished. "I thought then that everything they will experience would be very powerful and that it would be nice to experience it too. That's how I first thought about competing in a marathon one day, but without having a specific plan". Panagiotis Karaiskos will say. A few months later, a friend of his from KETHEA told him that he signed up for the 2013 Marathon and asked him for his details to sign him up as well. And this is how the road to the great comeback opens for Panagiotis...
- <https://www.ethnos.gr/sports/article/288567/panagiotiskaraiskosohroastoy40y-arathonioypoygyriseapoithkolashthshroinh>



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Topic for discussion**The case of a great fighter, Panagiotis Karaiskos**

- His first marathon experience was full of pain, just like his whole life. "I thought it was very easy to cover 42 kilometres, maybe because I used to commute by bike. In the first race, I had a hard time. I was cramping, and sore all over but pushed on and made it under 4 hours. At the finish, I was crying like a little child. There I realized that I could do better things and I literally got a purpose in life. Today, he is the best marathon runner in Greece. It also participates in drug addiction support programs and psychological support for people who are imprisoned for drug addiction.
- <https://www.ethnos.gr/sports/article/288567/panagiotiskaraiskosohroastoy40yaythentikoymarathonioypoygyriseapoithkolashthshroinh>



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Conclusion

- **Sports and medicine scientists can promote the importance of sports on health and among others focus on addicted groups.**
- Based on the underlying mechanisms of the positive effects of exercise and sports on alcohol and drug and the benefits of sports and exercise programs on addicted behaviors, it seems that sports and physical activities can contribute to the creation of a secure environment, giving to all these addicted groups equal opportunities, contributing to their treatment and social reintegration—participation in sports and physical activities, negatively related to these habits.
- Overall, exercise seems to have a protective effect against alcohol and drug use as well as a supportive effect on treatments.

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Topics for discussion

What are the most important key points of the presentation? (the 3%)

How relevant health organizations, can play a leading role in promoting sports and exercise programs for the inclusion of ex-addicts in local communities?

- Partners like the WHO, European Union, ministries of health, or other federations, provide support as they have the knowledge, power and experience to promote sports and physical activities.

How easy or difficult is that through sports, groups at risk have a hope of inclusion in the societies?

- Societies need to accept the "group at risk" as a valuable part of the society
- The "group at risk" need to be willing to get over the addiction and speak up
- Connecting ex-addicts back to society by joining sports groups
- Not easy to integrate sports into society but it does improve the mental health and productivity of individuals

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Practical application

- Lets make two rows
- (1) by changing balloons, and introduce
- your name and country
- (2) your favorite food
- (3) the most funny way to offer the ball
- (4) the trust game



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https://www.researchgate.net/publication/336074129_Adventure_Drugs_Rehabilitation_ADR_Adventure_therapy_program_for_patients_in_rehabilitation_for_substance_abuse_A_Handbook_for_Addiction_Counselors

Rose, A., Panagiotounis, F., Theodorakis, Y., Mydland, T., Kouthouris, H., & Ruiz de Cortázar Gracia, N., (2019). Adventure Drugs Rehabilitation (ADR). Adventure therapy program for patients in rehabilitation for substance abuse. A Handbook for Addiction Counselors. Erasmus + Reintegration through Sport

1. Introduction Through Sport-Vigilant Exercise	4
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GUIDELINES FOR ACTIVITIES IN ADVENTURE Therapy (www.aee.org)

- Teach, reinforce, and monitor for physical and emotional safety □
- Monitor components of assessment continuously, including emotional and behavioral responses to interventions, perceived and actual risk, safety, progress toward treatment goals, and client functioning
- Create an optimum learning environment based on assessment
- Facilitation should reference therapeutic intent and connect to related life experiences. Client emotional and behavioral responses are related to treatment goals in order to enhance the transfer of learning
- Maintain awareness of real and perceived risk. Adventure therapy contains aspects of real and perceived risks that impact clients.

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GUIDELINES FOR ACTIVITIES IN ADVENTURE Therapy (www.aee.org)

- Be competent in the activities being used by the facilitator. If the facilitator is not fully competent, he or she must be paired with someone who is fully competent in the areas required
- Utilize appropriate risk management and safety guidelines, taking into consideration the special issues presented with varying treatment populations.
- Actively involve clients in the activity. Utilize behavior that is not within expectation as part of future interventions. Understand that completion of the activity is secondary to the learning through the activity.
- Be aware of the client's cultural beliefs and values about working with others, managing emotions, solving problems, dealing with conflict, touch, and personal expression
- Select activities that are appropriate to the client's level of functioning and the ongoing assessment related to the level of challenge, perceived risk, actual risk, knowledge of and relationship with the client
- Understand how to adapt and modify activities to best meet the client's particular developmental position, therapeutic goals, and other dynamics that affect the choice of an activity □

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Policy Recommendations

- Adventure therapy is an intervention shown to be effective with this specific population.
- Implementing interventions and programs with proven efficacy can give drug addiction organizations the opportunity to provide more effective treatment as effective interventions and procedures can improve the chances of their clients to improve their psychosocial outcomes, reducing relapse by requiring fewer treatment cycles.
- Implementing innovative interventions involves the entire organization. Involving staff in the process can enhance motivation encourage staff members and make them feel better about their work. In that framework, it is suggested that training opportunities on adventure therapy methodology must be provided for staff working in the addiction field in order to enhance capacity building and acquire the necessary skills and knowledge aiming at building confidence in the application of this method.
- The training should include (a) the theory developed in the field of adventure therapy, (b) the development of the skills to apply the principles of adventure therapy (planning, process, risk management, etc.) (c) how to link and apply adventure therapy to addiction therapy.
- This training could be conducted by inviting experts in the field of adventure therapy and provision of literature in these areas.

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