

The test of Performance Strategy for Kids Scuba diving

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Abstract: Many junior or adult divers have a problem in the first time of using underwater SCUBA diving equipment. while under water breathing from mouth or Mask removal skills under water, a beginner may inhale water from nose and want to ascent to the water surface to can breathe normally, clean mask from water and try to dive again .in this case may he gets Panic. The **aim** of the study was to assess the effects of used Aqua mission games training to improve psychological skills to enhance Safety performance and avoid a panic. 20 healthy participants in kids Scuba diving program (8-year) in summer 2017. Each group (n=4). In addition to scuba training, received. The intervention group reported lower pre-test scores for cognitive Test of Performance Strategy (TOPS), and some of Safety Specialists test. **Results** scores post-test Significates for Psychological characteristics self-confidence, Emotional control, Automaticity, Goal-setting, Imagery, Activation, Relaxation and Negative thinking performed better on Safety Specialist Skills: Pre-dive safety check, Cramp removal – self and buddy, Throw a rescue line or float, Positive buoyancy on the surface – self and buddy, Rescue tow. test scores significantly predicted Safety Specialist performance. These results suggest that Kids scuba divers may Enhanced after the Aqua mission games training as part of their main scuba diving skills.

Keywords: TOPS test, Panic, Kids SCUBA Diving.

Introduction

Scuba Diving training practices currently address the physical, physiological and psychological challenges inherent to children by adapting equipment, modifying techniques, limiting exposure and mandating strict supervision. Many 10-year-olds may be capable, but many more may not be. Unfortunately, there are often incentives for instructors, parents and even dive operations to train unready students. The relationship between the mental and psychological aspect and physical performance is an interest between both coaches and players to the success or failure of the player in the compatibility between the lateral skill, physical and mental (Blumenstein, B, et al 1997) (Annett, J. 1995). The effectiveness of access to excellence in the performance of the athlete has been practically verified. The player must first think with mental skill as well as physical performance. The player should concentrate on attention and focus as well as reorientation to prevent errors in performance. (Martin K A Hall C.R 1997)

The Aqua mission program keeps kids diving learning and having fun until they are ready to enroll in the Junior Scuba Diver course. The underwater activity-filled introduction to the world of diving. The program gives children a chance to swim around underwater and experience adventure, discovery and thrills. It also provides parents or guardians with a structured program that lets their children develop skills, learn about the aquatic realm and have a lot of good, clean fun. (Padi Seal team Manual 2017). The Program have apart from Mental training, is the essential part of the player's preparation. It involves the perception of movement, the sequence of skills, attitudes, goals, performance, and any external influence such as weather and jealousy. Until the practitioner is able to do so, he must develop the mental potential and improve it for mental training is an important and fundamental part of sports training (Annett, J.1995). Therefore, the researcher depends on the relationship between the mental side and the physical side is a stand-alone relationship, this consensus between the two sides is necessary. The diving sport is a sport that is characterized by multiple and difficult

combinations of motor skills, it contributes to the skill of the diver, which helps to perform easily and safely under the water, which achieves safe diving without training injuries from the distance from the surface of the water. Because the diver in a state of confusion Or entering the water in the eyes or nose or inability to breathe correctly leads the diver to swallowing water and panic to panic Panic may lead to death at times in particular in the initial stages of education or when the diver fatigue or not care Underwater care in the management of crises The performance is slow (Walton L 2018).

Panic is defined as, "a strong, fearful perception by an individual that he/she is out of control, that he/she is not capable of coping with the situation. leading to behaviors that not only do not solve the problem Posed by the danger but actually may work directly against solution" (Bachrach & Egstrom, 1987, p. 23). Water inhalation from nose make a panic case for diver .this is a real problem, another problem come from that divers do not follow the procedures they have been trained in, and dive significantly beyond their training experience and fitness levels, Or he can lose the concentrate during diving and that this the basic cause of most accidents. In litigation involving diving accident, the legal panel reported that 85% to 90% of the cases were attributable to diver error. This is consistent with several scientific studies. Medical issues are a significant part of the problem, and certified divers are responsible for assessing their own fitness and ability to do any particular dive.(DAN 2011)(David Hostler et all 2018)that mental preparations and well developed psychological skills are essential for successful performance and well-being (Gould, Guinan, Greenleaf, Medbery, & Peterson, 1999;Greenleaf, Gould, & Dieffenbach, 1999.The researcher sees the existence of obstacles by the next to the training for diving, especially in the early stages of learning and not to stand on enhancing the mental aspects of training on performance, especially when the dive under the crisis under water. As well as lack of training of some trainers mental training methods such as relaxation, perception, perception, attention concentration and lack of detailed explanation of the performance of skills through the video demonstration of diving. Therefore, the researcher believes that conducting this study in order to identify the effect of mental training during Aqua mission and psychological tests on improving the skill level of diving.

Aims: Our aim was to assess the effects of used Aqua mission games training to improve psychological skills to enhance Safety performance and avoid a panic for SCUBA Diving for Kids

Material and Methods

Subjects

20 healthy kids SCUBA diving volunteered for the study in summer 06.2017to 8.2017. The subject were 8.9 ± 1.1 years of age, height 128 ± 1.06 m and weight 33.85 ± 1.32 kg. The subjects have at least 2.85 ± 1.69 dive experience record in PADI Seal Team SCUBA diving program and during the investigation period all subjects trained on Aqua mission games training for 4 weeks in Max 4 m depth.

Protocol

METHOD

Participants were 20 kids' diver's male. All participants had no previous scuba diving experience. All participants were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 1992) .They was briefed on the nature of the diving tasks, and of their right to discontinue involvement at any point, as part of the standard PADI procedures.

Measures

To compare the predisposition towards Test of performance strategies TOPS; (Hardy, Roberts, Thomas, & Murphy, 2010) was used to measure the diver's participant groups.

The 64 questionnaires have successfully been used for research in many different sports (Frey, Laguna, & Ravizza, 2003; Hardy et al., 2010). Diving performance for each participant was assessed by PADI Test Performance for Safety specialist Skills (PADI Manual 2017)

Treatments

Prior to their dive, all participants received the PADI Seal team kills of instruction which involved weekly attendance over a 4-week period. The purposes of the Aqua mission training program were to teach participants to reduce anxiety through relaxation and intentional control, to increase self-confidence through self-affirmations, and to improve performance.

Procedure

Each group was trained separately following standard PADI Seal team program. All group received their PADI training at the same location from the same instructors. PADI Skills was measured during the first session of their training approximately four weeks prior to the dive. All participants completed the Aqua mission program. Both tasks took place at a depth of 4m and were administered in accordance with standard procedures (PADI 2017).

Data analysis

A control value for each parameter was calculated as an average value mean and standard deviation $M \pm SD$ from each Subject. The improvement of psychological variables values of TOPS test was compared between, before and after, Aqua mission training program, using paired t-test. The level used for accepting significance was $*P < 0.05$.

Table 1 Characteristics of 20 subjects

Characteristics	Means± SD
Age [year]	8.9 ± 1.1
Height [cm]	136 ± 1.07
Weight [kg]	43.85 ± 1.22
Training Experience [TE] Num	2.85 ±1.69

Data are means ± SD, n=20

RESULTS

Table 2 Pre and Post Self-Talk, Emotional Control of 20 subjects

Competition strategies Self-Talk	Practice Test		T -test	Competition strategies Emotional control	Practice Test		T -test
	Pre Test Mean ±SD	Post Test Mean ±SD			Pre Test Mean ±SD	Post Test Mean ±SD	
Q2	2.08±.773	4.27±1.007	-10.5	Q13	2.18±.759	3.70±.936	-8.96
Q9	3.55±.825	1.06±.340	15.12	Q16	2.09±.827	3.65±.862	-9.65
Q21	2.36±.701	3.90±.975	-8.5	Q24	3.84±.912	1.06±.340	15.66
Q33	1.99±.776	3.76±1.006	-8.15	Q28	2.18±.701	3.60±.864	-7.35
Q36	2.28±.790	3.70±.936	-9.11	Q39	2.31±.630	3.55±.825	-9.48
Q47	2.41±.650	3.70±.897	-9.74	Q50	3.55±.825	1.06±.340	16.50
Q51	2.32±.747	3.55±.825	-9.16	Q52	2.36±.641	3.61±.945	-11.5
Q57	2.46±.655	3.70±.936	-8.72	Q62	1.99±.776	3.66±.941	-8.25

Table 3 Pre and Post Automaticity, Goal-setting of 20 subjects

Competition strategies Automaticity	Practice Test		T -test	Competition strategies Goal-setting	Practice Test		T -test
	Pre Test Mean ±SD	Post Test Mean ±SD			Pre Test Mean ±SD	Post Test Mean ±SD	
Q4	3.65±.901	1.16±.427	12.50	Q1	3.70±.897	1.27±.709	9.55
Q10	2.36±.701	3.65±.862	-9.47	Q7	2.27±.735	3.84±.912	-8.57
Q11	2.14±.848	3.80±.959	-9.18	Q18	1.89±.768	3.67±1.058	-11.2
Q23	1.99±.776	3.55±.825	-7.89	Q22	3.65±.862	1.06±.340	14.78
Q29	2.08±.773	3.51±.905	-10.0	Q26	1.93±.619	3.61±.945	-10.3
Q30	2.18±.759	3.99±.984	-10.6	Q37	2.22±.720	3.90±.975	-10.1
Q41	1.94±.801	3.56±.865	-8.75	Q46	2.18±.759	3.51±.823	-9.3
Q58	2.41±.650	3.80±.921	-11.5	Q53	2.04±.856	3.70±.897	-11.5

Table 4 Pre and Post Imagery, Activation of 20 subjects

Competition strategies Imagery	Practice Test		T -test	Competition strategies Activation	Practice Test		T -test
	Pre Test Mean ±SD	Post Test Mean ±SD			Pre Test Mean ±SD	Post Test Mean ±SD	
Q3	1.99±.830	3.04±.879	-12.7	Q32	2.08±.773	3.66±.981	-8.19
Q12	2.27±.677	3.60±.864	-11	Q35	2.18±.814	3.65±.901	-7.51
Q34	2.14±.848	3.56±.906	-6.9	Q38	2.18±.759	3.75±.891	-9.11
Q42	2.27±.677	3.89±.902	-11.4	Q40	2.41±.708	4.03±.933	-9.57
Q55	2.50±.658	3.70±.897	-9.6	Q44	2.08±.773	3.56±.906	9.354
Q56	2.46±.655	3.46±.820	-10.7	Q45	1.98±.656	3.56±.865	-10
Q59	2.41±.650	3.70±.897	-9.74	Q48	2.50±.658	3.55±.825	-12.9
Q64	2.36±.641	3.90±.975	-9.23	Q49	2.32±.690	3.60±.864	-8.57

Table 5 Pre and Post Relaxation, Negative thinking of 20 subjects

Competition strategies Relaxation	Practice Test		T -test	Competition strategies Negative thinking	Practice Test		T -test
	Pre Test Mean ±SD	Post Test Mean ±SD			Pre Test Mean ±SD	Post Test Mean ±SD	
Q5	2.18±.759	3.75±.968	-9.33	Q14	3.80±.921	1.06±.340	15.25
Q6	1.60±.605	3.13±.829	-9.86	Q19	1.85±.843	3.47±.903	-10.2
Q8	2.18±.759	3.90±.975	-7.47	Q20	3.70±.897	1.06±.340	15.34
Q15	2.04±.906	3.70±.936	-11.5	Q31	3.70±.936	1.06±.340	15.58
Q17	2.31±.630	3.90±.975	-9.57	Q54	3.89±.902	1.06±.340	16.10
Q25	2.09±.827	3.46±.861	-6.08	Q60	3.75±.891	1.06±.340	15.70
Q27	1.89±.768	3.46±.861	-7.24	Q61	3.75±.891	1.11±.388	16.29
Q43	3.60±.826	1.11±.388	14.87	Q63	3.79±.884	1.11±.388	13.58

Table 6: Test of Performance Strategies (TOPS) for Scuba Divers (N = 20)

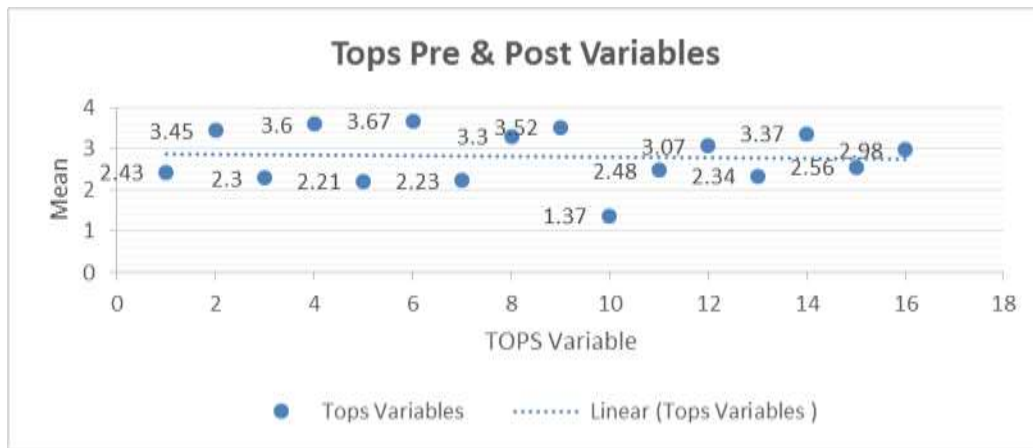
Competition strategies	Practice Test		T -test
	Pre Test Mean \pm SD	Post Test Mean \pm SD	
Self-talk	2.43 \pm 0.73	3.45 \pm 0.86	-6.09
Emotional control	2.56 \pm 0.76	2.98 \pm 0.75	-2.87
Automaticity	2.34 \pm 0.77	3.37 \pm 0.84	-6.86
Goal-setting	2.48 \pm 0.77	3.07 \pm 0.83	-4.58
Imagery	2.3 \pm 0.70	3.60 \pm 0.89	-10.15
Activation	2.21 \pm 0.72	3.67 \pm 0.89	-7.06
Relaxation	2.23 \pm 0.76	3.30 \pm 0.84	-5.77
Negative thinking	3.52 \pm 0.89	1.37 \pm 0.42	12.20
Total Score			

Data are means \pm SD, n=20 *p<0.05

Table 7: Pre and Post Safety specialist for Scuba Divers (N = 20).

Characteristics	Practice Test		T -test
	Pre Mean \pm SD	Post Mean \pm SD	
Change Snorkel and Regulator	1.75 \pm 0.52	4.65 \pm 0.46	2.02
Regulator Recovery (Arm Swing).	1.32 \pm 0.44	4.6 \pm 0.47	2.41
Mask removal (Full).	1.77 \pm 0.42	4.7 \pm 0.44	4.02
Swimming without Mask.	1.4 \pm 0.47	4.65 \pm 0.47	2.45
Cramp removal – self and buddy	1.15 \pm 0.34	4.22 \pm 0.39	3.55
Throw a rescue line or float	1.34 \pm 0.45	4.51 \pm 0.48	3.01
Positive buoyancy on the surface – self and buddy	1.15 \pm 0.34	4.45 \pm 0.36	3.52
Rescue tow	1.15 \pm 0.24	4.53 \pm 0.38	3.62

Data are means \pm SD, n=20 *p<0.05

Fig:1 TOPS test Pre & Post Variables

Discussion

The primary purpose of the present study was to assess the effects of used Aqua mission games training to improve psychological skills (TOPS Questionnaire) to enhance Safety performance and avoid a panic for Kids Divers. Results suggest that the program had a significant effect in all areas. We found significant differences in Self-Talk Question 2, Q9, Q21, Q33, Q36, Q47, Q51, and Q57. for the post measurement variable ($P=-6.09$) (Fig1) The findings suggested that the type of self-talk an individual engages in (positive or negative) was more important than his or her belief in self-talk. Participants engaging in positive self-talk performed better on the balance task than those expressing negative/mixed self-talk. Finding differences between the positive and negative/mixed self-talk groups was particularly significant because previous researchers have focused almost exclusively on differences between positive, neutral, and negative self-talk (Dagrou et al., 1992; Van Raalte et al. 1995), (Kaori Araki 2006)(Landin, D.,1999)

We found significant differences in Emotional Control Question 13, Q16, Q24, Q28, Q39, Q50, Q52, and Q62. for the post measurement variable ($P=-2.87$) (Fig1) The experience of underwater panic had led to a traumatic event in a hostile environment incompatible with the behavioral reaction the patient had, and with the consequent sensation of danger the diver had exposed himself to through his own behavior. We found significant differences in Automaticity Question 4, Q10, Q11, Q23, Q29, Q30, Q41, and Q58. for the post measurement variable ($P=-6.86$) (Fig1) Automaticity is the ability to execute a skill using no (or very few) information processing resources: attention and working memory. When a skill can be executed in this fashion, the performer has resources available to process other sources of information not directly required for the task. Automaticity is thought to be a hallmark of expert performance that is acquired through learning and extensive practice (Beilock, S. L., & Gray, R. 2007). When one performs a skill, there are different modes of control that can be used. At one extreme, commonly called controlled processing mode, a performer executes an action by following a series of explicit steps that are held in working memory and by focusing attention on each part of the action. Stress factors are interpersonal environmental stimuli which require the organism to adapt from a bio-psycho-social point of view. The way a person reacts to an event is called adaptation; it includes cognitive strategies, emotional responses and interpersonal resources. In dives, many variables can concur to create a stressful underwater situation. These may be environmental events, equipment failures and the behavior of other people. (Maria 2011) .We found significant differences in Goal-Setting Question 1, Q7, Q18, Q22, Q26, Q37, Q46, and Q53. for the post measurement variable ($P=-4.58$) (Fig1) Goal setting is one of the most important skills taught to athletes in order to help them achieve optimal performance. The goal-setting process helps athletes understand where they are currently and also where they want to go. A mental skills training consultant or sport psychologist can teach an athlete how to set systematic goals that are focused on the process and performance rather than

focused on the outcome of competition. (Gill, D. L. 2000) Sport psychologists have found that athletes often set goals that are not specific and not measurable Also, athletes often set goals that cannot be controlled. Athletes often set goals that focus on winning, but they may have little control over whether they win (Rabasca, 1999). We found significant differences in Imagery Question 3, Q12,Q34,Q42,Q55,Q56,Q59,and Q64. for the post measurement variable ($P=-10.15$) (Fig1) this study examined the effects of level of participation and time involvement in sport on mental imagery characteristics. The information this study will provide may help coaches and athletes to identify the mental preparation needs of specific sports and to present additional information about individual differences in sport imagery. This knowledge can be used in designing mental imagery training programs for the purpose of enhancing physical performance, there is a clear need to take individual differences into account when designing imagery training programs and future research should target to these factors Abma, et al. (2002). (Elfving, et al. 2000). (Ville Peltomäki 2014).We found significant differences in Activation Question 32, Q35, Q38,Q40,Q44,Q45,Q48,and Q49. for the post measurement variable ($P=-7.06$) (Fig1) Arousal and Activation is the mental and physiological response activity experienced in relation to an unexpected (or unplanned) input into the system like an unexpected shout from the crowd(William 2010).The applied sport psychologist, coach, and performer all have a role to play in establishing the applicable activation state for the performer. the strategies outlined in this entry offer insights for increasing activation states. these strategies can either be used individually or combined to form a more holistic energizing program however research testing the efficacy of energizing strategies for the perform remains in its infancy within applied sport psychology literature (Hanton 2009), We found significant differences in Relaxation Question 5, Q6, Q8, Q15, Q17, Q25, Q27, and Q43. for the post measurement variable ($P=-5.77$) (Fig1) Relaxation has been defined as a psychological strategy used by sports performers to help manage or reduce stress-related emotions (e.g., anxiety and anger) and physical symptoms (e.g., physical tension and increased heart rate [HR]) during high pressurized situations. Several different types of physical and mental relaxation strategies will be discussed in this entry, all of which can be used to relax the performer and, potentially, benefit athletic performance .We found significant differences in Negative Thinking Question 14, Q19, Q20, Q31,Q54,Q60,Q61,and Q63. for the post measurement variable ($P=12.20$) (Fig1) At one time or another, we all have negative thoughts and doubts about our ability to succeed and accomplish goals. Look at the tears of relief on the faces of some athletes after they've won very close competitions, and you'll realize that as great as they are, they too have doubts. One major difference between good and great athletes is that the great athletes not only recognize and acknowledge these doubts, they quickly let go of them and refocus their attention on getting the job done. (Van Raalte et al. 1995), (Hardy 2005,2006). We found significant differences in Safety Specialist for the post measurement variable in Change Snorkel and Regulator ($P=2.02$) (Table7), We found significant differences for the post measurement variable in Regulator Recovery (Arm Swing). ($P=1.41$) (Table7), in Mask removal (Full). ($P=3.55$) (Table7), in Swimming without Mask ($P=2.02$) (Table7), in Cramp removal – self and buddy ($P=3.55$) (Table7) in Throw a rescue line or float ($P=3.01$) (Table7), in Positive buoyancy on the surface – self and buddy ($P=3.52$) (Table7), in Safety Specialist for the post measurement variable in Rescue tow ($P=3.62$) (Table7).These findings offer encouragement for the potential use of mental and psychological training as part of kids diver preparation such as breathing control and anxiety awareness. The significant benefits evidenced by the intervention group suggest that more extensive coverage of the psychological aspects of scuba diving might (Scott A. Paluska, Dr & L. Schwenk, Thomas. 2000),(Giles, Audrey R 2007),(Christopher R2017),(Lucrezi, S 2018).

Conclusion

Pre-performance mental visualization and psychological tests are a process of transition from non-performance-related conditions to performance-related conditions directly to link the movement vocabulary and the overall visualization of underwater motor skill. This improves the level of skill performance and increases the speed of acquisition and learning skills and gives the diver more confidence under water and the ability to get rid of the wrong performance that causes the crises and pressures of the performance of skilled diving. During Aqua mission games training improved psychological skills to enhance safety performance and avoid many problems under water.

REFERENCES

Abma, C. L., Fry, M. D., Li, Y., & Relyea, G. (2002). Differences in imagery content and imagery ability between high and low confident track and field athletes. *Journal of Applied Sport Psychology*, 14 (2), 65-75.

APA The American Psychological Association (APA). (1990), www.apa.org/.

Bachrach AJ, Egstrom GH. (1987) *Stress and performance in diving*. San Pedro (CA): Best Publishing Co.,

Beilock, S. L., & Gray, R. (2007). Why do athletes "choke" under pressure? In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 425-444). Hoboken, NJ: Wiley.

Blumenstein, Boris & Bar-Eli, Michael & Tenenbaum, Gershon. (1995). The augmenting role of biofeedback: Effects of autogenic, imagery and music training on physiological indices and athletic performance. *Journal of sports sciences*. 13. 343-54. 10.1080/02640419508732248.

Christopher R. Kovacs . Trevor D. Paulsen ,(2017) Effect of In-water SCUBA Diving Activities on Response Time in Recreational Divers. *International Journal of Aquatic Research and Education*, Volume 10 Number 1 First IJARE Online Open Access Issue!, 2-3-2017 <https://scholarworks.bgsu.edu/ijare> .

DAN, Divers alert network 2019 <https://www.diversalertnetwork.org/>.

Dagrou, E., Gauvin, L., & Halliwell, W. (1992). Effets du langage positif, negatif, et neutre sur la performance motrice [Effects of positive, negative, and neutral self-talk on motor performance]. *Canadian Journal of Sports Sciences*, 17, 145-147.

Daniel Gould , Diane Guinan , Christy Greenleaf , Russ Medbery (1999) Factors Affecting Olympic Performance: Perceptions of Athletes and Coaches from More and Less Successful Teams, *human kinetics journal* Volume 13 Issue 4, December.

David Hostler , David R. Pendergast, (2018) Respiratory Responses during Exercise in Self-contained Breathing Apparatus among Firefighters and Nonfirefighters , Available online 17 February 2018 <https://www.sciencedirect.com/science/article/pii/S2093791117300975> December, 2006, Volume 8, Issue 4 online journal of sport psychology *Diving and Hyperbaric Medicine* [01 Sep 2017, 47(3):144-154].

Elfving, T., Riches, D., Lintunen, T., Watt, A. & Morris, T. (2000). Reliability, Factor structure, and Criterion Validity of the Sport Imagery Ability Measure (SIAM) in Athletes from Finland.

Frey, M., Laguna, P. L., & Ravizza, K. (2003). Collegiate athletes' mental skill use and perceptions of success: An exploration of the practice and competition settings. *Journal of Applied Sport Psychology*, 15(2), 115-128.

Gould, Daniel & Guinan, Diane & Greenleaf, Christy & Medbery, Russ & Peterson, Kirsten. (1999). Factors affecting Olympic performance: Perceptions of athletes and coaches from more and less successful teams. *The Sport Psychologist*. 13. 371-394. 10.1123/tsp.13.4.371.

Giles, Audrey R.; Baker, Ava C.; Rousell, Davina D DIVING BENEATH THE SURFACE: THE NWT AQUATICS PROGRAM AND IMPLICATIONS FOR ABORIGINAL HEALTH. *Pimatisiwin: A Journal of Aboriginal & Indigenous Community Health*. Spring2007, Vol. 5 Issue 1, p25-49. 25p.

Gill, D. L. (2000). *Psychological dynamics of sport and exercise*. Champaign, IL: Human Kinetics.

Hanton, S., Thomas, O., & Mellalieu, S. D. (2009). Management of competitive stress in elite sport. In B. W. Brewer (Ed.), *Handbook of sports medicine and science: Sport psychology* (pp. 30-42). Chichester, UK: Wiley-Blackwell.

Hardy, L., Roberts, R., Thomas, P.R., & Murphy, S.M. (2010). Test of Performance Strategies (TOPS): Instrument refinement using confirmatory factor analysis. *Psychology of Sport and Exercise*, 11, 27-35.

Hardy, J., Hall, C. R., & Hardy, L. (2004). A note on athletes' use of self-talk. *Journal of Applied Sport Psychology*, 16, 251-257.

Hardy, J., Hall, C. R., & Hardy, L. (2005). Quantifying athlete self-talk. *Journal of Sports Sciences*, 23,905-917.

Hall, C. R., & Martin, K. A. (1997). Measuring movement imagery abilities: A revision of the Movement Imagery Questionnaire. *Journal of Mental Imagery*, 21(1-2), 143-154.

Kaori Araki , Joseph K. Mintah et al ,(2006)Belief in Self-Talk and Dynamic Balance Performance December, 2006Volume 8, Issue 4.

John Annett (1995) Motor imagery: Perception or action? *Neuropsychologia* Volume 33, Issue 11, November 1995, Pages 1395-1417.

Landin, D., & Hebert, E. P. (1999). The influence of self-talk on the performance of skilled female tennis players. *Journal of Applied Sport Psychology*, 11, 263-282.

Lucrezi, S., Egi, S. M., Pieri, M., Burman, F., Ozyigit, T., Cialoni, D., Thomas, G., Marroni, A.,Saayman, M. (2018). Safety Priorities and Underestimations in Recreational Scuba Diving Operations: A European Study Supporting the Implementation of New Risk Management Programmes. *Frontiers in psychology*, 9, 383. doi:10.3389/fpsyg.2018.00383

Maria Luisa Gargiulo15 Jul 2011 ,Psychological reactions and scuba diving, description of a treatment, www.alertdiver.eu.

Professional association of diving instructor PADI Training manual (2017) Printed in U.S.A. Product No. 79110 Version 3.05 (rev 11/06).

Rabasca L (1999). I'm OK and you're OK, but not so sure about Y2K. Monitor Online. www.apa.org/monitor/jan99/ok.html. Accessed 14 May 1999

Scott A. Paluska, Dr & L. Schwenk, Thomas. (2000). Physical Activity and Mental Health. Sports Medicine. 29. 10.2165/00007256-200029030-00003.

Van Raalte, J. L., Brewer, B. W., Lewis, B. P., Linder, D. E., et al. (1995). Cork! The effects of positive and negative self-talk on dart throwing performance. Journal of Sport Behavior, 18(1), 50-57.

Ville Peltomäki , 2014,IMAGERY ABILITY AND IMAGERY USE IN INDIVIDUAL AND TEAM SPORTS ,Master's Thesis in Sport and Exercise Psychology , Department of Sport Sciences University of Jyväskylä.

Walton L 1 (2018), The panic triangle: onset of panic in scuba divers, Undersea & Hyperbaric Medicine : Journal of the Undersea and Hyperbaric Medical Society, Inc [01 Sep 2018, 45:505-509]

Williams, J. M. (2010). Relaxation and energizing techniques for regulation of arousal. In J. M. Williams (Ed.), Applied sport psychology: Personal growth to peak performance (6th ed., pp. 247–266). New York: McGraw-Hill.