

## PRE-COMPETITIVE ANXIETY IN SWIMMERS AND WATER POLO PLAYERS IN RELATION TO GENDER AND AGE

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**Abstract.** *The psycho-physiological approach of competitive anxiety may be able to explain the role of competitive anxiety, concerning the fact that people have different reactions in environmental incentives and experiencing competitive anxiety. The aim of this study is to examine differences in intensity of factors of the competitive anxiety state in swimmers and water polo players as well as to make a comparison based on gender - male and female - and age. In this research, 692 male (n=327) and female (n=365) athletes participated, aged 13-19 of which 316 were swimmers and 376 were water polo players. The athletes, after 30-45 minutes of warm up and before each event, filled in the adjusted Competitive State Anxiety Inventory-CSAI. The statistical program SPSS 16 was used for the statistical analysis. Statistically significant differences were found between the two genders in all of the three factors of pre-competitive anxiety. The females had higher levels of cognitive and somatic anxiety and the males had higher levels of self-confidence. Concerning age, a higher level of cognitive anxiety was observed in the group of 13-15 year-olds and a higher level of self-confidence in the age group of 16-19 year-olds, but as far as the type of sport is concerned, water polo players had higher cognitive anxiety against swimmers and no differences were found in somatic anxiety and self-confidence. Future research should consider other factors such as intension, which could contribute to the configuration of pre - competitive anxiety.*

**Key words:** *sport psychology, questionnaire, teenagers, water sports*

### INTRODUCTION

Anxiety is an integral part of competitive sports (Loupos, Moschopoulou, Zafriadias, Skouridou, & Tsalis, 2008). Due to stress, a large variety of athletes, particularly young or novice, fail to perform to the best of their abilities (Hardy, Jones, & Gould, 1996; Orlick &

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Partington, 1988). Psychology is one of the most important factors in an athlete's performance. Anxiety is an unpleasant psychological situation that is believed to have bad effects on performance (Jones, 1991). The psycho-physiological (Hatfield & Landers, 1983) approach of competitive anxiety may be able to explain the role of competitive anxiety, concerning that people have different reactions in environmental incentives and experiencing competitive anxiety (Caruso, Dzewaltowski, Gill, & McElroy, 1990; Filaire, Sagnol, Ferrand, Maso, & Lac, 2001).

Early anxiety research in sport psychology relied heavily on clinical psychology findings to construct a theoretical framework for research in competitive anxiety (Jones, 1995). It is well known that all competitions, important or not, provoke in athletes with or without experience, feelings of fear, concern, agitation and anxiety, sometimes of high intensity, sometimes less. Various psychological factors appear to affect or be affected by competitive anxiety (Lane, Terry, & Karageorghis, 1995a; Lane, Terry, & Karageorghis, 1995b). In addition, the significance of the race seems to affect the rates of competitive anxiety (Marchant, Morris, & Anderson, 1998). Furthermore, sport experience has the same important role. The above mentioned can be determined by age (Krane & Williams, 1994) psychological racing ability (Fletcher & Hanton, 2001), the competitive level (Gould, Eklund, Petlichkoff, Peterson, & Bump, 1991; Mellalieu, Hanton, & O'Brien, 2004) and skill level (Perry & Williams, 1998). The concept of athletic experience can be connected with the level of intimacy with the venue (Cerin, Szabo, Hunt, & Williams, 2000). The competition environment (Hanton & Jones, 1997; Jones, Swain, & Cale, 1990) and 'home venue' (Carré, Muir, Belanger & Putnam, 2006; Terry, Walrond, & Carron, 1998) have been proposed as potential release of competitive anxiety.

There have been considerable methodological and conceptual advances in examining the various manifestations of the competitive anxiety response (Ntoumanis & Jones, 1998).

The personal perception of anxiety is usually evaluated by self-report questionnaires. A specialized questionnaire is the Competitive State Anxiety Inventory or CSAI. The CSAI is used for the assessment of cognitive and somatic anxiety and self-confidence (Martens, 1977).

According to Martens, Burton, Vealey, Bump, and Smith (1990), other factors of anxiety were recognized that have important predictive power in the estimation of an athlete's behavior. Three of them that seem to be especially connected to sports are cognitive anxiety, somatic anxiety and self-confidence. Cognitive anxiety is the intellectual dimension of anxiety and is provoked by negative expectations for success or by negative self-evaluation. When people feel self-confident, they dare to have higher goals and to succeed in what they want. According to Vealey (1986), self-confidence refers to the level of security or confidence that an athlete possesses about his ability to succeed in sports. A lack of self-confidence provokes negative feelings such as concern, anxiety, bad mood, anger, aggressiveness and disappointment (Zervas, Ekkekakis, Emmanuel, Psychoudaki, & Kakkos 1993).

Two sports that take place in water are swimming (individual) and water polo (team). Both of them need intensive effort in competition, and an environment foreign to human nature. In modern conditions of training, swimmers and water polo players are well prepared physically, technically and tactically. Differences in anxiety parameters between these two sports have not yet been studied in depth and on a big sample.

From studies in non-aquatic sports, it has been found that age and gender play an important role in the manifestation of pre-competitive anxiety. Specifically, in the study of Stavrou, Zervas, Kakkos and Psychountaki (1998) it has been found that women

presented higher cognitive and somatic anxiety in relation to men, as well as lower self-confidence. In the same study it was concluded that higher level athletes had higher levels of self-confidence and lower cognitive anxiety, but between the two different age groups there were no differences concerning somatic anxiety. The results of this study are in accordance with the findings of Swain & Jones (1992). In the research of Martens et al. (1990), it was observed that participants in contact sports have higher levels of cognitive anxiety and lower self-confidence, which is due to the threat of confronting the opponent.

The aim of this study is to examine the differences in the intensity of factors of competitive anxiety state in swimmers and water polo players as well as to make a comparison based on gender - male and female - and age.

## METHODS

### Participants

In this research, there were 692 male (n=327) and female (n=365) athletes who participated, aged 13-19 of which 316 were swimmers and 376 were water polo players. The grouping of athletes was made based on their age level for the purpose of this research and appears in the following table, no 1. The two age levels were chosen because at the age of 13-15, teenager athletes progress from the pre- competitive to the competitive level, and the age of 16-19 because of adulthood.

### Materials and Procedure

The athletes, after 30–45 minutes of warm up and before each event, filled in the Competitive State Anxiety Inventory-CSAI (Liebert & Morris, 1967; Martens, 1977) that has been adjusted to Greek by Kakkos and Zervas (1996) and constitutes a valid and reliable measurement tool of the variables. The process lasted almost 3 minutes for each athlete and it took place at room temperature, at the swimming pool. The athletes participated voluntarily and signed the relevant acceptance form.

The CSAI consists of (15) fifteen questions and is used for the estimation of the tension of the competitive state. It also consists of three sub-scales that evaluate: **a)** cognitive anxiety, **b)** somatic anxiety and **c)** self-confidence. The questionnaire consists of 15 questions that evaluate cognitive anxiety, somatic anxiety and self-confidence.

The athletes were asked to describe “how they feel now before the game, right this minute” on a four-level scale that appears as follows: not at all =1, a little = 2, quite a lot = 3, a lot = 4.

The handout of questionnaires and the data collection was undertaken by the same researchers. In addition, additional questionnaires were made on a voluntary basis for those athletes who participated in games. They were informed about the aim of this research and instruction was given to them as to when to fill in the supplied questionnaire.

The research data were gathered during a competition held in Athens in the summer competitive season. It was the most important national swimming competition and represents the outcome of the ultimate efforts undertaken by the athletes for the whole year.

### Statistical analysis

All of the results are expressed as means and standard deviation. Differences in cognitive anxiety, somatic anxiety and self-confidence between the two different sports, the two genders and the two age groups were estimated with a 3 WAY ANOVA (one for each anxiety factor), followed by Tukey's post-hoc comparison when appropriate. The statistical program SPSS 16 was used for the statistical analysis of the data. For all of the statistical analyses, the  $p < 0.01$  level of significance was adopted.

### RESULTS

The results of the current study are presented in Table 1, where statistical differences are shown in the different factors of pre-competitive anxiety in relation to gender, sport and age group. Specifically, statistically significant differences were found between the two genders in all of the three factors of pre-competitive anxiety. The females had higher levels of cognitive  $F=29.29$ ;  $p < 0.0001$  (12.53 vs. 10.64) and somatic anxiety  $F=35.25$ ;  $p < 0.0001$  (10.72 vs. 8.86) and the males had higher levels of self-confidence  $F=47.09$ ;  $p < 0.01$  (15.24 vs. 12.99, respectively). Concerning age, higher levels of cognitive anxiety  $F=18.95$ ;  $p < 0.01$  was observed in the group of 13-15 year-olds (12.34 vs. 10.82) and higher levels of self-confidence  $F= 4.90$ ;  $p < 0.03$  in the age group of 16-19 year-olds (14.48 vs.13.75). However, as far as sport is concerned, water polo players had higher cognitive anxiety  $F=6.54$ ;  $p < 0.01$  against swimmers (12.03 vs. 11.14, respectively) and no differences were found in somatic anxiety and self-confidence.

**Table 1** Statistical significant difference in factors of pre-competitive anxiety between athletes of different gender, age group and sport

Factors of pre- competitive anxiety	Gender		Age level		Sport	
	Female N=365	Male N=327	13-15 years N=322	16-19 years N= 370	Swimming N=316	Water polo N=376
Cognitive	12.53±3.74*	10.64±3.32	12.34±3.62*	10.82±3.14	11.14±3.41	12.03±3.89*
Somatic	10.72±3.50*	8.86±2.72	9.82±3.29	9.76±3.20	9.91±3.12	9.67±3.25
Self- Confidence	12.99±3.30	15.24±3.27*	13.75±3.42	14.48±3.46*	13.90±3.42	14.34±3.42

\*Significant differences between gender, age group and sport (level set at  $p < 0.01$ ).

A significant interaction between age group membership and sport was determined in cognitive anxiety  $F=5.98$ ;  $p < 0.01$  and self-confidence  $F=17.21$ ;  $p < 0.01$ . The cognitive anxiety of younger water polo players (13-15 age) was higher against swimmers of the same age (13.21 vs.11.47 respectively). Furthermore, younger water polo players had a higher level of cognitive anxiety in comparison to older water polo players (13.21 vs. 10.84 respectively).

The self-confidence of older water polo players (16-19) was higher than the self-confidence of younger water polo players (13-15), (15.38 vs.13.29). Furthermore, older water polo players had higher levels of self-confidence in comparison to swimmers of the same age (15.38 vs. 13.59).

## DISCUSSION

The results of this study showed that there are significant differences in the intensity of pre-competitive anxiety factors. More specifically, from the results it can be determined that the two genders differ, with the females having higher values of pre-competitive anxiety (cognitive and somatic) and lower values of self confidence that may be due to lower levels of competence according to the findings of other researchers (Jones & Swain, 1992; Stavrou, Zervas, Kakkos, & Psychountaki, 1998; Mantis, Mavridis, Papavasiliou, & Patmanoglou, 2001). Concerning cognitive and somatic anxiety, maybe the females perceive them as more negative factors for their performance. Different results were obtained by other researchers that concluded that there was a difference between the two genders, with the females having higher levels not only in cognitive and somatic anxiety but also in self confidence in relation to men (Martens et al., 1990). Proportional results are referred to by Krane & Williams (1994).

Furthermore, according to the present study, athletes of the first age group (13-15) had higher levels of cognitive anxiety in comparison to the second age group. A probable explanation could be that the occupation with this kind of sport is a satisfactory parameter for the acquisition of athletic experience and that can provoke changes in pre-competitive anxiety factors. The results of this research are in accordance with the study of Gould, Petlichkoff, & Weinberg (1984), who did not find significant differences between experienced and non-experienced athletes in the dimensions of trait anxiety. Unlike the previous studies, Hogg (1980) studied the differences in some dimensions of anxiety in young female swimmers of different age groups and found that swimmers older than 15 presented higher levels of anxiety because of the incremental importance of competitions, but in swimmers younger than 15 years old, anxiety remained the same in all competitions. The research results of White & Barclay (1991) showed that student athletes of soccer had higher levels of cognitive anxiety in comparison to younger athletes, but no differences were observed concerning somatic anxiety between the two age groups. Statistically significant higher levels of self-confidence were observed in the second age group, probably because of the greater competitive experience. Hanton, Mellalieu & Hall (2004), found that more experienced athletes have higher levels of cognitive anxiety and lower self-confidence.

Also, significant differences were determined between the two sports, with water polo players having higher levels of cognitive anxiety. In the two other factors of somatic anxiety and self-confidence, no differences were observed between the two sports. Finally, a statistical significant interaction was observed between sport and age in the factors of cognitive anxiety and self-confidence. The difference found in cognitive anxiety with higher levels for younger water polo players (13-15) in comparison to swimmers of the same age (13.21 to 11.47 respectively), may be explained with the shorter integration time of water polo players into the sport, as well as the lower training experience and participation in competitions. Furthermore, the higher level of cognitive anxiety of water polo players of a younger age in comparison to older water polo players can be related probably to the greater desire for discrimination and promotion that younger athletes possess.

Different results were observed concerning the interaction of sport and age group in self-confidence. Older water polo players (16-19) had higher levels of self-confidence in comparison to younger players (15.38 to 13.29), unlike to the results for cognitive anxiety. This may be explained by the greater training and competitive experience and certainty for their power that older athletes have. Furthermore, greater self-confidence of older

water polo players in comparison to swimmers of the same age may be due to the fact that the match result depends on teamwork. Personal performance is a part of the general team performance and errors and responsibilities are distributed among players (Scanlan, 1977), but in swimming the focus is on personal performance and the threat of judgment from the social environment is maximized. Moreover, Martens, Vealey and Burton (1990) indicated that contact sports and individual sports provoke higher levels of anxiety in comparison to the level of anxiety in non-contact and team sports (Griffin, 1972).

### CONCLUSION

Competitive swimming consists of very young swimmers and water polo-athletes. The effect of competitive anxiety in their everyday life requires the investigation of factors potentially affecting their health and quality of life. We hope that the results of this study will turn out to be useful in competitive swimming and water polo and to constitute an important source of information for the intensity of pre competitive anxiety in the “psychological” task of each trainer. Psychological factors play an important role in the quality of performance and constitute an integral part of the whole training procedure. Pre competitive anxiety can be controlled in a way that will contribute positively to good performance. All of the previous information emphasizes the need for more research in precompetitive anxiety factors in the aquatic field.

Information that occurs in this study can create a better basis that will allow trainers and sport psychologists to help swimmers and water polo players to confront pre competitive anxiety in a more direct and efficient way in order to promote athletic performance and the health of athletes.

Future research should consider other factors such as intension, which could contribute to the configuration of pre-competitive anxiety. Finally, social factors such as the behavior of the coach and other related individuals (teammates, friends, and sport agents) and also the way we perceive athletes’ situations (win or loss), are factors that may contribute to an athlete’s psychology and performance.

### REFERENCES

- Carré, J., Muir, C., Belanger, J., & Putnam, S. K. (2006). Pre-competition hormonal and psychological levels of elite hockey players: Relationship to the ‘home advantage’. *Physiology & Behavior*, 89(3), 392-398.
- Caruso, C. M., Dziewaltowski, D. A., Gill, D. L., & McElroy, M. A. (1990). Psychological and physiological changes in competitive state anxiety during noncompetition and competitive success and failure. *Journal of Sport and Exercise Psychology*, 12(1), 6-20.
- Cerin, E., Szabo, A., Hunt, N., & Williams, C. (2000). Temporal patterning of competitive emotions: A critical review. *Journal of Sports Sciences*, 18(8), 605-626.
- Filaire, E., Sagnol, M., Ferrand, C., Maso, F., & Lac, G. (2001). Psychophysiological stress in judo athletes during competitions. *Journal of Sports Medicine and Physical Fitness*, 41(2), 263-274.
- Fletcher, D., & Hanton, S. (2001). The relationship between psychological skills usage and competitive anxiety responses. *Psychology of Sport and Exercise*, 2(2), 89-101.
- Gould, D., Eklund, R. C., Petlichkoff, L., Peterson, K., & Bump, L. (1991). Psychological predictors of state anxiety and performance in age-group wrestlers. *Pediatric Exercise Science*, 3, 198-208.
- Gould, D., Petlichkoff, L., & Weinberg, R. S. (1984). Antecedents of, temporal changes in, and relationships between CSAI-2 subcomponents. *Journal of Sport Psychology*, 6(3), 289-304.
- Griffin, M. R. (1972). *An analysis of state and trait anxiety experienced in sports competition by women at different ages*. Unpublished Doctoral dissertation, Louisiana State University.

- Hanton, S., & Jones, G. (1997). Antecedents of intensity and direction dimensions of competitive anxiety as a function of skill. *Psychological Reports*, 81(3 suppl), 1139-1147.
- Hardy, L., Jones, J. G., & Gould, D. (1996). *Understanding psychological preparation for sport: Theory and practice of elite performers*. John Wiley & Sons Inc.
- Hatfield, B. D., & Landers, D. M. (1983). Psychophysiology: A new direction for sport psychology. *Journal of Sport Psychology*, 5, 243-259.
- Hanton, S., Mellalieu, S. D., & Hall, R. (2004). Self-confidence and anxiety interpretation: A qualitative investigation. *Psychology of Sport and Exercise*, 5(4), 477-495.
- Hogg, J. M. (1980). Anxiety and the competitive swimmer. *Canadian Journal of Applied Sport Sciences*, 5(3), 183-187.
- Jones, G. (1995). More than just a game: Research developments and issues in competitive anxiety in sport. *British Journal of Psychology*, 86(4), 449-478.
- Jones, G. (1991). Recent developments and current issues in competitive state anxiety research. *The Psychologist*, 4, 152-155.
- Jones, G., & Swain, A. (1992). Intensity and direction as dimensions of competitive state anxiety and relationships with competitiveness. *Perceptual and Motor Skills*, 74(2), 467-472.
- Jones, G., Swain, A., & Cale, A. (1990). Antecedents of multidimensional competitive state anxiety and self-confidence in elite intercollegiate middle-distance runners. *The Sport Psychologist*, 4(2), 107-118.
- Kakkos, V & Zervas, I. (1996). *Competitive State Anxiety Inventory-II: A modified version*. In I. Theodorakis, A. Papaioannou, & M. Goudas (Ed.). Proceedings from: 1st International Conference of Sports Psychology. Greece: Komotini, Democritus University of Thrace
- Krane, V., & Williams, J. M. (1994). Cognitive anxiety, somatic anxiety, and confidence in track and field athletes: The impact of gender, competitive level and task characteristics. *International Journal of Sport Psychology*.
- Lane, A., Terry, P., & Karageorghis, C. (1995a). Antecedents of multidimensional competitive state anxiety and self-confidence in duathletes. *Perceptual and Motor Skills*, 80(3), 911-919.
- Lane, A. M., Terry, P. C., & Karageorghis, C. I. (1995b). Path analysis examining relationships among antecedents of anxiety, multidimensional state anxiety, and triathlon performance. *Perceptual and Motor Skills*, 81(3 suppl), 1255-1266.
- Liebert, R. M., & Morris, L. W. (1967). Cognitive and emotional components of test anxiety: A distinction and some initial data. *Psychological Reports*, 20(3), 975-978.
- Loupos, D., Moschopoulou, F., Zafiriadis, S., Skouridou, A., & Tsalis, G. (2008). The infection of competitive experience-ability in forming the psychophysiological variable rates of competitive anxiety in age group swimmers. *Inquiries in Sport & Physical Education*, 6(3), 363-369.
- Orlick, T., & Partington, J. (1988). Mental links to excellence. *The Sport Psychologist*, 2(2), 105-130.
- Mantis, K., Mavridis, T., Papavasiliou, E., & Patmanoglou, S. (2001). *Competitive anxiety in Greek young tennis players*. In: A. Papaioannou, M. Goudas, Y. Theodorakis (Eds.), Proceedings of the 10th World Congress of Sport Psychology: In the dawn of the new millennium, Skiathos, Greece: Democritus University of Thrace, University of Thessaly, Hellenic Society of Sport Psychology
- Marchant, D. B., Morris, T., & Anderson, M. B. (1998). Perceived importance of outcome as a contributing factor in competitive state anxiety. *Journal of Sport Behavior*, 21(1), 71-91.
- Martens, R. (1977). *Sport competition anxiety test*. Champaign, IL, England: Human Kinetics Publishers
- Martens, R., Burton, D., Vealey, R.S., Bump, L.A., & Smith, D.E. (1990). *Development and validation of the Competitive State Anxiety Inventory-2 (CSAI-2)*. In: R. Martens, R.S. Vealey, & D. Burton (Eds.), *Competitive anxiety in sport* (pp. 193-208). Champaign, IL: Human Kinetics
- Martens, R., Vealey, R. S., & Burton, D. (1990). *Competitive anxiety in sport*. Champaign, IL: Human Kinetics
- Mellalieu, S. D., Hanton, S., & O'Brien, M. (2004). Intensity and direction of competitive anxiety as a function of sport type and experience. *Scandinavian Journal of Medicine & Science in Sports*, 14(5), 326-334.
- Ntoumanis, N., & Jones, G. (1998). Interpretation of competitive trait anxiety symptoms as a function of locus of control beliefs. *International Journal of Sport Psychology*, 29, 99-114.
- Perry, J. D., & Williams, J. M. (1998). Relationship of intensity and direction of competitive trait anxiety to skill level and gender in tennis. *Sport Psychologist*, 12, 169-179.
- Scanlan, T. K. (1977). The effects of success-failure on the perception of threat in a competitive situation. *Research Quarterly. American Alliance for Health, Physical Education and Recreation*, 48(1), 144-153.
- Stavrou, N. A., Zervas, Y., Kakkos, V., & Psychountaki, M. (1998). *Differences in intensity and direction of competitive state anxiety*. In Y. Theodorakis, M. Goudas, & K. Bagiatis (Eds.). Proceeding of the 2nd International Congress of Sport Psychology--"Sport Psychology: Toward the 21st century (pp. 105-108).

- Swain, A., & Jones, G. (1992). Relationships between sport achievement orientation and competitive state anxiety. *The Sport Psychologist*, 6(1), 42-54.
- Terry, P. C., Walrond, N., & Carron, A. V. (1998). The influence of game location on athletes' psychological states. *Journal of Science and Medicine in Sport*, 1(1), 29-37.
- Vealey, R. S. (1986). Conceptualization of sport-confidence and competitive orientation: Preliminary investigation and instrument development. *Journal of Sport Psychology*, 8(3) 221-246.
- White, S., & Barclay, J. (1991). The effect of age and sport environment on State anxiety levels of soccer players. *Psychology*, 4, 156-159.
- Zervas, Y., Ekkekakis, P., Emmanuel, C., Psychoudaki, M., & Kakkos, V. (1993). *The acute effects of increasing levels of aerobic exercise intensity on mood states*. In: S. Serpa, J. Alves, V. Ferreira, & A. Paula-Brito (Eds.) Proceedings of the 8th World Congress of Sport Psychology: An integrated approach, (pp. 22-27). International Society of Sport Psychology

## **POJAVA ANKSIOZNOSTI KOD PLIVAČA I VATERPOLISTA PRED SAMO TAKMIČENJE U ODNOSU NA POL I GODINE STAROSTI**

*Psiho-fiziološki pristup pojavi anksioznosti pred takmičenje može se iskoristiti kao objašnjenje za ulogu koju ima ova vrsta anksioznosti, s obzirom na to da ljudi imaju različite reakcije na stimulse koje dobijaju iz okruženja i kad doživljavaju anksioznost pred samo takmičenje. Cilj ovog istraživanja bio je da se procene razlike između intenziteta faktora anksioznosti pred takmičenje među plivačima i vaterpolistima kao i da se izvrši poređenje u skladu sa polom i godinama starosti. U ovom istraživanju učestvovalo je 692 mladića (n=327) i devojaka (n=365) sportista, uzrasta 13-19 od kojih su 316 bili plivači a 376 su igrali vaterpolo. Sportisti, nakon 30–45 minuta zagrevanja i pre svakog takmičenja, popunjavali su prilagođenju verziju sledećeg testa: Competitive State Anxiety Inventory-CSAI. Program za statističku obradu podataka SPSS 16 korišćen je statističke analize. Statistički značajne razlike utvrđene su između pripadnika oba pola za sva tri faktora koji utiču na pojavu anksioznosti pre takmičenja. Devojke su imale visoke nivoe kognitivne i somatske anksioznosti a momci više nivoe samopouzdanja. Što se tiče godina starosti, veći nivo kognitivne anksioznosti uočen je za pripadnike grupe uzrasta 13-15 godina, kao i veći nivo samopozdanja za pripadnike grupe uzrasta 16-19 godina, ali što se vrste sporta tiče, vaterpolisti su zabeležili veće nivoe kognitivne anksioznosti u poređenju sa plivačima a razlike nisu utvrđene za somatsku anksioznost i samopouzdanje. Buduća istraživanja trebalo bi da uključe i druge faktore kao što su namera, koji bi mogli da doprinesu pojavi anksioznosti pre početka takmičenja.*

Ključne reči: psihologija sporta, upitnik, tinejdžeri, plivanje i vaterpolo