Opinions about judo athletes' image

GEORGIOS ZAGGELIDIS¹ , FOTIOS MAVROVOUNIOTIS¹, EIRINI ARGYRIADOU¹, MANUELA-MIHAELA CIUCUREL²

¹ Department of Physical Education and Sport Sciences, Aristotle University of Thessaloniki, Greece ² Department of Medical Assistance and Kinesitherapy, Faculty of Sciences, University of Pitesti Romania

ABSTRACT

Zaggelidis G, Mavrovouniotis F, Argyriadou E, Ciucurel MM. Opinions about judo athletes' image. J. Hum. Sport Exerc. Vol.8, No. 2, pp. 322-333, 2013. OBJECTIVE: The present study aimed to evaluate opinions of persons who are involved with judo about judo athletes' personality. METHODS: For this purpose 132 coaches, athletes, students of Department of Physical Education and Sport Science (DEPESS) and students of military school answered to a 35-item questionnaire describing their image towards judo athletes, in regard to social, volition, active, physical and emotional nature. RESULTS: statistical analysis showed that all the groups rated from the average, to somewhat strong and, also, to strong, while coaches rated higher to the most items. More specifically, one way ANOVA revealed significant differences, with coaches rating significantly higher, in the items of "being healthy" in physical nature (F=2.85, p<0.05), in items "having proper manner" and "being sincere" in social nature, (F=3.41, p<0.05 and F=3.09, p<0.05 respectively), "being positive" in active nature (F=3.95, p<0.05). Also in the items "being mild" (F=3.04, p<0.05), "being cheerful" (F=3.60, p<0.05) and "being carefree" (F=2.98, p<0.05) in emotional nature. Moreover, students of military school rating significantly higher in the item of "being cautious" in active nature (F=2.51, p<0.05) and in the item of "having power of concentration" in active nature both students of military school and of DEPESS rating significantly higher (F=5.66, p<0.01). CONCLUSIONS: The high rating in the most items might be due to the nature of the attitudes provided and cultured during the judo lessons, practice time and matches. Moreover, the differences between the groups for the coaches group might be observed because they have the most real image for judo athletes. Key words: ATHLETES, COACHES, OPINIONS, PERSONALITY, STUDENTS.

 Corresponding author. Department of Physical Education and Sport Sciences, Aristotle University of Thessaloniki, 57001 Thermi Thessaloniki Greece E-mail: gzangel@phed.auth.gr Submitted for publication February 2012 Accepted for publication October 2012 JOURNAL OF HUMAN SPORT & EXERCISE ISSN 1988-5202
© Faculty of Education. University of Alicante doi:10.4100/jhse.2012.82.01

INTRODUCTION

Judo literally means "the gentle way". Therefore, judo is a gentle martial art. Judo principles do not rely on the use of force, even though it is a martial art (The United States Judo Federation Development Committee 2004). So, judo, this "Martial Art", is characterized by a great amount of techniques, and highly valuable philosophical basis that helps in an individual's formation (Gleser & Lison, 1986). Judo is also a dynamic and complex sport, in which many variables such as technical, as well as tactical, physiological, and psychological, determine the final result (Frachini et al., 2005). Unlike karate or taekwondo, which employs strikes and blocks, judo employs throws and holds. The gentleness of judo allows players to be "going all the way" in channelling inhibited aggression without harming the opponents" (Gleser & Brown, 1986; Lotfian et al., 2011). Judo training sessions are normally two hours in duration and consist of judo specific skills and drills and randori (fighting practice) (Degoutte et al., 2003).

Judo practice, from his origin, is supposed to train an individual to obtain self-discipline, restraint, coordination, mutual benefit, and companionship. Practicing judo, therefore, supposedly contributes not only to physical development but also to psychological maturity. Judo has philosophical as well as sporting goals, and these involve the development, of character and the attainment of values such as sincerity, honesty, courage, compassion, friendship, and respect (Matsumoto & Konno, 2005). Because of its philosophy, judo should be particularly effective to help individuals redirect aggression or frustration and become more socially adaptive (The United States Judo Federation Development Committee 2004; Gleser & Lison, 1986). Judo practice also reduced anxiety, improved coping skills, and increased self-esteem. These positive changes may be attributed to the nature of judo practice. Thus, judo practice contributes in physical and psychological development with a number of beneficial effects (Gleser & Lison, 1986; Zaggelidis, et al., 2009).

It is a sport characterized by short duration, high intensity and intermittent exercise that lasts in total 7.18 minutes per match (Degoutte et al. 2003). Gleser & Brown, (1986) indicated that judo practice improved children both psychologically and physically. Studies involving children and adolescents participating in martial arts have shown improvements in their muscular strength (Falk & Mor, 1996), flexibility and balance (Violan et al., 1997). Successful participation in judo by high level, developing athletes is dependent upon appropriate levels of technical skill supported by above average endurance capacity, upper body anaerobic power and capacity, static strength, and flexibility (Little, 1991). Constant physical activities improved symptoms related to movement disorder as well as cardiorespiratory function. Modelling judo movement also caused a reduction in movement disorders.

Judo has inherited a spirit of vitality and energy, and a spirit of mutual appreciation for other people. From the other side, since judo has spread more and more since World War II and is still continuing to spread all over the world as an international sport (Matsumoto et al., 1984), all the people have an image about judo athletes' personality. More specifically this image may play a role in participating in judo practice or may be a motive for beginning judo. This image may be, certainly, different for judo athletes or anybody else who is engaged to judo, such as coaches, or to other people engaged generally to physical education or generally to martial arts including judo. Thus, the purpose of the present study was to work out scientific studies examining the judo athletes' image and personality, and also to evaluate the opinions of judo athletes, coaches, students of Department of Physical Education and Sport Sciences (DEPESS) and students of Military School about judo athletes' personality or else to evaluate the image toward judo athletes.

METHODS

Sample

A hundred and thirty two (132) persons, 82 males and 50 females, dealing with judo participated in the research. The sample was divided into 4 groups, according the relation with judo, as following: coaches, athletes, students of Department of Physical Education and Sport Science (DEPESS) and students of military school. More specifically, 26 coaches (4 females, 22 males) aged 36.35+6.71 years, 17 athletes (3 females, 14 males) aged 20.94+3.7 years, 51 students of DEPESS (28 females, 23 males) aged 21.53+5.51 years and 38 students of military school (15 females, 23 males) aged 20.53+3.30 years, were recruited. All participants signed informed consent forms and received full verbal explanations of the purpose of the study. It was also explained to subjects that they could withdraw from the study at any time.

Questionnaire

All the subjects answered to a 35-item questionnaire describing the image they have towards those people who are doing judo. Regarding the examination of the opinions about judo athletes' personality (image toward people already doing judo), the used questionnaire was compiled by Matsumoto et al. (1984), having as a reference Ogata's and Soeda's (1979) research. The 35 items of the questionnaire were divided into 5 categories: 1) active nature (7 items), 2) physical nature (7 items), 3) emotional nature (6 items), 4) social nature (8 items) and 5) volition nature (7 items). The 35 items concerning the factors of each nature were evaluated on a 5-level scale. These values were then converted and an average scale made. The differences area by area in evaluation of the survey areas was investigated. All the questionnaires have previously been translated, validated and successfully used in the Greek language. Prior to conducting the current study, a pilot study was performed to improve the design and identify possible ambiguous questions.

Statistical Analysis

The statistic packet SPSS/PC Version 16.0 for windows was used. The non-parametric test Kolmogorov-Smirnov was used to evaluate samples' normal distribution. To evaluate significant differences, between the four groups, oneway anova as well as t-tests were used. The level of significance was set to p<0.05.

RESULTS

In Figure 1, coaches, athletes, and students of DEPESS as well as of military school rating to the 7 items regarding the physical nature are presented. The items of "having confidence in one's body" and "having physical endurance" had the higher values in all groups, while the item "having inherent self-restraint" had the lower values in all groups. Moreover, the four groups rated quite the same in all the items. However, coaches rated higher than the other groups in the item "being healthy". The one-way anova showed the existence of significant differences between the rating of the four groups as for the item "being healthy" (F=2.85, p<0.05), which was observed between coaches and students of DEPESS (p<0.05) (Figure 1).

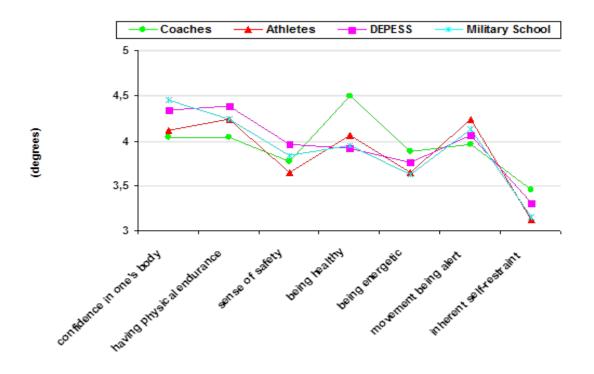


Figure 1. Rating to the items of Physical Nature.

In Figure 2, coaches, athletes, and students of DEPESS as well as of military school rating to the 8 items regarding the social nature are presented. The items of "having a sense of justice" and "upholding rules" had a high value in all groups. The rating tendencies are similar for athletes, students of DEPESS and military school in all items except the item of "upholding rules", where athletes rated higher. Moreover, coaches rated higher than the other groups in quite all the items. The one-way anova showed the existence of significant differences between the rating of the four groups as for the item "having proper manners" (F= 3.41, p<0.05) and "being sincere" (F= 3.09, p<0.05). More specifically, the difference for the item "having proper manners" was observed between coaches and students of DEPESS (p<0.05) as well as between military school (p<0.05), while the difference for the item "being sincere" was observed between coaches and students of military school (p<0.05) (Figure 2).

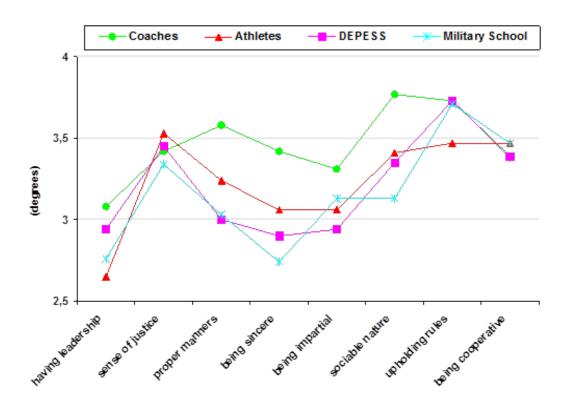


Figure 2. Rating to the items of Social Nature.

In Figure 3, coaches, athletes, and students of DEPESS as well as of military school rating to the 7 items regarding the active nature are presented. The items of "having power of concentration" and "being combatative" had a high value in all groups. The rating tendencies are similar for athletes, students of DEPESS and military school in all items except the item of "having power of concentration", where students of DEPESS as well as of military school rated higher. Moreover, coaches rated higher than the other groups in quite all the items, except on item "having power of concentration" and "being cautious" where they rated lower than all the groups.

The one-way anova showed the existence of significant differences between the rating of the four groups as for the item "being cautious" (F=2.51, p<0.05), "having power of concentration" (F=5.66, p<0.01), and "being positive" (F= 3.95, p<0.05). More specifically, the difference for the item "being cautious" was observed between coaches and students of military school (p<0.05), the difference for the item "having power of concentration" between coaches and students of DEPESS (p<0.05), and coaches and students of military school (p<0.05), and coaches and students of students of DEPESS (p<0.05), and athletes and students of military school (p<0.05), while the difference for the item "being positive" was observed between coaches and students of DEPESS (p<0.05), and athletes and students of military school (p<0.05), while the difference for the item "being positive" was observed between coaches and students of DEPESS (p<0.05), and athletes and students of military school (p<0.05), while the difference for the item "being positive" was observed between coaches and students of DEPESS (p<0.01) and coaches and students of military school (p<0.05) (Figure 3).

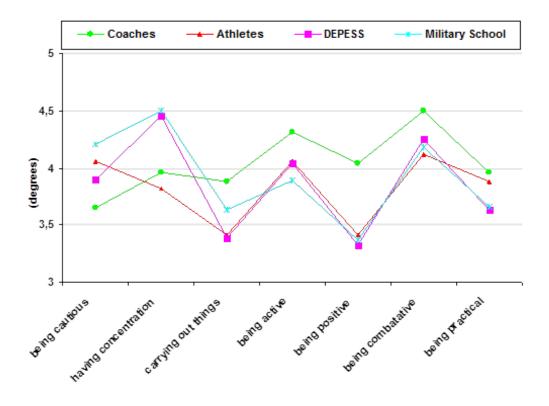
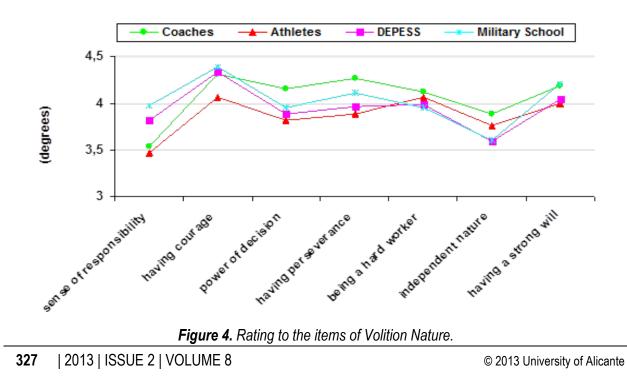


Figure 3. Rating to the items of Active Nature.

In Figure 4, coaches, athletes, and students of DEPESS as well as of military school rating to the 7 items regarding the volition nature are presented. The items of "having courage" and of "having perseverance" had a high value in all groups. Moreover, coaches rated higher than the other groups in quite all the items, except on item "having strong sense of responsibility" and "having courage". The one-way anova showed that the observed differences between the four groups were not significant (Figure 4).



In Figure 5, coaches, athletes, and students of DEPESS as well as of military school rating to the 6 items regarding the emotional nature are presented. The item of "having composure" had the higher values in all groups, while the item "being carefree" had the lower values in all groups. The rating tendencies are similar for athletes, students of DEPESS and military school in all items. Coaches rated higher than the other groups in quite all the items, except on item "having composure".

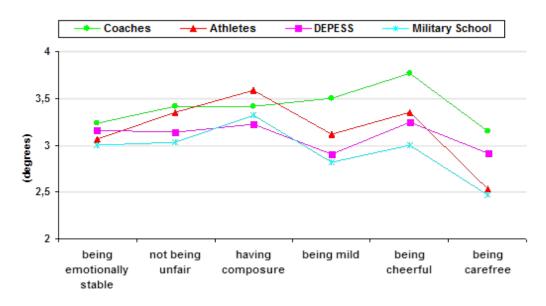


Figure 5. Rating to the items of Emotional Nature.

The one-way ANOVA showed the existence of significant differences between the rating of the four groups as for the item "being mild" (F=3.04, p<0.05), "being cheerful" (F=3.60, p<0.05), and "being carefree" (F=2.98, p<0.05). More specifically, the difference for the item "being mild" was observed between coaches and students of military school (p<0.05), the difference for the item "being cheerful" between coaches and students of DEPESS (p<0.05), and coaches and students of military school (p<0.05), and coaches and students of military school (p<0.05), while the difference for the item "being carefree" was observed between coaches and students of students of military school (p<0.05). (Figure 5).

DISCUSSION

The purpose of the present study was to work out scientific studies examining the judo athletes' image and personality, and also to evaluate the opinions of judo athletes, coaches, students of Department of Physical Education and Sport Sciences and students of Military School about judo athletes' personality or else to evaluate the image of the above groups toward judo athletes. In the present study the image is defined as a physical experience born out of the memory elements accumulated by past kinetic experience of all five senses, and such physical movement provides continuity through a fixed time (Tsuruhara et al., 1981).

Beginning with physical nature, in the present study a high rating on all the physical characteristics for the four groups was observed. However, it is worth to be noted that, only, in the item "having inherent self-restraint" a modest rating in all the groups was observed. From the results it would be said that for all the groups, coaches, judo athletes, DEPESS students and military school students, a judo athlete have a

somewhat strong image relatively the physical nature. In Jagiełło & Dornowski (2011) study, students understand that the means which are at the disposal of martial arts (not just judo) are very attractive not only due to their nature (close combat and connected with it sense of one's body) but mostly because of their complementary influence on the exercising persons bodies. Moreover, it is worth to be noted that physical nature reference is not occasional, but physical aspects are related to personality. In this direction, Hernandez-Ardieta et al. (2002) defined personality as the organization more or less stable and lasting of the character, mood, intelligence and physical composition of an individual who determines his particular way to adjust himself to environment and to interact with it. Thus, not only the presence of psychological characteristics but, also, the presence of physical aspects is related to personality. Moreover, personality has been defined as the dynamic organization of the individual's psychophysical systems that determine unique adjustments to his environment (Cox, 1994).

Regarding the social nature it could be said that the group of coaches rated higher in all the items. The most surprising is the fact that all the groups rated quite low in the item of "having leadership" despite the bibliography data indicating that athletes presented a high leadership ability and more specifically a higher leadership ability than non-athletes (Dobosz & Beaty, 1999). Moreover, the rating tendencies of the other social nature items are similar for athletes, students of DEPESS and military school except of the item of "upholding rules", where athletes rated higher, indicating that the importance of the rules is even higher for judo athletes themselves. Besides, judo practice is supposed to train an individual to obtain self-discipline, restraint, coordination, benefit and companionship. Because of its philosophy, judo should be particularly effective to help individuals redirect aggression or frustration and become more socially adaptive (Gleser & Lison, 1986; Lotfian et al., 2011). In addition, coaches rated higher than the other groups in quite all the items, indicating that, despite the severity of judo practice, coaches have a somewhat stronger image relatively the judo athletes' social nature.

As for the active nature, the items of "having power of concentration" and "being combatative" had a high value in all groups. Moreover, the rating tendencies are similar for athletes, students of DEPESS and military school in all items except the item of "having power of concentration", where students of DEPESS as well as of military school rated higher. Moreover, coaches rated higher than the other groups in quite all the items, except on item "having power of concentration" and "being cautious" where they rated lower than all the groups, probably because they believe their athletes need more concentration and need to pay more caution in order to obtain a performance in a higher level.

Regarding the volition nature, there were observed high values in all the items as in the items of "having courage" and of "having perseverance", the higher values, in the items "having power of decision", "being a hard worker", "having an independent nature", and "having a strong will", elements that develop through judo practice that contributes to train an individual to obtain self-discipline (Gleser & Lison, 1986). Moreover, coaches rated higher than the other groups in quite all the items, except on item "having strong sense of responsibility" and "having courage". However, the observed differences between the four groups were not significant.

As for the emotional nature, the rating tendencies are similar for athletes, students of DEPESS and military school in all items. Coaches rated higher than the other groups in quite all the items, except on item "having composure". In agreement, judo practice also reduced anxiety, and increased self-esteem (Gleser & Lison, 1986). Moreover, judo should be particularly effective to help individuals redirect aggression or frustration (The United States Judo Federation Development Committee 2004; Gleser & Brown, 1986; Gleser & Lison, 1986). In addition, Nosanchuk (1981) showed that participation in martial arts actually worked to reduce

participants' aggression. These positive changes may be attributed to the nature of judo practice. Therefore, practicing judo contributes not only to physical development but also to psychological maturity (Lotfian et al., 2011). Some researchers have proposed martial arts as a way of the acquisition of emotional and behavioral self-control (Nosanchuk & MacNeil, 1989; Skelton et al., 1991). Regular combat sports training creates positive traits and types of personality and influences stability and emotional balance so necessary in sports competitions and a lot of life situations (Litwiniuk et al., 2009).

In agreement, Daniels & Thornton (1992) suggested that participation in martial arts is associated with decreased feelings in assaultive and verbal hostility, as well as with reduced aggressiveness Finkenberg (1990). Lamarre & Nosanchuk's study (1999) seems to support this position, since the belt level appeared as the best predictor of the decline in aggressiveness even when age and sex are controlled. Following this theory, complementary studies were carried out in different sports, in which the results showed that in martial arts the aggressiveness levels decrease with the duration of practice in martial arts (skelton et al., 1991). In contrary some researchers have proposed that karate or judo training would not lead to a decrease in aggression (Reynes & Lorant, 2002).

Moreover, the participation in martial arts decreased anger (Brown et al. 1995), and feeling vulnerable to attack (Madden, 1995). They also lead to more easy going and warm hearted individuals (Pyecha, 1970). Moreover, Zivin (2001) stated that juveniles at high risk for violence and delinquency showed decreased violence and positive changes in psychological risk factors after being required to take a school-linked course in traditional martial arts. Judo participation was positively correlated with wellbeing and life satisfaction, indicating that those who participated in judo longer had significantly better indices of life satisfaction and wellbeing than those who did not (Matsumoto & Konno, 2005). In addition, martial arts practice, contributing to the acquisition or mastery of new skills, increases self-confidence (Spear, 1989), self-esteem (Brown et al., 1995; Finkenberg, 1990) self-control (Brown et al., 1995) and self-concept (Miller, 1989).

All the aforementioned athletes' personality characteristics are associated with competitive success. Therefore, Matsumoto et al. (1997; 2000) have shown that competitive success is associated with more self-confidence, anger-hostility, subjective control over outcomes, conscientiousness, internal locus of control, social support, and optimism, and with less anxiety, neuroticism, confrontational styles of coping and escape/avoidance coping. Studies on the psychological and physical aspects of judo athletes are especially important because mind, technique and body are traditionally considered the essential components of competitive abilities in judo, as well as to the development of moral character and personality (Matsumoto et al., 2001). Also researchers have pointed out that both wrestlers and ju-jitsu competitors are open, communicative and emotionally balanced (Litwiniuk et al., 2009).

While in competition, strengths in one or two of these components can compensate for weaknesses in another, the most successful judo competitors have excellent technique, physical shape and conditioning, and mental fitness and outlook in relation to training and competition. Outside the competition arena, proper development in each of these areas is seen as a necessary condition to the development of the whole person through judo practice (Matsumoto et al., 2001). Judo instructors must pay attention in maintaining character along with maintaining physical condition (Matsumoto et al., 1984).

Nowadays, opinions concerning judo are separated into those that characterize judo as a spiritual training and a human development, and those that characterize judo as a competition training, with the former being the more overwhelming. Moreover, it is well understood that the hope of every judo athlete is to obtain a championship title or/and win in the Olympics. However, the concepts of the founding of judo as an approved teaching model that it would also contribute to human development exist always in the hearts of judo followers (Matsumoto et al., 1984).

CONCLUSIONS

The results of the present study lead to the conclusions that the created image of coaches, athletes, students of Department of Physical Education and Sport Science (DEPESS) and students of military school about in five different senses, social nature, volition nature, active nature, physical nature and emotional nature, is high and is thought to be an expression of attitudes provided and cultured in judo lessons and matches, as well as during judo practice time and aim to human development. Moreover, the differences between the groups for the coaches group might be observed because the coaches have the most real image for judo athletes.

REFERENCES

- 1. BROWN DR, WANG Y, WARD A, EBBELING CB, FORTLAGE L, PULEO E, BENSON H, RIPPE JM. Chronic psychological effects of exercise and exercise plus cognitive strategies. *Med Sci Sport Exer*. 1995; 27(5): 765-775.
- 2. COX RH. Sport psychology: concepts and applications (2nd ed.). Dubuque: Brown & Benchmark, 1994.
- 3. DANEILS K, THORNTON EW. Analysis of the relationship between hostility and training in the martial arts. *J Sport Sci*. 1990; 8(2): 95-101.
- 4. DEGOUTTE F, JOUANEL P, FILAIRE E. Energy demands during a judo match and recovery. *Brit J Sport Med.* 2003; 37(3): 245-249.
- 5. DOBOSZ R, BEATY L. The relationship between athletic participation and high-school student's leadership ability. *Adolescence*. 1999; 34: 215-220.
- 6. FALK B, MOR G. The Effects of Resistance and Martial Arts Training in 6- to 8-Year-Old Boys. *Pediatr Exerc Sci.* 1996; 8: 48-56.
- 7. FINKENBERG ME. Effect of participation in tae kwon do on college women's self-concept. *Percept Motor Skill.* 1990; 71: 891-894.
- 8. FRACHINI E, TAKITO M, ROMULO C, BERUZZI M. Morphological, physiological, technical variables in high college judoists. *Archives of Budo*. 2005; 1: 1-7.
- 9. GLESER JM, BROWN P. Modified judo for visually handicapped people. *Journal of Visual Impairment & Blindness*. 1986; 80(5): 749-750.
- 10. GLESER JM, LISON S. Judo as therapy for emotionally disturbed adolescents: A pilot study. *International Journal of Adolescent Medicine and Health*. 1986; 2(1): 63-72.
- 11. HERNANDEZ-ARDIETA IP, LOPEZ JC, DOLORES M, RUIZ EJG. Personalidad, diferencias individuales y ejecución deportiva. In Zafra A, Ruiz HJ, García GN, Manual de psicología del deporte. Murcia: DM. 2002:105-123.
- 12. JAGIELLO W, DORNOWSKI M. Martial arts in the opinions of students at the Faculty of Physical Education. *Archives of Budo*. 2011; 7(2): 55-59.
- 13. LAMARRE BW, NOSANCHUK TA. Judo-the gentle way: a replication of studies on martial arts and aggression. *Percept Motor Skill*. 1999; 88: 992-996.
- 14. LITTLE NG. Physical performance attributes of Junior and senior women, Juvenile, Junior and senior men judokas. *J Sport Med Phys Fit*. 1991; 31: 510-520.

- 15. LITWINIUK A, DANILUK A, CYNARSKI W, JESPERSEN E. Structure of personality of person training ju-jitsu and wrestling. *Archives of Budo.* 2009; 5: 139-141.
- 16. LOTFIAN S, ZIAEE H, AMINI H, MANSOURNIA MA. An Analysis of Anger in Adolescent Girls Who Practice the Martial Arts. *International Journal of Pediatrics*. 2011: 1-5.
- 17. MADDEN ME. Perceived vulnerability and control of martial arts and Physical Fitness Students. *Percept Motor Skill*. 1995; 80: 899-910.
- 18. MATSUMOTO D, KONNO J. The relationship between adolescents' participation in judo, quality of life, and life satisfaction. *Research Journal of Budo*. (In Japanese). 2005; 38(1): 13-26.
- 19. MATSUMOTO D, TAKEUCHI M, BIEHL M, KIMURA K, NAKAJIMA T. Stress coping in American judo athletes. *Budogaku Kenkyu*. 1997; 30(1): 1-13.
- 20. MATSUMOTO D, TAKEUCHI M, NAKAJIMA T, IIDA E. Competition anxiety, self-confidence, personality, and competition performance of American elite and non-elite judo athletes. *Budogaku Kenkyu*. 2000; 32(3): 12-21.
- 21. MATSUMOTO D, TAKEUCHI M, RAY R, NAKAJIMA T, IIDA E, WAKAYAMA H. The relationship between psychological characteristics, physical fitness, and physiology in judo athletes. *Research Journal of Budo*. 2001; 33(3): 1-11.
- 22. MATSUMOTO Y, HOSOKAWA K, KUDO N, DAIGO T, SATO T, IIDA E, MATSUSHITA S, TEZUKA M, OGATA T, KOMATA K. A survey of the measures for the judo dissemination. *Bulletin of the Association for the Scientific Studies on Judo. Kodokan, Report.* 1984; 6: 35-54.
- 23. MILLER R. Effects of sports instruction in children self-concept. *Percept Motor Skill*. 1989; 68:239-242.
- 24. NOSANCHUK TA, MACNEIL MLC. Examination of the effects of traditional and modern martial arts training on aggressiveness. *Aggressive Behav*. 1989; 15(2): 153-159.
- 25. NOSANCHUK TA. The way of the warrior: modern Martial Arts. *Hum Relat*. 1981; 34: 435-444.
- 26. OGATA T, SOEDA T. The research of regarding the consciousness of judo-with special references to Junior High School students. *Ibaraki University Education Department Bulletin (Education Division)*. 1979; 28: 35-56.
- 27. PYECHA J. Comparative effects of judo and selected physical education activities on male University freshman personality traits. *Research Quarterly*. 1970; 41: 425-431.
- 28. REYNES E, LORANT J. Effect of traditional judo training on aggressiveness among young boys. *Percept Motor Skill.* 2002; 94(1): 21-25.
- 29. SKELTON DL, GLYNN MA, BERTA SM. Aggressive behavior as a function of Taekwondo ranking. *Percept Motor Skill*. 1991; 72(1): 179-182.
- SPEAR RK. Military physical and psychological conditioning: Comparisons of four physical training systems. *Journal of the International Council for Health, Physical Education and Recreation.* 1989; 25: 30-32.
- 31. THE UNITED STATES JUDO FEDERATION DEVELOPMENT COMMITTEE. The Psychological and Behavioural Effects of Judo. United States Judo Federation. 2004; 1-12.
- 32. TSURUHARA K, WATANABE A, NAKAGAWA A, ARAKI M. Some problem of terminology in the field of motor learning. *Journal of Sports Psychology*. 1981; 8: 49-55.
- ZAGGELIDIS G, MAVROVOUNIOTIS F, ARGIRIADOU E, ZAGGELIDOU E. The examination of attitudes toward judo in Greek Athletes. Journal of physical education and sport. 2009; 22(1): 30-34.
- 34. ZETARUK MN, VIOLAN MA, ZURAKOWSKI D, MICHELI LJ. Injuries in martial arts: a comparison of five styles. *Brit J Sport Med*. 2005; 39: 29-33.

35. ZIVIN G, HASSAN NR, DEPAULA GF, MONTI DA, HARLAN C, HOSSAIN KD, PATTERSON K. An effective approach to violence prevention: traditional martial arts in middle school. *Adolescence*. 2001; 36(143): 443-459.