

The psychic resilience on an example of some martial arts fighters

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Abstract

There were 76 persons who practice different martial arts (Aikido, Muay Thai/ Kickboxing, Judo) and 25 persons who did not practice any form of recreational activity, who took part in the research about men psychic resilience. The data was gathered through completing the survey 'The resilience Scale RS-13' by Kareny Leppert. The test results were divided experimentally into three elements. There were significant changes in resilience along with

the training experience observed. However; the changes in numbers and resilience's elements trends did not provide unambiguous answer whether the experiment was successful or not.

Key words: psychic; fighters

Introduction

Over the years, especially in the second half of the XX century, popularization of sport became a common practice for both the doctors, who emphasized the healthy aspect of sport and psychologists, who indicated the psychological aspects of improving one's existence, for instance: thanks to secretion of endorphins during exercising [1,2,3]. The awareness of a pro-health aspect of exercising helps to think that training any kind of sport is like a philosophy, which supports its participants [4]. The martial arts trainings have a special influence on its followers' everyday living, as they not only have the set of rules of the game but also they affect one's value system, which lead athletes to think about themselves and others [5]. Physical exercises are therefore interconnected with spiritual experiences on the moral and cognitive level. Martial arts trainings consist of studying and developing a value system, knowledge and skills of its players [6].

The example of martial art with 'The code of good practices' can be Aikido, judo and kickboxing [7, 8]. Although these sports are different in techniques used; aikido- martial art with trainings that lead to show fights, judo- an Olympic sport in which exercises lead to the combat, with no opponents' hits and kickboxing in which exercises are perfected in combat with mutual hitting that should end up in defeating the opponent physically; all of the participants are required to be focused and have mental resilience before, during and after the fight [9]. Mental resilience in sport is thought as a kind of mental disposition essential for the athlete to practice sport [10].

The mental resilience is defined as a dynamic phenomenon covering adaptive skills applied in given situations [11]. Some researchers, on the other hand, believe that resilience is a personal feature that protects a man against too much stress and helps him to cope with it [12]. These definitions show how difficult is to clearly define psychic resilience because of its perception as a constant feature or a changing process depending on the situation or life stage [13]. To meet the definitions difficulties some of the researchers think about the resilience as a

multidimensional construct, on one side as a personal feature, and the ability to cope with stress on the other [14].

Apart from the way of defining psychological resilience, it has a stabilizing effect and means lower susceptibility on disruptions which results in better mental state [15].

Despite the fact that each individual experiences stressful situations that has to cope with, the authors of this study found particularly interesting the level of the psychic resilience represented by martial arts players of aikido, judo and kickboxing. Taking into account the stress before the combat and day-to-day exposure on stressful factors (trainings based on fight routines) it was decided to verify the level of mental resilience of martial arts players versus people who do not practice martial arts.

Material and methods

The research took place for three months from May to July 2019 through completing the on-line survey consisting of personal data and a questionnaire The Resilience Scale RS-13 investigating mental resilience (ability to adapt) created by Kareny Leppert team from Jena University in Germany. The test was drawn from the book 'The secrets of psychic resilience. How to protect oneself against stress, depression and occupational burnout' by Christina Berndt.

There were men of different age tested, training Aikido (25 persons), Judo (26 persons), Muay Thai/kickboxing (26 persons) and 25 persons from not training Control Group. Questions about age and training experience were added. Altogether 101 persons were tested.

The sport disciplines were chosen according to training key used:

Aikido- training and performance without combat

Judo- training with connection with combat, without hitting

Muay Thai/ Kick boxing-training joined with combat and hitting in order to physically defeat an opponent

The subjects had to comment how each of the 13 statements described them. The questionnaire authors distinguish acceptance of oneself and life and personal competences [13]. In psychic resilience description, studied in the questionnaire, they pointed out that the construct can be seen through elements like: optimism, emotional stability, subjective joy of living, persistence and openness for new and ability to adapt changes. On that account it can be suggested that the questionnaire describes the factors like personal competence and its ability to adapt [13].

For the reason of adapting the definition of psychic resilience/ flexibility and taking into account the difficulties to distinguish the elements of the construct, based on the items included in RS-13 questionnaire, the under-scale of the Resilience Scale was created in the form of an experiment. After consultations with appropriate arbiters the items were assigned to describe attributes. It was decided that statements 1, 3, 7 and 10 would describe persistence/ consistency, items 4, 5, 6, 8 and 9 would describe self-esteem and items 2, 11, 12, 13 would describe optimism.

Persistence was describes as a willpower shown in ability to take actions and consequently pursue the goal until it is accomplished [16,17] and as ability to evoke and sustain the positive affect and neutralized the negative affect[17,18].

Self-esteem was defined as personal sphere that significantly influences self-image [19]. Self-esteem is therefore a positive or negative attitude towards self, a kind of global self-esteem [20].

Optimism was defined as a relatively constant feature of man disposition which has a role of autoregulation as it influences goal setting and effort put into completing it [21,22].

The accepted definitions allowed analysis based on described players psychic resilience and proposed under scales of the questionnaire. The gathered data was statistically checked with Excel 2006 and Statistica 7.0. The normality of distribution was checked by Shapiro-Wilka method. The average value of stress resilience and its elements received in all groups were compared with Tukey's multiple comparison test, presenting statistically significant differences at the level $p < 0,05$. The regression analysis with trend line setting and determination factor R^2 was conducted; moreover, the relative change of each element of psychic resilience was calculated in order to find the factor which relates most to the increase in resilience.

The relative change was calculated according to the formula;

$$D = - \left(\frac{S_1 - S_0}{S_1} \right) * 100\% \quad \text{Equ. 1.}$$

where

S_1 - value for the control group

S₀ - value for the researched group

Results

The results were shown in tables /Tab. 1-2/ and on graphs /Fig. 1-4/

Tab. 1 The sociometric data of men practicing Aikido, Judo, Muay Thai/Kickboxing and a Control Group.

	Aikido	Muay Thai/Kickboxing	Judo	Control Group
Record age (years)	27,7 ± 10,2	24,7 ± 7,5	25,1 ± 4,5	27,9 ± 8,2
Range (years)	13,0-45,0	17,5 - 43,0	16,5 - 13,2	16,0 - 45,0
Training experience (years)	11,2 ± 5,2	8,5 ± 4,5*	13,3± 4,0*	-
Range(years)	2,5-20,0	3,5 - 18,0	7,0- 20,0	-

* statistically important differences at the same table raw

Relevance of the differences of the average age among all researched groups

- Differenced not statistically important (Tukey`s HSD)

It should be assumed that the groups can be used for the direct comparison.

Tab. 2 The results of the psychic resilience test with separated elements among men practicing Aikido, Muay Thai/Kickboxing, Judo and the control group.

	Aikido	Muay Thai/ Kickboxing	Judo	Control group
Total Psychic resilience result				
Average	68,5±8,8 ^a	74,5±4,1 ^{a,b}	74,8±4,6 ^{a,b}	67,3±5,5 ^b
Range	47,0 - 79,0	69,0-87,0	59,0-89,0	41,0-85,0
Element; persistance/ consistency				
Average	19,2±3,1 ^a	23,0±1,4 ^{a,b}	22,3±2,7 ^{a,b}	20,3±3,8 ^b
Range	13,0-24,0	21,0-26,0	18,0-26,0	13,0-25,0
Element; optimism				
Average	22,5±3,1	22,4±1,7	23,3±3,0	21,3±3,4
Range	13,0-28,0	20,0-27,0	16,0-28,0	13,0-27,0
Element; self-esteem				
Average	26,6±4,3 ^a	29,1±2,2 ^{a,b}	29,2±3,1 ^{a,b}	25,7±3,6 ^b
Range	19,0-34,0	25,0-34,0	25,0-35,0	15,0-33,0

a,b - statistically important differences at the same table row

Relevance of the differences of the psychic resilience and its elements: persistence/ consistency, optimism and self-esteem among all researched groups- differences statistically unimportant (Tukey`s HSD)

Changes of the psychic resilience in relation to age of the subjects are shown at Fig. 1.

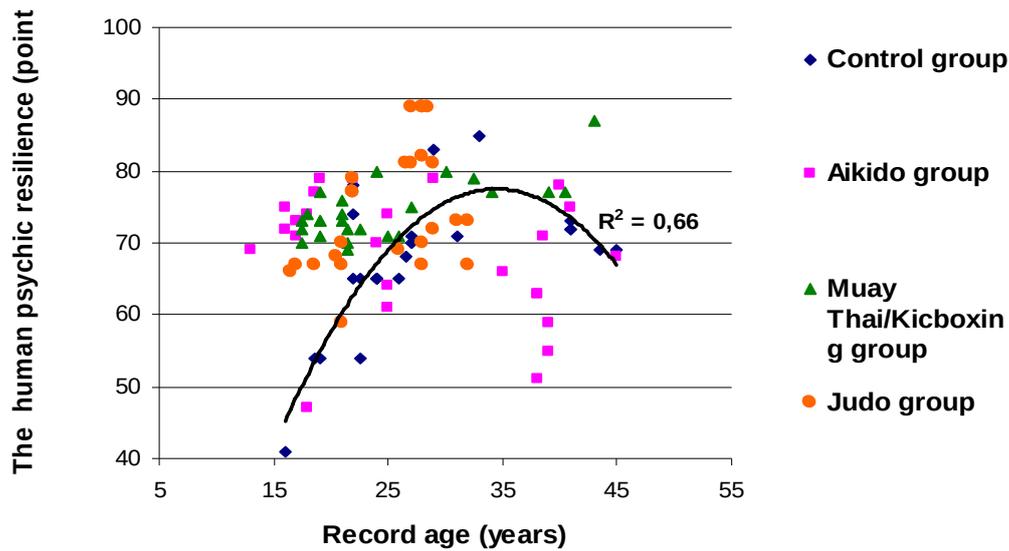


Fig. 1. Change in psychic resilience in relation to age among all researched groups.

Graph on Fig.1. shows that only for the control group (non-training persons) there is a statistically important relation between the variables at the high level $R^2=0,66$. The resilience increases up to around age of 35, and then it decreases among with the age. There was no relation like that among other researched groups.

Relation between optimism and self-esteem in players groups are shown at Fig. 2.

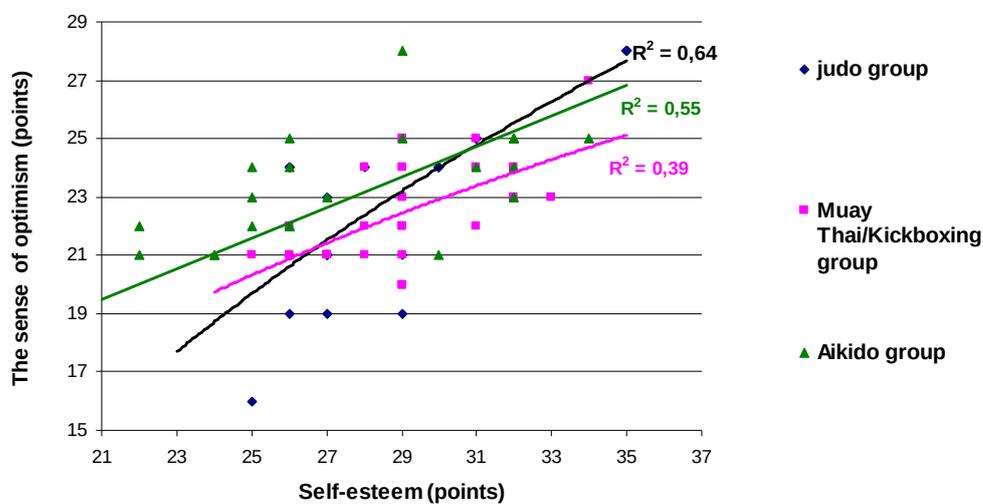


Fig. 2. Relation between optimism and self-esteem in groups of men practicing Aikido, Muay Thai/Kickboxing and Judo.

Graph on Fig. 2. presents the increase in optimism along with the increase of self-esteem at the statistically important level among all researched groups.

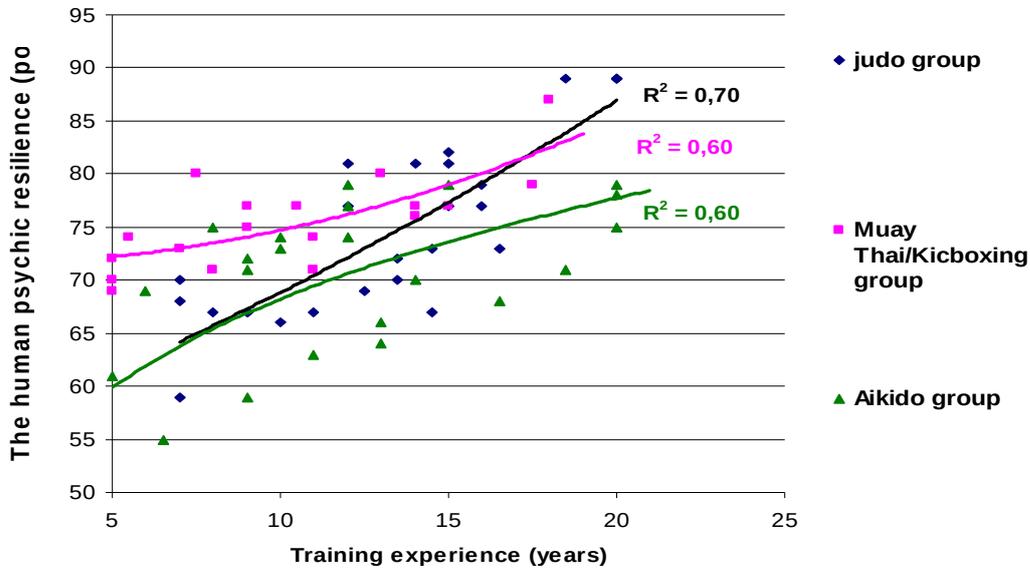


Fig. 3. Relation between psychic resilience and training experience in groups of men practicing Aikido, Muay Thai/Kickboxing and Judo.

The Graph on Fig.3. shows the increase in psychic resilience along with the training experience.

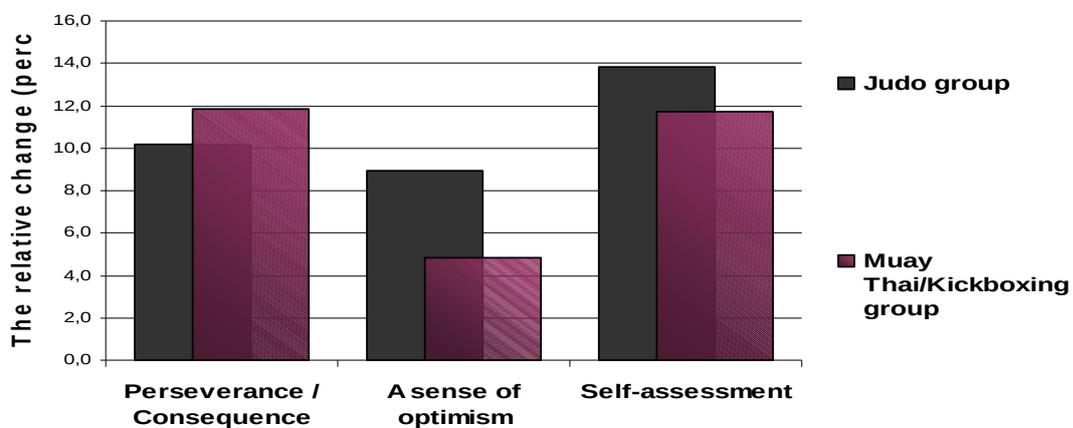


Fig.4. Relative change of the elements of psychic resilience in groups of men practicing Aikido, Muay Thai/Kickboxing and Judo in relation to the control group.

The graph on Fig. 4. shows that in the group practicing Muay Thai/Kickboxing there are 2 equally predominant elements: persistence and self-esteem, while in the group practicing Judo there is one- self-esteem.

Discussion

Data gathered in Tab.1. referring to the age of subjects indicates that the researched group is not differential (statistically unimportant), what can allow to compare the answers of the researched groups. Variability of answers in particular groups and their relation with age can be observed while analysing the graph on Fig.1. Its analysis allows saying that only in the control group consisting of non-training persons, the increase in the level of psychic resilience was observed up to the age of 35, and then it gradually decreases. That situation was not observed among training persons. This situation can be linked to athletes' lifestyle, who have to manage training sessions and participation in contests with keeping a high level of psychic flexibility, for example in constant adaptations of strategies used to defeat different opponents, scheduling one's plans around competitions time and persistence in trainings and consistency in actions taken [23,24]. Depending on chosen sport and its requirements one can observe different influence of sport on players' psychic, what is presented in Tab.1. Similar results were observed by researchers from Academy of Physical Education and Sport in Gdansk, who proved that the kind of sport that the students practiced had a significant influence on their self-esteem which included: the way of looking at one's body, sport abilities evaluation and vital strength [25]. Similar data is presented at the graph on Fig.2. which shows the increase in optimism along with self-esteem at the statistically important level among all researched groups. Self-esteem is an important attribute needed for dealing with difficulties and enjoying life which can be influenced by, according to researchers conducted by R. Poprawa, positive attitude and competence resources [26]. The course of the trend line presented on graph Fig.. 2. is therefore coherent with the self-esteem theory, which points out cognitive and emotional aspects of this construct [27], for example relation between positive perception of reality and global self-esteem.

The data shown on Fig. 3. referring to relation between psychic resilience and training experience of men practicing Aikido, Muay Thai/Kickboxing and Judo demonstrates that long-term training experience positively influences ability to adapt to given situation. Training impact on reducing negative behaviours and hence ability to adopt difficult situations were also observed during researching students who practiced team sports, at whom

there was a decrease in aggression level because of frequent engagement in sport [28]. Graph on Fig.3. analysis shows the increase in resilience along with training experience also in the group of men practicing Aikido, despite the fact that the level of resilience at this group is at the same level as at non-training group. To explain the cause of that result additional researches are needed among men practicing Aikido. However it can be suggested had the specifics of this discipline focused on the fighter's high morale combined with physical fitness

Graph on Fig.4. shows that the differences in variables depended on discipline practiced. Among the group of men practicing Muay Thai/Kickboxing there are two dominant elements: persistence and self-esteem, while among men practicing Judo there is one- self-esteem. These differences can result from different expectations that are put by researched sport disciplines, for example the set of rules of the games or expectations set by coaches.

Conclusions

1. A long-term training of martial arts Muay Thai/Kickboxing and Judo significantly increases players' psychic resilience and overcomes changes related to natural aging process.
2. The psychic resilience level is shaped by its elements differently for each martial art sport.
3. The diversity of research results of Aikido players requires that they be re-conducted on a significantly larger population
4. The level of psychic resilience elements did not answer however, whether introducing them in an experimental way was right or wrong.

References

1. Leszczyńska, A. (2013). Sport to zdrowie! Refleksje o aktywności fizycznej Polaków. Acta Universitatis Lodziensis. Folia Sociologica, (45), 179-189.
2. Birch, K., MacLaren, D., & George, K. (2008). Fizjologia sportu. Wydawnictwo Naukowe PWN.

3. Gruszczyńska, M., Bąk-Sosnowska, M., & Plinta, R. (2015). Zachowania zdrowotne jako istotny element aktywności życiowej człowieka. Stosunek Polaków do własnego zdrowia. *Hygeia Public Health*, 50(4), 558-565.
4. Judycki, S. (2008). *Filozofia sportu*. Lublin: Katolicki Uniwersytet Lubelski. Dostęp (URL): http://www.kul.pl/files/57/wydzial/judycki/filozofia_sportu.
5. Pietrzak, H., & Cynarski, W. J. (2000). Psychologia duchowej drogi sztuk walki. *Rocznik Naukowy Ido-Ruch dla Kultury*, 1, 202-210.
6. Cynarski, W. J. (2000). *Filozofia sztuk walki*. *IDO Ruch dla Kultury*, 1, 26.
7. Piwowarski, J. (2011). Bezpieczeństwo i samodoskonalenie jako elementy świętej Drogi Wojownika. *Zeszyt Naukowy Apeiron*, 6, 231-245.
8. Słopecki, J. Nauczanie. (2008). *Zasady i praktyczna wiedza o walce mistrza sztuk walki/The teaching, the rules and a martial arts Master's practical knowledge of combat*. *Ido - Movement for Culture*, 8: 66-71
9. Saska-Dymnicka, J. (2011). Sport młodzieżowy kuźnią charakteru i postaw prospołecznych. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Ekonomiczne Problemy Usług*, (78 Sport i rekreacja a wyzwania współczesnej cywilizacji), 113-125.
10. Cynarski, W. J., & Litwiniuk, A. (2000). Metody przygotowania psychicznego w sztukach walki. *Rocznik Naukowy Ido-ruch dla kultury*, 2, 211-215.
11. Grzegorzewska, I. (2011). Odporność psychiczna dzieci i młodzieży - wyzwanie dla współczesnej edukacji. *Teraźniejszość-Człowiek-Edukacja*, 1(53), 37-51.
12. Schumacher, J., Leppert, K., Gunzelmann, Th., Strauß, B., Brähler, E. (2005). Resilienzskala - Ein Fragebogen zur Erfassung der psychischen Widerstandsfähigkeit als Personmerkmal, *Zeitschrift für Klinische Psychiatrie und Psychotherapie*, 53 (1), 16-39.
13. Leppert, K., Koch, B., Brähler, E., & Strauß, B. (2008). Die Resilienzskala (RS) - Überprüfung der Langform RS-25 und einer Kurzform RS-13. *Klinische Diagnostik und Evaluation*, 1(2), 226-243.
14. Campbell-Sills, L., Cohan, C.L., Stein, M.B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy*, 44, 585-599.
15. Tugade, M.M., Fredrickson, B.L., Feldman Barrett, L. (2004). Psychological resilience and positive emotional granularity: Examining the benefits of positive emotions on coping and health, *J Pers*, 72 (6), 1161-1190.
16. Kadzikowska-Wrzosek, R. (2011). Wytrwałość i skuteczność działania: wpływ kontekstu sytuacyjnego i siły woli. *Roczniki Psychologiczne*, 14(2), 159-187.
17. Pervin, L. A. (2002). *Psychologia osobowości*. Gdańsk: Gdańskie Wydawnictwo Psychologiczne.

18. Koole, S. L. (2009). The psychology of emotion regulation: An integrative review. *Cognition and Emotion*, 23, 4-41.
19. Józefik, B., Iniewicz, G., & Ułasińska, R. (2010). Wzory przywiązania, samoocena i płéć psychologiczna w anoreksji i bulimii psychicznej. *Psychiatria Polska*, 44(5).
20. Łaguna, M., Lachowicz-Tabaczek, K., & Dzwonkowska, I. (2007). Skala samooceny SES Morrisa Rosenberga - polska adaptacja metody. *Psychologia społeczna*, 2(02), 164-176.
21. Carver, C.S., Scheier, M.F., Segerstrom, S.C. (2010). Optimism. *Clin Psychol Rev.*; 30(7): 879–889.
22. Potempa, K. (2013). Optymizm a zdrowie. *Medycyna Ogólna i Nauki o Zdrowiu*, 19(2).
23. Derbis, J., & Jędrék, K. (2010). Poczucie jakości życia a osobowość sportowców dyscyplin indywidualnych i zespołowych. *Przegląd psychologiczny*, 53(1), 9-32.
24. Walczak, M., & Tomczak, M. (2011). Poczucie jakości życia jako efekt zaspokojenia potrzeb psychologicznych i zróżnicowania motywacji do aktywności fizycznej. *Zeszyty Naukowe*, (689), 219-240.
25. Wilczyńska, D., & Zarańska, B. (2003). Samoocena ciała u kobiet uprawiających i nie uprawiających sportu. [W]: M. Grdeń, H. Grabicka, M., Żmudzka-Brodnicka (red.), *Nowoczesne odmładzanie w kontekście zdrowia, estetyki i etyki* (ss. 139–158). Gdańsk: Athenae Gedanenses.
26. Poprawa, R. (2008). Samoocena jako miara podmiotowych zasobów radzenia sobie i szczęścia człowieka. *Psychologia zdrowia. W poszukiwaniu pozytywnych inspiracji*, 103-122.
27. Łaguna, M., Lachowicz-Tabaczek, K., & Dzwonkowska, I. (2007). Skala samooceny SES Morrisa Rosenberga–polska adaptacja metody. *Psychologia społeczna*, 2(02), 164-176.
28. Rotter, I., Kotwas, A., Kemicer-Chmielewska, E., & Watral, A. (2015). Aktywność fizyczna jako czynnik redukujący zachowania agresywne u młodzieży w wieku gimnazjalnym. *Pomeranian Journal of Life Sciences*, 61(4).