

Article

What Triggers Us to Be Involved in Martial Arts? Relationships between Motivations and Gender, Age and Training Experience

Ewa Malchrowicz-Moško ¹, Patrycjusz Zarebski ² and Grzegorz Kwiatkowski ^{2,3,*}

¹ Department of Sport Sciences, Eugeniusz Piasecki University of Physical Education in Poznań, 61-871 Poznań, Poland; malchrowicz@awf.poznan.pl

² Department of Economics, Koszalin University of Technology, 75-343 Koszalin, Poland; patrycjusz.zarebski@tu.koszalin.pl

³ Department of Business Administration, Western Norway University of Applied Sciences, 6856 Sogndal, Norway

* Correspondence: gregory.kwiatkowski@hvl.no

Received: 22 May 2020; Accepted: 12 August 2020; Published: 13 August 2020



Abstract: The study aims to recognize the motivations to engage in judo depending on gender, age and level of sports experience among nonelite judokas from the Greater Poland region because previous studies mostly concerned the motivations of top athletes. We supposed that there was a relationship between age, gender, level of sports experience and motivations in judo. During the diagnostic survey, judokas completed the Polish version of the Sport Motivation Scale. In order to determine the motivational profiles of judokas, cluster analysis was performed using the k-means method. The highest values were obtained for motivations related to the intrinsic motivation to experience stimulation and the intrinsic motivation to accomplish, while the lowest values were obtained for motivations related to amotivation and external regulation. The research results showed a relationship between experience in judo training and the motivations of judokas; however, the motivations of the judokas were not differentiated based on their gender or age. In our study, the intrinsic motivation to experience stimulation turned out to be more important for judokas participating in competitions, while recreational athletes more often indicated experiencing amotivation. The intrinsic motivation to accomplish and intrinsic motivation to know turned out to be more important for athletes in training for more than 10 years, while amotivation was more often indicated to be experienced by judokas practicing judo for less than 10 years. Respondents who reported high internal motivation values and had a motivational structure they shaped themselves had been training for longer—for more than 10 years. In our study, the three motivational groups of judokas were identified, and we found that judo experience differentiated belonging to groups. It is recommended to check other martial arts and check more variables in the future, e.g., marital status, which is a potentially important factor in the field of sport motivation.

Keywords: martial arts; judo; self-determination theory; sport motivation scale; sustainable sport; sports experience

1. Introduction

Physical activity may influence individual well-being [1], and contemporary sports are increasingly incorporating the ideals of sustainable development among their elements, which, it is assumed, relate to improving quality of life [2]. Martial arts are conducive to sustainable spiritual and physical human development [3]. Quality of life is undoubtedly influenced by social relationships, and previous research has shown that in the case of martial arts, young judokas emphasized the importance of

making new friends through this activity [4]. Judo is recommended to people of all ages and with different physical activity levels because it contributes to harmonious development and teaches discipline and respect for the teacher and the opponent. Studies have shown that recreational judo has a positive effect on quality of life. Moreover, martial arts have been involved in the cultural dialogue between the East and West for centuries and still enable global intercultural communication and understanding. European countries and the United States are still experiencing fascination with Eastern sports cultures [5–7]. Understanding the motivations of martial arts enthusiasts is important from the point of view of sports promotion, recreation and sports tourism. Moreover, it is important to know what encourages people to practice martial arts because it helps to preserve the sport's cultural heritage and transfer martial arts techniques from generation to generation. Martial arts as traditional physical activities not only promote harmonious psychophysical human development but also do not harm the natural environment. It is worthwhile, therefore, that such sports be promoted on a large scale, in contrast to, for example, modern sports such as skydiving, snowboarding or golf, which can be harmful to the environment (due to artificial-snow-covered ski slopes, artificially irrigated golf courses in drought regions, etc.). It is important to understand the motivations of amateur athletes (not only elite athletes) because modern physical recreation very often meets the criteria of serious leisure [8], not temporary entertainment, and the decision to participate in martial arts training usually means entering the new subculture of martial arts lovers.

1.1. Self-Determination Theory in Sports Activity

According to self-determination theory (SDT), the motivation to participate in sports can include extrinsic and/or intrinsic aspects. Intrinsic motivation refers to engaging in an activity for pleasure. Intrinsically motivated individuals experience choice in their behavioral dispositions and an optimal level of challenge, thereby fulfilling their needs for competence and autonomy. Extrinsic motivation refers to engaging in an activity for instrumental reasons, such as external pressures and rewards. Extrinsically motivated individuals experience less optimal levels of challenge or autonomy [9,10]. SDT, created by Deci and Ryan, is a concept of human activity resulting from the fulfillment of man's key psychological needs for autonomy, competence and relatedness. Sport psychologists created the Sport Motivation Scale (SMS) to represent the self-determination continuum of Deci and Ryan [11–13]. Studies have suggested that the self-determination theory framework is a perspective that enables the understanding and analysis of the psychological context within the domain of sport [14].

1.2. Motivations for Practicing Sports and Martial Arts—Literature Review

Previous studies have shown that age and gender may differentiate sport motivation in various disciplines. A higher level of extrinsic motivations was noted in men than in women [15]. In terms of social context, the dominance of external sources of motivation in men seems to be justified, as men usually display a high orientation towards achievement that is connected with external factors, such as recognition by others and prestige [13]. In turn, De Pero et al. [16] studied the motivations for practicing sports in the second half of life in Italian society using the SMS, and they found that motivations did not differ by gender but found differences among different age groups. Netz and Raviv pointed out that the age of athletes is an important factor in determining the motivations for physical activity [17]. Differences in gender- and age-related motivations were found in runners and cyclists. In the case of half-marathoners, the desire to get away from everyday life and the prevailing running trend were more important for women than for men [18]. Moreover, young runners were more focused on sports results, while older runners were more focused on social interactions with other participants in a half-marathon [19]. In the case of cycling, significant differences between male and female athletes were found regarding the motivations of interest/enjoyment, competence/challenge and fitness [2]. Children's motivations to participate in sports and physical activity are complex and multidimensional [20]; knowing that children and adolescents' physical activity should be increased is not enough to enhance the frequency, intensity and duration of their activity [21]. Although engagement

in sports is highly important for children and adolescents' health, relatively little is known about the factors that motivate them to be physically active.

Recently, researchers have also been interested in the question of whether years of sporting experience can change the motivation to participate in sports, for example, in running [22,23]. Therefore, we found it interesting to investigate whether years of sports experience affect judokas' motivation. At the beginning of a sports activity, some motivations may be predominant, but over time, while continuing the sports activity, the importance of those initial motivations could decrease in favor of other motivations.

There are some studies on motivational factors for practicing martial arts in Poland and abroad. Usually, studies concerned top and elite athletes. Psychological profiles and characteristics of elite judo athletes have been analyzed. Dos Santos et al. (2017) [24] checked the motivation of 41 top Brazilian judokas. The most important motivations were outcome motivation, coping with adversity, peaking under pressure, setting goals and making mental preparations, concentration, lack of worries and eagerness to train. For highly trained martial arts athletes, the aspect of a good physical appearance achieved through training was also very important [25]. Sterkowicz-Przybycień et al. [26] investigated 102 top Polish female and male judo athletes and noticed that women scored lower than men in terms of stress and aggression motivations. Martial arts other than judo were also investigated. In a study by Singh and Saini, sports achievement motivation was higher for judokas than for wrestlers [27]. In a survey conducted by Valadas Rosa among Portuguese karatekas, respondents gave the highest value to motivations connected with physical and psychological well-being—motor development, body development, maintaining physical fitness, compensation for stress and distraction from concerns. Competitive motivation was rated much lower [28]. Although the martial arts industry is rapidly evolving into a mature and highly competitive marketplace, few studies have been conducted to understand why people participate in martial arts. The research niche also includes the motivations of children and adolescents in martial arts; martial arts are very popular among young sports lovers.

1.3. Aim of the Study and Hypotheses

The aim of this study was to recognize the motivations to engage in judo depending on gender, age and level of experience among those who were neither elite nor top judo athletes in Poland (i.e., a case study of the Greater Poland region). We supposed that there was a relationship between age, gender, level of sports experience and motivations in judo, so we adopted the following four hypotheses:

Hypothesis 1. *Recreational judokas have different motivations from judokas participating in sports competitions.*

Hypothesis 2. *Judokas who have trained for less than 10 years have different motivations from judokas who have trained for more than 10 years.*

Hypothesis 3. *Female judokas have different motivations from male judokas.*

Hypothesis 4. *Adolescents (aged 15–18) have different motivations from adult judokas.*

We adopted these hypotheses based on previous studies about age and gender in sports. A higher level of extrinsic motivations was noted in men than in women. The dominance of external sources of motivation in men is justified by researchers, as men usually display a high orientation towards achievement that is connected with external factors, such as recognition by others and prestige [13,15]. De Pero et al. [16] found that motivations differed in different age groups of respondents in second half of life. We assumed that it would be similar in younger age categories of athletes, too. In regard to training level and judo experience, we assumed that people who showed a higher level of internal motivation would have trained in judo longer because their motivations were more deeply shaped.

Knowing the motivations of martial arts enthusiasts may be useful from the point of view of the promotion of sports, recreation and sports tourism—by knowing somebody’s motivations, we could better organize and prepare some events to develop sports tourism.

2. Study Design and Procedure

2.1. Method

The study was carried out using the diagnostic survey method in March 2020 in the Greater Poland region. The online survey was sent to judo clubs and judo academies in the Greater Poland region. A few judo centers agreed to participate in the research. The anonymous, voluntary and confidential survey was sent by those centers to judokas who were training in judo recreationally or at a competitive level (judokas participating in judo events but not at a high sport level). Respondents (adults and adolescents aged 15–18 with their parents’ permission) were informed about the nature of the survey. Anonymous diagnostic surveys in Poland do not require the consent of the bioethics committee (such consent is required for children under 12 years of age). The diagnostic survey was conducted in accordance with the Declaration of Helsinki. Because online surveys and questionnaires do not require the completion of a separate participant information sheet or consent form, completion of the survey was deemed to constitute informed consent.

2.2. Research Tool—Sport Motivation Scale

In the study, the Polish version of the Sport Motivation Scale (SMS) validated and published by Walczak and Tomczak in 2019 was used [13]. In the literature, the SMS has been regarded as a highly reliable and valid tool to measure motivation among professional and amateur athletes. In Poland, Cronbach’s alpha scores were as follows: motivation to know—0.81, motivation to accomplish—0.80, motivation to experience stimulation—0.83, identification—0.73, introjection—0.73, external regulation—0.75 and amotivation—0.77 [13]. The SMS has been applied in sports research in many countries and in different sociocultural contexts, e.g., in Greece, Turkey, Germany and Spain [13,15,16,29–32].

We conducted an analysis of reliability using the Cronbach’s alpha method for our study. Satisfactory index values were obtained, with the lowest value related to the identification scale ($\alpha = 0.70$) and the highest value related to the intrinsic motivation to accomplish ($\alpha = 0.85$). The scale is a reliable measurement tool.

The SMS research tool contains 28 items. The SMS is used to assess differences in motivation towards sports according to self-determination theory in its three components: intrinsic motivation, extrinsic motivation and amotivation, which we describe below. It comprises seven subscales related to the three motivational components: three intrinsic motivation subscales (the intrinsic motivation to know, intrinsic motivation to accomplish and intrinsic motivation to experience stimulation), three extrinsic motivation subscales (identification, introjection and external regulation) and one amotivation subscale. Each subscale consists of four items [13]. The participants were asked to reveal the extent of correspondence of the scale items to their reasons for practicing judo on a seven-point Likert scale from one (does not correspond at all) to seven (corresponds exactly).

“Intrinsic motivation to know” refers to motivations such as the desire to learn about the sport one is practicing or the desire to discover new techniques in training.

“Intrinsic motivation to accomplish” refers to such motivations as the desire to improve difficult training techniques or the feeling of pleasure from performing difficult exercises.

“Intrinsic motivation to experience stimulation” means motivations such as the pleasure of experiencing exciting sports experiences, the desire to experience intense sports emotions or the desire to be strongly involved in something.

“External motivation—identification” means, among other things, the possibility of establishing and maintaining social contacts.

“External motivation—introjection” means, for example, the desire to be in good psychophysical condition.

“External motivation—external regulation” means the desire to be positively assessed by other people, gaining recognition in the immediate social environment, the influence of loved ones on attitudes towards physical activity, the desire to show others their sports skills, etc.

“Amotivation” occurs when an athlete does not believe in his or her own skills and asks himself or herself if he or she should continue to practice a given sport.

2.3. Participants

The study involved 77 judokas; 35% of respondents were women, and 65% of respondents were men (Table 1).

Table 1. Gender of judokas.

Gender	Women	Men
N = 77	27	50

A total of 45.45% of judokas were aged 15–18, and 54.54% of judokas were adults (Table 2).

Table 2. Age of judokas.

Age	15–18 Years	19–25 Years	26–35 Years	36–50 Years	51 Years and More
N = 77	35	12	8	18	4

The average amount of judo training experience was 14 years among the respondents (the least amount of training was 1 year, and the longest was for an athlete who had been training for 51 years). Fifty-two percent of athletes had been training in judo for less than 10 years, and 48% had been training for more than 10 years (Table 3).

Table 3. Years of judo training declared by judokas.

Years of Judo Training	Less Than 10 Years	More Than 10 Years
N = 77	40	37

A total of 45.45% of respondents practiced judo recreationally, and 54.54% participated in judo competitions (Table 4).

Table 4. Sports level declared by judokas.

Sports Level	Recreational	Competitive
N = 77	35	42

2.4. Statistics

The consistency of the scale distributions with normal distribution was tested with the Shapiro–Wilk test, and the homogeneity of variance was verified with Levene’s test. The t-test (Student) for independent groups was used for comparisons between the means, and when the assumption of homogeneity of variance was not met, the Cochran–Cox test was used. Cohen’s coefficient was used as a measure of effect size. The results were considered statistically significant when the test probability value met the condition $p < 0.05$. Calculations were made in the Statistica 10.0 program [33].

In order to determine the motivational profiles of judokas, cluster analysis was also performed using the k-means method. Calculations were made on raw data (scale values). Calculations were

made in the IBM SPSS Statistics program. In an alternative approach, the results for standardized data were also checked, but due to the poorer interpretability, the solution with absolute scale variables was chosen. In addition, we checked which of the sociodemographic (metric) features differentiated belonging to particular clusters. Due to the limited sample size (77 judokas), a larger number of clusters caused interpretation difficulties, and sociodemographic features were not possible for them. Therefore, an analysis for three clusters will be presented. The impact of socioeconomic features was checked using the chi-square test.

3. Results

At the beginning, it was decided to check which motivations for practicing judo were the most important for the respondents (Table 5).

Table 5. Respondents' motivations to engage in judo, n = 77, 1–7-point Likert scale.

Sport Motivation Scale	M	Min	Max	Standard Deviation	Skewness	Kurtosis	P (Shapiro–Wilk)
Intrinsic motivation to know	5.62	3	7	1.08	−0.65	−0.53	0.000
Intrinsic motivation to accomplish	5.93	2.25	7	1.05	−1.29	1.56	0.000
Intrinsic motivation to experience stimulation	6.01	3	7	1.02	−1.14	0.63	0.000
Extrinsic motivation—Identification	5.15	2.25	7	1.20	−0.47	−0.80	0.002
Extrinsic motivation—Introjection	5.81	2.25	7	1.13	−0.94	0.34	0.000
Extrinsic motivation—External regulation	3.71	1	6.5	1.51	0.05	−0.73	0.020
Amotivation	2.25	1	5.5	1.19	0.65	−0.58	0.000

3.1. Respondents' Motivations to Engage in Judo

Distribution normality analysis was also carried out separately for all groups in each comparative system. Although the results of the Shapiro–Wilk test indicated that the assumption was not met, the decision was made to use parametric tests, as they would allow us to determine the impact of an independent variable on a dependent variable, and moreover, the t-test is highly resistant to the disturbance of distribution normality [34]. The assumption of homogeneity of variance was also tested each time. If it was not met, then the Cochran–Cox correction was applied.

The highest-valued scales were as follows (Table 5): the intrinsic motivation to experience stimulation (6.01) and intrinsic motivation to accomplish (5.93). The lowest-valued scales were amotivation (2.25) and external regulation (3.71). Judokas practiced judo because of factors such as the pleasure from experiencing exciting and intense sports emotions and the desire to be strongly involved in a sporting activity. They also wanted to improve difficult training techniques and feel the pleasure of performing difficult exercises. A positive phenomenon was that the level of demotivation for judo has been rated as low. External regulation—i.e., the influence of other people on participation in this physical activity or measurable benefits resulting from it, such as good health and good psychophysical condition—was also of little importance; judokas rated internal motivations higher.

3.2. Recreational Judokas vs. Judokas Participating in Sports Competitions

In the next step of the research, the motivations of recreational judokas and judokas participating in sports competitions were checked (Table 6).

Table 6. Recreational judokas vs. judokas participating in sports competitions.

Sport Motivation Scale	Recreational Judokas (n = 35)		Judokas Participating in Sports Competitions (n = 42)		t	p	d
	M	SD	M	SD			
Intrinsic motivation to know	5.39	1.11	5.80	1.03	−1.69	0.096	0.39
Intrinsic motivation to accomplish	5.90	0.84	5.96	1.21	−0.23	0.816	0.06
Intrinsic motivation to experience stimulation	5.72	1.02	6.24	0.96	−2.31	0.024	0.53
Extrinsic motivation—Identification	4.98	1.27	5.29	1.13	−1.12	0.264	0.26
Extrinsic motivation—Introjection	5.79	1.05	5.82	1.21	−0.09	0.931	0.02
Extrinsic motivation—External regulation	3.58	1.55	3.82	1.49	−0.70	0.486	0.16
Amotivation	2.56	1.17	1.99	1.16	2.13	0.036	0.49

The intrinsic motivation to experience stimulation and amotivation turned out to be statistically significant, and the effect size in both cases could be considered average. The intrinsic motivation to experience stimulation was more important for judokas participating in judo competitions, while recreational judokas often pointed to experiencing amotivation. The intrinsic motivation to know was at the level of trending toward significance (with a small effect). Therefore, it turned out that sporting events enabling participation in sports competitions provided judokas with strong sensations and emotions, which was the factor that made them faithful to the martial art. In turn, people who did not take part in competitions, at the same time, more often felt discouraged by training in judo. The rest of the motivations have been evaluated by respondents at a similar level—for example, recreational judokas wanted to improve difficult training techniques and feel pleasure from performing difficult exercises at a similar level to judokas participating in judo competitions.

3.3. Judokas Training for Less than 10 Years vs. Judokas Training for More Than 10 Years

In the next step, the motivations of judokas training for less than 10 years and judokas training for more than 10 years were checked (Table 7).

Table 7. Judokas training for less than 10 years vs. judokas training for more than 10 years.

Sport Motivation Scale	Less than 10 Years (n = 40)		More than 10 Years (n = 37)		t	p	d
	M	SD	M	SD			
Intrinsic motivation to know	5.34	1.11	5.91	0.97	2.39	0.020	0.55
Intrinsic motivation to accomplish	5.70	1.10	6.18	0.94	2.05	0.044	0.47
Intrinsic motivation to experience stimulation	5.85	1.10	6.18	0.90	1.41	0.162	0.32
Extrinsic motivation—Identification	5.18	1.15	5.11	1.26	−0.27	0.791	0.06
Extrinsic motivation—Introjection	5.60	1.03	6.03	1.21	1.67	0.098	0.38

Table 7. Cont.

Sport Motivation Scale	Less than 10 Years (n = 40)		More than 10 Years (n = 37)		t	p	d
	M	SD	M	SD			
Extrinsic motivation—External regulation	3.54	1.41	3.90	1.61	1.05	0.298	0.24
Amotivation	2.59	1.21	1.88	1.08	−2.71	0.008	0.62

The following motivations turned out to be statistically significant: the intrinsic motivation to know, intrinsic motivation to accomplish and amotivation (average effect size); introjection was at the level of trending toward significance (weak effect). Motivations related to the intrinsic motivation to know and the intrinsic motivation to accomplish were more important for people who have trained for more than 10 years, and amotivation more often accompanied people who have trained for less than 10 years. People with shorter judo training experience were more often demotivated. People with longer judo training experience were more often motivated by factors such as the desire to learn more about the judo martial art or the desire to discover new techniques in judo training. They also gave higher ratings to the desire to improve difficult training techniques and the feeling of pleasure from performing difficult exercises.

3.4. Women vs. Men

The motivations of male and female judokas were also checked (Table 8).

Table 8. Women vs. men.

Sport Motivation Scale	Women (n = 27)		Men (n = 50)		t	p	d
	M	SD	M	SD			
Intrinsic motivation to know	5.29	1.23	5.80	0.95	1.86 *	0.069	0.47
Intrinsic motivation to accomplish	5.63	1.36	6.10	0.81	1.64 *	0.110	0.43
Intrinsic motivation to experience stimulation	5.80	1.26	6.12	0.85	1.20 *	0.239	0.31
Extrinsic motivation—Identification	5.00	1.19	5.23	1.20	0.79	0.434	0.19
Extrinsic motivation—Introjection	5.53	1.28	5.96	1.03	1.60	0.115	0.37
Extrinsic motivation—External regulation	3.56	1.37	3.80	1.59	0.66	0.511	0.16
Amotivation	2.55	1.30	2.09	1.11	−1.64	0.106	0.38

Cochran–Cox correction was marked by *.

There were no significant differences between the average results for men and women. For the “intrinsic motivation to know” scale, the result was at the level of a statistical tendency ($p = 0.069$) and was higher for men. The effect sizes were low, but for the first two scales, they approached the value of 0.5 (and these were considered average). With a larger sample, the results would probably be relevant.

3.5. Adolescents Aged 15–18 vs. Adults

The motivations of adolescents and adults have also been checked (Table 9).

There were no significant differences between the means. Adolescents and adults had similar motivations to engage in judo.

In order to determine the motivational profiles of judokas, cluster analysis was also performed using the k-means method (Table 10).

Table 9. Adolescents aged 15–18 vs. adults.

Sport Motivation Scale	Less Than 18 Years Old (n = 35)		More Than 18 Years Old (n = 42)		t	p	d
	M	SD	M	SD			
Intrinsic motivation to know	5.57	1.01	5.65	1.14	0.34	0.738	0.08
Intrinsic motivation to accomplish	5.84	1.09	6.01	1.02	0.72	0.472	0.16
Intrinsic motivation to experience stimulation	5.91	1.08	6.08	0.97	0.72	0.472	0.16
Extrinsic motivation—Identification	5.18	1.14	5.12	1.25	−0.22	0.829	0.05
Extrinsic motivation—Introjection	5.66	1.04	5.92	1.20	1.00	0.322	0.23
Extrinsic motivation—External regulation	3.46	1.34	3.92	1.63	1.35	0.180	0.31
Amotivation	2.28	1.09	2.22	1.28	−0.21	0.832	0.05

Table 10. Final cluster centers.

	Final Cluster Centers		
	Cluster		
	A (N = 17)	B (N = 13)	C (N = 47)
Intrinsic motivation to know	4.32	5.40	6.14
Intrinsic motivation to accomplish	4.84	5.38	6.48
Intrinsic motivation to experience stimulation	4.51	5.96	6.56
Extrinsic motivation—Identification	4.72	3.54	5.74
Extrinsic motivation—Introjection	4.68	5.04	6.43
Extrinsic motivation—External regulation	3.00	1.83	4.49
Amotivation	3.68	1.65	1.89

Cluster A was characterized by the average states of scales, except for external regulation. Cluster B had scales at a high level—except for external regulation and amotivation (very low level), and Cluster C had all scales at the highest level of the identified groups (except for the low level of amotivation).

The impact of socioeconomic features was checked using the chi-square test. Features such as age or gender had no effect on belonging to one of the three groups. In the case of features where differences were significant (years of training experience, $p = 0.037$), in Cluster A, there was a predominance of people with low judo experience; in group B, with high judo experience; and in Cluster C, the numbers of people with short and long judo experience were similar. Therefore, years of judo experience had an impact on the attitudes presented (judo experience differentiated belonging to groups) (Table 11).

Table 11. The impact of years of judo experience on the attitudes of judokas.

Clusters	Years of Judo Experience: Less Than 10 Years	Years of Judo Experience: More Than 10 Years
A	13	4
B	4	9
C	21	24

4. Discussion

Kostorz examined the motivations of 110 Polish judokas in the Lesser Poland province and Silesia province and found that the intrinsic motivation to know and intrinsic motivation to accomplish

things proved dominant among judo athletes [35]. In our study, the highest values were obtained for motivations related to the intrinsic motivation to experience stimulation and the intrinsic motivation to accomplish, while the lowest values were obtained for motivations related to amotivation and external regulation.

In our study, we assumed the hypothesis that female judokas had different motivations from male judokas. Guedes and Misaka analyzed the sport participation motivations of young Brazilian judo athletes [4]; they investigated respondents aged 12–18 and found differences in gender. Boys reported attaching more significance to competition and skill development, while girls reported attaching more significance to friendship and teamwork. However, Zaggelidis et al. [36] did not find any differences between male and female beginner judokas in Greece. In our study, a relationship between gender and the motivations of judokas was not found, and our hypothesis has not been confirmed.

Zeng et al. [37] analyzed martial arts students' motivations in China. They investigated 128 athletes aged 12–18. Respondents rated the aspect of making friends thanks to martial arts training very high. By contrast, aspects of affiliation were not important for young runners [38]. Our study showed that adolescents gave the intrinsic motivation to experience stimulation and the intrinsic motivation to accomplish the highest ratings. In the study conducted by Guedes and Misaka [4], younger judo athletes reported attaching more importance to having fun and gaining achievement or status. The aspect of competition significantly increased with increasing age. We assumed the hypothesis that adolescents (aged 15–18) had different motivations from adult judokas. However, the study did not show differences in motivations between teenagers up to 18 years of age and adults.

Gender and age are biological variables, which may be why they were loosely associated with motivations connected with self-determination theory. As such, the results should be read carefully. Nevertheless, it would be beneficial for the sake of knowledge to consider these variables in further studies of similar scope and focus to provide more evidence and proxy information for policy recommendations. However, the situation was different in the case of sports level and years of training, as shown by the results of the study.

Gernigon and Le Bars checked the aspect of achievement goals in judo and aikido using the Perception of Success Questionnaire proposed by Roberts and Balague in 1991 [39]. In the children's group, experienced judokas were more ego-oriented than beginner judokas, while in the adult group, experienced aikidokas were less task- and ego-oriented than experienced judokas. Our study showed that the represented sports level—experience in judo training—had an impact on the motivation of athletes. Our research results showed that the level of experience and years of judo training had an impact on the motivations of judo lovers. The intrinsic motivation to experience stimulation was more important for professional judokas, while amateur athletes more often indicated experiencing amotivation. The intrinsic motivation to accomplish and intrinsic motivation to know were more important for athletes in training for more than 10 years, while amotivation was more often indicated to be experienced by judokas in training for less than 10 years. The most important research result was that people who declared high internal motivation values and had a motivational structure shaped by themselves trained in judo for longer—more than 10 years.

In our study, the three motivational groups of judokas were identified, and we found that judo experience differentiated belonging to groups. Figure 1 shows the details.

Strengths and Limitations of the Study and Future Lines of Research

The key strength of this study was its concentration on new variables, such as training experience and its relationship with the motivations of nonelite judokas, while the limitations involved the use of an online study to obtain the data. However, online studies were reported to obtain very similar results compared with those that were administered manually using a paper and pencil [40,41]. The group of respondents was not large because the study was discontinued for random reasons—many judo clubs and judo academies decided not to take part in the study about sport motivation, explaining that in connection with the onset of the coronavirus pandemic, judo training and sporting events were

suspended, so it was not a good time for studying motivation in their opinion. In the future, we intend to conduct research on a larger group of respondents, check other martial arts and check more variables, e.g., marital status, which is a potentially important factor in the field of sport motivation.

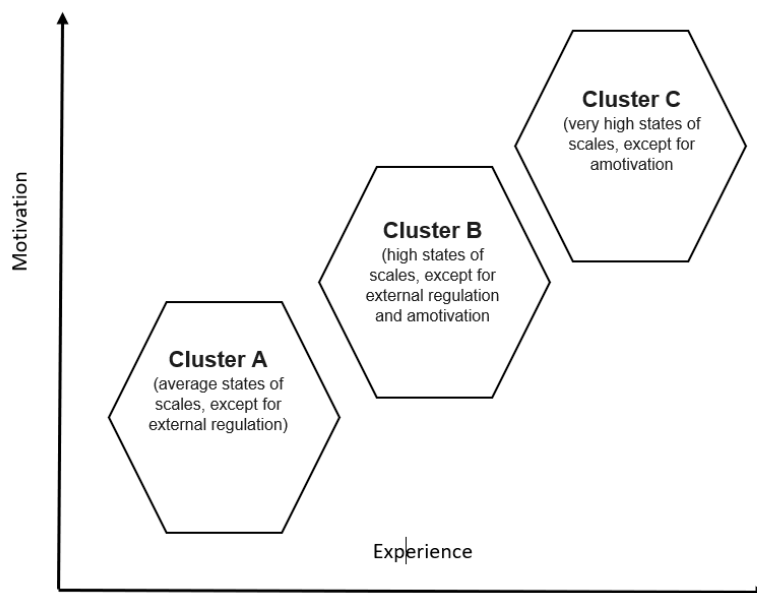


Figure 1. Motivational clusters. Note: in parenthesis is a brief characterization. The word “scales” refers to values of particular items of the sport motivation scale listed in the first column of Table 5.

The authors of this article consider it important to conduct research on the motivations of modern martial arts enthusiasts in various cultural circles as well as in Asia, where many of them originate. When it comes to Asian martial arts, their persistence in Asia, according to ethnologists, is at stake. Martial arts practices are lost because, often, a desire for Western fashion carries a need for European sports and attractions fascinating Japanese, Chinese or Korean youth. Their drive for modernity is as great as Western fascination with Eastern traditions. To survive, today’s masters often emigrate, sell their soul and body of cinematography looking for Western sponsors, try to modernize their practices and give them an attractive form and taste unknown to date [42].

5. Conclusions

In our study about the motivations of martial arts enthusiasts in Poland, the highest values were obtained for motivations related to the intrinsic motivation to experience stimulation and the intrinsic motivation to accomplish, while the lowest values were obtained for motivations related to amotivation and external regulation. Two hypotheses regarding the correlation between sporting experience and motivations in judo have been positively verified. However, the hypotheses regarding the correlation between gender and motivations as well as between age and motivations were negatively verified. Amotivation turned out to be the highest for recreational judokas who have been training for less than 10 years. People who remained motivated to practice judo at a competitive level for over 10 years highly appreciated such aspects as the intrinsic motivation to experience stimulation, intrinsic motivation to know and intrinsic motivation to accomplish.

As we can see, people who declared high internal motivation values and had a motivational structure shaped by themselves trained for longer—more than 10 years. Different age groups have declared similar motivations. Similarly, in the case of gender, it was not found that men more often indicated motivations related to recognition and prestige. However, people taking part in sports competitions rated positive experiences and emotions resulting from participation in sports competitions highly.

Research has shown that sporting competitions release positive emotions and attachment to judo, so it is relevant to organizing sporting events at a recreational level as well to develop interests in martial arts, particularly among young people. This is important both from the point of view of health promotion and the natural environment because martial arts are environmentally friendly, while some modern sports disciplines are harmful to the ecosystem.

Finally, it is worth mentioning that martial arts may be important in achieving the Sustainable Development Goals. Undoubtedly, sport is an important enabler of sustainable development, particularly in relation to Goal 3: “Ensure healthy lives and promote well-being for all at all ages”. Indeed, the United Nations Office on Sport for Development and Peace (UNOSDP) recognizes the growing contribution of sport to the realization of development and peace in its promotion of tolerance and respect and the contributions it makes to the empowerment of women and of young people, individuals and communities as well as to health, education and social inclusion objectives. Moreover, the UNOSDP rightly indicates that regular participation in sport offers social and health benefits. Not only does it have a direct impact on physical fitness, but it also instills healthy lifestyle choices in children and young people, helping them remain active and combat noncommunicable diseases. Altogether, these elements contribute to the realization of the Sustainable Development Goals.

Author Contributions: Conceptualization, E.M.-M.; methodology, E.M.-M.; formal analysis, E.M.-M.; investigation, E.M.-M. and P.Z.; resources, E.M.-M.; data curation, E.M.-M. and G.K.; writing—original draft preparation, E.M.-M.; writing—review and editing, E.M.-M., G.K. and P.Z.; visualization, E.M.-M.; supervision, E.M.-M.; project administration, E.M.-M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Chalip, L.; Thomas, D.R.; Voyle, J. Enhancing wellbeing through sport and recreation. In *Community Psychology and Social Change: Australian and New Zealand Perspectives*; Thomas, G.R., Veno, A., Eds.; Dunmore Press: Palmerston North, New Zealand, 1996.
- Malchrowicz-Moško, E.; Młodzik, M.; Guerenzo, P.; Adamczewska, K. Male and Female Motivations for Participating in a Mass Cycling Race for Amateurs. The Skoda Bike Challenge Case Study. *Sustainability* **2019**, *11*, 6635. [CrossRef]
- Pietrzak, H.; Cynarski, W. Psychologia duchowej drogi sztuki walki. *Ido Mov. Cult.* **2000**, *1*, 202–210.
- Guedes, D.P.; Missaka, M.S. Sport participation motives of young Brazilian judo athletes. *Rev. Educ. Fis.* **2015**, *21*. [CrossRef]
- Cynarski, W. Peregrynacje turystyczne miłośników sztuk walki. In *Aksjologia Podróży*; Krawczyk, Z., Lewandowska-Tarasiuk, E., Sienkiewicz, J., Eds.; Almamer: Warsaw, Poland, 2012.
- Malchrowicz-Moško, E.; Płoszaj, K.; Firek, W. Citius, Altius, Fortius vs. Slow Sport—A New Era of Sustainable Sport. *Int. J. Environ. Res. Public Health* **2018**, *15*, 11.
- Przybylski, G.; Pujszo, R.; Pyskir, M.; Pyskir, J. *Male Recreational Judo Training as a Factor Improving Physical Wellness Based on Particular Indicators*. 2010. Available online: www.repozytorium.ukw.edu.pl/handle/item/440 (accessed on 20 June 2020).
- Stebbins, R. Serious leisure: A conceptual statement. *Pac. Sociol. Rev.* **1982**, *25*, 251–272. [CrossRef]
- Deci, E.; Ryan, R. A motivational approach to self-integration in personality. *Neb. Symp. Motiv.* **1991**, *38*, 237–288.
- Deci, E.; Vansteenkiste, M. Self-determination theory and basic need satisfaction: Understanding human development in positive psychology. *Ric. Psicol.* **2004**, *27*, 17–34.
- Deci, E.; Ryan, R. The what and why of goal pursuits: Human needs and the self-determination of behavior. *Psychol. Inq.* **2000**, *11*, 227–268. [CrossRef]
- Briere, N.; Vallerand, R.; Blais, M.; Pelletier, L. Développement et validation d’une mesure de motivation intrinsèque, extrinsèque et d’amotivation en contexte sportif: L’Échelle de Motivation dans les Sports (EMS). *Int. J. Sport Psychol.* **1995**, *26*, 465–489.

13. Walczak, M.; Tomczak, M. Validation of the Polish version of Sport Motivation Scale (SMS). Effect of gender, level of participation and sport type on intrinsic and extrinsic motives. *Trends Sport Sci.* **2019**, *26*, 187–195.
14. Pelletier, L.; Rocchi, M.; Vallerand, R.; Deci, E.; Ryan, R. Validation of the revised sport motivation scale (SMS-II). *Psychol. Sport Exerc.* **2013**, *14*, 329–341. [[CrossRef](#)]
15. Teo, E.; Khoo, S.; Wong, R.; Wee, E.; Lim, B.; Rengasamy, S. Intrinsic and extrinsic motivation among adolescent ten-pin bowlers in Kuala Lumpur, Malaysia. *J. Hum. Kinet.* **2015**, *45*, 241–251. [[CrossRef](#)] [[PubMed](#)]
16. De Pero, R.; Amici, S.; Benvenuti, C.; Minganti, C.; Capranica, L.; Pesce, C. Motivation for sport participation in older Italian athletes: The role of age, gender and competition level. *Sport Sci. Health* **2009**, *5*, 61–69. [[CrossRef](#)]
17. Netz, Y.; Raviv, S. Age Differences in Motivational Orientation toward Physical Activity: An Application of Social—Cognitive Theory. *J. Psychol. Interdiscip. Appl.* **2004**, *138*, 35–48. [[CrossRef](#)]
18. Malchrowicz-Moško, E.; Poczta, J. Running as a Form of Therapy. Socio-Psychological Functions of Mass Running Events for Men and Women. *Int. J. Environ. Res. Public Health* **2018**, *15*, 2262. [[CrossRef](#)]
19. Poczta, J.; Malchrowicz-Moško, E.; Fadigas, A. Age-related motives in mass running events participation. *Olimp. J. Olymp. Stud.* **2018**. [[CrossRef](#)]
20. Sterdt, E.; Liersch, S.; Walter, U. Correlates of Physical Activity of Children and Adolescents: A Systematic Review of Reviews. *Health Educ. J.* **2014**, *73*, 72–89. [[CrossRef](#)]
21. Stuntz, C.P.; Weiss, M.R. Motivating Children and Adolescents to Sustain a Physically Active Lifestyle. *Am. J. Lifestyle Med.* **2010**. [[CrossRef](#)]
22. Malchrowicz-Moško, E.; Gravelle, F.; Dąbrowska, A.; Leon-Guereno, P. Do Years of Running Experience Influence the Motivations of Amateur Marathon Athletes? *Int. J. Environ. Res. Public Health* **2020**, *17*, 585. [[CrossRef](#)]
23. Waśkiewicz, Z.; Nikolaidis, P.; Chalabaev, A.; Rosemann, T.; Knechtle, B. Motivation in ultra-marathon runners. *Psychol. Res. Behav. Manag.* **2018**, *12*, 31–37. [[CrossRef](#)]
24. Dos Santos, S.L.C.; Junior, L.F.C.; Torralba, M.A.; Losada Lopez, J.L. Olympic and world champion judo athletes: Motivational aspects. *J. Phys. Educ. Sport Manag.* **2017**, *8*, 24–31.
25. Gorner, K.; Greganova, M.; Kusnierz, C. Motivational Structure of Men and Women in High Performance and Elite Judo. *Ido Mov. Cult. J. Martial Arts Anthropol.* **2019**, *19*, 33–41.
26. Sterkowicz-Przybycień, K.; Blecharz, J.; Sterkowicz, S. Motivation in judo: Rethinking the changes in the European society. *Arch. Budo* **2017**, *13*, 226–234.
27. Singh, D.; Saini, S. Sports achievement motivation among wrestlers and judokas—A comparative study. *Int. J. Behav. Soc. Mov. Sci.* **2012**, *2*, 70–75.
28. Valadas Rosa, V.A. Samurais in modern Europe: Motivations and understandings of Portuguese karatekas. *Ido Mov. Cult. J. Martial Arts Anthropol.* **2012**, *12*, 11–19.
29. Doganis, G. Development of a Greek version of the Sport Motivation Scale. *Percept. Mot. Ski.* **2000**, *90*, 505–512. [[CrossRef](#)]
30. Kazak, Z. A study on reliability and validity of The Sport Motivation Scale -SMS- for Turkish athletes. *Hacet. J. Sport Sci.* **2004**, *15*, 191–206.
31. Nunez, J.; Martin-Albo, J.; Navarro, J.; Gonzalez, V. Preliminary validation of a Spanish version of the Sport Motivation Scale. *Percept. Mot. Ski.* **2006**, *102*, 919–930. [[CrossRef](#)]
32. Burtscher, J.; Furtner, M.; Sachse, P.; Burtscher, M. Validation of a German version of the Sport Motivation Scale and motivation analysis in competitive mountain runners. *Percept. Mot. Ski.* **2011**, *112*, 807–820. [[CrossRef](#)]
33. StatSoft, Inc. *Statistica Version 10.0 Program (Data Analysis Software System)*; StatSoft, Inc.: Cracow, Poland, 2011.
34. Sawilowsky, S.S.; Blair, R.C. A more realistic look at the robustness and type II error properties of the t test to departures from population normality. *Psychol. Bull.* **1992**, *111*, 352–360. [[CrossRef](#)]
35. Kostorz, K. Motywacja w sztukach i sportach walki na przykładzie judo i Pszczyńskiej Sztuki Walki. *Rozpr. Nauk. AWF Wrocławiu* **2015**, *51*, 107–117.
36. Zaggelidis, G.; Martinids, K.; Zaggelidis, S. Comparative study of factors motives in beginning practicing judo and karate. *Phys. Train.* **2004**, *1*, 1–8. Available online: www.ikee.lib.auth.gr/record/230964/files/Comparative.pdf (accessed on 1 May 2020).
37. Zeng, H.Z.; Cynarski, W.J.; Xie, L. Martial Arts Students' Motivation and Health Related Behaviours in Changshu. *Ido Mov. Cult. J. Martial Arts Anthropol.* **2013**, *13*, 72–84.

38. Malchrowicz-Moško, E.; Babarro, A.C.; Guerenó, P.L. On the Way to the Marathon—Motivation for Participating in Mass Running Events Among Children and Adolescents: Results of the Poznan Half Marathon Pilot Study. *Int. J. Environ. Res. Public Health* **2020**, *17*, 5098. [[CrossRef](#)] [[PubMed](#)]
39. Gernigon, C.; Le Bars, H. Achievement goals in aikido and judo: A comparative study among beginner and experienced practitioners. *J. Appl. Sport Psychol.* **2000**, *12*. [[CrossRef](#)]
40. De Looijjansen, P.M.; De Wilde, E.J. Comparison of web-based versus paper-and-pencil self-administered questionnaire: Effects on health indicators in Dutch adolescents. *Health Serv. Res.* **2008**, *43*, 1708–1721. [[CrossRef](#)]
41. Hohwü, L.; Lyshol, H.; Gissler, M.; Jonsson, S.H.; Petzold, M.; Obel, C. Web-based versus traditional paper questionnaires: A mixed-mode survey with a nordic perspective. *J. Med Internet Res.* **2013**. [[CrossRef](#)]
42. Kabzińska-Stawarz, I. Sport w kulturach ludów Azji—Kolejna dziedzina deficytowa etnologii. *Etnogr. Pol.* **1991**, *35*, 173–189.



© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).