Motivational dimensions of taekwondo practitioners

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Abstract

Background & Study Aim: Young people of different ages in both sexes, competitors or not in taekwondo, seeking competition teams for different reasons. This study aimed is knowledge about key motivational factors that contribute to the entry and stay of young taekwondo practitioners of this sport.

Material & Methods: The choice of the sample was for convenience during the selection process for the formation of a mining team taekwondo promoted by the Federal University of Minas Gerais (UFMG, Brazil). The study included 230 practitioners, aged between 13 and 22 years who responded to IMPRAFE-54 in a single collection for analysis of six motivational dimensions: EC, Sa, So, Co, Es, Pr.

Results: The results showed that the main motivations for young taekwondo practitioners interested in being part of a competition team are the search for pleasure and health, followed by competitiveness.

Conclusions: In this study it was observed that the main reasons were for pleasure and health. There are no significant differences in the responses of the subjects when controlling the variable sex. With regard to age, the results showed at least one significant difference between the general levels of motivation of the subjects when the age variable is controlled.

Keywords: combat sports · "confidence range" · gender · martial arts · "verification scale" · young athletes

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Introduction

Taekwondo since the beginning of sportivization and more recently with the official inclusion in the Olympic Games in Sydney in 2000 gained media visibility and exponential growth of practitioners, especially young individuals of both sexes [1, 2]. Concurrently, the development in scientific studies is observed on this sport in different areas of knowledge and areas of intervention [3-7].

However, despite the increased number of research in Brazil, as Albuquerque et al. [3] and Franchini et al. [6], the amount of scientific studies on the taekwondo is still small, especially considering the theme of motivation in sport. Besides the loans in these research fronts are rare, there are few studies that explore different ages, genders and different skill levels [6].

In this sport, as in other sports, especially individual, the gradual development of the participant in athlete over the graduation process in different categories is accompanied by incentives for the abandonment of the sports practice: monotony and rigidity of training and consequent lack of fun; lack of motivation; exhaustion; excessive time dedicated to the sport; stress associated with competition; interest in other activities, even for other sports; abandonment by external needs, such as need to work, study; abandonment by the high cost of the sports program; injuries that force the abandonment; failure, losses in competitions [8, 9].

Once the motivation can be compared to motor sport [10], responsible for initiation, orientation, conservation and abandonment of the sports practice, it is necessary to study it. In addition, few studies have addressed the country's motivation taekwondo practitioners [3, 11, 12].

Thus, what makes young people of different ages and both sexes, competitors or not, try to join a team of taekwondo athletes? What has been the main motivation?

Based on the theory of self-determination [13, 14], the subject can be motivated in different levels (intrinsically and extrinsically), or even to be "discouraged" in any activity. To enter and/or remain in an activity on their own, by personal goals, the satisfaction of experience it, the well-being and proportionate pleasure, the individual does by intrinsic motivation.

When motivated by external factors to activity, i.e. by numerous situational aspects, for goals that go beyond the inherent to the activity, there is extrinsic motivation [15]. For be great variation of such external factors extrinsic motivation is divided into three categories: [15, 16] external regulation, for the regulated behaviour, for example, materials awards and / or fear of adverse consequences, such teasing and criticism social; internalized regulation, when the behaviour is regulated by a source of motivation that initially outside is internalized over time as behaviour reinforced by internal pressures such as guilt, or the need to be accepted; regulation identified: when a subject performs a task (or behaviour) even unwilling, for example, from the prescription / medical indication for physical activity.

In the "demotivation" is the lack of motivation. This occurs when the individual does not find satisfactory reasons for carrying out the activity (or behaviour) by not offering any benefits and / or cannot do it satisfactorily [14, 17].

From these motivational forces, Balbinotti [18] developed the Inventory Motivation to Practice Regular Physical Activity and/or Sports (IMPRAFE-54). This inventory covers six possible dimensions associated with regular physical and sports activities, namely: **controlling stress** (*EC* – assesses the level a person uses regular physical activity to control and combat anxiety and stress); **health** (*Sa* – assesses the level a person uses regular physical activity for maintaining general health and preventing and combating ills related to physical inactivity); **sociability** (*So* – assesses the level a person uses regular physical activity as a possibility of being part of a group and relate to others); **competitiveness** (*Co* – assesses the level a person uses regular physical activity as a possibility of experiencing emotions related to overcome); **aesthetics** (*Es* – assesses the level a person uses regular physical activity as a possibility to achieve standards of beauty (especially body) prevailing in the society in which it is housed) and **pleasure** (*Pr* – assesses the level a person uses physical activity regular as possibility of experiencing pleasurable sensations of well-being, happiness and satisfaction) [17-19].

This study aimed is knowledge about key motivational factors that contribute to the entry and stay of young taekwondo practitioners of this sport.

Material and methods

In this study it was used as the instrument IMPRAFE-54 in a single collection for analysis of six motivational dimensions: *CE, Sa, So, Co, Es, Pr.*

Motivation – term used to explain the causes of an individual´s initiating and sustaining a particular action and has always been at the heart of psychology because it is concerned with why people think and behave as they do [26].

Taekwondo – a Korean martial art and combat sport where it uses kicks and punches with a heavy emphasis on kicks. The fights are individual and standing.

Young athletes – young people that participating of competitions whit regularity [27].

Competition – refers to a contest between individuals, groups, teams or nations, which has been arranged in advance according to the principle of equal chance [27].

Gender – popular means of discussing the similarities, differences and conflicts that exist between the sexes. A more favourable vehicle for discussing sex relations and the context within which they exist, as the concepts of masculinity and femininity were often viewed in isolation from each other [26].

For each dimension were used percentiles, deciles and quartiles of Normative tables [19] to identify the motivation level (high, moderate and low) [17, 19].

The exclusion criteria, "confidence range" [19] or "verification scale" [17] indicating the degree of attention of the individual to answer the questionnaire and therefore its reliability was adopted. Scale consider lower scores than eight, because the higher the score on a smaller scale the confidence index of the answers [17, 19].

The choice of the sample was for convenience during the selection process for the formation of a mining team taekwondo promoted by the Federal University of Minas Gerais (UFMG) through the School of Physical Education, Physiotherapy and Occupational Therapy (EEFFTO) in partnership with the state

Table 1. Dimensions, descriptive statistics of central tendency and dispersion

	Mean	Standard deviation	Minimum	Maximum
C. Stress (*CE*)	25.76	7.59	0.00	40.00
Health (*Sa*)	32.36	6.81	9.00	40.00
Sociability (*So*)	25.29	7.96	1.00	40.00
Competitiveness (*Co*)	29.76	7.00	4.00	40.00
Aesthetics (*Es*)	25.33	7.76	1.00	40.00
Pleasure (*Pr*)	32.99	5.87	6.00	40.00

Table 2. Friedman test with post-hoc Dunn to the dimensions considering the overall sample

Dimension	Mean's rank
C. Stress (*CE*)	3.56
Health (*Sa*)	5.77
Sociability (*So*)	3.59
Competitiveness (*Co*)	4.80
Aesthetics (*Es*)	3.52
Pleasure (*Pr*)	5.77

The results of the overall sample were similar when compared to separately gender (female and male). The same was repeated significant difference between men and between women (Pr = Sa> Co> Es = So = EC) (Tables 3 and 4).

Table 3. Dimensions, descriptive statistics of central tendency and dispersion related to control of the sex variable

Gender	Dimension	Mean	Standard Deviation	Minimum	Maximum
Female	C. Stress (*CE*)	24.08	8.27	8.00	40.00
	Health (*Sa*)	31.60	7.68	11.00	40.00
	Sociability (*So*)	24.04	8.47	8.00	38.00
	Competitiveness (*Co*)	29.92	6.13	10.00	40.00
	Aesthetics (*Es*)	23.94	8.30	8.00	40.00
	Pleasure (*Pr*)	32.89	6.09	8.00	40.00
Male	C. Stress (*CE*)	26.43	7.17	0.00	40.00
	Health (*Sa*)	32.65	6.40	9.00	40.00
	Sociability (*So*)	25.86	7.71	1.00	40.00
	Competitiveness (*Co*)	29.70	7.38	4.00	40.00
	Aesthetics (*Es*)	25.88	7.48	1.00	40.00
	Pleasure (*Pr*)	32.98	5.78	6.00	40.00

Table 4. Friedman test with Dunn's post-hoc related to the variable gender

Gender	Dimension	Mean's rank
Female	C. Stress (*CE*)	3.39
	Health (*Sa*)	5.74
	Sociability (*So*)	3.60
	Competitiveness (*Co*)	4.95
	Aesthetics (*Es*)	3.41
	Pleasure (*Pr*)	5.91
Male	C. Stress (*CE*)	3.62
	Health (*Sa*)	5.77
	Sociability (*So*)	3.60
	Competitiveness (*Co*)	4.74
	Aesthetics (*Es*)	3.56
	Pleasure (*Pr*)	5.70

Department Sports and Youth of the State of Minas Gerais. Of about three hundred athletes/taekwondo practitioners attending the event, 230 participated in the study (male = 160, female = 70), aged between 13 and 22 years in various cities in the state of Minas Gerais.

Participants were divided into three age groups: track 1 range: 13-14 years (100 subjects: 43.5%); track 2: 15-17 years (79 individuals: 34.3%); and track 3: 18-22 years old (51 individuals: 22.2%) as normative table [19].

After tabulating the data in SPSS 18 software association analyses were made between six Motivational Dimensions (*EC, Sa, So, Co, Es, Pr*) and the variables gender (female, male); compete (no, yes); and the motivation level (high, moderate, low), using the chi-square test of association. Moreover, comparisons were made between the groups using the Friedman test with post-hoc Dunn. The significance level was set at $p \leq 0.05$.

The study was approved by the Ethics Committee in Research of the University Centre of Belo Horizonte in the 061/05 code.

Results

The results after analysis of Friedman test with post-hoc Dunn showed a significant difference ($p = 0.05$) between the motivational dimensions pointed out by individuals in the overall sample. The dimensions with the greatest influence were *Pr* = *Sa*> Co> *Es* = *So* = *EC*, as Tables 1 and 2.

The chi-square test of Pearson showed also no significant differences by joining the variable sex with each dimensions (*EC, Sa, So, Co, Es, Pr*), i.e. individuals of both sexes in this sample similarly motivated.

Likewise, associating age groups other variables, no significant differences between the variables sex (female/male) and compete (no/yes). Thus, individuals of different ages, of both sexes and that compete or not in taekwondo, presented motivational similar size and motivation levels. However, to isolate, each dimension by associating them with the age groups, it was revealed significant differences in two of them: *So* and *Es*.

The size *So*, differences were found in tracks 1 and 2. The individuals of age range 1 (13-14 years) showed high levels of motivation to use taekwondo as a possibility of being part of a group and relate to others. The individuals of the age group 2 (15-17 years) had moderate levels of motivation to the extent *So* (Table 5).

The size *Es*, track 1 subjects (13-14 years) also showed high levels of motivation to use the taekwondo body to achieve standards of beauty prevailing in society, as shown in Table 6.

In the other dimensions – *Pr*, *Sa*, and *EC*, *Co* – significant differences between age groups were not found by following the same motivational pattern.

Evaluating individuals said competing or not compete alone, the results of individuals who did not compete were the same general sample and of both sexes

Table 5. Age groups and levels of motivation related to the control of dimension sociability

Age group		Motivation level			Total
		High	Low	Moderate	
1.00	Number of individuals	28*	27	45	100
	% Zone 1	28.0%	27.0%	45.0%	100.0%
2.00	Number of individuals	10	19	50*	79
	% Zone 2	12.7%	24.1%	63.3%	100.0%
3.00	Number of individuals	7	15	29	51
	% Zone 3	13.7%	29.4%	56.9%	100.0%
Total	Number of individuals	45	61	124	230
	% Total	19.6%	26.5%	53.9%	100.0%

* p<0.05

Table 6. Age groups and levels of motivation related to the control of aesthetic dimension

Age group		Motivation level			Total
		High	Low	Moderate	
1.00	Number of individuals	18*	36	46	100
	% Zone 1	18.0%	36.0%	46.0%	100.0%
2.00	Number of individuals	4	36	39	79
	% Zone 2	5.0%	45.6%	49.4%	100.0%
3.00	Number of individuals	7	15	29	51
	% Zone 3	5.9%	45.1%	49.0%	100.0%
Total	Number of individuals	25	95	110	230
	% Total	10.9%	41.3%	47.8%	100.0%

* p≤0.05

(*Pr* = *Sa*> *Co*> *Es* = *S* = *CE*) Tables 2, 4 and 8. Already the results of individuals who claimed to compete shown that they are motivated by competitiveness at the same level that the search for Health and Pleasure: *Pr* = *Sa* = *Co*> *Es* = *So* = *EC* (Tables 7 and 8).

Discussion

In this study it was noticed that the main motivations for young taekwondo practitioners interested in being part of a competition team are the search for pleasure and health, followed by competitiveness. Such results can be corroborated by the theory of self-determination [13, 14], which shows that the subject can be motivated in different levels (intrinsically and extrinsically), or even to be "discouraged" in any activity. To enter and/or remain in an activity on their own for personal goals *Es*, *So*, *CE*, *Pr* and *Sa* provided the individual does by intrinsic motivation. Confirming these findings in a recent study with athletes of rhythmic gymnastics (RG) 13-14 year-old female, found that for the athletes stay motivated, the regular practice of GR must be organized in order to provide: *Pr* = *So* = *Sa*> Co [20].

In another study of 91 long-distance running athletes of both sexes aged 14-69 years it demonstrated that the motivational profile of these athletes was different

Table 7. Dimensions, descriptive statistics of central tendency and dispersion related to the control of the variable compete

Compete		N	Mean	Standard deviation	Minimum	Maximum
No	C. Stress (CE)	112	25.70	7.45	8.00	40.00
	Health (Sa)	112	32.12	7.23	11.00	40.00
	Sociability (So)	112	24.49	8.18	8.00	39.00
	Competitiveness (Co)	112	28.27	7.48	9.00	40.00
	Aesthetics (Es)	112	25.58	7.63	8.00	40.00
	Pleasure (Pr)	112	32.23	6.40	6.00	40.00
Yes	C. Stress (CE)	118	25.66	7.79	.00	40.00
	Health (Sa)	118	32.49	6.46	9.00	40.00
	Sociability (So)	118	26.14	7.67	1.00	40.00
	Competitiveness (Co)	118	30.99	6.25	4.00	40.00
	Aesthetics (Es)	118	25.12	7.98	1.00	40.00
	Pleasure (Pr)	118	33.66	5.33	7.00	40.00

Table 8. Friedman test with post-hoc Dunn related to the variable compete

Compete	Dimension	Mean's rank
No	C. Stress (CE)	3.67
	Health (Sa)	5.88
	Sociability (So)	3.50
	Competitiveness (Co)	4.50
	Aesthetics (Es)	3.78
	Pleasure (Pr)	5.67
Yes	C. Stress (CE)	3.43
	Health (Sa)	5.64
	Sociability (So)	3.71
	Competitiveness (Co)	5.04
	Aesthetics (Es)	3.31
	Pleasure (Pr)	5.87

for women (*Pr = Sa = CE = Es = So> Co*) and men (*Pr = Sa = CE = So = Co> Es*) [17]. And another 300 fitness practitioners academies in southern Brazil, of both sexes and aged 18-65 years showed an almost similar profile between women (*Sa = Pr = Es = CE = So> Co*) and men (*Sa = Pr = Es> EC = So> Co*)[21]. Yet another more recent study of 226 Brazilian children and young tennis players also found no significant differences between the sexes [22].

The three motivational dimensions that encourage more athletes to regularly practice the race, regardless of sex under review are: Enjoyment, Health and Stress Control. Pleasure is the one that motivates these athletes, regardless of the variable gender [17]. According to some studies [8, 13, 14, 23], the pleasure is the key dimension to understanding the motivation in sport. This result confirms the basic theory of this study because, recently, Ryan et al. [14] stated that "pleasure" is the dimension that best explains the self-determining human behaviour, say, the dimension that best represents the intrinsic motivation, including in the context of sport.

In a study of 635 regular physical activity practitioners of both sexes and ages ranging 18-55 years old, men

and women also were equally motivated [15]. Some studies have evaluated the differences between the dimensions of motivation. For example, the study by Lores et al. [24] tested the existence of possible differences between men and women practitioners of physical activity in aesthetic dimension. Their findings indicate that women are significantly ($p \leq 0.001$) more motivated by issues related to aesthetics, than men. In contrast, the same study showed that men are significantly ($p \leq 0.001$) more motivated than women when evaluated dimension is the competitiveness. Balbinotti et al. [21] also found similar results.

In the study where Albuquerque et al. [3] evaluated the motivational profile of taekwondo athletes who participated in the selection for the Brazilian Olympic team, they were also seen "very few differences between men and women, and both the results overall They were quite similar. " Thus, it is evident that both sexes an overall average, especially among young people, have similar motives, although in certain isolated motivational dimensions, may differ.

Considering the age groups, this study did not find many variations in motivation to practice taekwondo. Younger individuals, range 1 (13 to 14 years as shown in Table 6, showed more than expected, high levels of motivation in aesthetic dimension. In percentage terms, ages 1 and 2 have the same proportion of women (32% and 33 % respectively), which could not be explained by higher female motivation aesthetics, as found in other studies [21, 24]. More studies with this age group are needed to analyse significant differences in motivation aesthetics. However, Bauman [25] points to the earliness with which individuals come to overvalue the body aesthetic standards imposed by the postmodern society nowadays.

Given the associations between age group and the dimensions, the chi square test of association showed significant difference ($p \leq 0.05$) and the Friedman test with post-hoc Dunn allowed find them in tracks 1 and 2 in the Sociability scale, where individuals of age group 1 (13-14 years) showed high levels of motivation to use taekwondo as a possibility of being part of a group and relate to others; and individuals of the age group 2 (15-17 years) had moderate levels of motivation for the sociability dimension, as shown in Table 5. This can be confirmed by the theory of self-determination, showing that high levels of motivation are associated with intrinsic motivation [14]. The study Balbinotti et al. [21] also pointed out that the youngest are significantly ($p \leq 0.05$) more motivated by aspects of socialization (*So*).

When the controlled variable compete (no/yes), the difference was significant ($p \leq 0.05$) for individuals who claimed compete, to add to the competitive motivation pleasure and health (*Pr = Sa = Co> Es = CE = So*), differing from the overall sample and both sexes (*Pr = Sa> Co> Es = CE = So*). Gender differences in this variable were not found, unlike studies of Lords et al. [24] who said they were common in young men a greater demonstration of behaviours competitiveness and overcoming limits towards women. In a way, this study was expected that individuals competing in taekwondo, even regardless of sex and age group, are more motivated by competition than those who do not compete (*Pr = Sa> Co> Es = CE = So*).

Studies such as these may be indicating that each sport or regular physical activity can have on average a certain characteristic profile. Further studies should test this hypothesis, because if is confirmed, this may be an important variable to be exploited when youth and/or adults are in the process of choosing a role sport.

The study various aspects of taekwondo have a short history against scientific exploration of judo [28]. Among published from a total of 200 articles in the Archives of Budo during the years 2005-2013 (in 2013, only 3 issues) fourth place in the ranking – after: judo (65 papers); combat sports & martial arts (30); health promotion & prevention (15) – occupy articles concerning taekwondo (14 papers) [29]. Still dominated the judo issues. However, only in the past two years, the number of articles on taekwondo increased by 71% (2014 [30-34], 2015 [35-38]) and this publication. If you add another two papers published in new branch journal *Archives of Budo Science of Martial Arts and Extreme Sports* [39, 40], this number has almost doubled.

A new quality among these papers were publications based on criteria and methods of psychology, taken into account in the selection of candidates for taekwondo aspects of intellectual and associate training effects just by looking at the development of the human personality and to improve its interaction with other people [31, 32, 34, 39, 40]. Due to the utilitarian properties of combat sports and martial arts this kind of research results will have more and more big application apart the sport. Dadelo et al. [41] amongst six most essential criteria weights of elite security guards mention: theoretical and practical preparation; mental qualities; fighting efficiency (the intellectual factor is here leading).

Conclusions

The results indicate no significant differences in the responses of the subjects when controlling the variable sex. Although not possible to generalize the results obtained in this study because the sample collection procedure was non-random, both the number of subjects in the study as the diversity of backgrounds of these individuals (in various regions of the state) the subjects' answers allow some conclusions important hypothetical. Even considering this limitation of sample character, it can be concluded that the fact of belonging to either sex does not affect the general levels of motivation to regular physical activity.

With regard to age, the results showed at least one significant difference between the general levels of motivation of the subjects when the age variable is controlled. Complementary test (Friedman test with post hoc Dunn) allowed finding significant differences between age groups 1 and 2, highly motivated, moderately motivated by the Sociability scale and aged 1 highly motivated by aesthetic dimension.

Suggest new studies, since the motivation in taekwondo still is little studied and correlating other variables the motivational dimensions of sport practitioners.

Competing interests

Authors declare no conflicts of interest.

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