ORIGINAL ARTICLE

TRENDS in
Sport Sciences
2019; 26(**4**): 187-195
ISSN 2299-9590
DOI: 10.23829/TSS.2019.26.4-7

Validation of the Polish version of Sport Motivation Scale (SMS). Effect of gender, level of participation and sport type on intrinsic and extrinsic motives

MAŁGORZATA WALCZAK, MACIEJ TOMCZAK

Abstract
Sport Motivation Scale (SMS), based on self-determination theory was validated into Polish conditions. The study was aimed to assess psychometric properties of the SMS on a sample of Polish athletes as well as to determine relationships between SMS factors and gender, level of participation and type of practiced sport. The sample comprised 613 (380 male and 233 female) individual and team, recreational and high performance athletes, aged 19.12 years (SD = 2.31). The results demonstrated a relatively high internal consistency and test-retest reliability of the SMS subscales. Confirmatory Factor Analysis indicated that the fit of the SMS model to data was not fully satisfactory.

KEYWORDS: self-determination, Sport Motivation Scale, validity, motivation.

Received: 12 October 2019
Accepted: 18 December 2019

Corresponding author: walczak@awf.poznan.pl

Poznan University of Physical Education, Department of Psychology, Poznań, Poland

Introduction

The self-determination theory (STD) developed by Edward Deci and Richard Ryan is a concept of human activity resulting from the fulfillment of man's key psychological needs of autonomy, competence, and relatedness [7, 8]. The need of autonomy is concerned with an individual's desire to be the source of his/her own behavior [6, 7]. Autonomy is usually experienced while self-perceiving one's behavior as self-endorsed [27]. The need of autonomy pertains to volition understood as the organismic desire to self-organize an activity [25]. The need of competence refers to an individual's conviction about the knowledge of activity based on an objective assessment and progress verification. According to Deci and Ryan [8], events such as positive feedback that signifies effectance provide satisfaction of the need of competence, thereby enhancing intrinsic motivation. The need of relatedness reflects the desire to have meaningful interactions with others and to experience a sense of belonging, closeness, caring, acceptance, and trust [8, 27]. The self-determination theory signalizes that people tend to naturally internalize the values and regulations of their social groups. In line with that, everyone aspires to satisfy all the above psychological needs [8]. Through their fulfillment people are active, involved and tend to develop rather than simply concentrate on a goal and satisfaction of its accomplishment [14]. Individuals act out of their interests and pleasure. An inherent tendency of humans to learn and be creative is described as intrinsic motivation [31]. People engage in activities and experience harmony and satisfaction. Intrinsically motivated individuals continue their activities out of their own free will without any material rewards or coercion. Intrinsic motivation, according to the SDT, consists of three components: intrinsic motivation to know, intrinsic motivation to accomplish and intrinsic motivation to experience stimulation. Extrinsic motivation refers to taking up an activity due to external factors such as financial rewards, avoidance of penalty or unpleasant

sensations. It consists of external regulation referring to engaging in an activity for material rewards or due to coercion; introjection referring to the internalization of an external source of motivation so that its presence is not necessary to initiate an activity, which is only enhanced by such external pressures as sense of guilt or anxiety; and identification referring to one's assessment of an activity as significant and purposeful. A third motivational process is amotivation, which refers to the lack of perception of links between one's actions and their results. An amotivated individual experiences low competence and lack of control. In the self-regulation process individuals convert perceived extrinsic motives into values driving their activities and reinforcing motivational process through internalization [26]. Internalization is a self-regulation processes in which an individual assimilates commonly accepted social rules. The degree of internalization determines the nature of motivational processes. These include intrinsic motivation, extrinsic motivation and amotivation.

Many studies have proved that the self-determination theory framework is the perspective enabling to analyze and to understand the psychological context within the sport domain [22]. The Sport Motivation Scale (SMS) has been used in many countries, thereby allowing for comparing motivational conditionings of sport activity and for making an attempt to discover the similarities and differences related to the socio-cultural context. In the Polish setting, the employment of the scale that is based on the widely known STD will permit a deeper and more thorough look into the motivational processes enabling athlete's development in a broad sense, i.e. developing not only sport skills with a narrow focus but above all psychological development underpinned by satisfying the psychological needs. Although the revised version of the SMS (SMS II) have been tested [21, 24, 32], the original scale is very well functioning measure of motivation structure in sport area worldwide. Pelletier et al. [22] did not conclude that SMS II was superior to the SMS or that the revision of the original version was needed. Moreover the bibliometric data assessed by Clancy et al. [5] shows that SMS remains actually the most often cited questionnaire under review among other motivation measures in sport domain. The original SMS was designed in French by a team of French–Canadian sport psychologists [1] to represent the self-determination continuum of Deci and Ryan [7, 8]. The SMS has been widely applied in sport and physical recreation research. In psychological literature the SMS has been regarded as a highly reliable and valid tool.

In conformity with the world indications in this area, there arose the need for a detailed analysis of a Polish athlete's functioning in the Polish sports environment from a perspective of one's psychological development based on the fulfillment of one's needs of autonomy, competence and relatedness. The obtained results would allow for drawing the comparisons between psychometric properties of the Polish version of the SMS and other versions of the questionnaire as well as for comparing the assessment of motivational factors between Polish and foreign sportsmen. Carrying out validation studies of the SMS is the first step of future research on motivational determinants of physical activity in Poland. Therefore, the study aimed to assess the psychometric properties of the SMS on a sample of Polish athletes as well as to determine relationships between SMS factors and gender, level of participation or sport type.

Methods

Participants

The sample consisted of 613 (380 male and 233 female) representing over forty sports disciplines. It comprised 336 individual athletes and 277 team players, 332 high performance and 281 recreational athletes. The participants' mean age was 19.12 (SD = 2.31) and they were asked to take part in the procedure voluntarily in the convenient time.

Measures

The English version of the SMS [23] was translated into Polish by a bilingual expert and back-translated by another bilingual expert [29]. Both original and back-translated English versions were compared by a bilingual committee of six experts (sport psychologists, couches, physical education teachers). Drawing on the experts' comments that centered around cultural differences or local terms, changes were introduced into the final Polish version of the SMS. The SMS consisted of 28 items, each reflecting a possible source of motivation for practicing one's sport activity [23]. The Polish version of SMS has been added in Appendix. Norms are available from the authors upon request. The primary psychometric properties of the Polish version of SMS were presented at the 13th FEPSAC Congress [30].

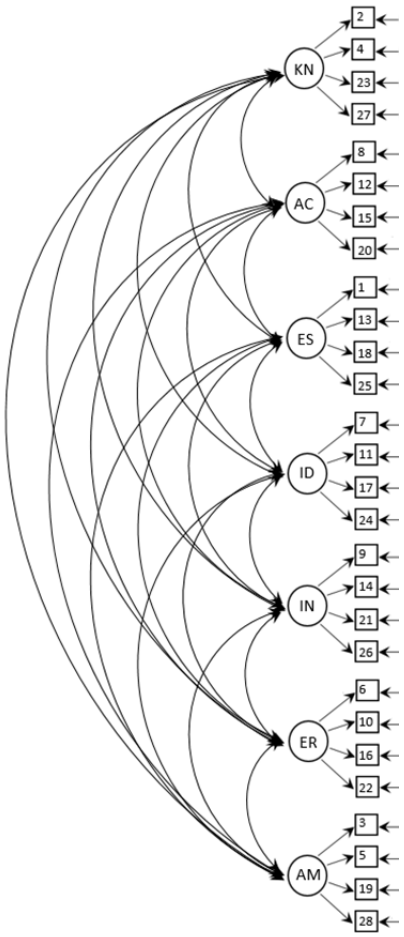
Design and procedures

The SMS is used to assess differences in motivation toward sport, according to the self-determination theory in its three components: intrinsic motivation, extrinsic motivation and amotivation. It comprises seven subscales related to the three motivational components: three intrinsic motivation subscales (intrinsic motivation

to know, intrinsic motivation to accomplish, intrinsic motivation to experience stimulation), three extrinsic motivation subscales (identification, introjection, external regulation) and one amotivation subscale. Each subscale consists of four items. The participants were tested by the psychologists at the club or university environment. The question the participants were asked was "Why do you practice your sport?", which allowed practitioners of many different sports to give and rate their answers to respective questionnaire items. The participants were to reveal the extent of correspondence of the scale items to their reasons for practicing sport on a seven-point Likert scale: from 1 (does not correspond at all) to 7 (corresponds exactly).

Statistical analysis

Firstly, internal consistency of the subscales was determined. Then it was followed by verification of factor structure of the Polish version of SMS done on the basis of the employed Confirmatory Factor Analysis. The analysis was performed with the use of SPSS AMOS 24. The evaluation of the tested models was obtained on the basis of different model fit indices. Chi-squared statistics was used, however, as it is known, the chi-squared test is very sensitive to a sample size and, hence, to evaluate the goodness of fit mainly other indices were used such as CFI, NFI, NNFI(TLI), RMSEA. Maximum-likelihood (ML) estimation procedure was applied [16]. The tested model was in line with the theoretical predictions and the construction of the original scale. In accordance with seven subscales of SMS, this model postulated the existence of seven factors. Each factor comprised each subscale's four respective items. In this model covariances among all seven factors were freed (Figure 1).



Note: KN – intrinsic motivation to know; AC – intrinsic motivation to accomplish; ES – intrinsic motivation to experience stimulation; ID – identification; IN – introjection; ER – external regulation; AM – amotivation

Figure 1. Seven factors of the SMS model

Test-retest SMS surveys were conducted with an interval of two weeks on a sample size of 140 individuals (both recreational and competitive athletes, with the mean age of 20.29, SD = 0.85). For indication of the test-retest reliability the Pearson's coefficient was used. In order to compare gender, sport type, level of participation within the intrinsic motivation and extrinsic motivation a three-way ANOVA was conducted.

Results

Reliability index of the SMS – internal consistency

The reliability of each subscale was presented as Cronbach's alpha scores: motivation to know – 0.81, motivation to accomplish – 0.80, motivation to experience simulation – 0.83, identification – 0.73, introjection – 0.73, external regulation – 0.75, amotivation – 0.77.

Verification of factor structure of the SMS – Confirmatory Factor Analysis

The confirmatory factor analysis was conducted in order to verify the validity of the 7-factor SMS model (Figure 1). The fit of the SMS model was not fully satisfactory, NFI, CFI and TLI were below 0.90, however the RMSEA index was close to the cutoff score of 0.06 (Table 1). The loadings for SMS model were presented in Table 2 and correlations coefficients among SMS factors (adequate to the seven subscales) in Table 3.

Table 1. Fit indexes for the SMS model

Chi-square	df	p<	RMSEA (90% CI)	NFI	TLI	CFI
1195.76	329	0.001	0.066 (0.062-0.070)	0.848	0.867	0.884

Table 2. Standardized loadings for items in particular subscales for the SMS model

Subscale	Item/loading	Item/loading	Item/loading	Item/loading
Intrinsic motivation to know	2/0.634	4/0.768	23/0.776	27/0.718
Intrinsic motivation to accomplish	8/0.753	12/0.601	15/0.746	20/0.730
Intrinsic motivation to experience stimulation	1/0.643	13/0.797	18/0.771	25/0.752
Identification	7/0.660	11/0.671	17/0.605	24/0.608
Introjection	9/0.572	14/0.706	21/0.689	26/0.586
External regulation	6/0.725	10/0.656	16/0.598	22/0.658
Amotivation	3/0.701	5/0.763	19/0.606	28/0.633

Table 3. Correlations among latent factors for SMS model

		Intrinsic motivation			Extrinsic motivation		
		KN	AC	ES	ID	IN	ER
Intrinsic motivation	KN						
	AC	0.964***					
	ES	0.825***	0.948***				
Extrinsic motivation	ID	0.641***	0.612***	0.637***			
	IN	0.641***	0.722***	0.708***	0.707***		
	ER	0.390***	0.326***	0.361***	0.737***	0.556***	
Amotivation	AM	–0.361***	–0.471***	–0.360***	–0.052	–0.192***	0.180***

Note: KN – intrinsic motivation to know; AC – intrinsic motivation to accomplish; ES – intrinsic motivation to experience stimulation; ID – identification; IN – introjection; ER – external regulation; AM – amotivation
*** $p < 0.001$

Test-retest reliability of the SMS

The correlations between the SMS subscales of test and retest were satisfactory, from r = 0.73 for amotivation and r = 0.83 for experience stimulation (Table 4).

Table 4. Correlations between the test and retest SMS subscales

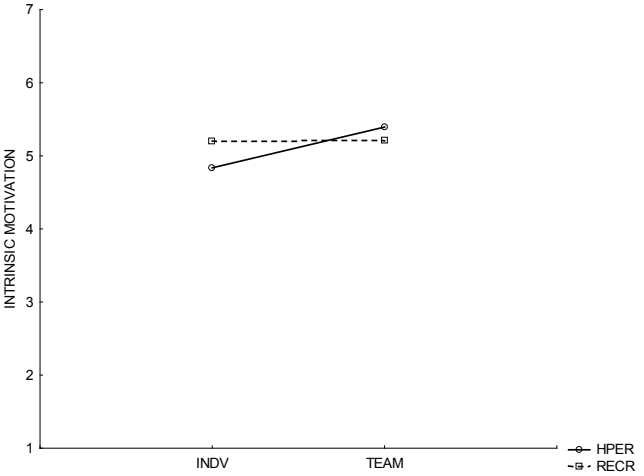
KN	AC	ES	ID	IN	ER	AM
0.76***	0.78***	0.83***	0.79***	0.78***	0.77***	0.73***

Note: KN – intrinsic motivation to know; AC – intrinsic motivation to accomplish; ES – intrinsic motivation to experience stimulation; ID – identification; IN – introjection; ER – external regulation; AM – amotivation
*** $p < 0.001$

Gender, level of participation, sport type effect and level of motivation assessed by the SMS

The analysis results for intrinsic motivation revealed a significant main effect for sport type: individual – team ($F(1,605) = 9.20$; $p = 0.0025$; $\eta_p^2 = 0.015$). Team players displayed a higher level of intrinsic motivation (M = 5.310, SD = 0.913) than individual athletes (M = 4.941, SD = 1.168). A significant effect for interaction of sport type (individual – team) and level of participation (high performance – recreational) was noted for intrinsic motivation ($F(1,605) = 9.14$; $p = 0.0026$; $\eta_p^2 = 0.015$) (Figure 2). A significant difference was found among the high-performance athletes, whereas the team players had a significantly higher level of intrinsic motivation (M = 5.424, SD = 0.880) than individual athletes

(M = 4.808, SD = 1.254) (post-hoc Bonferroni, $p < 0.001$). However, no significant differences were found between team and individual athletes in recreational group ($p = 1.000$). Individual athletes who practiced recreational sports (M = 5.197, SD = 0.937) revealed a higher level of intrinsic motivation than individual high-performance athletes (M = 4.808, SD = 1.254) (post-hoc Bonferroni, $p = 0.0082$). In the case of team sports, no significant differences at $p = 0.05$ were found between recreational and high-performance athletes (post-hoc Bonferroni, $p = 0.8434$) (Figure 2).



Note: INDV – individual athletes; TEAM – team athletes; HPER – high performance athletes; RECR – recreational athletes; Scale: 1-7, 1 – does not correspond at all, 7 – correspond exactly (score/ number of questions)

Figure 2. Effect of interaction for sport type: individual (INDV) – team (TEAM) and level of participation: high performance (HPER) – recreational (RECR) for intrinsic motivation

In the case of extrinsic motivation a significant main effect was found for gender only ($F(1,605) = 8.675$; $p = 0.0034$; $\eta_p^2 = 0.0141$). The male respondents displayed higher extrinsic motivation (M = 4.390, SD = 1.074) than female respondents (M = 4.083, SD = 1.004).

Discussion

The obtained internal consistency of Polish adaptation of the SMS appeared to be acceptable (0.73-0.83) as well as in the most studies using the SMS [5]. For example, the obtained internal consistency (Cronbach's alpha scores) indices appeared to be acceptable in the English version (alpha: 0.63-0.80) [23], the Greek version (alpha: 0.64-0.78) [10], the SMS adapted to physical education (0.72-0.84) [13], the Turkish version (alpha: 0.70-0.88) [15], the Spanish version (alpha: 0.70-0.80) [20], the Italian version (alpha: 0.66-0.78) [9], the German version of the SMS (alpha: 0.70-0.85) [2] and Martens and Webber's work on American athletes (alpha: 0.70-0.82) [19]. Test-retest reliability of the Polish version of SMS was also relatively good (0.73-0.83).

The fit of the SMS model was not fully satisfactory CFI, TLI and NFI were below 0.90 (CFI = 0.884; TLI = 0.867; NFI = 0.848), however the RMSEA index was close to the cutoff score of 0.06 (exactly 0.066). For example, Pelletier et al. [23] in their study of Canadian varsity athletes (N = 593) reported a good fit for the full SMS model: although the chi-squared distribution indicated a poorer fit, the other fit indices showed a fairly good one (GFI = 0.94; AGFI = 0.92; NFI = 0.92). A good fit for their model was also reported by Li and Harmer [17] on a sample of 857 students (CFI = 0.91; TLI = 0.90; RMSEA = 0.08). Not so high fit indices were obtained by Martens and Webber [19] in their study of 270 athletes for the full scale model, but relatively good fit for individual components of the scale (full model: RMSEA = 0.07; CFI = 0.84; TLI = 0.82; NFI = 0.76). The fit indices for the full model were not so high in study of 430 Italian older athletes (CFI = 0.765; RMSEA = 0.083) [9] as well as those of Mallett et al. [18] in their study of two groups with the use of the original SMS: for Group I (614 Australian students and athletes) – CFI = 0.857; RMSEA = 0.062; and for Group II (557 students) – CFI = 0.878, RMESA = 0.062. The validity of the instrument was also tested by the structure of correlations between factors for the SMS model for the entire sample. Simplex-ordered correlation matrices were analyzed in order to identify the continuum of self-determination. Most factors appeared to have a higher correlation with adjacent as opposed to distance subscales of the SMS. For example, intrinsic motivation subscales were very strongly correlated with each other while less strongly correlated with all the subscales of extrinsic motivation. Amotivation showed a positive significant correlation with external regulation and a negative correlation with introjected regulation, further, it was stronger negatively correlated with all intrinsic motivation subscales. The self-determination continuum based on SDT assumptions was supported by the acceptable indications of the simplex pattern structure of Polish SMS as well as it was highlighted in other studies analyzing self-determination continuum [4, 9, 17, 19, 24].

With regard to the respondents' gender, level of participation and type of practiced sport, team players featured a higher level of intrinsic motivation than

individual. As shown in further analysis of interaction effect and simple effects, it concerned only high performance athletes. The noted relationship does not have to be direct. Possibly, in the group of high-performance competitive athletes, individual high-performance athletes are more ego-oriented, which can be related to their slightly weaker internal sources of motivation. When examining the difference in the level of intrinsic motivation in competitive athletes in comparison to recreational athletes, it could be pointed out that competitive athletes exhibited a lower intrinsic motivation level than recreational athletes, in the case of individual sports. It partly confirms the results obtained by Fortier et al. [11], who using the SMS showed that, on the whole, recreational athletes demonstrated a higher level of intrinsic motivation to accomplish and a higher level of intrinsic motivation to experience stimulation than competitive athletes [11]. The SMS, however, estimates the level of motivation with precise reference to a sports area. An aspect of the relations between the level of participation (recreational, competitive) and motivational factors was also considered in a broader context of life aspirations. This problem was raised by Chatzisarantis and Hagger [3], who suggested that competitive athletes might feel less happiness and might have lower well-being than athletes who participate in recreational sport, since competitive athletes value extrinsic aspirations higher than recreational athletes. Participation in recreational sport activity, defined as voluntary and uncontrolled, may fulfill those needs better than participation in competitive sport. Given that, it could be assumed that engaging in recreational sport activity contributes to the global feeling of well-being to a greater extent than participating in competitive sport.

A slightly higher level of extrinsic motivation was noted in men as compared with women. Similar results were also obtained by Fortier et al. [11] or Teo et al. [28]. In the evolutionary and social context the dominance of external sources of motivation in men seems to be justified as men usually displayed high orientation towards achievement that was connected with external factors such as recognition by others, prestige, etc. The conducted studies also extend the perspective of examining motivational conditionings in a sports area with differentiating among recreational, competitive, individual and team sport being taken into account, and with considering gender differences in sport and the exercise domain [3, 11]. Furthermore, the studies highlight the importance of seeing sport participation through the prism of achievement goal orientations [12]. Future research employing the SMS could focus on other important structural components of a sports domain that are seen as vital not only from an angle of athlete's effectiveness but also from a perspective of an athlete's general quality of life (optimal functioning, well-being, happiness, life enjoyment, etc.) that takes account of life perspective that goes beyond sports context.

References

1. Brière NM, Vallerand RJ, Blais MR, Pelletier LG. 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.
2. Burtscher J, Furtner M, Sachse P, Burtscher M. Validation of a German version of the Sport Motivation Scale (SMS28) and motivation analysis in competitive mountain runners. Percept Mot Ski. 2011; 112: 807-820. DOI: 10.2466/05.06.25.pms.112.3.807-820.
3. Chatzisarantis NLD, Hagger MS. The moral worth of sport reconsidered: contributions of recreational sport and competitive sport to life aspirations and psychological well-being. J Sports Sci. 2007; 25: 1047-1056. DOI: 10.1080/02640410600959954.
4. Chatzisarantis NLD, Hagger MS, Biddle SJH, Smith B, Wang J. A meta-analysis of perceived locus of causality in exercise, sport, and physical education contexts. J Sport Exerc Psychol. 2003; 25: 284-306.
5. Clancy RB, Herring MP, Campbell MJ. Motivation measures in sport: a critical review and bibliometric analysis. Front Psychol. 2017; 8(348).
6. Deci EL, Ryan RM. Handbook of self-determination research. University of Rochester Press; 2004.
7. Deci EL, Ryan RM. Intrinsic motivation and self-determination in human behavior. New York: Plenum; 1985.
8. Deci EL, Ryan RM. The "what" and "why" of goal pursuits: human needs and the self-determination of behavior. Psychol Inq. 2000; 11: 227-268. DOI: 10.1207/S15327965PLI1104_01.
9. De Pero R, Amici S, Benvenuti C, Minganti C, Capranica L, Pesce C. Motivation for sport participation in older Italian athlets: the role of age, gender and competition level. Sport Sci Health. 2009; 5: 61-69. DOI: 10.1007/s11332-009-0078-6.
10. Doganis G. Development of a Greek version of the Sport Motivation Scale. Percept Mot Ski. 2000; 90: 505-512. DOI: 10.2466/pms.2000.90.2.505.
11. Fortier M, Vallerand RJ, Briere M, Provencher P. Competitive and recreational sport structures and tender:

a test of their relationship with sport motivation. Int J Sport Psychol. 1995; 26: 24-39.
12. Georgiadis MM, Biddle SJH, Chatzisarantis NL. The mediating role of self-determination in the relationship between goal orientations and physical self-worth in Greek exercisers. Eur J Sport Sci. 2001; 1: 1-8.
13. Granero-Gallegos A, Baena-Extremera A, Gómez-López M, Sánchez-Fuentes JA, Abraldes JA. Psychometric properties of the "Sport Motivation Scale (SMS)" adapted to physical education. J Sport Sci Med. 2014; 13(4), 801--807.
14. Hollembeak J, Amorose AJ. Perceived coaching behaviors and college athletes' intrinsic motivation: a test of self-determination theory. J Appl Sport Psychol. 2005; 17: 20-36.
15. Kazak Z. A study on reliability and validity of "The Sport Motivation Scale -SMS-" for Turkish athletes. Hacettepe J Sport Sci. 2004; 15: 191-206.
16. Konarski R. Structural equations models. Theory and practice. Warszawa: PWN; 2009.
17. Li F, Harmer P. Testing the simplex assumption underlying the Sport Motivation Scale: a structural equation modeling analysis. Res Q Exercise Sport. 1996; 67: 196-405.
18. Mallett CJ, Kawabata M, Newcombe P, Otero-Forero A, Jackson S. Sport Motivation Scale-6 (SMS-6): a revised six-factor sport motivation scale. Psychol Sport Exerc. 2007; 8: 600-614; DOI: 10.1016/j.psychsport.2006.12.005.
19. Martens MP, Webber SN. Psychometric properties of the Sport Motivation Scale: an evaluation with college varsity athlets from the U.S. J Sport Exerc Psychol. 2002; 24: 254-270.
20. Nunez JL, Martin-Albo J, Navarro JG, Gonzalez VM. Preliminary validation of a Spanish version of the Sport Motivation Scale. Percept Mot Skills. 2006; 102: 919--930. DOI: 10.2466/pms.102.3.919-930.
21. Paic R, Kajos A, Meszler B, Prisztóka G. Validation of the Hungarian Sport Motivation Scale (H-SMS). Cogn Brain Behav. 2017; XXI(4): 275-291. DOI: 10.24193/cbb.2017.21.17.
22. Pelletier LG, Rocchi MA, Vallerand RJ, Deci EL, Ryan RM. Validation of the revised sport motivation scale (SMS-II). Psychol Sport Exer. 2013; 14: 329-341.
23. Pelletier LG, Tuson KM, Fortier MS, Vallerand RJ, Briére NM, Blais MR. Toward a new measure of intrinsic motivation, extrinsic motivation and amotivation in sports. J Sport Exerc Psychol. 1995; 17: 35-53.
24. Pelletier LG, Vallerand RJ, Sarrazin P. The revised six-factor sport motivation scale (Mallett, Kawabata, Newcombe, Otero-Forero, & Jackson, 2007): Something old, something new, and something borrowed. Psychol Sport Exer. 2007; 8: 615-621. DOI: 10.1016/j.psychsport.2007.03.006.
25. Ryan RM, Connell JP. Perceived locus of causality and internalization: examining reasons for acting in two domains. J Pers Soc Psychol. 1989; 57: 749-761. DOI: 10.1037//0022-3514.57.5.749.
26. Ryan RM, Deci E. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. Am Psychol. 2000; 55: 68-78. DOI: 10.1037//0003-066X.55.1.68.
27. Ryan RM, La Guardia JG. What is being optimized over development?: A self-determination theory perspective on basic psychological needs across the life span. In: Qualls S, Abeles N, editors. Psychology and the aging revolution. Washington, DC: APA Books, 145-172; 2000.
28. Teo EW, Khoo S, Wong R, Wee EH, Lim BH, Rengasamy SS. Intrinsic and extrinsic motivation among adolescent ten-pin bowlers in Kuala Lumpur, Malaysia. J Hum Kinet. 2015; 45: 241-251. DOI: http://doi.org/10.1515/hukin-2015-0025.
29. Vallerand RJ. Toward a methodology for the transcultural validation of psychological questionnaires: implications for research in the French language. Can Psychol. 1989; 30: 662-680.
30. Walczak M, Tomczak M. Psychometric properties of the Polish version of Sport Motivation Scale (SMS). In: Serpa S, Teixera N, Almeida MJ, Rosado A, editors. Sport and Exercise Psychology: Human Performance, Well-Being and Health. Proceedings of the 13th FEPSAC European Congress of Sport Psychology, Madeira; 2011.
31. Wininger SR. Self-determination theory and exercise behavior: an examination of the psychometric properties of the Exercise Motivation Scale. J Appl Sport Psychol. 2007; 19: 471-486.
32. Yıldız A, Altıntaş A, Elmas S, Aşçı FH. Investigating the psychometric properties of Sport Motivation Scale-II. Turk J Sports Med. 2019; 54(1): 33-44. DOI: 10.5152/tjsm.2019.114.

Appendix

Skala Motywacji w Sporcie (Polish SMS-28)

Luc G. Pelletier, Kim M. Tuson, Michelle Fortier, Robert J. Vallerand, Nathalie M. Briére, Marc R. Blais
Polska adaptacja: Małgorzata Walczak, Maciej Tomczak

Wskazówki
- Korzystając z poniższej skali, wskaż, proszę, w jakim stopniu (od 1 do 7) każde z poniższych stwierdzeń odnosi się do powodów, dla których obecnie uprawiasz swoją dyscyplinę sportu.
- Zakreśl wybraną odpowiedź.

Nie odnosi się do mnie zupełnie	*Odnosi się do mnie w niewielkim stopniu*		*Odnosi się do mnie umiarkowanie*	*Odnosi się do mnie w dużym stopniu*		*Odnosi się do mnie dokładnie*
1	2	3	4	5	6	7

Dlaczego zajmujesz się swoją dyscypliną sportu?

1.	Dla przyjemności, jaką odczuwam, przeżywając ekscytujące doświadczenia.	1	2	3	4	5	6	7
2.	Dla przyjemności, jaką daje mi zdobywanie wiedzy o dyscyplinie, którą uprawiam.	1	2	3	4	5	6	7
3.	Kiedyś miałem ważne powody, aby trenować, ale teraz pytam sam siebie, czy powinienem robić to dalej.	1	2	3	4	5	6	7
4.	Dla przyjemności, którą daje mi odkrywanie nowych technik w treningu.	1	2	3	4	5	6	7
5.	Sam już nie wiem, mam wrażenie, że nie osiągnę nic więcej w tej dyscyplinie.	1	2	3	4	5	6	7
6.	Ponieważ dzięki temu ludzie lepiej mnie oceniają.	1	2	3	4	5	6	7
7.	Ponieważ moim zdaniem jest to jeden z najlepszych sposobów na poznawanie nowych ludzi.	1	2	3	4	5	6	7
8.	Ponieważ odczuwam osobistą satysfakcję z doskonalenia trudnych technik w treningu.	1	2	3	4	5	6	7
9.	Ponieważ uprawianie sportu jest absolutnie niezbędne, jeżeli chcemy być w formie.	1	2	3	4	5	6	7
10.	Dla prestiżu bycia sportowcem.	1	2	3	4	5	6	7
11.	Ponieważ jest to jeden z najlepszych sposobów, które mogłem wybrać, aby rozwijać różne aspekty mojej osobowości.	1	2	3	4	5	6	7
12.	Dla przyjemności, którą odczuwam, wzmacniając swoje słabe strony.	1	2	3	4	5	6	7
13.	Dla ekscytacji, którą odczuwam, gdy jestem w coś naprawdę zaangażowany.	1	2	3	4	5	6	7
14.	Ponieważ aby mieć dobre samopoczucie, muszę uprawiać sport.	1	2	3	4	5	6	7
15.	Dla satysfakcji, której doświadczam podczas doskonalenia swoich umiejętności.	1	2	3	4	5	6	7
16.	Ponieważ ludzie z mojego otoczenia uważają, że bycie w formie jest rzeczą ważną.	1	2	3	4	5	6	7
17.	Ponieważ jest to dobry sposób, aby nauczyć się wielu rzeczy, które mogą przydać się w innych sferach mojego życia.	1	2	3	4	5	6	7
18.	Dla intensywnych emocji, które odczuwam, uprawiając sport, który lubię.	1	2	3	4	5	6	7
19.	Nie jest to dla mnie jasne, nie odnajduję się już w sporcie.	1	2	3	4	5	6	7
20.	Dla przyjemności, którą odczuwam, wykonując jakieś trudne ćwiczenia.	1	2	3	4	5	6	7

21.	Ponieważ czułbym się źle, nie spędzając czasu właśnie w taki sposób.	1	2	3	4	5	6	7
22.	By pokazać innym, jak dobry jestem w sporcie, który uprawiam.	1	2	3	4	5	6	7
23.	Dla przyjemności, którą odczuwam podczas przyswajania technik w treningu, których nigdy wcześniej nie próbowałem.	1	2	3	4	5	6	7
24.	Ponieważ jest to jeden z najlepszych sposobów podtrzymywania dobrych relacji z moimi przyjaciółmi.	1	2	3	4	5	6	7
25.	Ponieważ lubię uczucie, kiedy jestem w coś całkowicie zaangażowany.	1	2	3	4	5	6	7
26.	Ponieważ muszę uprawiać sport regularnie.	1	2	3	4	5	6	7
27.	Dla przyjemności odkrywania nowych strategii działania.	1	2	3	4	5	6	7
28.	Często zadaję sobie to pytanie; wygląda na to, że nie jestem w stanie osiągnąć wyznaczonych sobie celów.	1	2	3	4	5	6	7

Klucz do obliczania wyników skali SMS

2	4	23	27	Motywacja wewnętrzna – wiedza
8	12	15	20	Motywacja wewnętrzna – doskonalenie
1	13	18	25	Motywacja wewnętrzna – doznawane stymulacji
7	11	17	24	Motywacja zewnętrzna – identyfikacja
9	14	21	26	Motywacja zewnętrzna – introjekcja
6	10	16	22	Motywacja zewnętrzna – regulacja zewnętrzna
3	5	19	28	Amotywacja