

## ORIGINAL SCIENTIFIC PAPER

# Evaluating Dancers' Participation Motives: The Use of the Greek Version of the BRSQ

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## Abstract

The study's aim was to cross-validate the "Behavioral Regulation in Sport Questionnaire" (BRSQ), of Lonsdale and his co-authors (2008) in a Greek dance context. The sample consisted of 390 dancers, 249 coming from folk dance groups and 141 from non-folkdance groups. The scale was translated into Greek using the back-translation procedure. The validity and reliability of the questionnaire were checked by performing a confirmatory factor analysis (CFA) and an internal consistency analysis using Cronbach's alpha. Descriptive statistics were calculated to broadly examine the participation motives and Independent samples t-test calculated the differences in the participants' motives according to the kind of dance they chose to participate in. The Greek version of BRSQ showed stable psychometric properties. Intrinsic motivation is highly evaluated by both traditional and modern/classic dance participants, though the participants of different types of dances statistically different evaluate some of their intrinsic and extrinsic motives of participation.

**Key words:** traditional dance, modern and classic dance, motivation, participants, BRSQ

## Introduction

Dance, as an expression of human behavior, always fascinated people no matter of their age, sex or social tax. It has always been an integral part of both the daily and the festive life of humans (Deagon, 2008), and it has evolved into a highly cultural and recreational form of expression. Nowadays, dance is considered to be a pleasant and effective form of physical and recreational activity (Goulimaris, Mavridis, Genti, & Rokka, 2014), and for this reason it attracts many participants (Goulimaris, 2016). It offers both physiological and psychological benefits and, most importantly, it can be performed anywhere and at any time, without the use of any specific equipment (Judge, 2003). Researchers (Bennet & Hackney, 2018; Kaltsatou, Kouidi, Anifanti, Douka, & Deligiannis, 2014; Mavrovouniotis, Argiriadou, & Papaioannou, 2010; Rokka, Mavridis, Mavridou, Kelepouris, & Filippou, 2015; Rudolph et al., 2018), proved that as dance combines movement, social interaction and fun, it motivates participation in general, either for healthy people of all ages and for patients taking part in training programs.

Measuring and understanding consumers' motivation is of extreme importance as it helps organizations to implement any type of system aiming to improve process efficiency and efficacy, seek competitive advantage, build a brand identity and secure customer retention (Alexandris, 2012; Gonzalez, Tomas, Castillo, Duda, & Balaguer, 2017; Mehmeti & Halilaj, 2018; Tsitskari, Tzetzis, & Konsoulas, 2017). Customer retention is one of the most important issues facing leisure managers, as it requires detailed knowledge of behavioral aspects of customers' decision-making process (Tsitskari et al., 2017), such as of their motives.

Literature on exercise motivation indicates that its conceptualization and measurement are not yet clear issues. Different theoretical approaches have been used and, as a result, a variety of measurement models have been proposed (Lonsdale, Hodge & Rose, 2008; Mallet, Kawabata, Newcombe, Otero-Forero, & Jackson, 2007; Pelletier, Fortier, Vallerand, Tuson, & Blais, 1995). This might also be related to the heterogeneity of exercise participants and the different exercise environments worldwide. Naturally, this heterogeneity exists in



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the evaluation of dancers' motivation, as well (Goulimaris, Filippou, & Koupani, 2016; Filippou, Rokka, & Mavridis, 2016). Self-determination theory (Deci & Ryan, 2000) has been prominent in conceptualizing all types of sport motivation in terms of a qualitative continuum. The most basic distinction that its researchers proposed was that of intrinsic motivation (absence of external rewards), extrinsic motivation (external rewards), and amotivation (Deci & Ryan, 2000).

Intrinsic motivation refers to doing an activity for the pleasure deriving from participating in it, with a complete absence of external rewards (Deci & Ryan, 2000). Consequently, all choices taken when a person is intrinsically motivated involve a great sense of freedom. Extrinsic motivation refers to taking part in an activity for external rewards (Deci & Ryan, 2000) and separable outcomes, to avoid punishment or satisfy an external demand (Lonsdale et al., 2008). Finally, amotivation (Ryan & Deci, 2000), is the state of lacking an intention to act. In the sporting context, for example, amotivated athletes are likely to question the continuation of their participation (Lonsdale et al., 2008). To examine intrinsic motivation, extrinsic motivation and amotivation, following the principles of SDT in a dance participation context, a conceptually and psychometrically sound measure of behavioral regulation is essential.

Lonsdale and his cooperates (2008) offered to the research community such a scale, comprised of 36 items evaluating amotivation, intrinsic and extrinsic motivation through nine types/factors of motivation: i) One for amotivation, ii) four for intrinsic motivation (IM-General, IM to know, IM to experience stimulation and IM towards accomplishments) and iii) four for extrinsic motivation (Integrated, Identified, Introjected and External regulation). Each factor was evaluated through four items. The researchers named the tool "Behavioral Regulation in Sport Questionnaire (BRSQ)". The evidence that Lonsdale and his cooperates (2008) presented was supportive of the reliability and validity of the BRSQ scores. The scale has already been used in a Greek sample of young sport participants by Tsitskari, Vernadakis, Foridou and Bebetos (2015), though the translated scale did not support the hypothesized dimensionality of the original one. After confirmatory and exploratory factor analyses, a six-factor solution resulted, that closely reproduced three of the motivational factors of the initial Australian version of BRSQ (Lonsdale et al., 2008).

The aim of the present study was to examine the factorial structure and validity of BRSQ in a sample of dancers participating in Greek traditional dance and classic and modern dance lessons. Moreover, the possible differences among the different dances' participants were also examined.

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## Methods

### Participants

The sample of the study consisted of 390 dancers, recruited from ten groups offering lessons of Greek traditional dances (249 participants) and six schools offering classic and modern dance's lessons (141 participants). The samples' demographics appear in Table 1.

**Table 1.** Sample's Demographic characteristic

Gender (%)		Age (%)		Dance (%)	
Male	22.8	15-18	37.4	Greek Traditional	63.8
Female	77.2	19-29	23.8	Non-traditional (modern & classical dances)	36.2
		30-39	18.5		
		40-49	14.4		
		>50	5.9		

### Instruments

As the first Greek version of BRSQ (Tsitskari et al., 2015) didn't support the original's hypothesized dimensionality, the researchers decided to once again use the original scale and test it in a sample of Greek dancers. Although BRSQ was specifically designed for use with competitive sport participants (Lonsdale et al., 2008), the researchers believe that it will fit well in a less competitive environment as such of traditional and non-traditional dances' lessons.

The original scale consisted of 36 items, comprised in nine factors of motivation, the following: i) Amotivation, with 4 items, e.g. "...but I question why I continue", ii) External regulation, with 4 items, e.g. "...because if I don't participate other people will not be pleased with me", iii) Introjected regulation, with 4 items, e.g. "...because I would feel guilty if I quit", iv) Identified regulation, with 4 items, e.g. "...because it's a good way to learn things which could be useful to me in my life", v) Integrated regulation, with 4 items, e.g. "...because it's an opportunity for me to be just who I am", vi) IM-general, with 4 items, e.g. "...because I enjoy participating in dance classes", vii) IM-Know, with 4 items, e.g. "...because I enjoy learning new things about dance", viii) IM experience Stimulation, with 4 items, e.g. "...because of the pleasure I experience when I feel

completely absorbed in dance", and ix) IM to accomplish, with 4 items, e.g. "...because I enjoy doing something to the best of my ability". All answers were given in a seven-point Likert type scale ranging from 1=totally disagree to 7=totally agree.

The back-translation technique was used to translate the BRSQ scale. Two researchers translated the original BRSQ into Greek and afterwards compared the two versions. 29 out of the 36 items were translated in an almost identical way. For the remaining 7, the two researchers discussed the results and concluded that its meaning was quite identical, despite the use of different words. In each case, the translators came to an agreement to keep one of the two statements, which seemed to be the more appropriate one according to the vocabulary used, the meaning, the grammar and syntax. The Greek version was then given to two other bilingual researchers in the field of sport marketing and psychology who agreed to translate the items back into English. Neither of the two researchers had ever used the BRSQ. After the translation was accomplished, the four researchers evaluated the back-translated versions with the original Questionnaire. While some of the statements (22 out of 36) were slightly not identical to those of the original scale, the researchers agreed that their meaning was the same and decided to retain the translated Greek scale.

To check the content validity of the questionnaire a pilot study was carried out, in which 80 traditional dancers and 40 modern dance participants. The questionnaires were filled in and the respondents didn't report any difficulty in the comprehension and the fill in of the questionnaire.

*Procedure*

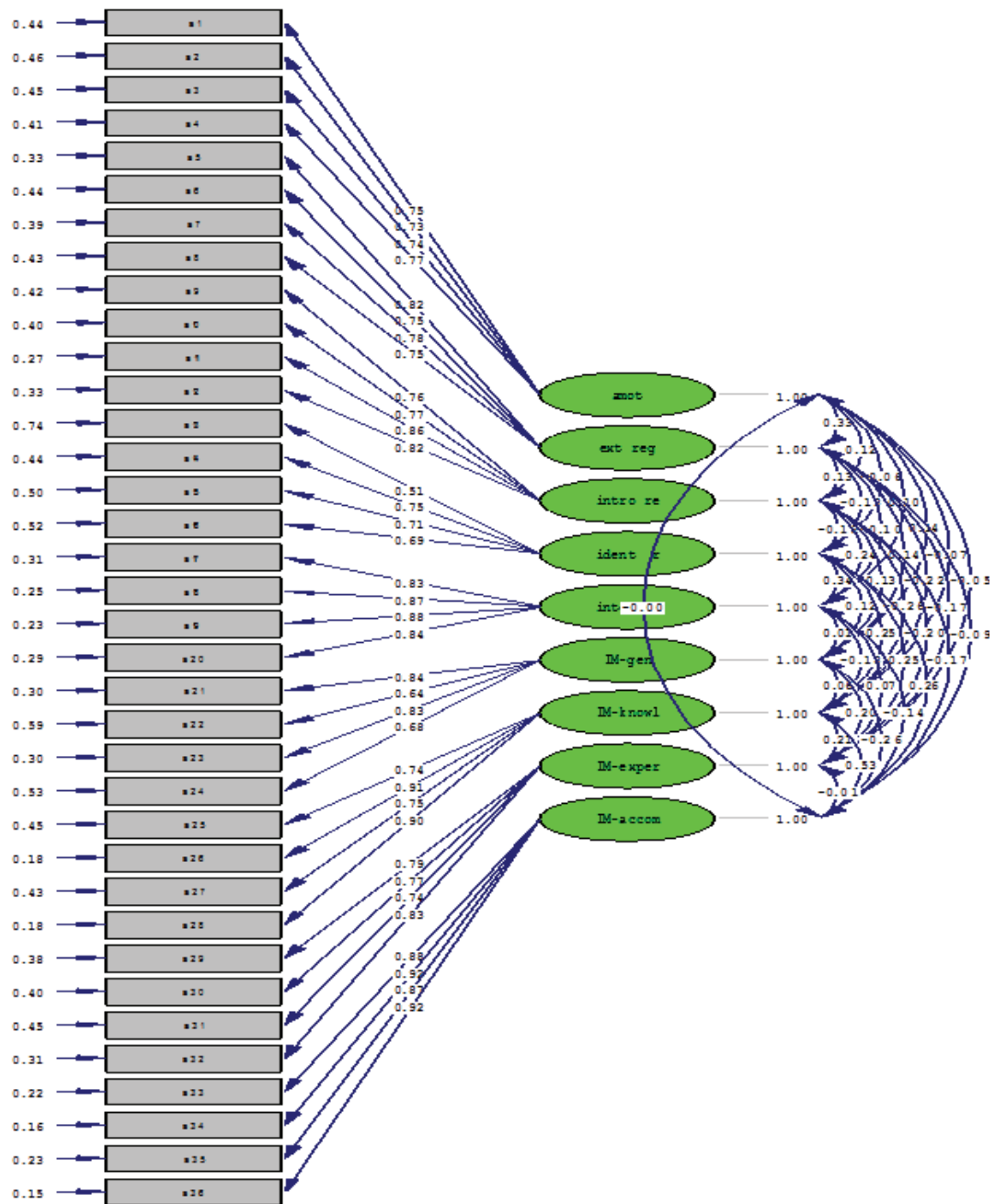
Data were collected from October to December of 2017. Prior contact with teachers or owners/managers of traditional and modern/classic dances was made to obtain permission. The questionnaires were given to the dancers by one of the researchers before the beginning of the lesson to avoid fatigue or even sentimental responses (eg. after a good or bad day on the lesson). A total of 435 questionnaires were distributed, 397 were returned, of which, eventually, 390 were used in the study (return rate: 89.66%).

*Data analysis*

Questionnaire's validity and reliability were checked by performing a confirmatory factor analysis (CFA), an internal consistency analysis using Cronbach's alpha. Independent Samples T-test was performed to examine the possible differences on participants' motives according to the type of dance.

**Results**

A confirmatory factor analysis was performed through LISREL 8.80 on the nine subscales of the BRSQ. The hypothesized model is presented in figure 1 where ellipses represent latent variables and rectangles represent measured variables. Figure 1 shows the path diagram for the latent and observed variables.



**Chi-Square=1528.31, df=558, p-value=0.00 000, RMSEA=0.067**

**Figure 1.** Path diagram of the latent on the observed variables

The hypothesized model consists of eight latent variables, namely amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, IM-general,

IM-Knowledge, IM-experience stimulation, and IM-accomplish. The observed items on the BRSQ and their corresponding questions and subscales (factors) are presented in Table 2.

**Table 2.** Standardized direct effects of the latent on the observed variables

Items	Factors								
	L1	L2	L3	L4	L5	L6	L7	L8	L9
1	.75								
2	.73								
3	.74								
4	.77								
5		.82							
6		.75							
7		.78							
8		.75							
9			.76						
10			.77						
11			.86						
12			.82						
13				.51					
14				.75					
15				.71					
16				.69					
17					.83				
18					.87				
19					.88				
20					.84				
21						.84			
22						.64			
23						.83			
24						.68			
25							.74		
26							.91		
27							.75		
28							.90		
29								.79	
30								.77	
31								.74	
32								.83	
33									.88
34									.92
35									.87
36									.92

Legend: L1: amotivation, L2: external regulation, L3: introjected regulation, L4: identified regulation, L5: integrated regulation, L6: IM-general, L7: IM-Knowledge, L8: IM-experience stimulation, L9: IM-accomplish

The fit indices taken into consideration were: namely minimum discrepancy (CMIN or  $\chi^2$ ), degrees of freedom (d.f.), minimum discrepancy divided by the degrees of freedom ( $\chi^2/d.f.$ ), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and incremental indices Comparative Fit Index (CFI), Normed Fit Index (NFI) (Bagozzi, 1983; Banville, Desroriers, & Genet-Vo-

let, 2000; Hu & Bentler, 1999). The results of the confirmatory factor analysis demonstrated that the hypothesized model produced a significant chi-square,  $\chi^2(390, 558)=1528.31, p<0.05$ . The NFI and CFI were found to be 0.92 and 0.93 respectively. The RMSEA was also considered to assess the degree of fit of the model. The RMSEA value for the hypothesized model was found to be .067 and SRMR=0.044 (Table 3).

**Table 3.** Model Fit Indices

	N	CMIN	DF	NFI	CFI	RMSEA	SRMR
Model	390	1528.31	558	.92	.93	.067	.044

### Reliability analysis

The values for alpha of Cronbach were calculated to assess the internal consistency reliabilities of the scale (0.84) and its emerged sub-scales: i) 0.84 for IM-General, ii) 0.94 for IM-Stimulation, iii) 0.90 for the IM-Know, iv) .86 for the IM-accomplish, v) 0.92 for Integrated Regulation, vi) 0.88 for Introjected Regulation, vii) .86 for External Regulation, viii) 0.76 for Identified Regulation and ix) 0.84 for Amotivation (Table 4).

### Evaluating the Motives when Participating in Dancing Activities

As it becomes evident in Table 4, the factors "IM-general", "IM-accomplish" and "IM-knowledge" are experienced with the most considerable tension followed by "IM-experience stimulation" and "Integrated regulation". The factors "Amotivation" and "Introjected regulation" showed the lowest value.

**Table 4.** Means, Standard Deviations and Cronbach's  $\alpha$  of the Intrinsic, Extrinsic and Amotivation Factors evaluated by the sample's dancers

	Factors	M	SD	Cronbach's $\alpha$
1	IM-general	5.88	.83	.84
2	IM- accomplish	5.34	.76	.86
3	IM-know	5.10	.91	.90
4	IM- experience stimulation	4.66	1.14	.94
5	Integrated regulation	4.50	1.09	.92
6	Identified regulation	4.39	.74	.76
7	External regulation	2.72	.91	.86
8	Introjected regulation	1.96	.68	.88
9	Amotivation	1.75	.68	.84

### Evaluating the participants' Motives according to the type of Dance they participate in

Independent samples T-test was conducted to indicate any differences in kind of dance and participants motives. Results revealed significant statistical differences in the following subscales:

**i. "IM-general"**  $t(388)=17.94$ ,  $p<0.00$ : dancers of traditional dance ( $M=6.25$ ,  $SD=0.58$ ) more positively evaluated this factor than participants of non-traditional dance ( $M=5.21$ ,  $SD=0.79$ ).

**ii. "IM-experience stimulation"**  $t(388)=-4.40$ ,  $p<0.00$ : dancers of non-traditional dances ( $M=4.99$ ,  $SD=0.76$ ) more positively evaluated this motives than participants of traditional dances ( $M=4.47$ ,  $SD=1.28$ ).

**iii. "Integrated regulation"**  $t(388)=-4.14$ ,  $p<0.00$ : dancers of non-traditional dances ( $M=4.79$ ,  $SD=0.67$ ) more positively evaluated this motivational factor than dancers of traditional dance ( $M=4.33$ ,  $SD=1.24$ ).

**iv. "Identified regulation"**  $F(1,389)=6.24$ ,  $p<0.013$ : dancers of non-traditional dances ( $M=4.52$ ,  $SD=0.69$ ) more positively evaluated this factor than participants of traditional dances ( $M=4.31$ ,  $SD=0.77$ ).

### Discussion

In study, we examined perceptual and motor performances between fencers and non-fencers during a reaching task with a choice reaction time (RT) condition. The variables depicting the perceptual (RT) and motor performances (accuracy and movement speed) were analyzed. In all those variables, fencers displayed better performances compared to non-fencers. That is, fencers performed the reaching task with better RT, less final position error, and faster movements compared to non-fencers.

Superior performance of fencers compared to non-fencers was observed in many tasks. For instance, greater performance of the right arm in fencers over non-fencers has been reported for discriminative reaction time tasks (Chan et al., 2011; Di Russo et al., 2006). In their study, Chan et al. (2011) concluded that the combination of physical fitness and level of expertise

get more benefit for cognitive control mechanism compared to when each of them applied singly. In the current study, we also found that fencers have better perceptual performance compared to non-fencers. Both cognitive and perceptual skills are acquired through training, and the long-term participation of training required to attain high level of skill makes the component processes mainly automatic (Logan, 1988). Thus, expert skills are often flexible, so they can be utilized in various task contexts (MacKay, 1982), like what was observed in the current study. In another study, Williams and Walmsley (2000) introduced recordings of EMG activity during measurement of response times between elite fencers and novice subjects. They have found that elite fencers displayed more coherent muscle synergies and more consistent pattern of muscle coordination than novice subjects. Thus, more coherent muscle synergies for fencers may lead to have fewer errors than non-fencers, which was observed in the current study. We have also found that fencers' reaches were significantly faster than non-fencers. It has been previously found that fencers were faster than non-fencers in movements of the upper limbs (Roi & Bianchedi, 2008); thus, our finding on reaching movement speed is in agreement with that previous study result. Participation of long-term practice may lead the fencers to develop this skill over the time. In addition, as they mainly practice fast pointing movements in their exercise settings, this can lead them to have faster movements than non-fencers. In fact these results are not in agreement with speed accuracy trade-off proposed by Fitts (1954). As we stated earlier, Fitts stated that when the movement velocity increased, the errors in the aiming movements increased as well. This trend was not observed for the fencer. The speed accuracy trade-off has been an interesting topic for researchers especially focusing on choice RT tasks (Bogac, Wagenmakers, Forstmann, & Nieuwenhuis, 2010). This phenomenon is also very important for the sports performance. For instance, Freeston and Rooney (2014) conducted a study with baseball and cricket players to determine the speed that optimizes accuracy in a throwing task. They found that speed accuracy trade-off was worse for the cricket players compared to baseball players. Thus, even though these two sports seem to be similar

in many ways, they do not show the similar pattern in motor performance. In our study, fencers showed faster reaches with significantly less errors compared to non-fencers. Thus, speed accuracy trade-off is not predetermined entity and can be modified by long-term sport participation. It has been also previously stated that the classical Fitts' law can be violated in tasks that involve a ballistic component (Juras, Slomka, & Latash, 2009). In this study, we compared fencers and non-fencers in the same task that can include a ballistic component, and fencers showed a different pattern compared to non-fencers and violated the speed accuracy trade-off. In conclusion, although we do not know if the fencers had already superior perceptual and motor skill capabilities before they started fencing, we can point that this sport requires high perceptual and motor skill requirement. Moreover, fencers can control better the speed accuracy trade-off, and thus the phenomenon cannot be valid for some groups.

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#### Conflict of Interest

The authors declare that there are no conflicts of interest.

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