

# Validation of the Intentionality Scale of being physically active in a Portuguese population

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## ABSTRACT

The objective of our study was to validate the Intention to be physically active Scale to the Portuguese context, afterwards, to provide the questionnaire with concurrent validity through a correlation analysis between the variables of the levels of self-determined motivation and the intention to be physically active. The sample consisted of 308 subjects, aged between 15 and 29 years old ( $17.81 \pm 2.53$ ). Five items evaluated the factor "Intention to be physically active". The overall results of the model indicated an optimal fit, as well as good concurrent validity. This study provided a valid and reliable scale to assess the intention to be physically active of the Portuguese population. The application of this scale is considered extremely useful especially in students. **Keywords:** Physical activity; Motivation; Scale.

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## **INTRODUCTION**

The intention to be physically active, refers to the intention of a subject to continue practicing physical activity in the future, or more specifically, we could say that the intention is a predictor of behaviour and reflects the strength of the subjects to maintain said behaviours (Arias, Castejón, & Yuste, 2013). Franco, Coterón, & Gómez (2017) and Franco, Coterón, Gómez, & Laura (2017), found a positive and significant correlation between the more self-determined motivation and the practice of physical activity in free time, which in turn were predictors of the intention to practice in the future. Therefore, the objective of the present study was to validate the Scale of Intentionality of Being Physically Active (EIFA) to the Portuguese context, and as a secondary objective it was intended to provide the EIFA with concurrent validity by means of a correlation analysis with the different types of self-determined motivation.

## **MATERIAL AND METHODS**

### ***Participants***

308 people aged between 15 and 29 years ( $17.81 \pm 2.53$ ), Portuguese students, of whom 157 were men and 151 women took part of this study. The components of this sample group were selected by means of an intentional non-probabilistic sampling by conglomerate.

### ***Measures***

The items were extracted from the Scale of Intentionality to be Physically Active (Hein, Müür, & Koka, 2004), and translated by a group of Portuguese experts. The questionnaire consists of 5 items, which evaluates a single factor, the intention to be physically active (e.g. "I am interested in the development of my physical form"). In order to find the concurrent validity, the level of self-determined motivation was measured by applying the Scale of the Locus Perceived of Causality in Physical Education (PLOC Scale). The Portuguese validation (Monteiro, Moutão, & Cid, 2018) of the Perceived Locus of Causality Scale by Goudas, Biddle, & Fox (1994) was used. It consists of 24 items, divided into 6 factors (intrinsic motivation, integrated, identified, introjected, external regulation and amotivation). The answers were collected on a Likert-type scale, whose score range is between 1 (Strongly disagree) and 5 (Strongly agree).

### ***Procedures***

Firstly, the online questionnaire was produced using the Google Form platform. Later we administered the questionnaires through different channels (WhatsApp, Facebook, Twitter), and within several Secondary Schools of Portugal.

### ***Analysis***

Descriptive values were obtained, with means and standard deviations, as well as the reliability values of the questionnaire factors. Each variable passed the normality tests through the Kolmogorov Smirnov test and the homogeneity of the variances through the Levene test (Field, 2013), which led to the use of parametric statistics. Subsequently, the confirmatory factor analysis (CFA) was carried out, in which a combination of indices was taken into account, as advised by Bentler (1995). For this reason, to determine the adjustment of the scale, the indicators recommended by Byrne (2008) were followed:  $\chi^2$ ,  $\chi^2/df$ , CFI (Comparative Fit Index), IFI (Incremental Fit Index) and SRMR (Standardized Root Mean Square Residual). Jöreskog & Sörbom (1993) recommend that  $\chi^2 / df$ . Present values below 2, which indicates a very good fit of the model, while values below 5 are considered acceptable (Schumacker & Lomax, 2004). In the incremental indexes (CFI, IFI), values greater than .90 are considered acceptable (Schumacker & Lomax, 2004). The error rates RMSEA and SRMR must be less than .08 (Browne & Cudeck, 1993; Hu & Bentler, 1999). An internal

consistency analysis was performed through Cronbach's alpha. Finally, a descriptive and concurrent validity analysis was carried out through an analysis of bivariate correlations. For this, the statistical package SPSS 19.0 was used. To verify if the structure of the respective factors, with their corresponding items, was correctly adjusted to the Portuguese context, confirmatory factor analysis (CFA) was carried out through the EQS 6.1 program.

## RESULTS

### Confirmatory Factor Analysis

The standardized factorial loads were all statistically significant ( $p < .05$ ). The overall results of the model indicated an optimal fit:  $\chi^2 = 18.76$ ,  $p = .00$ ,  $\chi^2/g.l. = 3.15$ , CFI = .93, IFI = .93, GFI = .92, SRMR = .05, RMSEA = .06.

### Internal Consistency Analysis

The internal consistency of the Intention to be Physically Active factor presented a Cronbach's Alpha of .86, surpassing the criterion value of .70 established by Nunnally (1978) to establish an acceptable internal consistency. Also, all PLOC factors showed acceptable values of internal reliability (between .86 and .97).  
Concurrent Validity Analysis.

Table 1. Descriptive statistics and variable correlations

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Intention to be Physically Active	3.86	1.01	-	.165**	.103	.279**	-	-	-
2. Intrinsic Motivation	3.16	1.97	-	-	.863**	.583**	-.741**	-.811**	-.791**
3. Integrated Regulation	3.56	1.69	-	-	-	.636**	-.572**	-.672**	-.647**
4. Identified Regulation	3.98	1.31	-	-	-	-	-.271**	-.340**	-.303**
5. Introjected Regulation	3.31	1.42	-	-	-	-	-	.885**	.839**
6. External Regulation	3.08	1.59	-	-	-	-	-	-	.948**
7. Amotivation	3.13	1.41	-	-	-	-	-	-	-

Note: \* $p < .05$ ; \*\* $p < .01$ ; *M*: Media; *SD*: Standard Deviation.

## DISCUSSION AND CONCLUSIONS

The EIFA validated to Portuguese presented optimal results, in addition to adequate concurrent validity. Chicote-López, Abarca-Sos, Gallardo, & García-González (2018) and Franco, Coterón, & Gómez (2017) in a model of structural equations found positive and significant predictions between intrinsic motivation and the intention to be physically active. In conclusion, this study has enabled the Portuguese to be validated by the EIFA, proving that it is a valid and reliable instrument to assess the intention to be physically active in a Portuguese population between 15 and 29 years of age.

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