

ORIGINAL

**MOTIVATION TEST FOR MEMBERS OF INNOVATION PROJECTS IN SPORTS
ORGANIZATIONS. SPECIFICITIES IN THE BOXISTIC ACTIVITY**

**Test de motivación para miembros de proyectos de innovación en organizaciones deportivas.
Especificidades en la actividad boxística**

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ABSTRACT

Motivation is one of the variables recognized in most of the methodologies studied for the management of innovation by projects in the sports context, however, the search for effective instruments to measure it is a problem to solve, in this context the perception that have the members of the projects on macromotivating factors and micromotivators in the organization is a good indicator. To evaluate the theoretical and empirical validity of an instrument to measure the motivation of the heads of innovation projects in the sports context. On the one hand the theoretical validity is developed from the numerical taxonomy and on the other the reliability, sensitivity, is valued through the empirical study developed in the Faculty of Physical Culture of Granma, through a successful project, taking as a case of I study his boss with a retest in three moments. The economy and utility is valued through experts with the peer comparison as a procedure. It was possible to confirm from the theoretical and practical point of view the fulfillment of its validity, reliability, sensitivity, economy and utility, despite the small sample size. The instrument developed has validity to measure the motivation of the heads of innovation projects in sports organizations.

Key words: motivation; innovation; sport; project; validity

RESUMEN

La motivación es una de las variables reconocidas en la mayoría de las metodologías estudiadas para la gestión de la innovación por proyectos en el contexto deportivo, sin embargo, la búsqueda de instrumentos efectivos para medirla es una problemática por solucionar, en este contexto la percepción que tengan los miembros de los proyectos sobre los factores macromotivadores y micromotivadores en la organización es un buen indicador. Valorar la validez teórica y empírica de un instrumento para medir la motivación de los jefes de proyectos de innovación en el contexto deportivo. Por un lado la validez teórica se desarrolla a partir de la taxonomía numérica y por otro la fiabilidad, sensibilidad, se valora a través del estudio empírico desarrollado en la Facultad de Cultura Física de Granma, a través de un proyecto exitoso, tomando como caso de estudio a su jefe con un retest en tres momentos. La economía y utilidad se valora a través de expertos con la comparación por pares como procedimiento. Se logró confirmar desde el punto de vista teórico y práctico el cumplimiento de su validez, fiabilidad, sensibilidad, economía y utilidad, a pesar del tamaño tan pequeño de muestra. El instrumento elaborado tiene validez para medir la motivación de los jefes de proyectos de innovación en organizaciones deportivas.

Palabras clave: motivación; innovación; deporte; proyecto; validez

INTRODUCTION

In the management of innovation, the motivation of project managers over the process is subjective, however, the principle demonstrated "if it can be measured, it can be managed" (Kaplan and Norton, 2004). is evidence that its measurement is a very valuable resource. The solutions to this problem have been varied, sometimes it is used to methods already beaten in other contexts and does not always take into account the particularities of the motivation of those working in sports organizations, which requires great decision, effort , persistence in achieving the objectives proposed in the projects.

Therefore, the authors of this article assume the motivation, in accordance with the definition assumed by Peiró (2005), as a term that designates determinants of:

- A) The decision to start the effort to perform a certain task
- B) The decision to perform a certain level of effort
- C) The decision to persist in the development of that effort over a period of time.

Motivation is also considered as the relation between a set of dependent and independent

variables that explain the direction, amplitude and persistence of an individual's behavior if the effects of the aptitudes, skills and understanding of the individual are neutralized or maintained tasks.

Therefore motivation can arise from the internal dispositions of individuals or as a consequence of external factors, the first is defined as intrinsic and the second as extrinsic, this typification in the revised literature is very frequent, because of the great practical utility that possesses to consciously influence the members of the organization.

Although the tests do not allow to establish general evaluations of the systemic organization of contents and psychological functions that characterize the integral expression of the participants in the projects, because of their singular and unrepeatable character of the personality, they allow to obtain in a fast and little distorted way standardized information, quantified and easy to treat statistically, while helping to define gnoseological categories with reliability and validity (López et al, 2009).

Its application must be governed by norms, contexts, established rules, not to be followed risks that can cause distortions in the information of the data and not in all the contexts that are applied, solve the ideal conditions proposed by its creators (Lopez and others, 2009). Numerous authors, such as Hernández R., Fernández C. and Baptista P. (2010), insist that the use of psychological instruments must be preceded by coherent design, pilot and theoretical and empirical validation processes.

The aim of this article is to expose to the scientific community the result of the first efforts for the theoretical and empirical validation of a test developed to measure the motivation of the heads of innovation projects in sports organizations.

In the elaboration of the items, as different questions that allow to measure the same, the elements in table 1 were taken into account according to the following structure: 32 items for the whole process, of them: 24 for all the motivation:— 12 items for the dimension intrinsic motivation and 12 for the dimension extrinsic motivation and 8 items for the concurrent validity of the results by comparison.

Three for each type of motivation according to the conception— defended with motivation that takes into account the interaction of variables with respect to the decision to start the effort, the level of effort and the persistence over time.

Three items for each of the dimensions of intrinsic motivation and another three for each of the extrinsic dimensions.

The scale used in the survey is Likert type, in which the response options from 1 to 9 correspond to the educational level of the project managers, allowing them to discern in the appropriate range of the broad group of variables. The items applied were as follows:

DEVELOPMENT

Returning to the construction of the test, it was based on the review of other tests and the urgency to evaluate the variables considered to be involved in the motivation of the innovative process, was developed according to some essential requirements, but, with the limitations themselves of an intentional sampling with small sample.

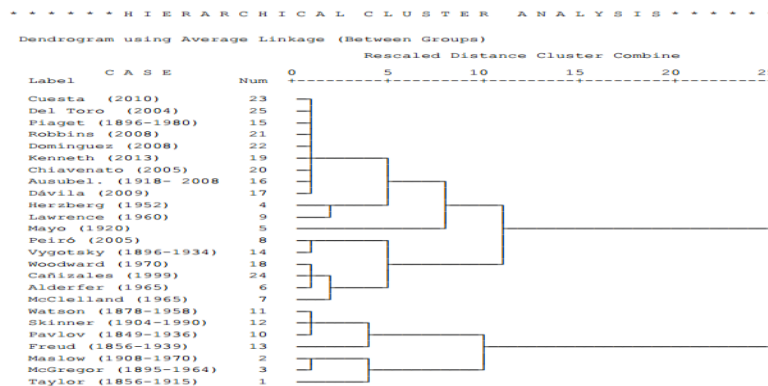
The validity of the test is developed from the theoretical and empirical point of view. The theoretical validity, like the capacity of a test to measure that psychic quality for which it was designed, is valued from the concordance between the result of the tests and what it tries to measure with her.

The internal validity is expressed in that the items included in the test are a sufficiently representative sample of those that could have been used.

A theoretical review of different authors of psychology (sports, organizational, pedagogical, social or medical) with various tendencies set forth in Table 2 evidently explicitly or implicitly shows all the elements of intrinsic and intrinsic motivation according to Table 3.

From the theoretical point of view it was determined that in the test are included items for all the fundamental elements of the motivation, conceived in the conceptualization, grouped in eight elements as can be verified comparing table 1 with the dendrogram of graph 3.

Graph 3. Result of the theoretical analysis of the motivation, according to the extrinsic and intrinsic dimensions

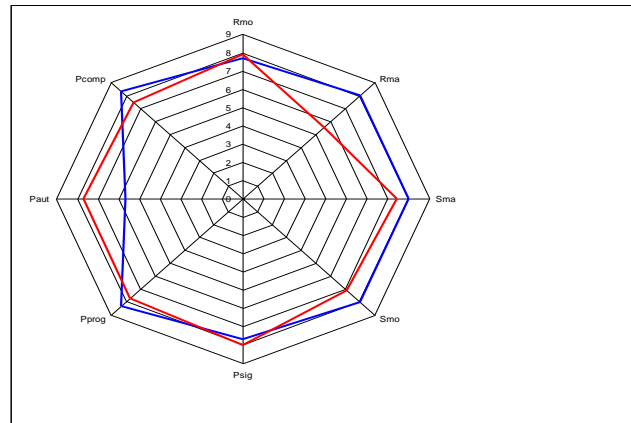


Source: Elaborated through the program SPSS version 11.5

The empirical validity for this was applied the concurrent validity of convergent type, as a

measure in which the results obtained in the test are compared by means of the averages of each of the items (1 to 24) and the result of the remaining items (25 to 32), a suitable ratio Tables 4 and 5 is obtained.

Graph 5. Multivariate graph with the elements of the motivation in the different items of the test.



Source: developed in microsoft excel 2003.

The test confirms the high levels of motivation of the project manager, according to the questionnaire. As it is represented, six of the eight elements have an almost complete agreement, however, as far as the perception of material reward and the perception of autonomy the concordance is more perceptible, the first one can be confirmed from the contingencial character, of the stimuli and the second according to Table 5 was affected in the first test only, which coincides with its situational character.

The rest of the elements, in the three occasions in which the valuation was developed, maintains its score stable, as an expression of the stable perception of the project leader.

It is applied the statistical procedures Cronbach Alpha and Two Halves processed in the SPSS statistical package in its version 11.5, thus obtaining Tables 3 and 4 Table 4. Reliability statistics from the two halves method.

Reliability statistics

Tables 3 and 4 show the reliability of the test. Although all the items obtain a very favorable qualification, it is important to emphasize that this can be a consequence of the reduced size of the sample. After this application, the items in which differences are expressed are remedied. To achieve the sensitivity of the instrument, such as the ability of the test to correctly discriminate the psychological differences that exist between several subjects and the degree of complexity was applied to the different project managers for their intellectual qualities.

Therefore, values from 1 to 9 are assumed, adding a straight line that allows raising the level of perception of their distinctions.

In terms of economy to implement was considered that the need for resources. This test can be applied in ten to fifteen minutes, only three printed sheets are required, it does not require a large amount of training and its interpretation is easily developed from the multivariate graphical method (figure 1). was able to confirm its simplicity in the analysis of the results Utility was considered dependent on two aspects: that it fulfilled the conditions of reliability, validity, sensitivity and economy and that it would be possible to reach the objectives of all the aforementioned tests. The same was evidenced by all the elements discussed above.

Graph 1. Results of the piloting

Source: result of averaging the values of the items according to elements. Processed in Microsoft Excel 2003.

As a result of the test it was possible to determine that the motivation related to the project objective, evidenced in theses, publications, papers and registered works of the professional are considered adequate, although, with respect to the specialization in medicine, supposedly necessary to develop a project of such scientific level, was questionable, not being a graduate in medicine, nor any neurological specialty.

The application of the survey, shows motivational results with intrinsic predominance with a value of 33.78, above 28.00 table 1.

As for extrinsic motivation, higher values can be observed with respect to moral rewards. With lower levels of motivation for the project and its low activities with respect to the motivations associated with rewards and material sanctions, as well as moral sanctions, which coincide with the characteristics necessary to lead an innovation project, due to the high levels of associated risks to such endeavors.

With respect to the perception of meanings, progress, competence and autonomy as an expression of intrinsic motivation, lower levels of perception of progress and greater autonomy and competences are determined.

Table 1. Relative frequency of the elements analyzed and their abbreviation

Table 3 Results of the application of Cronbach coefficient by items.

No	Abreviatura	Conceptos	Por ciento de elementos tratados
1	Rmo	Moral reward	80,0
2	Rma	Material reward	72,0
3	Sma	Material sanction	76,0
4	Smo	Moral sanction	76,0
5	Psig	Perception of meaning	88,0
6	Pprog	Perception of progress	62,0
7	Paut	Perception of autonomy	64,0
8	Pcomp	Perception of competence	66,0

of the

Items	Primera	Segunda	Tercera	Coeficiente de Cronbach
1	7	9	5	0,88
2	3	4	5	1,00
3	6	5	6	1,03
4	5	6	7	1,00
5	9	9	7	0,99
6	9	8	9	1,03
7	8	6	9	0,95
8	7	8	7	1,03
9	7	9	8	1,00
10	4	6	6	0,99
11	9	9	9	1,04
12	7	6	9	0,95
13	7	9	7	0,99
14	7	6	8	1,00
15	9	8	8	1,03
16	7	6	6	1,03
17	8	9	9	1,03
18	7	8	7	1,03

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19	9	8	6	0,95
20	9	9	6	0,92
21	9	8	7	1,00
22	6	9	7	0,95
23	6	8	7	1,00
24	8	9	9	1,03

Source: SPSS statistical package version 15.0

Table 4 Average of items from 1 to 24

Elements	<u>1ra</u>	<u>2da</u>	<u>3ra</u>	Promedio
Rmo	7,33	9,00	7,33	7,89
Rma	4,67	6,00	6,00	5,56
Sma	8,00	7,33	7,00	7,44
Smo	7,00	7,00	7,33	7,11
Psig	8,33	8,67	7,00	8,00
Pprog	7,33	7,67	8,00	7,67
Paut	7,67	7,33	8,00	7,67
Pcomp	7,33	7,67	7,33	7,44
Extrinces Motivation	27,00	29,33	27,67	28,00
intrincic Motivación	30,67	31,33	30,33	30,78

Table 5 Results of items from 25 to 32

Elements	<u>1ra</u>	<u>2da</u>	<u>3ra</u>	Promedio
Rmo	8	6	9	7,67
Rma	7	9	8	8,00
Sma	9	8	7	8,00
Smo	7	9	8	8,00
Psig	8	7	8	7,67

Pprog	9	8	8	8,33
Paut	3	6	8	5,67
Pcomp	9	8	8	8,33
Extrinces Motivation	28,00	29,00	27,00	28,00
intrincic Motivación	29,00	29,00	32,00	30,00

CONCLUSIONS

1. The main results of the application of psychometric methods in the validation of the test were found empirical and theoretical evidence of the validity and reliability of the instrument.
2. The main contribution of the results to the theoretical body is that all the authors consulted consider important elements as intrinsic and extrinsic motivation, in addition to the dimensions of reward and sanctions, moral and material, and as for the intrinsic elements the perception of meanings , competence, autonomy and progress.

RECOMMENDATIONS

1. Make new applications of the test in a greater number of people to increase the validity of the proposed test.

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