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Vinicius Barroso Hirota
*Department of Physical Education –
Mackenzie Presbyterian University/
Department of Physical Education –
Nossa Cidade College/ Researcher
Member Of The Brazilian
Paralympic Academy Mackenzie
Av., 905, 06460-130 - Barueri, São
Paulo, Brazil.*

Denis Victor Diniz
*Department of Physical Education –
Nossa Cidade College – Francisco
Pignatari Av., 630, 06310-390 –
Carapicuíba, São Paulo, Brazil.*

Marcel Rodrigo da Silva
*Department of Physical Education –
Nossa Cidade College –
Francisco Pignatari Av., 630,
06310-390 – Carapicuíba, São
Paulo, Brazil.*

Rafael Oliveira de Lima
*Department of Physical Education –
Nossa Cidade College –
Francisco Pignatari Av., 630,
06310-390 – Carapicuíba, São
Paulo, Brazil.*

Carlos Eduardo Lopes Verardi
*Department of Physical Education –
UNESP - Baurú
Av. Eng. Luiz Edmundo Carrijo
Coube, 14-01, Vargem Limpa,
17033360 - Bauru, SP – Brazil.*

Ademir De Marco
*Department of Physical Education
and Humanit – UNICAMP –
Campinas.
Cidade Universitária Zeferino Vaz,
Barão Geraldo, 13083970 -
Campinas, SP – Brazil.*

Correspondence
Vinicius Barroso Hirota
*Department of Physical Education –
Mackenzie Presbyterian
University/ Department of
Physical Education – Nossa Cidade
College/ Researcher Member Of
The Brazilian Paralympic
Academy Mackenzie Av., 905,
06460-130 - Barueri, São Paulo,
Brazil.*

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Initial Stages of Attitude's Instrument Adaptation to Brazilian Sports Competitions

**Vinicius Barroso Hirota^{*}, Denis Victor Diniz, Marcel Rodrigo da Silva, Rafael
Oliveira de Lima, Carlos Eduardo Lopes Verardi, Ademir De Marco**

Abstract

The aim of this study was to adapt and initiate validation of an instrument of attitudes toward mathematics to sports competitions. So through a correlational study, we adapted the instrument counting on a total sample of 260 young athletes (n=260), all students, divided into three rounds, and the confirmatory purpose we apply a pre competitive stress scale in order to show mappable symptoms. An initial reliability of the instrument, Alpha 0.83 to negative attitudes, and 0.90 for positive attitudes, with the average results of 2.52 (± 0.86) to negative attitudes and 4.66 (± 0.84) was determined for attitudes positive; we conclude that the instrument performed well in this first test, and should be applied in a larger sample, by un mounting this case study that young athletes have positive attitudes toward sports competition, so they enjoy participating in the competition.

Keywords: Sports Competitions; Instrument; Attitudes; Assessment.

1. Introduction

Throughout school life, we encounter processes competitions, especially sports such as indoor soccer, volleyball, handball and basketball. For Bento and Petersen and Schwab da Silva, in life and in sport competition and concurrency are essential for the formation of the individual. However, all students become part of the process at school sports competition or just see it happening? Will competitions implemented as a tool for social development or it is just a sport practice? These are some questions that could be asked to the physical education teachers to propose a competitive activity. It is necessary to understand the meaning of competition in life and children development. Taking into consideration the opinions of psychologists and sport's professionals, displaying how important is "winning and/or losing" to the construction of the personality of the individual, as well as Nasario³ shows us which is a fundamental importance that the intention of the teacher is that the student likes to compete and learn to participate without having to win all the time, and understand the importance of participating, even though society generally values only the victory. Schwab da Silva² and Arruda⁴ show us that the development of physical fitness may be awarded through sports, in other words, sports makes it easy to development of physical fitness through repetition of movements. The sport worked during the lesson can help student motivation to pursue a healthier and active life. Another important factor is the group work that gives to the student the ability to deal with differences in skills, motivation, leadership and autonomy, leading young athletes to take their attitudes. Attitude will be understood as the definition given by Brito⁵ as a personal, idiosyncratic, this provision in all individuals, directed to objects, events or people that assume different direction to and intensity according to the lived experiences of the individual. Moreover, it presents components of affective, cognitive and motor domain.

So in a research environment manipulation, the student must find conditions to produce the concept, producing knowledge, try combinations, freely express themselves, develop creativity, problem solving, expand their notion of the world⁶.

As we can see, a sporting environment has the possibility to encourage different experiences and learning, so in sports competitions we can also uncover new possibilities, since we do not know what the opponents have to offer us. Therefore, this study aimed to initiate an adaptation of an instrument of attitudes toward mathematics for sport reality thus characterize attitudes toward sports competition of young schoolchildren; watching whether young athletes have a positive or negative attitude towards sports competition.

2. Materials and Methods

This study reinforced a correlational study, which according to Thomas and Nelson⁷ proposal of correlational research is to examine the relationship between certain variables, such as the correlation between attitudes and behaviors.

2.1. Sample and Place of Research

The sample established for convenience, at first moment, called Round 1 (R1) of the pilot study, included 35 adolescents (mean age 15.91 ± 0.76 and coefficient of variation of 4.84%). After 30 days were collected over 25 subjects (mean age 5.81 ± 0.58 and coefficient of variation of 3.71%) thus making the Round 2 (R2). After performing the pilot study, the proposed final study, called Round 3 (R3) that had a total of 200 participants of both genders, aged between 14-17 years (mean 15.91 ± 0.79 and coefficient of variation 4, 96%) who attend the first, second and third year of high school in a Public School at Carapicuíba's City - São Paulo, Capital - Brazil. The school sample was linked on the assumption established by Pasquali⁸, stating that "are needed for sample 10 subjects for each item of the instrument; thus an instrument with 100 items would require 1000 subjects". In this way working with a scale, containing 20 questions reached 200 subjects. The data collection procedure followed contact with the Director of the pertaining to school unit, and the same was authorized data collection signing the commitment of the institution; then we, with the signing of the Consent Facility and Term of Consent by parents or guardians, since the participants were adolescents, thereby following all care research ethics it collecting data only meant to answer two instruments. The procedures for data collection followed the Newsletter to Research Subjects and signature of the Terms of Consent, by paying attention to research ethics set by the Declaration of Helsinki, 1964⁹, Resolution no. 466, 2012.

2.2. Instrumentation and Statistical Treatment

With the goal of achieving the aim proposed by the study applied the rating scale of attitudes toward mathematics proposal, adapted and validated by Brito⁵, Likert-type scale, oh 4 points, that consists of 20 items (10 positive and 10 negative) whose purpose was to assess attitudes toward a joint entity, in this case, the sporting competition.

Issues 01, 02, 06, 07, 08, 10, 12, 13, 16 and 17 expressed whereas negative feelings the issues 03, 04, 05, 09, 11, 14, 15, 18 and 19 is related to positive feelings⁵.

As correlational effect, the other instrument used as a form of performance testing of the proposed instrument phase, was to list LSSCPI - LIST OF SYMPTOMS OF "STRESS" PRE-

COMPETITIVE YOUTH CHILDREN - developed and validated by De Rose Jr¹⁰. This instrument also constitutes as a Likert scale of 5 points where the answers may vary: 1: Never/ 2: Rarely / 3: Sometimes / 4: Often and 5: Always. The applicability of the instrument provides that it be applied in the period from 24 hours before the sport competition, and can be administered to athletes aged 10-14 years, upper age range of athletes since the language is properly appropriate to them⁸. As testing of the reliability and validity of the scale process used to calculate the Cronbach alpha. The application of this testing was bound to investigate the individual items of instruments, namely, the issues were seen separately if each item was deleted and hence possible correct answers in questions were conducted to raise scores of the constructs. This is a generalized coefficient of reliability that is more versatile than other methods and this coefficient is a feature that can be used with items that have multiple measures of values, such as writing test and the attitude scales to score as strongly agree, I agree, etc. In addition, the Alpha is probably the best coefficient to estimate the reliability in the most commonly used standardized test⁷.

Besides the reliability, we computing scores of attitudes toward sports competition, the mean, standard deviation, and the median of the students were determined using the following criteria: 1 Separated by age; 2 Separated by gender; Aside from the scale proposed by the fruit and the study's goal, score also did, for the type of (positive and negative) attitude, we chose to apply for the Man Whitney ($p \leq 0.01$). The same test procedure was established to list pre competitive stress.

Relying on the use of another scale already validated and reliable in order to establish correlations between the questions of both instruments, put to the proof that the Spearman correlation. For the correlating scores resulting from the both scales we applied the Man Whitney test ($p \leq 0.05$) test in order to verify the difference between genders. Data were organized and analyzed in the light of the SPSS software - DATA EDITOR, version 17.0 for Windows.

3. Results & Discussion

According to the results of Table 01 we can observe that the instrument exhibited good performances in internal stability, values expressed by Alpha. In the first test R1, adjustments were made on the issues of number 8 (Q8), followed by question 17 also adapted, both related to negative attitude. This manner the question of number 8 and 17 were polluting the instrument, since students might not have understood the issues.

Table 1: Results of Alpha, mean, S. deviation, Score and median of R1 and R2

Attitudes	Round 01 (n:35)				Round 02 (n:25)			
	Mean (S. Dev.)	Median	Score	α	Mean (S. Dev.)	Median	Score	α
Negative	1.96 (± 0.75)	2	19.91	0.79	2.12 (± 0.86)	2	21.24	0.90
Positive	2.81 (± 0.91)	3	28.17	0.94	2.80 (± 0.87)	3	28.04	0.95

Note: α = Alpha's Cronbach Coefficient maximum value = 1,0.

In this group studied, comparing the R1 and R2 we observe that both the R1 and in R2 the medians were equal. The score, noting that the score is the sum of all responses within each attitude (negative and positive), the R1 was 19.91 and 28.17 for negative attitudes to positive. In R2, with a score of 21.24 to 28.04 and negative attitudes to positive attitudes. The results of the Alpha in R1 were 0.79 and 0.94 for negative

attitudes to positive attitudes. In R2, obtained Alpha of 0.90 to negative and 0.95 to positive attitudes.

The Alpha of the negative attitudes of R1 was higher, since the question number eight (Q8) was harming the performance of other constructs, therefore, and after modifying the Q8, the result came from 0.79 to 0.90; remembering that the ultimate result of Alpha is 1.0. According to the results, we can say that

the instrument was stable in the calculation of coefficient *Alpha* in both in R1 and R2.

Table 2: Results of *Alpha*, Mean, S. Deviation, Score and median of R3

Attitudes	Round 03 (n:200)			
	Mean (S. Dev.)	Median	Score	α
Negative	2.52 ($\pm 0,86$)	2	21.67	0.83
Positive	4.66 ($\pm 0,84$)	4	27.42	0.93

Note: α = *Alpha's Cronbach* Coefficient maximum value = 1,0.

After making the adequacy of the instrument, we left for a larger data collection, and according to Table 02 the results showed 0.83 of *Alpha* to negative attitudes and 0.93 for positive attitudes. As for the median, the value was 2 and for negative, and 3 to remain positive attitudes equal to R1 and R2. Average for negative attitudes was 2.52 and the positive attitudes of 2.66. Having scores of 21.67 and 27.42 for

negative attitudes to positive attitudes.

Establishing a correlation between negative attitudes and positive attitudes we observe that the result was negative and moderate ($p = -0.467$) and significant ($p = 0.000$, in $p \leq 0.01$), namely, the extent that the results of positive attitudes increase, negative attitude decreases, so more students who like to compete in sports, tend to have less negative attitudes.

Table 3: Results of Mean, S. Deviation and Median of R1, R2 and R3, and comparing average between positive and negative attitudes of each Round.

	Round 01		Round 02		Round 03	
	Mean	Median	Mean	Median	Mean	Median
Negative	1.96 (± 0.75)	2	2.12 (± 0.86)	2	2.52 (± 0.86)	2
Positive	2.81 (± 0.91)	3	2.80 (± 0.87)	3	4.66 (± 0.84)	4
Test "U"	0.000*		0.000*		0.000*	
* Significant difference $p \leq 0.01$						

The next step was to establish the difference between the average of R1, R2 and R3 in different attitudes. R1 and R2 between the negative attitude, there was a significant difference ($p = 0.036$) between R1 and R3, and R2 and R3 there were significant differences in both cases ($p = 0.000$ in $p \leq 0.01$), with the same result. The group R1 has the lowest average for the negative attitudes.

To positive attitudes in R1 and R2 there was no significant difference ($p = 0.642$), and between R1 and R3 was no significant difference ($p = 0.000$, in $p \leq 0.01$), the same happened between R2 and R3, with the same result.

Looking over the results of the *Alpha's* stress scale, the result was 0.89, indicating good performance of the instrument. The same scale has a mean of 2.66 (± 1.34) and a median of 2; score total of the group (n:200) was 82.51.

Establishing the correlation between stress and the positive attitude proved a weak and negative result ($p = -0.132$) however significant ($p = 0.032$), as compared to the level of stress and negative attitudes the correlation is also weak but positive ($p = 0.028$) and not significant ($p = 0.346$). Thus, students who have higher positive attitudes invariably tend to have a more controlled level of stress. The pressure to win, coming up to the expectation of the people and ever present interpersonal demands can lead to stress and render coaches susceptible to burnout. Persons with hard personality can easily and constructively cope with acute stress and burnout¹¹. Finally, the results shows always the same Median, it expressions that the instrument is stable, as well as the results of average, and *Alpha* score high and close. These values give the basis for asserting that as positive attitudes toward sports competition rise, negative attitudes and stress levels decrease, therefore most of the young players enjoy competition, lower are the negative attitudes and the level of stress. The find in this study suggests that the instrument may be tested in different sports, looking for the competition situation, in order

to give more results about the instrument.

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