Validation of a questionnaire for the perception of physical education professionals in remote activities[1]

Validación de un cuestionario para la percepción de profesionales de educación física en actividades a distancia

Validação de um questionário para percepção de profissionais de educação física em atividades remotas

[Research Article]

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Abstract

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Just few months after the first cases of the disease caused by the coronavirus (COVID-19) in China, the WHO officially declared the world to be in a pandemic. Considering it was a new situation, the orientation of physical exercise through digital resources, brings with it particularities that were unknown until then. To validate a questionnaire for the perception of physical education professionals in remote activities and to analyze sports programs in remote activities during the pandemic and social distancing by physical education professionals. Descriptive research that is related by interview technique, and correlational of an exploratory nature, using the Delphi method. Nineteen specialists participated in the evaluation of the questionnaire, reaching 4 rounds to obtain 100% agreement. The questionnaire to be applied will provide relevant information about the profile of the physical education professional, who has been using remote activities as part of their work activities.
Keywords: COVID-19, digital exercise orientation, remote physical education, Delphi method analysis, profiling remote activities.

Resumen

A tan solo unos meses después de los primeros casos de la enfermedad causada por el coronavirus (COVID-19) en China, la OMS declaró oficialmente al mundo en estado de pandemia. Considerando que era una situación nueva, la orientación del ejercicio físico a través de recursos digitales conlleva particularidades que hasta entonces eran desconocidas. Validar un cuestionario para la percepción de los profesionales de educación física en actividades remotas y analizar los programas deportivos en actividades a distancia durante la pandemia y el distanciamiento social por parte de los profesionales de educación física. Investigación descriptiva relacionada con la técnica de entrevista y correlacional de naturaleza exploratoria, utilizando el método Delphi. Diecinueve especialistas participaron en la evaluación del cuestionario, completando 4 rondas para obtener un acuerdo del 100%. El cuestionario a aplicar proporcionará información relevante sobre el perfil del profesional de educación física, quien ha estado utilizando actividades remotas como parte de sus actividades laborales.
Palabras clave: COVID-19, orientación del ejercicio digital, educación física a distancia, análisis con método Delphi, perfilado de actividades remotas.

Resumo

Poucos meses após os primeiros casos da doença causada pelo coronavírus (COVID-19) na China, a OMS declarou oficialmente que o mundo estava em pandemia. Por se tratar de uma situação nova, a orientação do exercício físico através de recursos digitais, traz consigo particularidades até então desconhecidas. Validar questionário de percepção de profissionais de educação física em atividades remotas e analisar programas esportivos em atividades remotas durante a pandemia e distanciamento social por profissionais de educação física. Pesquisa descritiva que se relaciona pela técnica de entrevista, e correlacional de natureza exploratória, utilizando o método Delphi. Participaram da avaliação do questionário 19 especialistas, totalizando 4 rodadas para obtenção de 100% de concordância. O questionário a ser aplicado trará informações relevantes sobre o perfil do profissional de educação física, que vem utilizando atividades remotas como parte de suas atividades laborais.

Palavras-chave: COVID-19, orientação de exercícios digitais, educação física remota, análise pelo método Delphi, perfil de atividades remotas.

Introduction

The first cases of the disease caused by the new coronavirus (COVID-19) appeared in December 2019 in China and, in March 2020, the World Health Organization (WHO) declared the disease COVID-19 to be a pandemic (WHO, 2020). Saraiva, Oliveira and Morejon (2020) point out that since then several measures used to contain the spread of the virus have been adopted by authorities across the planet. Quarantine periods were established, and social distancing became a fundamental practice in combating the disease (Saraiva, Oliveira & Morejon, 2020).

In Brazil these measures were also adopted thereby keeping services considered to be non-essential closed. Several workers and students began performing their duties in a home-based environment. This new period had a great impact on the lives of the people and made them readapt in different ways to these situations (Bezerra et al., 2020).

Through a study done, in which they sought to observe changes in the lifestyle of Brazilians during the period of social distancing, a worsening of eating habits was observed. There was greater consumption of sugar and industrialized products, in addition to an increase in the consumption of alcoholic beverages and cigarettes (Malta et al., 2020).

The practice of physical activity also showed a decrease in several studies. (Malta et al., 2020; Bezerra et al., 2020; Schwendinger & Pocecco, 2020). Physical inactivity and sedentary lifestyle are directly associated with poor quality of cardiovascular health and various diseases (Nogueira et al., 2021). Therefore, a generalized situation of reduced physical activity in people can result in serious public health problems in the long term. (Schwendinger & Pocecco, 2020).

The benefits of regular physical exercise in strengthening the immune system should also be taken into account, which is fundamental for the protection against diseases, including those caused by viruses such as COVID-19. According to the authors staying active also contributes as a way of mitigating possible psychological impacts caused by the pandemic and social distancing. (Rodríguez; Crespo & Olmedillas, 2020)

Technological advances have shown a relationship with the behavioral changes that society has been suffering, including cultural, economic, political and human aspects. The

increase in interaction used by communication models, works and activities before the internet makes this new moment of technology use possible. (Bento & Celchior, 2017)

In the context of this, where every society is networked, changes in the way of living, thinking and communicating are constantly influenced by digital technologies. As a consequence of this process, the term digital inclusion has been widely discussed, especially in the field of public policies. (Bento & Celchior, 2017). Sorj and Guedes (2005) point out that digital inclusion encompasses several factors in addition to an individual or group just having a computer and similar devices or internet access. Quality of access, available time, assimilation of information received, among others are crucial issues for the digital inclusion/exclusion process. Thus, distance learning becomes important at the present time as it is a viable alternative for the teaching-learning process. However, this teaching modal may suffer implementation resistance, given that the face-to-face format has a strong historical relationship with educational institutions (Veloso & Mill, 2022).

Due to being a unique moment caused by the pandemic, the application of remote physical activities showed teachers a new reality and the need for rapid adaptation. From that point forward, there are several aspects involved in guiding these classes: connection, access, materials and resources, methodologies and others. Through this the study seeks to broaden the understanding of the construct of conceptions of technological barriers, identifying possible relationships with professional characteristics and evaluating the explanatory power of these professional conceptions in evaluating the possible performance of the period of the COVID 19 pandemic. This study was to validate a questionnaire on the perception of physical education professionals in remote activities.

Methods

The study uses descriptive research that is related by interview technique with a cross-sectional approach looking at samples from different groups, and correlational of an exploratory nature through the analysis of the relationships between variables (Thomas, Nelson & Silverman, 2007).

The technique used to define the method to be employed was established through Delphi, which is characterized by joining groups of specialists to make judgments on a specific subject or questioning in a certain way. This technique serves objectively in the area of health and

education with expressive highlights about the tool, enabling the expression of opinions and construction of knowledge in a participatory way. The highlight of the method is to use at least three rounds to reach a consensus among the group of specialists (De Almeida et al., 2009).

Criteria for inclusion of evaluators in the study

With the intention of obtaining the effective participation of the population in the study for the validation process, it was stipulated that the evaluators should include the following criteria: 1) Professionals with a degree in the area of health and education; 2) Professional with a Doctor's degree 3) Professor who works in higher education teaching in Brazil; 4) Professional who has an express interest in collaborating with the study proposal; and 5) Accept and sign the Informed Consent Form. In total there were 19 eligible evaluators.

Data Collected

The research was submitted to the Research Ethics Committee of the Federal University of São João del Rei (UFSJ) so that it maintains the ethical precepts with human beings defined by Resolution 466/12, of the National Health Council (196/69), in accordance with the guidelines governed by the Declaration of Helsinki (WMA, 2008). All participants in the subprojects are people over eighteen years of age, considered liable under the law, and freely agreed to participate in the study. This acceptance was confirmed by signing an agreement of the Free and Informed Consent Form (TCLE).

Due to the fact that there was a quarantine in Brazil since March 2020 because of the confirmation of the SARS-CoV-2 virus (Covid-19) and seeking to establish the protocols suggested by the Ministry of Health on social distancing, the preliminary contacts for the participation of professionals were done individually electronically, through telephone contacts, emails and WhatsApp (MINISTÉRIO DA SAÚDE, 2020). Moreover, after the previous contact each specialist was sent an invitation with all the information of the progress of the research and data collection, in which it followed the precepts described in Letter Circular nº 2/2021-CONEP/SECNS/MS (MINISTRY OF HEALTH, 2021).

Four evaluation rounds were used to obtain data. On the first of these, the specialists were asked for information about the characteristics that could collaborate with the construction of the questionnaire, being able to relate both the questions and the answer criteria. The judgment of

the group of specialists was done using the procedure of agreeing, not agreeing, or agreeing with suggestions, this through the use of comments for the relevant statements in the questionnaire.

In the first evaluation round, a decision was made to collect all the data from the collaborators and present the questionnaire for material appreciation. In the second round, the suggestions sent by the collaborators who judged the questionnaire were highlighted, giving feedback so that in the third round only those who made the comments were judged, and finally there was the fourth round to establish validity in the final content of those who adjusted the questionnaire. These are shown in table 1.

In addition, the questionnaire was structured with responses in the Likert scale format, where statements are shown followed by different levels of items to be chosen by the evaluators, such as: totally disagree; I disagree; I do not agree nor disagree; I agree; I totally agree.

Table 1 - *Synthesis of the Delphi study to validate the content of the questionnaire for the perception of physical education professionals in remote activities.*

Steps of the Study	Processes	Results
1ª	Submission of the 1st version of the Instrument – elaborated from the analyses done by the authors – to be judged by a jury of specialists. This stage included validation of the questionnaire and validation with suggestions made by specialists.	7 specialists approved without suggestion 12 specialists approved with suggestion
2º	Submission of the 2nd version of the Instrument to the judgment of the specialists that judged with suggestion in the previous round.	5 specialists approved without suggestion 5 specialists approved without suggestion
3º	Submission of the 3rd version of the Instrument of the modified items based on suggestions from the previous stage to the specialists who presented suggestions.	2 specialists approved without suggestion 3 specialists approved without suggestion

4º	Submission of the 4th version of the Instrument of the modified items based on suggestions from the previous stage to the specialists who presented suggestions.	3 specialists approved without suggestion

Note: self-elaboration

The adequacy of the results aims to give reliability to the results found as the rounds are judged and thus allow consistency between the questions presented during the study investigative process (De Almeida et al., 2009).

Results

Preliminarily contact was made with the professionals via email and/or WhatsApp to validate the questionnaire according to the characterization of the sample in Table 2, which shows the years of experience of professionals with a doctorate and experience in higher education.

TABLE 2 - *Characterization of the Group of Specialists in the judgment of the study by the Delphi method in the questionnaire for the perception of physical education professionals in remote activities*

	Years of Experience				
Specialist Group	Less than 2 years	2 to 5 years	6 to 10 years	11 to 37 years	Total
Graduated in Doctorate	0	4	12	3	19
Experienced in Higher Education	2	2	4	11	19

Note: self-elaboration

From the verification of the content and appearance applied by the electronic Delphi method, a group of specialists was consulted for the validation of the questionnaire on the analysis of the perception of physical education professionals in the use of their attributions through remote activities druing the pandemic period.

The initial questionnaire was sent to the doctors to determine its validity. At each round the results were presented according to their demands and suggestions. Therefore, as the

feedback came in the variables and questions corresponding to the Specialists' requests were presented, as shown in Table 3.

Table 3 - *Initial version of the instrument for presenting questions and evaluators' requests by dimensions*

Dimentions	**Questions**	**Solicitations**
A - Sociodemographic Profile	1. What gender do you identify with?	2 judges requested reformulations
	2. What is your highest academic degree?	5 judges requested reformulations
	3. How many years ago did you graduate in Physical Education?	No requests
B – Physical Education Professional Profle	4. Questions 4 to 16 regards the concept of remote class	9 judges requested reformulations
	5. Questions 4 to 16 regards the concept of digital resources	4 judges requested reformulations
	6. Order of the questions	2 judges requested reformulations

Note: self-elaboration

Table 4 shows the levels of agreement for each round and the questions about the evaluated instrument. In the first round there was a 100% consensus only on the question regarding the number of years since graduating and 84.21% for gender identification, making another round necessary for alterations and suggestions from the specialists. In the second round there were changes in the consensus, despite the first and second questions having obtained a

significant percentage. However, it can be seen that from the fourth question onwards reached 68.42%, which makes it impossible to establish validation.

Therefore, the instrument was sent for analysis in a new round (third round), which managed to determine 100% in the question about gender. However, with regard to the questions starting from the fourth, it was fixed at 73.68%. So, this made the fourth round essential to reach the final consensus of the questionnaire with 100%.

Table 4 - *Level of agreement for each round*

Questions	**1st round**	**2nd round**	**3rd round**	**4th round**
	N	N	N	N
1. What gender do you identify with?	16 (84.1%)	17 (89.47%)	19 (100%)	-
2. What is your highest academic degree?	12 (63.15%)	19 (100%)	-	-
3. How many years ago did you graduate in Physical Education?	19 (100%)	-	-	-
4. Did you teach, guide or prescribe Physical Education / physical exercise classes or prescribe physical training remotely using digital resources due to the need for social distancing because of the COVID-19 pandemic?	10 (52.63%)	13 (6.42%)	14 (73.68%)	19 (100%)
5. Had you already given or guided or prescribed classes/training remotely using digital resources before the period of social distancing?	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)

6. Before the social distancing due to the COVID-19 pandemic, had you already taken any Distance Education training?	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)
7. Did you do any type of training in Distance Education due to the need caused by social distancing during the COVID-19 pandemic?	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)
8. I consider myself able to use digital resources in applying and guiding of physical exercises or classes.	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)
9. During the application and guiding of physical exercises, classes and/or physical training using digital resources, I found it difficult to guide the exercise and/or movement to my student/client.	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)
10. During the application and guiding of physical exercises, classes and/or physical training using digital resources, I found it difficult to be understood by my student/client.	10 (52.3%)	13 (68.42%)	14 (73.68%)	19 (100%)
11. During the application and guiding of physical exercises, classes and/or physical training using digital resources, I found it	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)

difficult to correct my student/client.				
12. During the application and guiding of physical exercises, classes and/or physical training using digital resources, I encountered difficulties due to external interference (noises, other people in the environment, among others) that occurred in the environment of my student/client.	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)
13. During the application and guiding of physical exercises, classes and/or physical training using digital resources, I encountered difficulties in the handling digital resources by my student/client.	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)
14. During the application and guiding of physical exercises, classes and/or physical training using digital resources, I encountered difficulties due to the lack of materials on the part of my student/client.	10 (52.63%)	13 (68.2%)	14 (73.68%)	19 (100%)
15. During the application and guiding of physical exercises and/or training through digital resources, I encountered difficulties with the lack of concentration	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)

and dispersion of the student/client.				
16. The application and guiding of physical exercises through digital resources will continue even after the containment of the pandemic and mass vaccination, presenting itself as a new method to be used.	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)
17. Have you used more digital resources in other ways:	10 (52.63%)	13 (68.42%)	14 (73.68%)	19 (100%)

Note: self-elaboration

DISCUSSION

In the absence of a consensus guideline to assess the perception of physical education professionals in prescribing physical exercise during the COVID-19 Pandemic, guidelines were developed to understand the technological barriers to meeting their activities. A procedure with the Delphi method was used to verify the difficulties encountered during the approaches to classes in this period.

The use of the Delphi method has been carried out by experts to build instruments (Giangregorio et al., 2015; Moreira et al., 2017; Price et al., 2020; Salway et al., 2019), as well as in the present study. The importance of experienced evaluators with a minimum academic training of a doctorate is fundamental for the eligibility of the instrument (Gracias-Sánhes et al., 2021). A panel of evaluators with experience in teaching higher education and in fields of action in health and education strengthens the validity of the instrument and helps by making the study even more relevant (Lima et al., 2020). In context of this, we sought to attract professionals who are active and with theoretical and practical knowledge for the development of the elaborated instrument. So, by including professionals in the field of education and health in the study, diversity is presented regarding the points of view in the technique used providing a judgment in

relation to the instrument presented in a varied way, and consequently the construction of the content has a greater reach regarding the creation of the questionnaire (Moreira et al., 2017).

The online format of applying the tool with the Delphi method to obtain responses from judges is also very effective (Price et al., 2020; Gracia-Sánchez, 2021). This type of research in the virtual model makes an important contribution to the effectiveness of the analysis of the data received and the briefness of the responses, which was the basis for obtaining the rounds between the judges throughout the study. For an analysis of the questionnaire the evaluators had the opportunity to make open comments with the aim of clarifying and suggesting the instrument, which has been a common practice in other studies (Price et al., 2020; Giangrerio et al., 2015). Therefore, the technique used to understand the data obtained had a consensus application between the answers obtained for each question on the questionnaire.

To obtain a consensus in the Delphi method, there is a minimum indication of 80% of responses among the evaluators (Moreira et al., 2017). Some studies use a minimum of 3 rounds to reach the desired goal (De Almeida et al., 2009; Price et al., 2020), but one study demonstrated that it had reached the goal in the second round (Giangregorio et al., 2015). To meet the demand of 100% consensus in the questionnaire, it was necessary to go to a 4th round, this one as required by the study, considering that the use of one more round deserved attention from the evaluators on the clash of the questions raised, mainly on the concepts of remote classes and digital resources. It was observed that within the results found there was a consensus of 73.86% on certain issues, which did not determine the precise application of the instrument.

Due to the fact that the questions and suggestions presented in rounds 2 and 3 on the definition of remote activities for consensus among experts, it appears that they lacked clarity in the conceptual opinion on the use of the technological tool. That being said, it is a subject that has shown resistance in changes to distance learning, especially when dealing with the institutionalization of this teaching-learning format as inclusion or alternatives for learning (Veloso & Mill, 2022).

The response format for each question was the Likert scale. This scale has been used as a standard for responses in questionnaires because it is validated, easy to apply, analyze and understand the results (Moreira et al., 2017; Price et al., 2020; Salway et al., 2019). The Likert scale aims to provide scores based on the responses considered for each question (Da Costa, 2002). In this case, they were used due to the considerations about the debate on the central

theme and the application format. Thus, strategies were created to receive data as follows: 1 - I totally agree; 2 - I partially agree; 3 - I neither agree nor disagree; 4 – I Partially disagree; and 5 - I Strongly Disagree, establishing a score from 1 to 5 for the response to be obtained. In view of the above the Likert scale was used in the responses that address the perception of the physical education professional. With regard to the sociodemographic profile, it was established by the judges' choice pattern on what is most interesting to know about the population to be researched.

Regarding the analysis of a qualitative study a limitation on interpretation of results can be considered. The volunteering factor of specialists as judges can be interpreted as a limitation, as it can reproduce selection bias. And finally, the results of the study are directly related to the use of technology in the face of a specific demand during the pandemic period, but these can be adjusted in the future, in order to obtain better updates according to current demand.

Conclusion

This study allowed validating a questionnaire on the perception of physical education professionals in remote activities. The proposed final instrument was legitimized by the specialists who composed an evaluation panel for the construction and validation stages. The instrument was created and made available in this study to direct and standardize a conception of the pandemic effects for physical education professionals, who used technological resources as a methodological tool in their classes.

The questionnaire to be applied will provide relevant information about the profile of the physical education professional that has been using remote activities as part of their work activities, and how they have been positioning themselves in the face of this demand, mainly provoking better construction of dialogues about the difficulties and facilities found for remote classes. It emphasizes an applicability that can reach not only physical education professionals but also professionals of human motricity. Thus, achieving better technological tools can be used or facilitated for day-to-day practice with students/clients/users of this activity.

It is recommended that future studies build and investigate new technological tools, favoring users and professionals offering quality services and better applicability in classes.

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