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Perceptions of physical education teachers regarding their interventions

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Popularization article

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The problematic of this research is a continuation of the research project funded by the Programme d'aide à la recherche sur l'enseignement et l'apprentissage (PAREA) on obstacles to sports participation of CÉGEP students (Leriche and Walczak, 2014), completed in 2014. We have already mentioned that in Quebec, as elsewhere in the world, physical activity (PA) is generally recognized as a powerful individual and social development tool (World Health Organization (WHO), 2010). Yet, regular participation in physical activity has decreased considerably in Quebec over the past decade (Tremblay, Shields, Laviolette, Craig, Janssen, and Gorber, 2010; Traoré, Nolin, and Pica, 2012), quite markedly at the CEGEP level (Chiasson, 2004 Lemoyne, 2012; Leriche and Walczak, 2014).

Among the determinants of a physically active lifestyle, physical education (PE) plays an important part (Scientific Committee of Kino -Québec, 2011). Unesco has stated: "Physical education is the most effective means of providing all children and youth with the skills, attitudes, values, knowledge and understanding for lifelong participation in society" (UNESCO, 2015, p. 6). The study of Lemoyne (2012), as well as our previous study (Leriche and Walczak, 2014), proved the positive impact of PE for the practice of PA outside of the classroom.

The observation of the impact of PE is interesting, but on what factors do PE teachers intervene to achieve this? Unfortunately, we have no overall portrait of interventions done by PE teachers in CÉGEPs. This is the genesis of this research.

The main objective of this research is to analyze PE teachers' perceptions regarding their interventions promoting the practice of PA. We also have two specific objectives:

- **Objective 1:** Analysis of the perceptions of interventions in terms of obstacles to the practice of PA.
- **Objective 2:** Analysis of the perception of interventions in terms of students' motivation for the practice of PA.

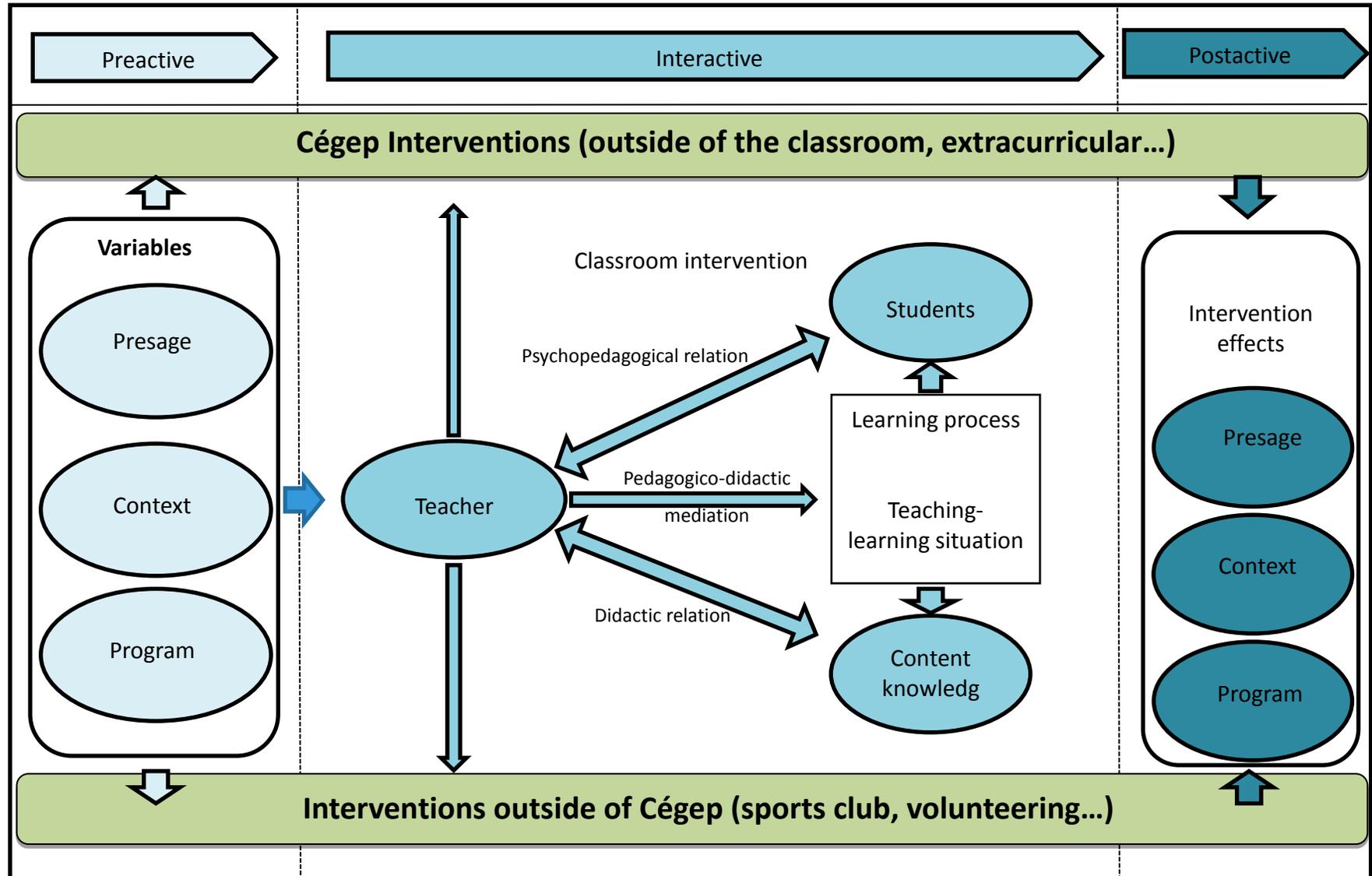
To pursue each of these specific objectives, we used two theoretical frameworks.

A theoretical and conceptual framework to describe and understand the intervention

We examined several existing theoretical frameworks on interventions in order to choose the one that best met our needs. None of the framework seemed satisfactory. Simply put, none take into account the specificity of PE teaching in CÉGEPs. However, we identified two theoretical frameworks that seemed interesting. The first one is from Brunelle, Drouin, Godbout and Tousignant (1988). It is often used in research on intervention in PE (Cloes and Roy, 2010). The second one is the model of educational intervention proposed by Lenoir (2009, 2014).

These two theoretical frameworks have strengths and limitations for the purposes of this research. This research is exploratory; we do not know how teachers intervene. We wanted to have a conceptual framework that would take into account the complexity and different dimensions of the educational intervention. We designed the *Modèle en intervention éducative au collégial (MIEC)* by extracting three phases which incorporate the variables found in the model of Brunelle et al. (1988). We integrated Lenoir's model for its interactive phase (Lenoir, 2009, 2014). Figure 1 shows this new model which we are proposing.

Figure 1 : The Modèle d'intervention éducative au collégial (MIEC)



We will use this framework to analyze perceptions of teachers regarding their interventions in terms of obstacles to the practice of PA (Objective 1). For interventions on students' motivation (objective 2), we elected to use an existing framework.

A conceptual framework to describe and understand the interventions on motivation for the practice of PA

In this research, we chose the self-determination theory as a model of motivation. This theory was developed by Deci and Ryan (1985) and is organized around three types of motivation: intrinsic, extrinsic and amotivation. This framework has allowed us to analyze the perceptions of teachers' interventions in terms of students' motivation for the practice of PA. We adapted a validated questionnaire (the Motivation Scale in Sport Brière, Vallerand, Blais and Pelletier, 1995) to describe and understand perceptions of teachers regarding their interventions related to students' motivation.

Methodology

Two methods were used for data collection: an online questionnaire and group interviews using nominal group technique (NGT). Our questionnaire was built around socio-demographic questions, questions on barriers to sport and PA, questions about motivation for the practice of PA and four open-ended questions to help us improve our analysis. The questionnaire contained 79 closed and open-ended questions. The final questionnaire was validated by four experts and was tested with 6 teachers. The NGT was conducted with two groups of teachers from the CÉGEP of Sherbrooke and the CÉGEP of Trois-Rivières. The question they were asked was: Which interventions do you employ to promote the practice of PA to your students?

For open-ended questions, we conducted content analysis (L'Ecuyer, 1990) and the responses of the NGT were coded with grids of analysis based on the two theoretical frameworks.

Sample

In the questionnaire, our 73 PE teachers (50.7 %, men; 49.3%, women) averaged to 37.5 years old and they averaged to 8.5 years of experience in PE teaching at the CÉGEP level.

Two NGT were conducted, one in Sherbrooke and one in Trois-Rivières. A total of 24 teachers, 11 (45.8%) from Trois- Rivières and 13 (54.2%) from Sherbrooke, participated in the data collection. There were 10 (41.7%) men and 14 women (58.3%). Our sample averaged to 39.3 years old and had an average teaching experience of 9.6 years at the CÉGEP level.

Results

We will first present the results from the questionnaire before presenting those from the NGT. To respond to our first research objective, we will present conditions favouring students' PA practice as perceived by teachers before talking about obstacles.

Teachers Perceptions of Favourable Conditions for the Practice of PA

The results from the questionnaire show that PE teachers grant a great deal of importance in their interventions to raising awareness among students regarding the benefits of the practice of PA and sports on their health. They also organize their courses in order to encourage students to adopt positive attitudes and values towards PA and in order to motivate them to continue their practice of sports outside of the classroom.

Certain differences were observed between respondents depending on their teaching experience. In fact, the most experienced PE teachers give more importance to the development of motor skills, strategies and individual techniques. On the other hand, the less experienced teachers seem to give more importance in their interventions to eating habits along with the practice of PA.

Teachers also mentioned three main conditions to promoting the practice of PA: the possibility PA at the CEGEP outside of PE class hours, the quality and availability of infrastructure and the low cost of activities.

Teachers' perceptions of obstacles to the practice of PA

We find that teachers strongly agree with the importance of the influence from the environment (family and friends) in favour of the practice of PA. Teachers also strongly agree with the importance of quality infrastructure as well as their involvement in the renewal of equipment, sports or otherwise, in order to promote the practice of PA. However, it seems less important for them to be involved in the management of sports infrastructure. Finally, there is also consensus among teachers regarding raising students' awareness to the benefits of PA and promoting both recreational and competitive PA outside the classroom.

There are also some differences that emerge depending on the age and teaching experience of teachers. For example, younger and less experienced teachers consider more the interests and needs of students. Conversely, older and more experienced teachers tend to collaborate with CEGEPs' management to promote PA to students.

For the results of the open-ended question about the obstacles, they concur with the answers to the section of the questionnaire dedicated to the conditions that favour the practice of PA. The availability and quality of the facilities are again very important to the teachers to encourage the students' practice of PA. Lack of time is also a common reason for not practising PA. We will now present the analysis of interventions in terms of students' motivation for the practice of PA (objective 2) from the answers to the questionnaire.

Interventions That Influence Students' Motivation to Do PA

Answers to questions on motivation reveal that teachers attach much more importance to interventions related to intrinsic motivation. This is interesting because this is the type of

motivation that encourages sustainable long-term behaviour (Tessier and Sarrazin, 2013). The identified extrinsic motivation is another type of motivation that is valued by PE teachers. We must be prudent with these results because while the questionnaire we adapted was validated, the adaptations themselves to allow the description of PE teachers' perceptions regarding motivation were not validated. This is a limitation for this research.

The second data collection component included group interviews. We will now present the results of the NGT which were analyzed using two theoretical frameworks (MIEC and motivation).

NGT Results

During the NGT, teachers had to answer the question: Which interventions do you employ to promote the practice of PA to your students? Afterwards, they had to select which of the presented statements seemed the most relevant.

We found some differences between the statements that were considered the most important in either CÉGEP. Cégep de Sherbrooke voted largely in favor of the statement "Being a dynamic and motivating teacher" which is a personal quality for the teacher. Meanwhile, the Cégep de Trois-Rivières gave more importance to activities outside the class with the statement "Propose projects outside the classroom (Défi Pierre Lavoie health Challenge) ". Nevertheless, the teacher's dynamism comes in second for teachers in Trois-Rivières.

NGT Result Analysis with the MIEC

When we analyze statements with the MIEC, we find that while teachers first get involved in the classroom, they are also very involved outside the classroom to promote the practice of PA for students. The majority of the statements that are considered the most important for the two colleges are interventions within the classroom or with students. However, the Trois-Rivières teachers stand out with two statements coded as

activities outside the classroom: "Propose projects outside the classroom (Défi Pierre Lavoie, Health Challenge)" and "Give a wide variety of course options for students in the PE program ". They consider both these statements to be among the most important ones. Finally, we note that Sherbrooke teachers attach more importance to the pedagogical-didactic relation (3 statements, 23 votes and a value of 127) and psycho-pedagogical relation (3 statements, 18 votes and a value of 124) compared to the Trois-Rivières teachers who give more importance to the psycho-pedagogical relation (4 statements, 14 votes and a value of 98) and activities outside the classroom but inside the CÉGEP (2 statements, 10 votes and a value of 67).

NGT Result Analysis with the Motivation Framework

For the 54 statements from the Cégep de Sherbrooke, only 15 statements were coded and 39 statements could not be classified within the motivation framework. For the 76 statements of the Cégep de Trois-Rivières, 18 statements were coded but 59 statements could not be coded according to the motivation framework. We quickly find that no teachers from either CÉGEP mentioned many statements directly related to motivation.

We find that teachers from both CÉGEPs coded the same number of statements in relation to motivation. In both cases, the number of statements referring to the intrinsic and extrinsic motivation is the same. Still, we note that there are many more statements with a high number of votes and a high-encoded value for motivation coming from Sherbrooke than from Trois-Rivières. Unfortunately, it is difficult to draw conclusions given the coding difficulties with this model.

Discussion

In this research, we found that PE teachers in CÉGEP break down several barriers and act as facilitators which we had found in our first project with students (Leriche and Walczak, 2014). Among the interesting findings, let us emphasize that interventions outside the classroom but inside the CÉGEP from the PE teachers seem very relevant in promoting the practice of AP, according to teachers of course. An interesting possibility

which was raised and which exists in several CÉGEPs is the establishment of projects to offer more PA for students at their CÉGEP, free or at a low cost.

We will now look at how the MIEC was useful to meet our research objectives. We believe that the creation of this framework is the most important contribution in the context of this research.

This model allowed us to code all of our data from both the NGT and open-ended questions as well as guide the discussion on the questionnaire results. Using this model, we found that teachers intervene foremost within the classroom to promote the students' practice of PA. However, we also found that many teachers are very involved outside the classroom, while still inside the CÉGEP. These results show very well the whole extent of the interventions of teachers within their schools.

This model seems interesting to paint a portrait of the intervention in an exploratory study such as this. It provides support for data interpretation. It is interesting to have, before the intervention, a portrait of variables which might, or not, influence the course of the intervention. Remember that teaching is a complex world. The attempt to describe the variables that can influence the interactive phase helps orient the gaze of the researcher in the right direction despite a universe of possibilities. Each situation is unique and we believe that the description of the variables helps make sense of the observations made by researchers by providing contextual elements for readers.

However, this model is not perfect because even though it helps bring order to the thoughts of researchers, the variables are not immune from influencing each other. For example, what we classify as didactic relation could possibly be classified as psycho-pedagogical relation by someone else. Hence, the need to refine the categories with more research on intervention including research design that look into effective practices in PE.

Conclusion

What have we learned from this research on perceptions of teachers regarding their interventions? We have shown that while teachers mainly intervene in their courses, they are also very involved outside the classroom in the CÉGEP. Interventions outside the classroom in the CÉGEP from PE teachers seem very relevant interventions in promoting the practice of PA. We will remember that all PE teachers who participated in this research have a common desire to transfer the habit of PA as practised in the classroom to the outside world so students develop healthy habits. There was also consensus among teachers regarding the students' awareness of the benefits of PA and the promotion of recreational and competitive PA outside the classroom. For motivation to practise PA, teachers attach much more importance to interventions related to intrinsic motivation but also highly value extrinsic motivation. That being said, it would be interesting to study effective practices to complete these results.

We have also shown that there are many parallels between perception regarding the actions of teachers and the obstacles as expressed by students in our previous research (Leriche and Walczak, 2014). This leads us to propose some recommendations on possible interventions that seem promising to promote the practice of PA for students:

- Work with school administrators to increase / maintain access to sports facilities for free or at a low cost during school hours.
- Promote active transportation (cycling / walking) for travelling and adapt the environment of institutions to promote these types of travel.
- Provide students with outside spaces accessible at all times in CÉGEPs (volleyball courts, soccer fields, deck hockey and skating rinks, running tracks, outdoor training modules ...).
- Inform students about the facilities and activities available at the CÉGEP.
- Provide activities organized by teachers of PE in addition to compulsory PE courses.
- Take into account the socio-economic background of students in the organization PA which involve costs.

- Value the practice of PA for fun, to learn new things and vary the experiences in the course of PE.
- Help students set goals for practising PA outside the classroom.
- Be dynamic and motivating teachers to students.
- Empower students to better manage their time and find room to practise PA.

We conclude by reminding everyone that there are great disparities in the levels of physical skills and fitness of students. Thus, CÉGEP PE teachers have a crucial role to play to give students the tools to address these inequalities and to find solutions that correspond to each of their realities.

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