

IN-SERVICE TRAINING AND SUPPORT PROGRAMME BASED ON SDT-PRINCIPLES ON PERCEPTIONS OF PHYSICAL EDUCATION

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ABSTRACT

Although Physical Education (PE) is valued for its educational outcomes and the potential to enhance learners' physical health, the professional implementation is often lacking, leading to a decline in learners' intrinsic motivation levels and negative perceptions of PE. PE teachers can enhance learners' motivation and perceptions of PE by meeting their basic psychological needs, according to the Self-Determination Theory (SDT), first developed by Deci and Ryan in 1985. The purpose of this study was to investigate the effect of an in-service PE teacher training and support programme, based on the principles of the SDT, on the perceptions of PE participating learners. Four months after the five-day teacher training programme including teaching strategies to support the needs of learners, data were collected through focus group interview, from Grade 7, 12- to 13-year-old learners (n=28). The participating learners generally perceived PE more positively after their teachers attended the training programme. It is recommended that PE teacher training programmes include needs-support strategies to enhance learners' perceptions and motivation levels in the PE class.

Keywords: Physical Education; In-service teacher training; Self-determination Theory (SDT); Learner perceptions.

INTRODUCTION

Physical Education (PE) is not only valued for its potential to enhance learners' physical health by promoting physical and motor fitness, but also for its educational outcomes addressing social, emotional and cognitive development (Anderson & Glover, 2017; Donnelly *et al.*, 2017; Turner *et al.*, 2017). However, when PE lacks professional implementation in schools, as is often the case in South Africa (Stroebe *et al.*, 2019), the subsequent negative effects result in a decline in learners' intrinsic motivation levels and negative perceptions of the subject, which in turn impacts participation and health benefits (Van der Westhuizen, 2018).

The teacher plays a pivotal role in making the PE class an educational, but also inspirational experience for learners, so that they will be intrinsically motivated to pursue a physically active and healthy lifestyle (Gomez, 2017). One theoretical framework that focuses on human motivation to persist in an activity, is the Self-determination Theory (SDT) (Ryan & Deci, 2020) which was originally developed in 1985 (Deci & Ryan, 1985). It is through the lens of this framework that the present study was conducted.

SDT postulates that satisfying a person's three basic psychological needs of autonomy, competence and relatedness, will foster an increase of intrinsic and self-determined forms of motivation to continue with an activity (Ryan & Deci, 2020). Autonomy refers to learners' need to have a voice, make choices and take ownership of their learning. Competence concerns learners' need to be able to achieve learning activities with success, while relatedness deals with learners' need to feel part of the class and the school (Ryan & Deci, 2020). Within the framework of the SDT, McDavid *et al.* (2014), Vasconcellos *et al.* (2019) and Hernandez *et al.* (2020) postulate that motivation can be conceptualised as the different reasons why students engage in activities during PE. These reasons reflect different forms of motivation, ranging from more internalised and autonomous (intrinsic) motivation to less autonomous and controlling (extrinsic) motivation.

Intrinsic motivation is the most autonomous type of motivation and occurs when learners participate in PE as an end in itself. As such, learners perceive the subject as enjoyable and important to their development and health (Andrew *et al.*, 2014; McDavid *et al.*, 2014). *Extrinsic motivation* occurs when learning is motivated by the pursuit of an external reward, like a grade or PE mark, or punishment avoidance (Andrew *et al.*, 2014; McDavid *et al.*, 2014; Ryan & Deci, 2020). Extrinsic motivation is further categorised into four different subtypes, namely (i) *external regulation* that entails behaviour driven by external demands or rewards; (ii) *introjected regulation*, which concerns acting to avoid anxiety, shame or guilt or to maintain self-worth; (iii) *identified regulation* which is a more autonomously driven form of motivation where the task is aligned with personal values; and then finally (iv) *integrated regulation* where the activity is fully assimilated with the individual's sense of self and other core values (Ryan & Deci, 2020). As the needs of learners play an important role in promoting their intrinsic motivation (Ryan & Deci, 2017), teacher instructional behaviours that support learners' need satisfaction, have received considerable attention in literature (Erwin *et al.*, 2013; How *et al.*, 2013; Agbuga *et al.*, 2016).

In their reviews of studies pertaining to the effectiveness of interventions that have promoted autonomy-supportive climates in PE, Hastie *et al.* (2012) and Salazar-Ayala and Gastélum-Cuadras (2020) found that learners perceived autonomy-supportive climates to have a positive impact on their motivation and learning experiences, increased fun and enjoyment, increased perceptions of ability and effort in PE, all of which are reported to promote positive attitudes towards physical activity within PE.

Several studies have investigated the effect of teaching strategies to satisfy the need for autonomy among learners, by including opportunities for learners to choose, plan and negotiate the nature of their participation in PE (How *et al.*, 2013; Sparks *et al.*, 2015; Guadalupe & Curtner-Smith, 2020). Positive results have also been found in studies investigating autonomy and competence support strategies to make activities in PE challenging, novel and fun (Ha *et al.*, 2020; Baños *et al.*, 2019; Tilga *et al.*, 2019), as well as studies promoting strategies of enhanced learner interaction and caring, to enrich relatedness support (Gairns *et al.*, 2015; Sparks *et al.*, 2015).

A PE teacher should therefore use teaching strategies to promote needs-supportive PE classes, as it is important for learners to build a basis of positive experiences in PE in order to promote their commitment to be physically active (Leisterer & Jekauc, 2019). In this regard, Gomez (2017) believes that learners will be more intrinsically motivated and likely to keep a habit of being active for the rest of their life, if a PE teacher helps them to discover which physical activities fit their needs best.

Similar to other developing countries, PE in South Africa faces challenges that range from the negative perceptions of PE by students, parents and teachers. The poor state of facilities, and reduced curriculum time, to a shortage of adequately-trained teachers are a reality (Stroebel *et al.*, 2018). To address these challenges faced by PE programmes, recommendations have included PE Continuing Professional Development (CPD), or in-service training programmes, designed not only with the focus on being informed of new trends in PE, improving the quality of teaching, and coaching and learning in PE, but also to train teachers to be needs-supportive (Sum *et al.*, 2018; Van der Westhuizen, 2018). Moreover, to enhance programme sustainability, several studies globally involving PE in-service training programmes (Konukman, 2015; Sum *et al.*, 2018; Van der Westhuizen, 2018), have recommended that follow-up support programmes are implemented after the initial training.

PURPOSE OF RESEARCH

In-service PE training programmes are currently rare in South Africa, and have mostly addressed curriculum changes (Crouse, 2013) and basic PE pedagogy (Van der Westhuizen, 2018; Zeller, 2018; Stroebel *et al.*, 2019). Consequently, the purpose of this study was to investigate the effect of an in-service PE training and support programme underpinned by SDT, on the perceptions of PE held by the participating teachers' learners in the unique South African context.

METHODOLOGY

Research design and paradigm

This study employed qualitative research methodology using semi-structured focus-group interviews. Within the framework of SDT (Ryan & Deci, 2020), the collection and interpretation of data from the interviews were based on interpretivist principles (Belotto, 2018). It was believed that, by training teachers to strive to satisfy the three basic psychological needs of autonomy, competence and relatedness, more intrinsic and self-determined forms of motivation would result, which could in turn have an effect on the learners' perceptions of PE (Agbuga *et al.*, 2016; Ryan & Deci, 2020).

The study was conducted within the interpretivist paradigm, which is known to describe the world of human experience (Kivunja & Kuyini, 2017). Chowdhury (2014) describes interpretivism as a term, which emphasises the nature of people's character and participation in certain ways such as that in their social and cultural life. Interpretivism further entails the way that knowledge of reality is a social creation along with human behaviour and rules out the concept of natural science (Chowdhury, 2014). Interpretivism thus includes participants' ideas and feelings being investigated through interviews to examine a total scenario in a natural setting.

Setting

This study ran simultaneously with a five-day in-service PE teacher training programme (short course), which was developed for in-service PE teachers, based on the prescriptions and content of the national Curriculum and Assessment Policy Statement (CAPS) (SADBE, 2011) for PE within Life Orientation. The subject group Movement Education in the Faculty of Education of the North-West University (NWU) presented the training programme, followed by a support programme of four months consisting of support from the instructors in the form of

communication on an electronic platform (forums, questions and answers, physical activity ideas, lesson ideas, and more), as well as e-mails, and telephonic communication. The teachers who enrolled for the in-service programme, had no other PE training other than that of the governmental Life Orientation training that entailed one afternoon of PE training. During the four months after the training programme, the teachers taught PE at their schools, implementing the knowledge and skills they achieved, while being supported by the instructors of the course.

Participants

From the class lists of four convenience-sampled teachers who participated in the in-service training and support programme, six to eight learners per teacher were randomly chosen and invited by the researcher to take part in the focus group interviews. In total, 28 Grade 7-learners (boys n=13; girls n=15) between the ages of 12 and 13 years, from four schools of different demographic areas (one from the North-West, one from the Free State and two from the Gauteng province of South Africa) and different socio-economic backgrounds, participated in the study. Table 1 shows the composition and background of the focus groups.

Table 1. COMPOSITION AND BACKGROUND OF FOCUS GROUPS

Focus group	Male	Female	Total group	Age (average yrs)	School's socio-economic status
1	3	5	8	12.5	High
2	4	4	8	12.6	Low
3	3	3	6	12.5	Low
4	3	3	6	12.7	Middle
Total	13	15	28	12.6	

PE training and support programme

The programme was based on the prescribed PE content in the national curriculum (SADBE, 2011), which is categorised into themes of physical fitness, sport and games and recreational movement activities, such as educational dance and gymnastics. Theoretical lectures addressed the place and value of PE and theoretical concepts applicable to each PE theme, as well as pedagogical issues. In the practical sessions, practical skills, activities and teaching strategies pertaining to each PE theme were presented and the participants participated in these as far as they were physically able.

The training further included teaching strategies with the aim of meeting learners' needs of autonomy, competence and relatedness. Teaching strategies for autonomy support included providing learners with choices regarding physical activities and roles that they play in PE classes, allowing learners to help plan PE activities, and helping learners internalise the value of PE for themselves. Teaching strategies for competence support included the presentation of achievable but challenging activities adapted to developmental levels, and teaching movements and new skills that are applicable in life outside school. Teaching strategies for relatedness included being supportive, positive and caring during activities, facilitating group activities, which develop feelings of inclusivity, integration, trust and respect among peers, and facilitating enjoyable, creative, different and fun activities. The training also addressed the assessment of all the major sections of PE, and the improvisation of equipment from scrap materials.

Ethical considerations

This study was approved (Ethics no. NWU-HS-2016-227) by the North-West University Education, Management, and Economic Sciences, Law, Theology, Engineering and Natural Sciences Research Ethics Committee (NWU-EMELTEN-REC), and written informed assent and consent was obtained from the participants and their parents before the interviews. The focus group interviews were conducted in a private classroom or office. All interviewees were urged to keep the answers provided by members of the group confidential and they were assured that they were participating voluntarily and could withdraw at any time. All applicable ethical guidelines and principles outlined by the National Health Research Ethics Council (SADoH, 2015), including anonymity in the report of findings, were adhered to in the study.

Data collection

For the purpose of the study, semi-structured focus group interviews, using an interview schedule, were conducted by the researcher with the participating learners at the end of the teacher support programme (thus four months after the teacher training programme). The questions in these interviews were aimed at identifying the learners' perceptions of and attitudes towards PE, their experiences in the PE class, and how their teacher's attendance of the training and support programme impacted on these perceptions and experiences. Examples of questions included in the interview schedule, were: "How do you see the value of PE?" and "In what way has the training and support programme affected your perceptions of PE?" The interviews were conducted in a classroom or office at each school and lasted between 30 and 40 minutes each.

Data analysis

All interviews were transcribed verbatim. Data from the interviews were analysed according to the guidelines of Flick and Metzler (2014), as well as Belotto (2018), which included generating categories and themes through colour-coding, segmenting, categorising, summarising, and reconstructing in order to capture the important concepts within the data set. The transcribed data were firstly coded, which involved the process of carefully reading through transcribed data, line by line, and dividing it into meaningful analytical units before themes were identified and categorised (Belotto, 2018). Participants were assigned codes according to their gender and focus group, for example "Male 1".

Trustworthiness

Trustworthiness was established through triangulation, member-checking and peer-debriefing. Triangulation involved the comparison of data from the different sets of data (four interviews). Member-checking was used to reduce the impact of subjective bias (Belotto, 2018), by presenting the interview transcripts and emergent themes to the respective participants. The participants' acknowledgment of the accuracy of the transcripts and the researchers' interpretations of the data ensured that trustworthiness was established. Peer-debriefing entails a process of allowing a qualified peer-researcher to review transcripts and the emerging categories and final themes from those transcripts (Flick & Metzler, 2014), was conducted by presenting the transcripts to a professional colleague with expertise in qualitative research, who reviewed the established themes and agreed with the findings of the researchers.

RESULTS

Categories that have been identified in the analysis of the data are: the importance and value of PE; assessment in PE; and learners' needs, frustration and support. These categories along with their emergent themes will be discussed in more detail.

Importance and value of PE

Participants acknowledged the importance and value of the subject when presented with the questions of "Do you like PE?" and "Do you think it is important?", referring to the value of PE for their physical, cognitive and psychological health and sport development. It became clear that all the participants were aware of the importance and beneficial elements, which the subject holds with regard to their physical health, referring to aspects like improved blood flow, physical functioning and cardiovascular improvement. As one participant stated: "...it strengthens the heart and the lungs, and it helps the organs also function properly" (Male 1).

All the participants were positive that they had been made more aware of these benefits of PE by their teachers after the in-service training programme. When asked whether they had learnt anything new about the value of PE after their teachers' attendance of the training programme, several participants mentioned the benefits of PE for cognitive development impacting on academic performance and psychological aspects were touched upon as well.

...it keeps us healthy and make us concentrate in the class. (Male 2);

PE gives you just a bit of a chance to get your brain fresh again and to get you calm and clean for when you go into the classroom again ... then it helps you concentrate better and to think faster. (Female 4)

It can boost your self-confidence and how you feel about yourself. (Male 2)

The perception that PE contributes to preparing learners for sport participation, was strongly affirmed in two of the focus groups, as one participant stated:

PE helps our after-school sport because it makes us fitter so that we're able to play the sports. (Female 1)

Assessment in PE

Responding to the interview question of assessment in PE, most of the participants reacted with positive feedback, stating that they really enjoyed being assessed, mainly because they experienced assessment as more positive and less stressful.

One focus group's learners mentioned that their PE teacher now assessed them based on their level of participation, rather than skill level, while another group's teacher instructed the learners to go all out with each activity, if they were being assessed or not. A few learners from different interviews explained that they enjoyed the assessment more after their teachers' attendance of the training programme, because now they understood that they "can improve ourselves and compare our results to previous tests" (Male 3).

Learners mentioned that they enjoyed assessment more because they were being challenged in new ways, and when asked what they enjoyed from the assessment, different participants mentioned fitness testing and the different modes of testing. Overall, participants expressed their improved enjoyment of PE assessment, connecting their enjoyment with new assessment tests and strategies by the teacher, as two participants stated:

It's actually enjoyable now when we are being assessed, it is not stressful anymore because the teacher tells us it doesn't matter if you are good or bad in sport, he evaluates you on your participation. (Female 2)

It doesn't feel stressful anymore because it feels like we are doing any other exercise. (Female 3)

Learners' needs, frustration and support

Themes emerging in this category included the effectiveness and attitude of teachers, the fun aspect, learners' choices in activities, and group work.

Participants in two of the focus groups referred to negative experiences in the PE class before the training programme, among which, that some of the learners' PE teachers just let them "*run around the track for fitness*" (Female 4) and "run around the track as punishment, like when they forget their hats" (Female 4). A valuable aspect stated by all four groups of participants was that they enjoyed PE more after the training programme, because the teachers presenting the subject displayed more knowledge and the ability to present PE better. Respondents from two focus groups indicated that they enjoyed PE so much more after the training programme to such an extent that they would like more PE classes in a week, rather than just the one per week at their schools. One group of participants agreed that, after the training programme, their PE teachers "showed a positive attitude towards PE", as two participants in particular pointed out:

At first we did usual exercises, just to run. Now the teacher brought in more, other exercises as well that I enjoyed more. (Male 4)

I loved it more because my body experienced new challenges. (Male 3)

One participant from another focus group, even mentioned that it was his "first time experiencing PE that is fun" (Male 1) after their teacher had attended the training programme.

A perception that came to the fore in the interviews, was that learners should get to do activities that they like, and not be forced to do things with which they are not comfortable. The PE unit 'Educational Dance', for example, received mixed feelings from some participants in the interviews, where a majority of the negative feelings towards dance was reported by boys. In this regard, however, some participants mentioned that they actually enjoyed dancing more after their teacher's attendance of the training programme. One stated that "I liked dancing more, yes because it was my first time to do it like that, then, I started as if my body started experiencing some peace" (Male 2).

The need of participants to be able to do activities of their choice, was also prominent when asked what could be done to make PE more enjoyable: Responses from participants in all four groups concurred with the opinion of one participant that said: "When you force a kid to do something, it's not going to be fun, they don't want to participate" (Female 1). To enhance learners' enjoyment of PE, several participants suggested giving a variety of activities that learners could choose from:

I think kids would enjoy it more if they can choose different things to do throughout the year. (Female 2)

More kids will participate if they find something they like doing, like we did, like, the sport they like doing. (Male 1)

Another aspect that was mentioned by participants in all the focus groups, was that learners found group work, where they had to work out a new game or dance, enjoyable, thus incorporating creative group activities. Two participants stated:

For me, what is really nice is when we, when the teacher tells us we must divide into groups and work out our own games... we show our game to the class, then the whole class plays the game. (Male 3)

When we have to do a dance or a game together where we have to mix things, and we get marks for it and for creativity and things like that and I think that is really fun, 'cause then you can also make a new game for you and your friends. (Female 4)

DISCUSSION

The purpose of this study was to investigate the effect of an in-service PE training and support programme, based on the principles of SDT, regarding the perceptions of PE of the participating teachers' learners. The findings show that the participating learners generally perceived PE more positively after their teachers' participation in the training programme, with regard to the value of PE, assessment in PE and their needs being met in the PE class.

Through the lens of SDT (Ryan & Deci, 2020), the learners' need for autonomy seems to have been met by the knowledge, by new teaching strategies, new activities and positive attitudes that their teachers displayed in response to the training and support programme. According to SDT, intrinsic motivation reflecting behavioural engagement is, among others, a result of a personal interest in the behaviour. In this regard, the participants' enhanced awareness of the value of PE for their own health, academic performance and sport competence, seem to have contributed to their intrinsic motivation to participate in PE.

The participants' perceptions that learners should be allowed to do activities of their choice and that activities should be novel and fun, are supported by the results of several recent studies on the effects of intervention programmes promoting autonomy-support of learners in the PE class, by emphasising the benefits of physical activity and including elements of choice and fun (Ulstad *et al.*, 2018; Baños *et al.*, 2019; Tilga *et al.*, 2019; Guadalupe & Curtner-Smith, 2020; Ha *et al.*, 2020). Ha *et al.* (2018) designed a Self-determined Exercise and Learning For FITness (SELF-FIT) intervention, which consisted of a two-day teacher-training workshop in learners' need support in PE, followed by an eight-week implementation in schools in Hong Kong. Two primary elements included in the SDT-based intervention were; opportunities to choose activities and the fostering of an enjoyable PE experience by focusing on fun and variety in lessons (Ha *et al.*, 2018).

The effect of the SELF-FIT intervention on learners' moderate-to-vigorous physical activity (MVPA) and motivation levels in PE, was investigated among 667 learners from 26 schools. The results showed that the participants' competence and autonomy need satisfaction, autonomous motivation and moderate physical activity levels during PE had significantly increased (Ha *et al.*, 2020). Similarly, Baños *et al.* (2019) in a study among 475, 12- to 17-year-old learners in Mexico, concluded that designing new and dynamic PE sessions was necessary for adolescents to appreciate the value and importance of PE classes and to increase physically active habits.

Tilga *et al.* (2019) investigated a web-based PE teacher training programme over four weeks. In response, learners perceived their teachers to be significantly more autonomy-supportive in three dimensions: *organisational* (allowing the learners to choose between different activities); *procedural* (offering hints how to do better) and *cognitive* (understanding learners' needs, and being less controlling). Tilga *et al.* (2019) concluded that PE teacher training programmes should not only focus on teaching strategies to promote autonomy-support, but should also minimise PE teachers' controlling behaviour, such as the use of punishment and shouting. This

recommendation is echoed by the current participants' negative perceptions of controlling behaviour, where exercise is used as punishment and where learners are forced to do activities with which they are not comfortable.

The participants' positive perceptions of assessment in PE after their teachers' involvement in the training and support programme, indicate that their competence satisfaction was enhanced. Instead of feeling anxious when being assessed, the new points of emphasis (effort and participation) of PE assessment that the training reinforced, supported participants to feel that they could be successful and use the assessment for self-improvement. Hay and Penney (2009) support the notion that PE teachers should integrate assessment into the teaching-learning process so as to support and promote learning, rather than conceptualising assessment as an isolated activity that is divorced from their regular teaching.

Traditionally, the only purpose of evaluation was performance evaluation, which means the physical fitness test was the most popular tool for assessment (Pastor *et al.*, 2006). Currently recommended proposals for PE assessment, however, not only include the evaluation of the learners' performance outcomes, but also the process of participation, effort and the PE programme (Rodríguez-Negro & Zulaika Isasti, 2016). The need for competence was further supported in the suggestions of participants that they should be able to choose which activities to do, since they could then choose those activities in which they perceived themselves to be more competent.

With regard to the need for relatedness, the participants' experiences of their teachers' positive attitude and implementation of group work in designing dances and games, indicated that they felt connected and part of the class. Studies emphasising the training of teachers in relatedness-support (Gairns *et al.*, 2015; Merino-Barrero *et al.*, 2020) have also yielded positive results. In the study by Gairns *et al.* (2015), learners were more autonomously motivated when they perceived their teacher and peers favourably, which in turn increased their behavioural engagement ratings. Merino-Barrero *et al.* (2020) investigated the effects of a Teaching for Personal and Social Responsibility programme, grounded in SDT, as opposed to Direct Instruction in PE classes, which was conducted over a five-month period in two schools in Spain.

The results of this study showed that the learners' personal responsibility, linked to the satisfaction of their need for autonomy, and social responsibility, linked to the satisfaction of their need for relatedness. These outcomes also led to enhanced self-determined motivation and improved intention to be physically active outside school (Merino-Barrero, 2020). The findings of the current study support the concept pointed out by researchers (Sparks *et al.*, 2015; Gruno & Gibbons, 2020) that relatedness, like autonomy, is a multidimensional concept which is influenced by several interrelated factors. In the study of Sparks *et al.* (2015), for example, learners' feeling of relatedness-support was associated with their experiences of effective responses, class engagement, intrinsic motivation, efficacy beliefs and intentions to try new physical activities.

Gruno and Gibbons (2020) found that learners who perceived their PE teacher providing freedom of own actions (autonomy) and learner interaction (relatedness), experienced higher enjoyment. Tilga *et al.* (2019) found procedural autonomy support (thus offering learners choices regarding learning material and strategies) to be the highest predictor of relatedness need satisfaction. In light of the findings of these studies, it can be presumed that the perceptions of the participants in the current study of support for their needs for autonomy, competence and relatedness, seem to have been interrelated and interaffective.

In summary, the findings indicate that the support for the needs of autonomy, competence and relatedness of the participants in this study, contributed to their more positive perceptions of PE and probable higher levels of autonomous motivation to participate in PE classes.

CONCLUSION AND RECOMMENDATIONS

The findings of this study support the approach of the inclusion of training in needs-support strategies in PE teacher training and support programmes, based on the principles of SDT. The practical application of the findings of this study should, however, be considered in light of the following limitations, leading to recommendations for further research.

Firstly, a relatively small sample of four focus groups in three different areas of the country was used. Secondly, data have only been collected from the post-programme interviews, while a more accurate picture of the impact of the in-service training programme could have been derived if data had been collected even more comprehensively. It is therefore recommended that future research incorporate data-collection in more schools, more provinces and different types of schools (primary, secondary, public, private and schools for learners with special needs) and incorporate pre-programme interviews.

Despite limited generalisability, recommendations can be made for PE professional development programmes in South Africa derived from the findings of this study, including the incorporation of specific teaching strategies designed to apply the principles of SDT to meet learners' needs. These teaching strategies should include the support of learners' need for autonomy by enhancing their awareness and appreciation of the value of PE for their own well-being, and providing a variety of exciting physical activities from which they can choose. Strategies for meeting the needs for competence and relatedness should include emphasising effort and self-improvement during learner assessment in PE and facilitating group work in which learners can participate in creative and fun activities. Integrating these teaching strategies into PE teacher training can possibly contribute to the enhancement of learners' autonomous motivation to participate in PE and, indirectly, their well-being.

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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