

Constitution of self-efficacy in the early career of physical education teachers

RORAIMA A. COSTA FILHO¹, ROBERTO T. IAOCHITE²

^{1,2}Department of Education, UNESP - São Paulo State University, BRAZIL

Published online: December 31, 2018

(Accepted for publication December 08, 2018)

DOI:10.7752/jpes.2018.04363

Abstract:

Problem statement: Teaching self-efficacy is built from teacher's interpretations about and also from the personal values that he attributes to the information selected from the environment. Despite research has investigated the contributions of the sources of self-efficacy, little is known about which experiences are selected and weighted by Physical Education beginning teachers to compose teacher' self-efficacy. *Purpose:* This study aimed to identify, describe and analyze the learning experiences to teach that beginning Physical Education teachers rely on to judge their self-efficacy to teach. *Approach:* The data were collected through semi-structured interviews with five Physical Education beginning teachers and qualitatively analyzed with the support of NVivo software. *Results:* Results indicate the prevalence of practical experiences (enactive mastery experience) during teacher education, especially linked to supervised practicum, observational learning experiences (vicarious experience), and teacher guidance (social persuasion) during ongoing education were also significant information for the self-efficacy judgments. *Conclusion:* special attention can be given to the processes of the supervised practicum programs and situations which involve direct teaching practices during the undergraduate courses and in-service programs.

Key Words: Sources of self-efficacy; Physical Education; Beginning Teacher; Self-efficacy.

Introduction

Research has been showing the difficulty that Physical Education teachers, especially the beginning ones, have when dealing with the different requirements of their professional work at school (Gorozidis & Papaioannou, 2011; Hand & Stuart, 2012). This is worrying because the teachers who do not perceive themselves prepared and able to deal with the teaching challenges tend to quit their career (Mäkelä, Hirvensalo, & Whipp, 2014).

In order to meet the demands and educational challenges, teachers must deal with their expectations and values, knowledge, personal beliefs, and the elements related to the diverse aspects that integrate the teaching practice. These elements are built along with the professional development (Garcia, 2010; Pajares, 1992) and some learning experiences can exert more influence in determined periods of the career. In fact, there are multiple factors related to the professional development, especially the ones linked to teacher thoughts and his behavior during his teaching practice (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).

Teachers teach based on their own past experiences and their personal beliefs about teaching. Their behavior can be explained by the beliefs they hold about what teaching is like and how it must be conducted (Levin, 2015; Pajares, 1992). Although different theoretical references allow us to study the topic of beginning teachers, for the purposes of this research we will be supported by the construct of self-efficacy postulated by Bandura (1997).

Teaching self-efficacy is defined as the judgment the teacher has about his “capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated” (Tschannen-Moran & Woolfolk Hoy, 2001, p. 783). Research has pointed out that teachers who believe in their capabilities to teach are more effortful and dedicated (Canrinus, Helms-Lorenz, Beijgaard, Buitink, & Hofman, 2012), use different pedagogical strategies (Ozder, 2011), tend to feel more capable to use technologies in their lessons (Fanni, Rega, & Cantoni, 2013) and when they are novice, they tend to remain in their occupation (Hong, 2012). At the specific domain of physical education, teachers who have high self-efficacy beliefs also have more positive attitude towards their occupation (Pan, 2014), they seek to adopt strategies and more adequate teaching practices related to their teaching context (Gorozidis & Papaioannou, 2011), and they see their teaching environment in a more positive way (Hand & Stuart, 2012). Nevertheless, when this belief is still beginning it is more susceptible to changes (Bandura, 1997). At the beginning of the teaching career, especially, it has significant decreases (Woolfolk Hoy & Spero, 2005), which can explain why novice teachers quit teaching.

Teaching self-efficacy is built from teacher's interpretations about and also from the personal values that he attributes to the information selected from the environment. This information comes from his own practice or

from interaction with colleagues, students, management team, parents, among others. Bandura (1997) has postulated the presence of four sources of self-efficacy: direct (enactive) experience, vicarious experience, social persuasion, and physical and physiological states. For teaching, the enactive experience is the interpretation that the teacher makes about his actions from the achieved results (Tschannen-Moran & Woolfolk Hoy, 2007). Vicarious experience refers to the observation of living models, that is, teachers teaching. They can also be symbolic models like movie characters performing teachers in teaching situations (Aydin, Demirdöğen, & Tarkin, 2012; Iaochite & Souza Neto, 2014). Social persuasion is usually expressed verbally through feedback in dialogue situations, for example with co-workers, management team and students' parents. The information about physiological and physical states are linked with the physiological and affective responses derived from teaching situations which deal with certain circumstances, among them, the first teaching experiences (Klassen & Durksen, 2014).

Information originated from the self-efficacy sources are diverse and may assume varied characteristics in different moments (Bandura, 1997). The perception on the information from each source can assume different configurations in different moments of the teaching career (Martin, McCaughtry, Kulinna, & Cothran, 2009; Tschannen-Moran & Woolfolk Hoy, 2007). Researchers have pointed out the importance of the investigation on the origin of teaching self-efficacy, once the comprehension on the way teachers access, evaluate and interpret the information derived from the four sources can help the proposition of formative practices and policies. For example, in the specific domain of teaching physical education, research results present that undergoing supervised practicum programs during the initial education have brought valuable educational experiences for the constitution of self-efficacy. From these, the opportunity of a contextualized teaching, especially in terms of infrastructure and school community (Iaochite & Costa Filho, 2016) and the observation of school teachers teaching (Zach, Harari, & Harari, 2012).

On the other hand, research which tries to understand how self-efficacy is built in the teaching field are recent, are mainly quantitative and they have presented theoretical and methodological deficiencies (Morris, Usher, & Chen, 2017). There is a need in the literature to understand how the information coming from different experiences are recognized as sources of information to build teaching self-efficacy, especially at the beginning of the teaching career (Tschannen-Moran et al., 1998; Woolfolk Hoy & Spero, 2005).

From these considerations, the objective of the present study was to identify, describe and analyze in an exploratory way, the sources of information that the physical education teachers in their beginning of career select in order to judge their own capability to teach physical education at school.

Material & methods

Participants

This is an exploratory study of qualitative nature because it matters to know how participants interpret and attribute value to the investigated variables (Miles, Huberman, & Saldaña, 2014). This research has followed the necessary ethical procedures and it was approved by the Ethics in Research Committee on Human Beings of a public university in São Paulo state, with protocol number 5413/2012.

Five public high school physical education teachers from São Paulo state participated in this study in 2013. Two male and three female participants, aged between 27 and 50 years old ($M = 34.4$; $DP = 9.13$). They had up to five years of teaching experience ($M = 3.6$; $DP = 1.34$). In order to assure the participants' anonymity, they will be called P1 and P2 (male), and P3, P4, and P5 (female).

Instruments

It was used a semi-structured interview guide for data collection which was built from the literature guidelines about teacher self-efficacy (Morris et al., 2017; Tschannen-Moran & Woolfolk Hoy, 2001). The interview guide was divided into four themes: personal and work environment characterization, beginning of teaching career, meaningful learning situations in professional life, and how the teacher complements the information from lived experiences in order to give references to his capacity to teach physical education at school. With the intention to guarantee rigor and reliability to the process of instrument development and the realization of the interview (Miles et al., 2014), the interview guide was validated by two research professors with Ph.D. in education from different institutions who conduct research under the theoretical approach adopted for this study. The final version of the instrument considered the criteria of objectivity, clear text, easiness to read, content comprehension and organization of the questions.

Data collection and analysis / Statistical analysis

The interviews were conducted individually in day and time booked by the participants with the aid of a digital voice recorder (Sony, model px240) in order to guarantee all the details of the participants' speech. Data was analyzed qualitatively by descriptive coding and in vivo coding process (Saldaña, 2016), so as to assure the validity, reliability, and consistency of the results (Miles et al., 2014). NVivo software (version 10) was used in order to help the researcher in the process of analysis and interpretation of the qualitative data.

The process of analysis had three phases: pre-analysis, exploration, and treatment of the material, inference, and interpretation. In the pre-analysis phase, the interviews were fully transcribed for digital files.

After that, the transcriptions were validated by the participants in order to assure the content expressed their opinions. Finally, the transcriptions were stored in NVivo environment.

During the exploration of the material, the first register units about the research object were created (the participants' initial and ongoing formation), then they were organized in codes in vivo. Finally, the information within these codes was selected and systematized in context units (descriptive codes) (Miles et al., 2014). The treatment, inference, and interpretation of the data were the last elements employed when the in vivo and descriptive codes were grouped to form the categories of analysis. This phase has required extensive work and discussion between the authors, as well as constant search in the literature and in the theoretical reference so that the results could contribute to the understanding and constitution of the teaching self-efficacy belief. As a result, two categories emerged: teaching experiences in the initial teacher education and ongoing education.

Results

The following results represent the two categories of analysis found during data treatment: teaching experiences related to the initial education and teaching experiences related to ongoing education. (Figure 1)

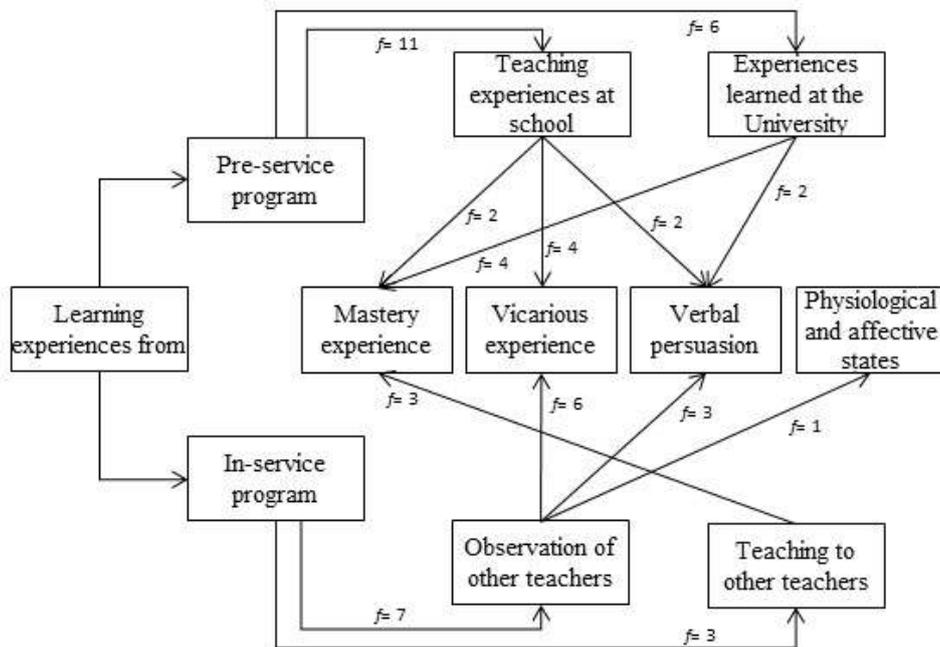


Figure 1 - Structure of data obtained with NVivo 10 software; *f* = frequency of participants' speech. Source: Research data.

The first category: “pre-service program” is linked with the subcategories of the dimension “teaching experiences at school”, and the dimension “experiences of training at the university” (Figure 1). In the first one, the participants' answers represented the lived experiences during the supervised practicum program. These were basically constituted by teaching and the observation of colleagues and teachers teaching at the school. The dimension “experiences learned at the university” represents, for example, the experiences linked to learning to teach, including conversations with supervisors and to the teaching situations among the colleagues in distinct disciplines or university projects.

The second category refers to the in-service program and it is linked with the participation in courses aimed at the teachers' professional development. The participation in these courses happened after the beginning of the teaching career and they happened in classrooms or online. According to with the participants' answers, the learning situations in these courses relate to the observation (in video clips or in presence) of other teachers teaching, and also, their own practice when the participants could teach their workshop mates.

The quotes of the participants' answers were used in order to illustrate these categories and to obtain a major interlocution the between results and the discussion.

Discussion

Teaching experiences in initial education

The results reveal situations from the participants perspective which were important sources of information about the capabilities to teach physical education at school. Although studies on teachers' professional development point out that beginning teachers take some time to recognize the contribution of the initial training for the pedagogical practice at school (Garcia, 2010), two of the participants highlighted the opposite idea and acknowledged the contribution of the initial training. According to P5 “college and the higher education level *make us capable to teach. We become capable to work [...] you are able to do it*”. For P1: “all

those didactics we had in college, the teaching practices, all the pedagogy I had at college, *made me understand I am capable to do it*".

From the perspective of teaching self-efficacy, the highlighted excerpts reveal that the participants value the educative moments linked to the initial training concerning the constitution of the capability to teach physical education at school. These results corroborate the ones found in the literature (Iaochite & Souza Neto, 2014; Woolfolk Hoy & Spero, 2005). Somehow, there is the need to question the theoretical-methodological conditions in which the initial training institutions have offered opportunities so that this teaching capacity can be diversified and widely developed by the future teachers. Especially, for them to deal with the current challenges related to elementary and middle schools. The participants highlighted the answers about their experiences during the supervised practicum program and the teaching practices because these were the ones that got closer to their real teaching practice. In this sense, P1 affirms that, "*teaching practices [...] the practical classes at college, where we received the groups of students so that we could teach*" were important experiences; P4 mentions that: the practicum program teacher "*would let me help her and would let me teach*. It is different than going to school without having never seen anything". For P1, the experiences he had as a student were meaningful and they made him feel capable to teach physical education at school. According to him: "*teaching practices, all the pedagogy I had in college, made me understand I am capable of doing this*".

In these mentioned cases, the participants based their judgments of capability on the results obtained during the supervised practicum program with an emphasis on teaching experiences. The literature points this kind of experience as an important one because future teachers can use what they had learned in the course, yielding the practicum program as a nuclear space in the education and professional preparation of future teachers (Iaochite & Souza Neto, 2014).

According to the theoretical approach, these situations can be interpreted as sources of enactive mastery experience. These results corroborate the idea that during the practicum program the direct experiences supply important information which are added to one's own judgement of the capability to teach (Aydin et al., 2012; Woolfolk Hoy & Spero, 2005), such as perceived difficulty of the task, the level of required effort for its realization, and the attributional cause to the result (Bandura, 1997).

It was also verified that other teaching experiences were pointed out from the development of the practicum because the vicarious experiences were mentioned by the participants. For P4: "*about the practicum program, it helped me to know how to deal with the students, while I was doing the observational practicum section.*" According to P1: "*during the observational practicum section [...] I tried to absorb the most of what I was being exposed by my teachers and then thought about my lessons in the future.*" To observe other teachers and classmates teaching is also an effective way to strengthen the future teachers' beliefs, and teach them instructional strategies during the training period (Atay, 2007; Aydin et al., 2012; Iaochite & Souza Neto, 2014). Whereas from the practicum perspective, the observational experiences are fundamental for the future teacher to learn about behaviors, to confront and to reflect about procedures and theories. On the other hand, these experiences through the self-efficacy perspective may bring important information to build one's belief about the use of instructional strategies, for example. The competence of the observed model, the observer's similarity to the model (age, origin, genre, among others) and to the situation (context and available resources, for instance) contribute for the processes of attention and information retention to be activated in the observer (Bandura, 1997).

In the training experiences at the university, the literature indicates that feedback, guidance and teachers' comments may be sources of social persuasion (Morris et al., 2017). P2 says that he remembers "*the coursebooks and books that the teachers from the university recommended*", and that he always revises them in order to plan his lessons. P1 affirms that: "*the conversations with teachers about the teaching practices, from the experiences they already had*" were the foundations for his teaching practice. These experiences may be interpreted as social persuasion. One of the important aspects of this kind of source is the credibility attributed to the source of the persuasion, that is, the persuader must be someone who the person believes and whom he attributes some value (Bandura, 1997). In P1's case, he recognizes that the teachers are experienced professionals and that the shared experiences may contribute to his teaching work at the school. According to him "*they [the teachers] have a great theoretical background to teach in college, so they can apply all the theory they saw in college in the school [...] so all this concept, the experience they had, they provided that to us.*"

Teaching experiences in in-service programs

The participants of this research mentioned situations linked to their participation in in-service courses (either online or in presence). These situations were considered one of the main mechanisms related to the development of the capacity to teach, to learn more and to increase knowledge about teaching among the participants of this study. On the online courses, two participants related that "*it provided me many backgrounds [...] I have many things in my mind [...] we had a good capacitation [...] to be able to start with*" (P3); "*we saw many video clips, going classroom strategy [...] The information provided by the course is important*. Lesson plans, what you are going to do during the activities, these are things that help us a lot, give us support" (P4).

These testimonies allow inferring that the possibility to observe different class plannings, routines and teaching strategies may collaborate with the development of the lessons given at school. Moreover, the newly

acquired knowledge may promote the professional growth of beginning teachers and strengthen teaching self-efficacy (Dufour, 2012; Martin et al., 2009). Although the mentioned testimonies acknowledge the importance of the information obtained from the course, mostly related to teaching and planning proceedings, it is necessary to highlight the way (video clips) and the content (teachers teaching) seem to be aligned with what the theory recognizes as a source of vicarious experience. This evidence corroborates Dufour (2012) about being this one a source of information for the judgment of the capacity of beginning teachers involved in in-service courses. This way, preparing the material and situations that reflect the reality in which the beginning teachers are inserted may be efficacious to strengthen the teachers' beliefs in this condition, once the contextualized and theoretical based education and has shown to be efficacious in the promotion of the teacher education's self-efficacy beliefs (Martin et al., 2009). Otherwise, these videos may not influence the teachers, as P4 mentions: "we are shown things in a way in which everything is perfect, nothing is out of control." As Bandura (1997), explains, the similarities with the beginning teacher may activate the processes of attention and retention, contributing to the efficacy of observational learning.

Other situations of in-service programs were mentioned, like face-to-face courses and lectures. P4 refers "to the *practical workshop* [...] basketball, volleyball and *when you do the practical there in a teaching workshop it makes a difference*, because later on, you will have examples to bring here [class at school]". P2 points out his own initiative to look for courses and lectures, where "there is the *possibility for you to talk to other professionals in the field*, [receive] information, *exchange experiences*." In the mentioned examples we find references that lead us to the sources of direct enactment, vicarious experience, and social persuasion. About the first one, Martin et al. (2009) say that this is the most influential source for the constitution of the physical education teacher capacity, because through the teaching practice experience he may evaluate what he feels, the result of his intervention, and in some cases, to receive feedback from students.

As to social persuasion, to give orientation and hints about the use of different strategies, and to hear successful testimonies from other teachers may be encouraging for beginners to apply new routines and pedagogical practices (Dufour, 2012). Nevertheless, the effects of social persuasion are short, especially if the other sources are not present (Bandura, 1997). In this sense, we bring P2's testimony about the need to have "some *more courses involving activity* [...] especially *the practical ones*, with other professionals in the field. It would be very important *if I could visit and see other teachers giving lessons*."

In sum, the testimonies of beginning teachers corroborate with what the literature has been presenting about the interrelation among the sources of information of teaching self-efficacy and its moderating and mediating factors (Morris et al., 2017). From the testimonies, the teaching experiences themselves learned during the pre and in-services may be very relevant for the teachers at the beginning of their career.

In the same direction, it is relevant for the beginning teacher to be exposed to different learning situations and sources of information. Yet, it is necessary to teach reflection strategies about one's own learning and teaching, in a way that it is possible to identify the contributions of the different acquisitions during the initial education which will serve as mediators for the constitution of one's teaching self-efficacy beliefs. (Morris et al., 2017). With new strategies and contents, the beginning teacher may feel safer and motivated, strengthening his personal belief in the capacity to teach at school during this delicate moment of teaching career (Dufour, 2012).

Conclusions

It has been a great challenge for universities to develop teacher training processes which contribute to the future ones to feel more competent and motivated to deal with teaching, especially at the beginning of their career. Different theories are being called either to explain or to offer contributions which help with the search for solid perspectives to face this challenge. Self-efficacy theory supported this study which had the objective to explore the sources that contribute to the development of the capability to teach, considering the teaching experiences lived by beginning physical education teachers. It was considered that the initial training courses may articulate the curriculum components and promote training practices that are close to schools. This may take place through the planning of actions which involve the future teachers playing the role of teachers and also putting them in contact with the school setting through different activities. Those practices could also embed awareness of the constitution of the teacher's self-efficacy, in a way that the future teachers may develop enough security, confidence, and motivation to teach.

In this sense, special attention can be given to the processes of the supervised practicum programs and situations which involve direct teaching practices during the undergraduate courses and in-service programs. These seem to be important to provide confidence and motivation for the beginning teachers. Although the literature acknowledges the supervised practicum as the central locus of the initial training (Aydin et al., 2012), studies under the theoretical perspective adopted for this study are still novel, especially with undergraduates and physical education teachers early in their careers (Hand & Stuart, 2012; Iaochite & Costa Filho, 2016). This reinforces the need to increase the investigation towards this direction.

Some remarks are addressed to the proposals of in-service. Besides the teaching of content and methodological proceedings, in-service programs must also provide reflection on how and on which bases the future teachers have been building their beliefs, values, and expectations when planning their careers and their

pedagogical practice, as a consequence. The need to overcome training courses based on a purely technical view of teaching has been strongly addressed in the literature. The need to rely on conditions for the teachers to be broadly supported by career valorization policies, not to rely only on courses which promote dialogue and exchange of experiences. In the case of beginning teachers, these courses must count on policies for induction and incentive to continue in this occupation. A concrete example comes from the tutoring and supervision programs for the beginning teachers performed by the more experienced teachers, in partnership with the universities. One important aspect of these programs could rebound on the need to make the teachers reflect on how they build their knowledge, their expectations, and their values as educators. Also, to deal with their capacity to teach, making them more proactive regarding what they need to keep learning along with their professional experience. Nevertheless, more studies on this topic are required, once other elements involved in the in-service processes could not be explored in this research, such as the kind of material adopted (video clips, books, practical lessons), and the content which was given.

According to Bandura (1997), self-efficacy is the central construct which contributes to explaining human functioning. However, it is important to highlight that it is only one, though a very important one, dimension to be considered in the issues that involve the teachers' reasoning and of how this is linked to the actions that he chooses to execute when teaching. Due to the number of participants for this research, it is necessary that research in different contexts and cultures may be conducted in order to understand the processes of the development of the efficacy beliefs of physical education teachers, as well as the elements which are considered important and that need to be better developed during teacher education programs. Moreover, it is suggested to have research which focuses on what happens during the lessons at schools, or on how the different learning experiences inform and influence the teachers' self-efficacy belief across time. Thus, it is recommended that future research may follow the process of constitution of the belief along the teacher's professional development using varied strategies to collect information, such as filming, practice observation and specific scales for the investigated domain.

Conflicts of interest – The authors declare that they have no conflict of interest.

References:

- Atay, D. (2007). Beginning teacher efficacy and the practicum in an EFL context. *Teacher Development*, 11(2), 203–219. <https://doi.org/10.1080/13664530701414720>
- Aydin, S., Demirdöğen, B., & Tarkin, A. (2012). Are they efficacious? Exploring pre-service teachers' teaching efficacy beliefs during the practicum. *The Asia-Pacific Education Researcher*, 21(1), 203–213.
- Bandura, A. (1997). *Self-efficacy: the exercise of control*. New York, NY: Freeman.
- Canrinus, E. T., Helms-Lorenz, M., Beijgaard, D., Buitink, J., & Hofman, A. (2012). Self-efficacy, job satisfaction, motivation and commitment: exploring the relationships between indicators of teachers' professional identity. *European Journal of Psychology of Education*, 27(1), 115–132. <https://doi.org/10.1007/s10212-011-0069-2>
- Dufour, F. (2012). Aider les enseignants débutants à gérer la classe. *Formation et Profession*, 19(1), 38–41.
- Fanni, F., Rega, I., & Cantoni, L. (2013). Using self-efficacy to measure primary school teachers' perception of ICT: results from two studies. *International Journal of Education and Development Using ICT*, 9(1), 100–111.
- Garcia, C. M. (2010). O professor iniciante, a prática pedagógica e o sentido da experiência. *Revista Brasileira de Pesquisa Sobre Formação Docente, Belo Horizonte*, 2(3), 11–49. Retrieved from http://www.researchgate.net/publication/234007470_O_professor_iniciante_a_prtica_pedaggica_e_o_senti_do_da_experincia/file/79e4150e3155c16bba.pdf
- Gorozidis, G., & Papaioannou, A. (2011). Teachers' self-efficacy, achievement goals, attitudes and intentions to implement the new Greek physical education curriculum. *European Physical Education Review*, 17(2), 231–253. <https://doi.org/10.1177/1356336X11413654>
- Hand, K. E., & Stuart, M. E. (2012). Early career physical education teacher efficacy. *Journal of Case Studies in Education*, 4, 1–11.
- Hong, J. Y. (2012). Why do some beginning teachers leave the school, and others stay? Understanding teacher resilience through psychological lenses. *Teachers and Teaching: Theory and Practice*, 18(4), 417–440. <https://doi.org/10.1080/13540602.2012.696044>
- Iaochite, R. T., & Costa Filho, R. A. (2016). Teacher efficacy beliefs during the practicum experiences in physical education classes. *Motriz. Revista de Educação Física*, 22(3), 183–189. <https://doi.org/10.1590/S1980-6574201600030009>
- Iaochite, R. T., & Souza Neto, S. (2014). Strength and sources of self-efficacy beliefs by physical education student teachers. *Motriz. Revista de Educação Física*, 20(2), 143–150. <https://doi.org/10.1590/S1980-65742014000200003>
- Klassen, R. M., & Durksen, T. L. (2014). Weekly self-efficacy and work stress during the teaching practicum: a mixed methods study. *Learning and Instruction*, 33, 158–169. <https://doi.org/10.1016/j.learninstruc.2014.05.003>

- Levin, B. B. (2015). The development of teachers' beliefs. In H. Fives & M. G. Gill (Eds.), *International handbook of research on teacher beliefs* (1st ed., pp. 48–65). New York: Routledge.
- Mäkelä, K., Hirvensalo, M., & Whipp, P. R. (2014). Should I stay or should I go? Physical education teachers' career intentions. *Research Quarterly for Exercise and Sport*, 85(2), 234–244. <https://doi.org/10.1080/02701367.2014.893052>
- Martin, J. J., McCaughy, N., Kulinna, P. H., & Cothran, D. (2009). The impact of a social cognitive theory-based intervention on physical education teacher self-efficacy. *Professional Development in Education*, 35(4), 511–529. <https://doi.org/10.1080/19415250902781814>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage.
- Morris, D. B., Usher, E. L., & Chen, J. A. (2017). Reconceptualizing the sources of teaching self-efficacy: a critical review of emerging literature. *Educational Psychology Review*, 29(4), 795–833. <https://doi.org/10.1007/s10648-016-9378-y>
- Ozder, H. (2011). Self-efficacy beliefs of novice teachers and their performance in the classroom. *Australian Journal of Teacher Education*, 36(5), 1–15. <https://doi.org/10.14221/ajte.2011v36n5.1>
- Pajares, F. (1992). Teachers' beliefs and educational research: cleaning up a messy construct. *Review of Educational Research*, 62(3), 307–332. <https://doi.org/10.3102/00346543062003307>
- Pan, Y.-H. (2014). Relationships among teachers' self-efficacy and students' motivation, atmosphere, and satisfaction in physical education. *Journal of Teaching in Physical Education*, 33(1), 68–92. <https://doi.org/10.1123/jtpe.2013-0069>
- Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Thousand Oaks, CA: Sage.
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: capturing an elusive construct. *Teaching and Teacher Education*, 17, 783–805.
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education*, 23(6), 944–956. <https://doi.org/10.1016/j.tate.2006.05.003>
- Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: its meaning and measure. *Review of Educational Research*, 68(2), 202–248. <https://doi.org/10.3102/00346543068002202>
- Woolfolk Hoy, A., & Spero, R. B. (2005). Changes in teacher efficacy during the early years of teaching: a comparison of four measures. *Teaching and Teacher Education*, 21(4), 343–356. <https://doi.org/10.1016/j.tate.2005.01.007>
- Zach, S., Harari, I., & Harari, N. (2012). Changes in teaching efficacy of pre-service teachers in physical education. *Physical Education & Sport Pedagogy*, 17(5), 447–462. <https://doi.org/10.1080/17408989.2011.582491>