



## Ghanaian Classroom Teacher Trainees' Perceived Competence and Intrinsic Motivation in Physical Education

Seidu Sofo<sup>1\*</sup>

Eugene F. Asola<sup>2</sup>

Emmanuel Thompson<sup>3</sup>

<sup>1</sup> Southeast Missouri State University, Cape Girardeau, Missouri, USA.

\*Email: [ssofo@semo.edu](mailto:ssofo@semo.edu)

<sup>2</sup> Valdosta State University, Valdosta, Georgia, USA.

### Abstract

Primary school teachers in Ghana are non-specialists but are required to teach physical education (PE) in addition to the regular subjects taught in primary classrooms (CS). Using a Self-Determination Theory, this study examined classroom teacher trainees' (TT) perceived competence and intrinsic motivation in learning to teach PE. In addition, the study compared TTs' competence and motivation in PE and CS. Participants included a purposive sample of 190 from two colleges of education in Ghana. They completed modified forms of the Perceived Competence Scale (PCS) and the Intrinsic Motivation (IM) subscale of the Perceived Locus of Causality once. Descriptive statistics showed most TTs had moderate to high levels of competence and intrinsic motivation both in PE and CS. Independent Samples *t*-Test and One-Way ANOVA analyses indicated significant gender and grade level differences for PCS in PE. A Paired-Samples *t*-Test analysis indicated TTs' PCS mean score was significantly higher in CS than that in PE. However, TTs' motivation in PE and CS were similar. The classroom teacher trainees in this study perceived themselves to be less competent in PE than in non-PE contents (CS), even though their levels of motivation to learn to teach in both contexts were similar. This is consistent with extant literature that teachers in Ghanaian primary schools are not adequately prepared to teach PE. The development of children's PE programs in the country's teacher education institutions is warranted.

### Keywords:

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(\*) Corresponding Author

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## 1. Introduction

Extant literature has documented the importance of physical activity in reducing sedentary behavior, and the contribution of school physical education (PE) in public health (McKenzie & Lounsbery, 2013; Pate et al., 2006; Sallis & McKenzie, 1991). The World Health Organization (World Health Organization, 2010) recommends that children of school-going age accumulate at least 60 minutes of moderate to vigorous physical activity daily. Physical education "is the only school subject whose primary focus is on the body and the development of physical competence to ensure that children can move efficiently, effectively and safely" (Harris, 2018). As noted by UNESCO (2015), it is the only subject in the school curriculum that combines the body and physical competence with values-based learning and communication critical to the development of skills required for the 21st century.

Elementary physical education has significant impact on adolescent and adult physical activity (Holt/Hale & Persse, 2015), because motor skill acquisition is necessary for successful participation in lifetime physical activities (Stodden, Langendorfer, & Robertson, 2009). Physical education has the potential to promote positive health behaviors and engagement in physical activity through a supportive environment not only at the present time, but also into the future (Lee, Burgeson, Fulton, & Spain, 2007). Early physical activity and physical education experiences have been shown to be the most reliable predictors for lifelong physical activity (Ennis, 2010). Also, there is evidence indicating a positive relationship between fundamental motor skills and physical activity in children and adolescents, and between fundamental motor skills and cardiovascular endurance (Lubans, Morgan, Cliff, Barnett, & Oakley, 2010). Thus, the most active elementary school children are also the most skilled and vice versa (Hume et al., 2008; Lopes, Rodrigues, Maia, & Malina, 2011).

To successfully participate in physical activity, however, an individual has to attain a certain level of motor skills proficiency (Seefeldt, 1980). Individuals, according to Seefeldt (1980), who do not attain the threshold—“Proficiency Barrier”—would drop out from participation. Accordingly, the development of motor skills proficiency and motor competence in elementary/primary schools requires the implementation of a purposeful, deliberate, and developmentally appropriate physical education curriculum (Gallahue, Ozmun, & Goodway, 2012).

Quality PE programs that focus on physically educating young people in a supportive and encouraging environment foster positive health behaviors and enjoyment in physical activity at the present time and into the future (Lee et al., 2007). It is during the primary school years that positive attitudes toward physical activity should be encouraged. School PE is the ideal place for children to learn to engage in regular physical activity since most elementary-aged children participate in some form of PE (Sallis & McKenzie, 1991). For some children, it is the only opportunity to engage in health-enhancing high-intensity physical activity (McKenzie & Lounsbery, 2013). The need for quality PE programs in primary schools is strongly supported by the proposition that PE and sport are influential factors in motor skill development and refinement during childhood and adolescence (Gabbard, 2008). As children have the potential to reach a mature stage in most fundamental motor skills by the age of six or seven (Gabbard, 2008), primary school PE is the ideal setting for the learning, development and mastering of these skills.

Notwithstanding the benefits of PE as a school subject, it continues to be marginalized globally (Wanyama, 2011). Jenkinson and Benson (2010) suggested that both teacher-related and institutional barriers hinder the implementation of school PE. Teacher-related barriers are those that are beyond the control of the teacher. In this section, we present three teacher-related factors pertinent to the current study. First, classroom teachers' perceptions toward PE influence their implementation of the subject in schools (Petrie, 2008). Therefore, it is important not to only focus on the content taught in PE, but also teachers' perceptions toward the subject. Even though majority of classroom teachers believe that PE is an important part of the school curriculum (DeCorby, Halas, Dixon, Wintrup, & Janzen, 2005), some perceive it as supervised play rather than an educational experience (Bennie & Still, 2011; Hardman & Marshall, 2000). Teacher educators need to help classroom teacher trainees reflect on their beliefs and perspectives of PE. This is supported by some researchers who found that classroom teacher candidates were able to shape their pedagogical skills in PE through reflection (Curtner-smith & Sofo, 2004), and that reflections were related to their practices in a PE environment (Niki Tsangaridou, 2005). Furthermore, Linker and Woods (2018) reported that preservice classroom teachers developed positive beliefs about PE through an undergraduate PE methods course. Also, they appreciated the importance of the subject but were unwilling to teach the subject in the future.

Second, classroom teachers often have low levels of teaching efficacy and lack of content and pedagogical knowledge in PE (Dyson, 2014; Petrie, 2008; Sinelnikov, Kim, Ward, Curtner-Smith, & Li, 2016) due to inadequate training provided by their teacher education programs (Telford et al., 2016). Therefore, professional development opportunities should be available to inservice classroom teachers to improve their teaching efficacy in PE. Kulinna, Cothran, and Kloeppe (2011) showed that classroom teachers' self-efficacy in teaching healthy behavior content increased after participating in workshops. Third, some classroom teachers lack the confidence to teach key areas of the PE curriculum (Morgan & Hansen, 2007). For example, the teachers in Morgan and Hansen (2007) study indicated they needed support and/or extensive training to feel confident to teach PE lessons. For others, prior experiences in certain physical activities and/or sporting ability made them feel confident and competent teaching PE (Morgan. & Bourke, 2008).

Research shows that institutional barriers also impede the delivery of quality PE by classroom teachers. Most common barriers include lack of time, lack of equipment and facilities, lack of an assessment system, and lack of school support for professional development. There is a big disparity between policy and implementation of PE in primary schools (UNESCO, 2014; Wanyama, 2011) because headteachers include it on the timetable only to satisfy school inspectors (Chapell, 2001). Hardman (2008) and Shehu (2009) reported lack of facilities and equipment, as well as insufficient time allocation for the teaching of PE in many countries in Africa. The lack of an assessment system is one of the major impediments in the delivery of PE in primary schools (Dwyer et al., 2003). Performance measures are necessary for the successful implementation of quality UNESCO (2014) reported the lack of teaching resources and up to date information about PE and sport in many African countries. Bennie and Still (2011) explained the need for the principal and other classroom teachers to provide support in terms of professional development opportunities in PE. That is, school support

for PE is important for the effective implementation of the subject, consistent with [Morgan and Hansen \(2007\)](#) findings.

In Ghana, lack of resources, time, and inadequate training are major barriers to teaching physical education ([Ammah & Kwaw, 2005](#); [Sofu & Asola, 2016](#)). School support for PE is important for the effective implementation of the subject, consistent with [Morgan and Hansen \(2007\)](#) and [Sofu and Asola \(2016\)](#) findings. [Ammah and Kwaw \(2005\)](#) described classroom non-specialists teaching PE as lacking professionalism and having a limited grasp of the subject. In another study, a sample of Ghanaian primary school teachers reported lack of resources, lack of class time for PE, lack of support from other teachers, and inadequate PE training as major barriers to providing quality PE ([Sofu & Asola, 2016](#)). In a third study, [Fеды \(1998\)](#) examined the perceived psychosocial outcomes derived from participation in physical education taught by Ghanaian classroom teachers and by specialist physical education teachers. She reported that classroom teachers taught physical education as an obligation but did not care about what went on in them (PE classes). In addition, students taught by specialist teachers reported significantly higher levels of perceived affect and persistence in sports than those taught by classroom non-specialist teachers. However, students taught by the two categories of teachers did not differ significantly in their perceptions of competence. This is consistent with previous studies that reported that classroom teachers were no less effective than specialists in terms of realizing various psychomotor, affective, and cognitive goals ([Graham, Metzler, & Webster, 1991](#); [Patterson & Faucette, 1990](#)) while one study also showed that classroom teachers and specialists provided similar amounts of academic learning time in PE ([Placek & Randall, 1986](#)).

Research indicates that trained specialists are more likely to use effective teaching strategies, have more physical activity time for students, select appropriate activities commensurate with students' developmental and motor skill levels ([Faucette & Patterson, 1990](#); [Patterson & Faucette, 1990](#); [Siedentop, 2009](#)). However, there is extant evidence describing how preservice classroom teachers' reflections in a PE teaching environment related to their practice ([Niki Tsangaridou, 2005](#)), alluding to previous research evidence that teachers considered reflection as a vital element of teaching ([Carlson, 2001](#); [McColum, 2002](#); [N. Tsangaridou & O'Sullivan, 1994](#); [Tsangaridou & O'Sullivan, 1997](#)). The findings also revealed that classroom teachers learning to teach physical education were able to make appropriate changes across the lessons. Similarly, [Rovegno \(1992\)](#), [Tsangaridou and O'Sullivan \(1997\)](#), reported that reflection relates to context and can manifest in action when teachers have gained teaching experience.

Primary school teachers in Ghana, like many African countries, are non-specialists but are required to teach physical education (PE) in addition to the regular subjects taught in primary classrooms (CS) ([Ministry of Education, 2019](#)). Since the classroom teachers play a dual role of being an assigned classroom teacher and a physical education teacher, it is important to examine Ghanaian teacher trainees' perceived competence and motivation in learning to teach physical education, as their beliefs may strongly influence their perceptions and judgments, and ultimately affect their teaching behaviors ([Pajares, 1992](#)).

### *1.1. Theoretical Framework*

The Self-Determination Theory (SDT) ([Deci & Ryan, 1985, 2000](#)) served as the theoretical framework for the study. SDT identifies competence, autonomy, and relatedness as inherent psychological needs required for optimal development and learning ([Deci & Ryan, 2000](#)) and are inherent in all people and across cultures ([Deci & Ryan, 2008](#)). Three types of motivation—intrinsic, extrinsic, and amotivation—explain the differing reasons why individuals engage in activities ([Deci & Ryan, 1985](#)). Intrinsic motivation is the engagement in an activity for the sake of pleasure, interest, and satisfaction derived from direct participation. Conversely, extrinsic motivation refers to the engagement in an activity for rewards or the avoidance of punishment. Amotivation is a state in which an individual lacks any type of intention to participate in an activity ([Ryan & Deci, 2017](#)).

Extrinsic motivation encompasses four types of regulations that vary in their relative autonomy: identified regulation, integrated regulation, introjection regulation, and external regulation ([Ryan & Deci, 2017](#)). With identified regulation, an individual identifies activity as important to personal goals. The individual makes conscious evaluation of a behavioral goal and accepts it as his or her own ([Deci & Ryan, 1985](#)). For example, a teacher trainee identifies the importance of physical education as a subject in the school curriculum. Pertaining to integrated regulation, regulation is assimilated with the individual's core sense of self ([Ryan & Deci, 2017](#)). Considering introjection regulation, the individual is motivated by internally based reasons to act, such as guilt and shame ([Ryan & Connell, 1989](#)). That is, taking in a regulation but not fully accepting it as one's own ([Ryan & Deci, 2000](#)). External regulation is the least self-determined extrinsic motivation. An individual's behavior is explained by reference to external demands to the individual such as rewards, rule compliance, or fear of punishment ([Deci & Ryan, 1985](#); [Ryan & Connell, 1989](#)). Identified regulation and integrated regulation have been combined with intrinsic motivation to form autonomous motivation, and introjected regulation and external regulation have been combined to form controlled motivation ([Ryan & Deci, 2000](#)).

### *1.2. Purpose of the Study*

Competence and autonomy impact persistence and achievement in learning ([Ryan & Deci, 2000](#)). Teacher educators can enhance intrinsic motivation by providing students with options about what to do or how to do

things (Bao & Lam, 2008). Perceived competence and autonomous motivation impact educational outcomes (Williams & Deci, 1996). Thus, teacher educators need to assist classroom teacher trainees to acquire the knowledge and skills necessary to become effective and confident PE teachers in the future. The primary purpose of the study, therefore, was to examine teacher trainees' perceived competence and intrinsic motivation in learning to teach physical education. The secondary purpose was to compare TTs' competence and motivation in physical education (PE) and regular classroom (CS) contexts. An understanding of TTs' competence and motivation would assist teacher educators identify and implement effective strategies to prepare competent classroom teachers who are also motivated to teach PE.

### *1.3. Research Questions*

Four research questions guided the study:

1. What are classroom teacher trainees' levels of perceived competence and intrinsic motivation in physical education?
2. To what extent do classroom teacher trainees' perceived competence and intrinsic motivation in physical education and regular classroom contexts differ?
3. To what extent do the perceived competence and intrinsic motivation of male and female classroom teacher trainees differ?
4. What is the influence of year in training on classroom teacher trainees' perceived competence and intrinsic motivation in physical education?

## **2. Method**

The study utilized a descriptive survey research design. TTs completed a questionnaire that assessed their perceived competence and intrinsic motivation in learning to teach physical education and classroom subjects.

### *2.1. Participants*

Participants in the present study included a purposive sample of 190 (55.26% males and 44.74% females) classroom TTs from two colleges of education in Northern Ghana. The TTs were in various stages of their teacher education program: Year 1 (18.95%), Year 2 (33.68%), and Year 3 (47.37%). Their ages ranged from 19-38 years ( $M=23.89$ ;  $SD=2.89$ ). All participants were pursuing the Diploma in Basic Education at the time of the study.

### *2.2. Instrument*

The Perceived Competence Scale (PCS) (Williams & Deci, 1996) and the Intrinsic Motivation (IM) subscale of the Perceived Locus of Causality (PLOC) (Ryan & Connell, 1989) served as the data sources for the study. The PCS and PLOC were administered once.

The 4-item PCS was measured on a 7-point Likert scale of "1" (not at all true) to "7" (very true). The items were reworded to pertain to PE and CS contexts. This resulted in two subscales: physical education and classroom contexts. A participant's score on each subscale was the mean score of the 4 items for that subscale. A sample item on the PE subscale was, "I feel confident in my ability to learn the physical education course materials in the Diploma in Basic Education program." "Classroom subjects course materials" replaced "physical education course materials" on the classroom context subscale.

The 6-item Intrinsic Motivation subscale of the PLOC was modified to a 5-point Likert scale of "1" (strongly disagreed) to "5" (strongly agreed). The items on the IM scale were preceded by the stem, "I take part in physical education as part of the Diploma in Basic Education program." One of the three sample responses that followed the stem in Section I was: "Because PE is fun." For Section I items, "1" represented the lowest score and "5" the highest score. Section II utilized the stem in Section I, "I take part in physical education as part of the Diploma in Basic Education program." A sample response to the stem in Section II was "But I really don't know why." The items in Section II were reversed-coded. That is, a score of "1" was coded as "5" and vice versa.

### *2.3. Data Collection and Analysis*

The Human Subjects Committee in the first author's institution granted approval for the study. The Principals of the colleges of education that served as the site for the study granted permission for the study to be conducted at their institutions. In addition, the TTs signed consent forms prior to completing the questionnaires in their respective classrooms.

Descriptive and inferential data were computed for both PCS and IM scales. First, descriptive data were computed showing frequencies and percentages of TTs with high, moderate, and low levels of competence and motivation. Second, Paired-Samples t-Test analyses were calculated to examine differences in TTs' PCS and IM in the PE and CS contexts. Third, Independent Samples t-Test and One-Way ANOVA analyses were used to determine the influence of TTs' sex and year in training differences in PCS and IM respectively. A Bonferroni comparison test was computed for the One-Way ANOVA analyses.

### 3. Results

#### 3.1. Teacher Trainees' Levels of Perceived Competence and Intrinsic Motivation

The first research question examined teacher trainees' levels of perceived competence and intrinsic motivation in physical education, Table 1 shows data on trainees' competence and intrinsic motivation in physical education and classroom contexts. The data indicated that most TTs reported moderate to high levels of competence and intrinsic motivation both in PE and CS. A higher percentage of TTs reported high levels of competence in classroom content (85.26%) than in physical education (68.42%). Alternatively, a slightly higher percentage of TTs reported high levels of motivation in PE (78.95%) than in CS (77.37%).

Table-1. Frequencies and percentages for competence and intrinsic motivation.

Category	High N(%)	Moderate N(%)	Low N(%)
<b>Perceived Competence</b>			
Physical education	130(68.42)	54(28.42)	6(3.16)
Classroom Context	162(85.26)	25(13.16)	5(1.58)
<b>Intrinsic Motivation</b>			
Physical Education	150(78.95)	37(21.05)	0(0.00)
Classroom Context	147(77.37)	41(21.58)	2(1.05)

Note: N(%) = Number/Percent.

The second research question assessed to what extent classroom teacher trainees' perceived competence and motivation in physical education and regular classroom contexts differed. Table 2 shows Paired-Samples t-Test data for competence and intrinsic motivation for both the PE and CS contexts. TTs' PCS mean score in CS (5.57) was higher than that in PE (5.05). The Paired-Samples t-Test analysis showed that the PCS mean score in CS was significantly higher than that in PE. That is, TTs perceived themselves to be more competent in CS than in PE. However, the mean difference in TTs' motivation in PE (4.25) and CS (4.36) were not significant. That is, TTs' had similar levels of motivation to learn to teach PE and CS contents.

Table-2. Paired-Samples t-Test for competence and intrinsic motivation in PE and CS.

Category	PE M(SD)	CS M(SD)	t-value t	p-value p
Perceived Competence	5.05(1.20)	5.57(1.21)	-4.28	0.000***
Intrinsic Motivation	4.00(0.69)	3.9(0.69)	-1.13	0.842

Note: \*\*\*p<.001.

#### 3.2. Male and Female Teacher Trainees' Competence, and Intrinsic Motivation

Research Question 3 sought to determine the extent to which male and female TTs differed in their levels of competence and motivation in PE and CS. The data in Table 3 indicated that male TTs had a higher PCS mean score (5.20) than female (4.86) TTs in PE. The Independent t-Test analysis revealed that the mean difference in PCS scores for male and female TTs was significant. There was no significant difference in PCS scores for CS. Furthermore, the IM scores for males and females in both the PE and CS contexts were similar.

Table-3. Independent t-Test for male and female teacher trainees' competence and intrinsic motivation.

Category	Male (n=105) M(SD)	Female (n=85) M(SD)	t-value t	p-value p
<b>Perceived Competence</b>				
Physical Education	5.20(1.14)	4.86(1.25)	1.97	.051*
Classroom Context	5.59(1.23)	5.54(1.19)	0.27	0.792
<b>Intrinsic Motivation</b>				
Physical Education	4.25(0.96)	4.26(0.87)	-0.13	0.897
Classroom Context	4.36(0.85)	4.37(0.98)	-0.02	0.987

Note: \*p<.10.

#### 3.3. Year in Program, Competence, and Intrinsic Motivation

The fourth research question sought to determine the influence of year in training on classroom teacher trainees' perceived competence and intrinsic motivation in physical education. Table 4 shows data for year in program, competence, and intrinsic motivation. First, second, and third year TTs had mean PCS scores (PE context) of 4.62, 5.19, and 5.11 respectively. Bonferroni follow-up test showed that third year TTs had a significantly higher PCS mean score in PE than the first year TTs. However, there were no significant differences in PCS mean scores between first and second year TTs. Similarly, the PCS mean scores for TTs in their second and third year of training did not differ. The PCS mean scores (CS context) for TTs for those in

the first, second, and third year were 5.81, 5.56, and 5.46 respectively. The Bonferroni comparison test indicated that the PCS mean scores among TTs in the first, second, and third year did not differ.

Data in Table 4 also show that second and third year TTs' IM mean scores in PE were each 4.35, while those in the first year had a mean score of 4.05. However, the mean differences among the three groups were not significant. Alternatively, first year TTs had the highest IM mean score of 4.46 in CS, followed by 4.40 and 4.29 for those in their second and third year respectively. These differences were however not significant. Thus, data in Table 4 showed that year in training influenced TTs perceived competence in PE, but not in CS. Furthermore, year in training had no impact on TTs' intrinsic motivation in PE nor CS.

**Table-4.** One-Way ANOVA for year in program, competence, and intrinsic motivation.

Category	Year 1 (n = 36)	Year 2 (n = 64)	Year 3 (n = 90)		
	M(SD)	M(SD)	M(SD)	F	p
<b>Perceived Competence</b>					
Physical Education	4.62(1.04)	5.19(1.24)	5.11(1.19)	2.88	0.058 *
Classroom	5.81(1.03)	5.56(1.16)	5.46(1.30)	1.05	0.352
<b>Intrinsic Motivation</b>					
Physical Education	4.05(0.90)	4.35(0.79)	4.35(0.99)	1.27	0.282
Classroom	4.46(0.86)	4.40(0.83)	4.29(0.97)	0.50	0.603

Note: \*p<.10.

#### 4. Discussion and Conclusions

The primary purpose of the current study was to examine teacher trainees' perceived competence and intrinsic motivation in learning to teach physical education. The findings from the study are discussed in this section. First, most TTs reported moderate to high levels of competence and intrinsic motivation both in physical education and regular classroom contexts. This is inconsistent with previous studies that reported classroom TTs were not well prepared to teach physical education (Hardman, 2008). Perhaps, as Akyeampong, Adu-Yeboah, and Kwaah (2018) asserted, TTs may have exaggerated their competence. Competence and intrinsic motivation are situation specific in this context. TTs reported similar levels of motivation to learn PE and CS, downplaying the general perception that physical education is not an important subject. This is consistent with a sample of Ghanaian inservice classroom teachers' assertion that PE was an important school subject (Sofu & Asola, 2016).

Second, TTs reported higher competence levels in CS than in PE. This is consistent with the lack of adequate PE courses in teacher training colleges (Telford et al., 2016; UNESCO, 2014). Research shows that classroom teachers believed they required more extensive teacher training in PE delivered through longer courses with greater exposure to PE teaching (Morgan & Bourke, 2005). Chedzoy (2000) also reported that the perceived competence of preservice non-specialists to teach some PE content areas increased as a result of their PE teacher education. The future of physical education in Ghanaian primary schools would depend upon the quality of training future classroom teachers received in PE. TTs will require extensive subject knowledge and perceived competence in their ability to increase their teaching efficacy. Bandura (1997) statement that past experiences significantly influence individual's efficacy and expectations of teaching and teaching behavior is also supported by others, suggesting that teacher trainees' efficacy beliefs can be changed as a function of context (Miller et al., 2016).

Third, male TTs perceived themselves to be more competent than their female counterparts in PE, but not in the regular classroom context. Morgan and Bourke (2008) reported in their study on classroom preservice and inservice teachers that males were more committed to sport and physical activity than their female counterparts. The results of this study gave credence to the male dominated field of sports and physical education and consequently alluding to the male perception of themselves, to be more competent than their female counterparts. Others may argue that, predominant male perception can be attributed to subject matter contexts. For instance, a study by Sloan (2007) showed that male TTs in a gymnastics class at times felt very isolated within their placement schools. Perhaps the perception of male trainees was based on the general perception that gymnastics was for females.

Finally, year in program was significant for perceived competence in PE, but not CS. Also, there was no significant difference among the year groups in intrinsic motivation for both PE and CS. It was not surprising that third year TTs reported higher levels of competence in PE than first year TTs. Third year TTs would have taken more coursework and had practical experiences in teaching PE content than those in their first year of training. This is supported by Chedzoy (2000), that preservice classroom teachers' competence to teach PE increased because of their PE teacher training.

We draw four conclusions based on the findings of the current study. First, TTs in the study reported moderate to high levels of competence and intrinsic motivation in both PE and classroom contexts. Second, the TTs perceived themselves to be less competent in PE than in non-PE contents (CS), even though the

levels of motivation to learn to teach in both contexts were similar. Third, male TTs perceived themselves to be more competent than their female counterparts in PE, but not in the regular classroom context. Finally, year in program was significant for perceived competence in PE, but not CS. Also, there was no significant difference among the year groups in intrinsic motivation for both PE and CS.

## 5. Future Research

The present study used the subscale of the PLOC to assess TTs' intrinsic motivation. Future research should utilize the full PLOC questionnaire because some activities are not inherently interesting or enjoyable. For, as Deci and Ryan (2000) asserted, people are intrinsically motivated for some activities and not others. Another suggestion for future research would be to evaluate TTs' actual competence in teaching PE in a real classroom, instead of their perceived competence as reported in the current study.

## 6. Implications for Practice

The main findings of the current study have policy implications for higher education physical education programs in Ghana. In addition, the findings could be used to advocate for the development of physical education teacher education programs that focus on PE for children. Currently, the two universities in the country that produce PE specialists do not offer physical education programs with emphases in early childhood or primary school PE. Thus, PE tutors in the colleges of education, products of the two universities, would most likely not have adequate training in children's PE.

Second implication is to emphasize the preparation of classroom TTs and inservice classroom teachers in the integration of movement across the primary school curriculum. As Linker and Woods (2018) reported in their study, even though preservice classroom teachers in their study were unwilling to teach PE in the future after taking a PE methods course, they appreciated the importance of the subject and indicated their willingness to incorporate movement into their future classrooms through interdisciplinary teaching. Another implication of the findings from the present study would be the hiring of PE specialists to teach specific PE contents in primary schools (Bennie & Still, 2011). Finally, the most realistic way to realize the goal of quality primary school PE in Ghana, according to Feddy (1998), would be a combination of specialist and well-trained classroom teachers.

## References

- Akyeampong, K., Adu-Yeboah, C., & Kwaah, C. Y. (2018). Assessing the actual needs of untrained teachers with previous teaching experience in Ghana. In Y. Sayeed (Ed.), *Continuing professional teacher development in sub-Saharan Africa: Improving teaching and learning* (pp. 57-81). London: Bloomsbury Academic.
- Ammah, J. O. A. A., & Kwaw, N. P. (2005). Physical education in Ghana. In U. Puhse & M. Gerber (Eds.). *International comparison of physical education. Concept - problems - prospects* (pp. 311-327). Aachen, Meyer & Meyer Verlag.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bao, X., & Lam, S. (2008). Who makes the choice? Rethinking the role of autonomy and relatedness in Chinese children. *Child Development, 79*(2), 269-283.
- Bennie, A., & Still, B. (2011). *Contemporary benefits, issues and challenges primary teachers face when teaching physical education*. Paper presented at the Edited Proceedings of the 27th ACHPER International Conference held in Adelaide, Australia from April 18-20.
- Carlson, T. B. (2001). Using metaphors to enhance reflectiveness among preservice teachers. *Journal of Physical Education, Recreation & Dance, 72*(1), 49-53. Available at: <https://doi.org/10.1080/07303084.2001.10605820>.
- Chapell, R. (2001). The problems and prospects of physical education in developing countries. *International Sports Studies, 23*(2), 88-95.
- Chedzoy, S. (2000). Students' perceived competence to teach physical education to children aged 7 to 11 years in England. *European Journal of Physical Education, 5*(1), 104-127. Available at: <https://doi.org/10.1080/174089800050107>.
- Curtner-smith, M. D., & Sofo, S. (2004). Influence of a critically oriented methods course and early field experience on preservice teachers' conceptions of teaching. *Sport, Education and Society, 9*(1), 115-142. Available at: <https://doi.org/10.1080/1357332042000175845>.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.
- Deci, E. L., & Ryan, R. M. (2000). The 'What' and 'Why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. Available at: [10.1207/S15327965PLI1104\\_01](https://doi.org/10.1207/S15327965PLI1104_01).
- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology, 49*(3), 182-185. Available at: [10.1037/a0012801](https://doi.org/10.1037/a0012801).
- DeCorby, K., Halas, J., Dixon, S., Wintrup, L., & Janzen, H. (2005). Classroom teachers and the challenges of delivering quality physical education. *The Journal of Educational Research, 98*(4), 208-221. Available at: <https://doi.org/10.3200/joer.98.4.208-221>.
- Dwyer, J. J. M., Allison, K. R., Barrera, M., Hansen, B., Goldenberg, E., & Boutilier, M. (2003). Teachers' perspective on barriers to implementing physical activity curriculum guidelines for school children in Toronto. *Canadian Journal of Public Health, 94*(6), 448-452. Available at: <https://doi.org/10.1007/bf03405083>.
- Dyson, B. (2014). Quality physical education: A commentary on effective physical education teaching. *Research Quarterly for Exercise and Sport, 85*(2), 144-152.
- Ennis, C. D. (2010). On their own: Preparing students for lifetime. *Journal of Physical Education, Recreation & Dance, 81*(5), 17-22.

- Faucette, N., & Patterson, P. (1990). Comparing teaching behaviors and student activity levels in classes taught by PE specialists versus nonspecialists. *Journal of Teaching in Physical Education, 9*(2), 106-114. Available at: <https://doi.org/10.1123/jtpe.9.2.106>.
- Feddy, B. A. D. (1998). *Perceptions of competence, affect, and persistence of Ghanaian elementary school students: specialist versus non-specialist physical education teachers*. [ProQuest Information & Learning]. In Dissertation Abstracts International Section A: Humanities and Social Sciences (Vol. 59, Issue 5-A, p. 1456).
- Gabbard, C. P. (2008). *Lifelong motor development* (5 ed.). San Francisco: Pearson Benjamin Cummings.
- Gallahue, D. L., Ozmun, J., & Goodway, J. (2012). *Understanding motor development: Infants, children, adolescents, adults*. New York: McGraw Hill.
- Graham, G., Metzler, M., & Webster, G. (1991). Specialist and classroom teacher effectiveness in children's physical education: A 3-year study. *Journal of Teaching in Physical Education, 10*(4), 321-426.
- Hardman, K., & Marshall, J. (2000). The state and status of physical education in schools in international context. *European Physical Education Review, 6*(3), 203-229.
- Hardman, K. (2008). Physical education in schools: A global perspective. *Kinesiology, 40*(1), 5-28.
- Harris, J. (2018). The case for physical education becoming a core subject in the National Curriculum. *Physical Education Matters, 13*(2), 9-12.
- Holt/Hale, S. A., & Persse, D. (2015). The national physical education standards and grade-level outcomes: The future of elementary physical education. *Journal of Physical Education, Recreation & Dance, 86*(7), 14-16. Available at: <https://doi.org/10.1080/07303084.2015.1064687>.
- Hume, C., Okely, A., Bagley, S., Telford, A., Booth, M., Crawford, D., & Salmon, J. (2008). Does weight status influence associations between children's fundamental movement skills and physical activity? *Research Quarterly for Exercise and Sport, 79*(2), 158-165.
- Jenkinson, K. A., & Benson, A. C. (2010). Barriers to providing physical education and physical activity in Victorian state secondary schools. *Australian Journal of Teacher Education, 35*(8), 1-17. Available at: <https://doi.org/10.14221/ajte.2010v35n8.1>.
- Kulinna, P. H., Cothran, D., & Kloepfel, T. (2011). Classroom teachers' efficacy in teaching healthy behaviour content. *Teacher Development, 15*(3), 319-331.
- Lee, S. M., Burgeson, C. R., Fulton, J. E., & Spain, C. G. (2007). Physical education and physical activity: Results from the School Health Policies and Programs Study 2006. *Journal of School Health, 77*(8), 435-463. Available at: <https://doi.org/10.1111/j.1746-1561.2007.00229.x>.
- Linker, J. M., & Woods, A. M. (2018). Like, we don't Want to Be PE Teachers:" Preservice Classroom Teachers' Beliefs About Physical Education and Willingness to Incorporate Physical Activity. *Physical Educator, 75*(1), 77-98.
- Lopes, V. P., Rodrigues, L. P., Maia, J. A., & Malina, R. M. (2011). Motor coordination as predictor of physical activity in childhood. *Scandinavian Journal of Medicine & Science in Sports, 21*(5), 663-669.
- Lubans, D. R., Morgan, P. J., Cliff, D. P., Barnett, L. M., & Oakley, A. D. (2010). Fundamental movement skills in children and adolescents: Review of associated health benefits. *Sports Medicine, 40*(12), 1019-1035. Available at: <https://doi.org/10.2165/11536850-000000000-00000>.
- McCullum, S. (2002). The reflective framework for teaching in physical education: A pedagogical tool. *Journal of Physical Education, Recreation and Dance, 73*(6), 39-42.
- McKenzie, T. L., & Lounsbery, M. A. (2013). Physical education teacher effectiveness in a public health context. *Research Quarterly for Exercise and Sport, 84*(4), 419-430. Available at: <https://doi.org/10.1080/02701367.2013.844025>.
- Miller, A., Christensen, E., Eather, N., Gray, S., Sproule, J., Keay, J., & Lubans, D. (2016). Can physical education and physical activity outcomes be developed simultaneously using a game-centered approach? *European Physical Education Review, 22*(1), 113-133. Available at: [10.1177/1356336X15594548](https://doi.org/10.1177/1356336X15594548).
- Ministry of Education. (2019). Physical education curriculum for primary schools (Basic 1-6). National Council for Curriculum and Assessment, Ministry of Education, Accra, Ghana. Retrieved from: <https://nacc.gov.gh/wp-content/uploads/2019/04/PHYSICAL-EDUCATION-B1-B6.pdf>. [Accessed December 21, 2021].
- Morgan, P., & Hansen, V. (2007). Recommendations to improve primary school physical education: Classroom teachers' perspective. *The Journal of Educational Research, 101*(2), 99-108.
- Morgan, P., & Bourke, S. (2008). Non-specialist teachers' confidence to teach PE: The nature and influence of personal school experiences in PE. *Physical Education and Sport Pedagogy, 13*(1), 1-29. Available at: [10.1080/17408980701345550](https://doi.org/10.1080/17408980701345550).
- Morgan, P. J., & Bourke, S. F. (2005). An investigation of preservice and primary school teachers' perspectives of PE teaching confidence and PE teacher education. *ACHPER Healthy Lifestyles Journal, 52*(1), 7-13.
- Pajares, F. M. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307-332. Available at: [10.3102/00346543062003307](https://doi.org/10.3102/00346543062003307).
- Pate, R. R., Davis, M. G., Robinson, T. N., Stone, E. J., McKenzie, T. L., & Young, J. C. (2006). Promoting physical activity in children and youth: a leadership role for schools: a scientific statement from the American Heart Association Council on Nutrition, Physical Activity, and Metabolism (Physical Activity Committee) in collaboration with the Councils on Cardiovascular Disease in the Young and Cardiovascular Nursing. *Circulation, 114*(11), 1214-1224. Available at: <https://doi.org/10.1161/circulationaha.106.177052>.
- Patterson, P., & Faucette, N. (1990). Children's attitudes toward physical activity in classes taught by specialist versus nonspecialist PE teachers. *Journal of Teaching in Physical Education, 9*(4), 324-331.
- Petrie, K. (2008). Physical education in primary schools: Holding on to the past or heading for a different future? *Journal of Physical Education New Zealand, 41*(3), 67-80.
- Placek, J. H., & Randall, L. E. (1986). Comparison of academic learning time in physical education: Students of specialists and nonspecialists. *Journal of Teaching in Physical Education, 5*(3), 157-165.
- Rovegno, I. (1992). Learning to reflect on teaching: A case study of one preservice physical education teacher. *The Elementary School Journal, 92*(4), 491-510. Available at: <https://doi.org/10.1086/461704>.



- Ryan, R., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York: Guilford Publishing.
- Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology, 57*(5), 749-761.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78. Available at: 10.1037/110003-066X.55.1.68.
- Sallis, J. F., & McKenzie, T. L. (1991). Physical education's role in public health. *Research Quarterly for Exercise and Sport, 62*(2), 124-137.
- Seefeldt, V. (1980). Developmental motor patterns: Implications for elementary school physical education. *Psychology of motor behavior and sport, 36*(6), 314-323.
- Shehu, J. (2009). Professional development experiences of physical education teachers in Botswana: Epistemological implications. *Teacher Development, 13*(3), 267-283.
- Siedentop, D. L. (2009). National plan for physical activity: Education sector. *Journal of Physical Activity and Health, 6*(s2), S168-S180.
- Sinel'nikov, O. A., Kim, I., Ward, P., Curtner-Smith, M., & Li, W. (2016). Changing beginning teachers' content knowledge and its effects on student learning. *Physical Education and Sport Pedagogy, 21*(4), 425-440.
- Sloan, S. (2007). An investigation into the perceived level of personal subject knowledge and competence of a group of pre-service physical education teachers towards the teaching of secondary school gymnastics. *European Physical Education Review, 13*(1), 57-80. Available at: 10.1177/1356336X07072674.
- Sofo, S., & Asola, E. F. (2016). Barriers to providing quality physical education in primary schools in Ghana. *IOSR Journal of Sports and Physical Education, 3*(3), 45-48. Available at: <https://doi.org/10.9790/6737-03034548>.
- Stodden, D., Langendorfer, S., & Robertson, M. A. (2009). The association between motor skill competence and physical fitness in young adults. *Research Quarterly for Exercise and Sport, 80*(2), 223-229.
- Telford, R. D., Cunningham, R. B., Telford, R. M., Daly, R. M., Olive, L. S., & Abhayaratna, W. P. (2016). Physical education can improve insulin resistance: The LOOK randomized cluster trial. *Medicine & Science in Sports & Exercise, 45*, 1956-1964.
- Tsangaridou, N. (2005). Classroom teachers' reflections on teaching physical education. *Journal of Teaching in Physical Education, 24*(1), 24-50. Available at: <https://doi.org/10.1123/jtpe.24.1.24>.
- Tsangaridou, N., & O'Sullivan, M. (1994). Using pedagogical reflective strategies to enhance reflection among preservice physical education teachers. *Journal of Teaching in Physical Education, 14*, 13-33. Available at: <https://doi.org/10.1123/jtpe.14.1.13>.
- Tsangaridou, N., & O'Sullivan, M. (1997). The role of reflection in shaping physical education teachers' educational values and practices. *Journal of Teaching in Physical Education, 17*(1), 2-25. Available at: <https://doi.org/10.1123/jtpe.17.1.2>.
- UNESCO. (2014). World-wide survey of school physical education. Final Report 2013. UNESCO.
- UNESCO. (2015). Quality physical education: Guidelines for policy-makers. Paris France. Retrieved from: <https://en.unesco.org/inclusivepolicylab/sites/default/files/learning/document/2017/1/231101E.pdf>. [Accessed December 21, 2020].
- Wanyama, M. N. (2011). *The challenges of teaching physical education. Juxtaposing thee of physical education teachers in Kenya and Victoria Australia*. Master's Thesis. The University of Melbourne, Australia.
- Williams, G. C., & Deci, E. L. (1996). Internalization of biopsychosocial values by medical students: A test of self-determination theory. *Journal of Personality and Social Psychology, 70*, 767-779. Available at: <https://doi.org/10.1037/0022-3514.70.4.767>.
- World Health Organization. (2010). *Global recommendations on physical activity for health*. Geneva: World Health Organization.