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The Reasons And Motivation For Pre-Service Teachers Choosing To Specialise In Primary Physical Education Teacher Education

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Abstract: This study explored the reasons for pre-service teachers choosing to specialise in primary physical education and how these choices related to their motivation. Pre-service teachers who then elected to specialise in primary physical education (n = 248) completed the Attractors and Facilitators for Physical Education (AFPE) questionnaire and the Academic Motivation Scale (AMS). The main reasons for specialising in primary physical education were sport and physical activity, confident interpersonal service, and role models. Pre-service teachers who were also completing health as a teaching method reported lower perceived demand than pre-service teachers who were completing other teaching methods. The strongest predictors of intrinsic motivation were choosing the specialisation because of confident interpersonal service, low perceived demand, and family reasons. The strongest predictors of extrinsic motivation were confident interpersonal service and low perceived demand reasons. The strongest predictors of amotivation were low perceived demand or low confident interpersonal service reasons.

Introduction

Previous research in teacher education has sought to identify the reasons people choose to become physical education teachers (e.g., Dewar & Lawson, 1984; Hutchinson, 1993; Pooley, 1972; Templin, Woodford, & Mulling, 1982). These studies have focused largely on the socialisation process rather than motivation using an existing motivational model (Belka, Lawson, & Lipnickey, 1991; Dewar & Lawson, 1984; Moriera, Fox, & Sparkes, 2002; Richardson & Watt, 2006). Earlier socialisation studies have positioned the pre-service teacher in more passive ways, whereas more contemporary views have suggested that the pre-service teacher is more active in their socialisation into the profession (Stroot & Ko, 2006). Socialisation studies have identified individual reasons for choosing to become a physical education teacher, rather than identifying common attractors and facilitators or underlying motivational constructs in choice of profession (Spittle, Jackson, & Casey, 2009). These attractors to and facilitators of physical education career choice have been labelled as motives in the literature (Richardson & Watt, 2006) but provide a description of the choices rather than identifying the psychological mediators of behavioural outcomes. Relatively little attention has been given to the motivation of physical education teachers (Moreira, et al., 2002), or more importantly the determinants of physical education teachers' motivation (Lindholm, 1997).

Existing motivational models could be included in a framework to explore the reasons for physical education career choice to provide for greater understanding of these choices. For example, self-determination theory (Deci & Ryan, 1985) could be applied as a motivational framework to explore these reasons and facilitators and how they impact on

motivation. Vallerand's (2000) hierarchical model of self-determination proposes that social factors influence psychological mediators, which influence motivation, which then influences behavioural outcomes. Such a framework would provide an approach to exploring attractors and facilitators to become a physical education teacher, but also how these factors influence motivation.

Attractors and Facilitators

There are a variety of reasons that can influence the decision to become a teacher (Lortie, 1975). For example, Osguthrope and Sanger (2013) reviewed applications for a pre-service teaching course and found that the most commonly cited reasons for applying included making a difference in the lives of students, being a role model, teaching is a rewarding career, having a love of learning, and working with children. Research on pre-service teacher's reasons for choice of a career in teaching highlight some consistently cited reasons (e.g., Book & Freeman, 1986; Brookhart & Freeman, 1992; Goodlad, 1984; Joseph & Green, 1986; Serow, Eaker, & Ciechalski, 1992; Watt & Richardson, 2007). The previous literature in physical education also highlights similar reasons for choice of physical education as a profession (e.g., Pooley, 1972; Templin, et al., 1982; Dewar & Lawson, 1984; Hutchinson, 1993; Richardson & Watt, 2005). These reasons identified in the literature can be conceived of as facilitators for and attractors to physical education teaching.

Using Dewar and Lawson (1984), Lortie (1975), and Lawson (1983) as a basis common attractors for teaching physical education can be classified: interpersonal (to work in a people focused occupation), service (to serve the community), continuation (to remain in the school system), time compatibility (to work in a job that provides time for personal pursuits), material benefits (for job security), desires to be physically active (not to be in sedentary work), and the desire to coach sport (use of the profession as a means to an end) (Hutchinson, 1993). These attractors can be understood in relation to self-determination theory as psychological mediators that relate to the fulfilment of needs (Vallerand, 2000).

Facilitators for choosing physical education teaching specifically include subjective warrant (belief that they are equipped to cope with the demands of teaching physical education), identification with teachers (to emulate a good teacher or be the antithesis of a bad teacher they identify with), family continuity and blocked aspirations (could not meet the demands of their preferred career) (Templin, et al., 1982). Most of these facilitators can be understood in terms of self-determination theory as contextual social factors (Vallerand, 2000), which facilitate entry into physical education (Templin, et al., 1982). Because it is conceived as a combination of task demands with self-perceptions (Richardson & Watt, 2006), subjective warrant best fits self-determination theory as a psychological mediator in fulfilling the need for perceived competence (Spittle, et al., 2009).

An exploration of these attractors and facilitators as reasons for becoming a physical education teacher by Spittle, Jackson, and Casey (2009) delimited these attractors and facilitators to five reasons for choosing to become a physical education teacher: confident interpersonal reasons (being confident and helping others), sport and physical activity (to be involved in sport and physical activity), low perceived demand (because it is easy), role models (to emulate a teacher, physical education teacher or other significant person), and family (because of family influence). The current study further investigated these five reasons with pre-service teachers who enrolled in a teacher education course and then elected to specialise in teaching primary school physical education.

Motivation

Motivation for teaching, and for choosing primary physical education teaching specifically, has rarely been explored using self-determination theory, but such a theoretical framework may be useful in understanding the reasons for this choice of specialisation and how they impact on motivation of pre-service teachers. This should provide for a much needed, comprehensive evaluation of the motivation of pre-service teachers in primary physical education in relation to their work and their career development (Moreira, Fox, & Sparkes, 2002). While some research has investigated teacher motivation and its influence on teacher engagement and behaviour, there is much less research on the motivation of pre-service teachers and in particular the evolution of their motivational characteristics during their studies (Malmberg, 2006). Scarcity of research on the motivational characteristics of pre-service teachers specialising in physical education, and primary physical education specifically, is even more evident in the literature.

Self-Determination Theory

Self-determination theory posits that we exhibit differing types of motivation depending on the extent to which our behaviour is self-determined, and the subsequent manner in which it is regulated (Ryan & Deci, 2000). Self-determination is achieved when an individual perceives that they are the origin of their behaviour. Motivation can be divided into three categories based on the extent of self-determination: intrinsic motivation, extrinsic motivation, and amotivation (Deci & Ryan, 1985; Ryan & Deci, 2002).

Intrinsic motivation is demonstrated when an activity is undertaken out of interest, enjoyment, or inherent satisfaction (Ryan & Deci, 2002; Vallerand & Ratelle, 2002). Intrinsic motivation can be contextualised into three parts in order of decreasing self-determination: intrinsic motivation to know (a need or desire to understand and learn), intrinsic motivation toward accomplishments (behaviour undertaken to gain a sense of achievement and capability), and intrinsic motivation to experience stimulation (participating in an activity for pleasure or sensations that will be felt).

Extrinsic motivation relates to activities undertaken for reasons other than inherent interest in the activity (Deci & Ryan, 1985, Vallerand & Ratelle, 2002). Extrinsic motivation can be classified into four parts in order of decreasing self-determination: integration (activity is recognised as worthwhile and is integrated into the person's behaviour, but as a means to an end rather than for intrinsic pleasure), identification (activity is undertaken because it is identified as worthwhile for some reason), introjection (activity is governed by rewards and restrictions implemented by the individual themselves), and external regulation (activity is governed by rewards and restrictions are implemented by others). Amotivation is the lack of any self-determination (Vallerand & Ratelle, 2002).

Research about teaching using self-determination theory has indicated that motivation can influence teacher behaviour and student outcomes. For example, teachers who are self-determined through intrinsic motivation are more likely to support student autonomy, which can foster more intrinsic motivation in students (Pelletier, Seguin-Levesque, & Legault, 2002, Reeve, Bolt, & Cai, 1999). Intrinsic motivation is associated with several desirable outcomes in relation to academic achievement including greater creativity, flexibility, spontaneity, enjoyment, quality of work, increased attention, persistence, and study skills (Deci & Ryan, 1985). In physical education specifically, more self-determined motivation appears to be related to student persistence (Ntoumanis, 2005), effort (Ntoumanis, 2001), attempting challenging tasks (Standage, Duda, & Ntoumanis, 2005), and objective achievement (Boiche et al., 2008). Thus, there are good reasons for encouraging and maintaining the motivation of pre-service teachers, and for developing intrinsic motivation in particular.

A previous study by Spittle, et al. (2009) explored the choice of physical education teaching as a profession and the relationship of these choices with motivation using self-

determination theory. They developed the Attractors and Facilitators for Physical Education (AFPE) questionnaire, which was found to measure five reasons for choosing physical education as a profession and compared the reasons identified with motivation to study. Physical education pre-service teachers reported high to moderate extrinsic motivation (identified, interjected, and external regulation); moderate intrinsic motivation (to know, toward accomplishment, and to experience stimulation); and lower scores for amotivation. Females tended to have higher intrinsic and extrinsic motivation, whereas males reported higher levels of amotivation. Third year students had higher amotivation than other year levels. Confident interpersonal service reasons were the strongest predictor of intrinsic motivation, whereas sport and physical activity reasons were the strongest predictor of extrinsic motivation. Confident interpersonal service, sport and physical activity, and low perceived demand predicted amotivation. These findings provide evidence of the utility of self-determination theory as a framework for understanding the reasons for choice of physical education as a profession and for exploring how these choices influence motivation of pre-service teachers.

Recognising the reasons for choosing physical education and understanding the associated motivational outcomes with these choices is important because the reasons and motives can influence outcomes for the pre-service teacher, but also the students that they come into contact with as teachers. The reasons and motives for choosing to teach and to specialise in physical education can also influence the way that teachers view themselves and their peers (Spittle, Petering, Kremer, & Spittle, 2011). Identifying choices and motivation behind teaching can influence teacher education programs and practices, as well as the design of curriculum to respond to pre-service teacher needs, expectations, and motives. These understandings may be used to develop educational approaches to enhance intrinsic motivation of pre-service teachers who have chosen to specialise in primary physical education. Appreciating these reasons and motives is also important from the perspective of teacher recruitment and career development, especially because teaching is a profession that struggles to attract and maintain new graduates, with estimated attrition rates of around 30% for new graduates within the first three years of commencing their career (O'Brien & Goddard, 2006). These high attrition rates in teaching in general are also present in physical education teaching in Australia (Macdonald, Hutchins, & Madden, 1994).

Pre-service teachers who choose to specialise in primary physical education may have different reasons for selecting physical education as a specialisation than students who originally chose to study a physical education course. They have elected to specialise after enrolling to complete a general education degree and will not be able to register to teach physical education at secondary school. They may also have different motivation towards their study in physical education, because they chose teaching and then to specialise in physical education, rather than choosing to be a specialist physical educator.

In most cases, primary physical education specialists are accepted into a course to complete a general education degree such as a Bachelor of Education (P-12). Once accepted into the degree pre-service teachers often have a number of options with regard to what type of teachers they would like to be. Generally, a Bachelor of Education (P-12) provides an option for pre-service teachers to become what is known as a primary generalist teacher; this qualifies them to be a classroom teacher in a primary school. Options to become a more specialised teacher are also available with the teacher registration body requiring teachers to have two teaching methods. A variety of combinations are available, for example mathematics and primary physical education or health and English. As there are so many options available to pre-service teachers undertaking a Bachelor of Education (P-12) degree it is possible that many students are unsure about the type of teacher they would like to be or may change their mind once they are accepted into the course. Students who enrol in a secondary physical education degree have selected their specialisation before entry. Entry requirements into the courses can also differ with secondary physical education courses often

having a higher set of entry criteria than Bachelor of Education (P-12) courses and a smaller intake of students.

Understanding the choice to become a primary physical education teacher is important because primary school physical education has been identified as being a highly influential factor in the development of positive health behaviours for students (Kirk, 2005; Morgan, 2005; Morgan & Burke, 2005). Quality physical education programs are needed in primary school as it is recognised as the ideal setting for the acquisition of movement skills, concepts and strategies that enable students to confidently and competently participate in a range of physical activities (ACARA, 2012).

Previous research has explored what attracts and facilitates individuals towards choosing a career as a secondary physical education teacher but little is known why individuals choose to become primary physical education teachers. The exploration of attractors and facilitators of primary physical education specialists may provide important answers as to why these individuals choose this career path.

Aims

The aim of this study was to explore the attractors and facilitators of pre-service teachers choosing to specialise in primary physical education and determine how this related to their motivation to study in the course. Specifically this study aimed to:

- determine the attractors and facilitators and motivation levels of pre-service teachers choosing to specialise in primary physical education;
- explore differences in attractors and facilitators and motivation by gender, year level, course entry and other teaching methods;
- explore the relationship between the attractors and facilitators and pre-service teacher motivation; and
- determine how well the attractors and facilitators predicted motivation of pre-service teachers.

Method

Participants

Students enrolled in a four-year Bachelor of Education (P-12) degree were invited to participate in this study. Pre-service teachers must choose two teaching methods to specialise in. All participants had elected to specialise in primary physical education (P-6), which involves undertaking a six unit major in physical education so that they can register to teach physical education in a primary school. The method does not enable them to register to teach physical education in a secondary school. A total of 248 pre-service teachers completed the questionnaires comprising 120 (48.4%) male and 128 (51.6%) female participants. The mean age of the participants was 21.24 years (*SD* = 2.99). There were 60 (24.2%) first year, 105 (42.3%) second year, 74 (29.8%) third years and 9 (3.6%) fourth year students. Other teaching methods included health (n=158, 63.7%), mathematics (n=15, 6%), English (n=14, 5.6%), history (n=13, 5.2%), psychology (n=11, 4.4%), art (n=8, 3.2%), and information technology (n=5, 2%). The other 13 teaching methods had less than five participants each (n=24, 9.68%). Most students entered the course directly after completing their final year of high school (n=81, 32.7%), other students entered after completing a vocational education qualification (n=59, 23.8%), had taken a one or two year gap since completing their final year of high school (n=44, 17.7%), were mature age students (n=34, 13.7%), transferred from another course in the university (n=11, 4.4%), transferred from another university (n=10,

4%), had a career change (n=7, 2.8%), or had completed another undergraduate degree (n=2, 0.8%).

Measures

A questionnaire was used to measure demographic information, intrinsic motivation, extrinsic motivation, and amotivation, as well as attractors and facilitators for choosing primary physical education as a teaching method. The demographics form contained five questions which asked participants to indicate their gender, age, current year level, second teaching method, and method of entry into the degree they are currently enrolled in.

The Academic Motivation Scale (AMS) (Vallerand et al., 1992) is a measure of intrinsic, extrinsic and amotivation for going to 'college' or 'university'. The AMS consists of 28 Likert scale questions related to seven different subscales of motivation. Three subscales measure the various types of intrinsic motivation (to know, toward accomplishment, to experience stimulation), three measure various types of extrinsic motivation (identified, introjected, external regulation), and one measures amotivation. Vallerand et al. (1992) reported adequate temporal stability, with test re-test correlations of .71 to .83, and acceptable internal consistency with Cronbach's alpha values ranging from .83 to .86 with the exception of the identification subscale, which had a value of .62. Participants are asked to indicate to what extent each question corresponded to the reasons why they go to university/college from 1 (*does not correspond at all*) to 7 (*corresponds exactly*).

The Attractors and Facilitators for Physical Education (AFPE) questionnaire was developed by Spittle et al., (2009) to measure social and psychological mediators of motivation to teach physical education. The AFPE consists of 44 seven-point Likert questions based on attractors and facilitators identified in previous research in physical education and teaching (Pooley, 1972; Templin et al., 1982; Dewar & Lawson, 1984; Hutchinson, 1993; Richardson & Watt, 2005). Exploratory factor analysis identified five factors, which were confident interpersonal reasons (13 items), sport and physical activity (8 items), low perceived demand (15 items), role models (4 items), and family (4 items). All 44 items in the present study were related to the global stem "why do you want to become a primary physical education teacher?" For example, participants were asked to indicate how much they agreed on a scale of 1 (*not at all*) to 7 (*exactly*) with: "Because I am a people person" (confident, interpersonal service); "Because I want a sport related job" (sport and physical activity); "Because it was easy to get into the course" (low perceived demand); "Because I had a good physical education teacher at school" (role model); or "Teaching runs in our family" (family).

Procedure

Students studying a Bachelor of Education (P-12) who had chosen primary physical education as a teaching method were invited to participate in the study. Participants were given a plain language statement and informed that their participation was voluntary and returning a completed questionnaire implied consent. The questionnaire took between 10 – 15 minutes to complete. A University Human Research Ethics Committee approved the study.

Data Analysis

Cronbach's alpha coefficients were calculated for each of the AFPE and AMS subscales to determine internal consistency. Independent samples t-tests were used to determine if there were any significant differences in attractors and facilitators and in motivation for gender, course entry method, or second teaching method. One-way analyses

of variance (ANOVAs) were used to determine if there were any significant differences in attractors and facilitators and in motivation for year level. Where significant differences were found, post hoc tests were employed to further investigate the nature of those differences.

Pearson correlations were calculated between attractors and facilitators of the AFPE and the seven motivation sub-scales of the AMS. The intention was to discover which reasons for choosing to specialise in primary physical education were the most highly associated with the different types of motivation. Forward linear regressions were then conducted using the attractors and facilitators to investigate if the resulting models could predict any of the variability in different types of motivation.

Results

Attractors and Facilitators

The Bachelor of Education (P-12) students who chose to specialise in primary physical education reported higher scores (greater than 5) for the sport and physical activity, confident interpersonal service, and role models factors, a moderate score for low perceived demand, and a lower score for family (see Table 1). The maximum possible mean score for any factor was seven. Cronbach's alpha coefficients were calculated for each of the factors of the AFPE, displaying adequate internal consistency, with all subscales between .82 and .90.

	Subscales	Average Score Per Item *M*	*SD*	Internal Consistency
AFPE				
	Confident interpersonal service	5.75	0.78	0.86
	Sport and physical activity	5.98	0.88	0.84
	Low perceived demand	3.65	1.10	0.88
	Role models	5.46	1.40	0.82
	Family	2.29	1.73	0.90
AMS				
	Intrinsic motivation – to know	5.28	1.02	0.79
	Intrinsic motivation – toward accomplishment	4.68	1.20	0.81
	Intrinsic motivation – to experience stimulation	3.78	1.30	0.76
	Extrinsic motivation – identified	5.91	0.83	0.69
	Extrinsic motivation – introjected	4.96	1.29	0.83
	Extrinsic motivation – external regulation	4.85	1.28	0.76
	Amotivation	1.83	1.32	0.90

Table 1. Descriptive statistics and Cronbach's alpha coefficients for subscales of the AFPE and AMS

Motivation

The Bachelor of Education (P-12) students who chose to specialise in primary physical education reported moderate to high scores (greater than 5) for extrinsic motivation – identified and intrinsic motivation – to know; moderate scores for extrinsic motivation – introjected, extrinsic motivation – external regulation, intrinsic motivation – toward accomplishment, and intrinsic motivation – to experience stimulation (greater than 3.5); and a low score on amotivation (see Table 1). The maximum possible score on any subscale was seven. Cronbach's alpha coefficients were calculated for each of the AMS subscales. All subscales returned adequate internal consistency, with values ranging from 0.69 to 0.90 (Table 1). The extrinsic motivation – identified subscale was marginal with a value of 0.69.

Gender

Males reported significantly higher attraction to the primary physical education specialisation for low perceived demand and family reasons than females (Table 2). There were no statistically significant differences for any type of motivation based on gender.

	Subscales	Gender				*t*	*df*	*p*	*d*
		Male		Female					
		M	*SD*	*M*	*SD*				
AFPE									
	Confident interpersonal service	5.72	0.72	5.77	0.83	-0.51	246	0.61	0.06
	Sport and physical activity	6.04	0.75	5.92	0.99	1.10	246	0.27	0.13
	Low perceived demand	3.84	1.15	3.47	1.02	2.72	246	0.01*	0.34
	Role models	5.54	1.33	5.38	1.45	0.88	246	0.38	0.11
	Family	2.59	1.83	2.01	1.57	2.69	246	0.01*	0.33
AMS									
	Intrinsic motivation – to know	5.23	1.05	5.33	1.00	-0.81	246	0.42	0.10
	Intrinsic motivation – toward accomplishment	4.73	1.20	4.63	1.21	0.66	246	0.51	0.08
	Intrinsic motivation – to experience stimulation	3.91	1.31	3.66	1.29	1.51	246	0.13	0.19
	Extrinsic motivation – identified	5.82	0.82	6.00	0.85	-1.66	246	0.10	0.22
	Extrinsic motivation – introjected	4.90	1.30	5.01	1.28	-0.64	246	0.52	0.09
	Extrinsic motivation – external regulation	4.86	1.32	4.84	1.25	0.11	246	0.91	0.02
	Amotivation	2.01	1.44	1.67	1.17	2.01	246	0.05	0.26

*$p < 0.05$

Table 2. Descriptive statistics and t-test results for attractors and facilitators and motivation by gender

Year Level

There were statistically significant differences between year levels for four of the five attractors and facilitators: confident interpersonal service, sport and physical activity, role models, and family (Table 3). There was no significant difference for low perceived demand. Post hoc tests revealed that second year students reported significantly higher scores for confident interpersonal reasons and sport and physical activity than third year students; first year students reported significantly higher scores for role models than third year students; and second year students reported significantly higher scores for family than first year and third year students.

For motivation, there were statistically significant differences between year levels for extrinsic motivation – identified and for amotivation (Table 3). Post hoc tests revealed that second year students had significantly higher extrinsic motivation – identified than third year students and third years students had significantly higher amotivation than first year students. There were no other differences on the motivational constructs between year levels.

	Subscales	Current year level								*F*	*df*	*p*	$_{2}$
		1st year		2nd year		3rd year		4th year					
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*				
AFPE													
	Confident interpersonal service	5.84	0.74	5.89	0.83	5.51	0.67	5.75	0.78	4.12	244	0.01*	0.05
	Sport and physical activity	6.10	0.83	6.10	0.81	5.74	0.99	5.78	0.62	3.12	244	0.03*	0.04
	Low perceived demand	3.49	0.83	3.82	1.29	3.52	0.99	3.82	0.96	1.64	244	0.18	0.02
	Role models	5.72	1.21	5.62	1.38	5.07	1.46	4.93	1.49	3.62	244	0.01*	0.04
	Family	1.90	1.53	2.62	1.91	2.07	1.53	2.72	1.58	3.02	244	0.03*	0.04
AMS													
	Intrinsic motivation – to know	5.28	1.19	5.39	0.93	5.06	1.01	5.83	0.66	2.38	3, 244	0.07	0.03
	Intrinsic motivation – toward accomplishment	4.58	1.28	4.77	1.20	4.57	1.14	5.19	1.01	1.11	3, 244	0.35	0.01
	Intrinsic motivation – to experience stimulation	3.55	1.31	3.87	1.32	3.78	1.31	4.19	0.94	1.09	3, 244	0.35	0.01
	Extrinsic motivation – identified	6.00	0.90	6.03	0.77	5.66	0.84	6.00	0.77	3.33	3, 244	0.02*	0.04
	Extrinsic motivation – introjected	5.10	1.24	4.93	1.49	4.84	1.03	5.28	1.16	0.64	3, 244	0.59	0.01
	Extrinsic motivation – external regulation	4.77	1.28	4.96	1.35	4.73	1.22	5.08	1.03	0.65	3, 244	0.58	0.01
	Amotivation	1.43	0.80	1.87	1.44	2.08	1.41	2.08	1.27	3.03	3, 244	0.03*	0.04

*$p < 0.05$

Table 3. Descriptive statistics and t-test results for attractors and facilitators and motivation by year level.

Course Entry

Differences in attractors and facilitators and motivation were compared for course entry. Course entry was compared across students who entered the school directly from high school with those who came in through all other entry methods (e.g., entry after taking a gap of one or two years following high school, internal transfer from another degree, external transfer from another degree, mature age). Students who entered the course from other entry methods reported significantly higher confident interpersonal service and sport and physical activity reasons than students who entered the course straight from high school (Table 4).

For motivation, students who entered the course directly from high school had significantly higher intrinsic motivation – toward accomplishment than students from other entry methods. There were no other statistically significant differences for any other type of motivation between entry methods.

	Subscales	Entry method into course				*t*	*df*	*p*	*d*
		Straight from high school (*n*=81)		All other entry modes (*n*=167)					
		M	*SD*	*M*	*SD*				
AFPE									
	Confident interpersonal service	5.56	0.83	5.84	0.74	2.75	246	.01*	0.36
	Sport and physical activity	5.76	0.90	6.09	0.85	2.75	246	.01*	0.38
	Low perceived demand	3.69	0.99	3.63	1.15	-0.40	246	0.69	0.06
	Role models	5.44	1.25	5.46	1.46	0.12	246	0.90	0.01
	Family	2.28	1.68	2.29	1.75	0.07	246	0.94	0.01
AMS									
	Intrinsic motivation – to know	5.36	1.03	5.11	1.01	1.81	246	0.07	0.25
	Intrinsic motivation – toward accomplishment	4.82	1.18	4.40	1.19	2.59	246	0.01*	0.35
	Intrinsic motivation – to experience stimulation	3.80	1.31	3.74	1.30	0.33	246	0.74	0.05
	Extrinsic motivation – identified	5.97	0.82	5.80	0.86	1.52	246	0.13	0.20
	Extrinsic motivation – introjected	5.07	1.28	4.73	1.29	1.93	246	0.06	0.26
	Extrinsic motivation – external regulation	4.87	1.35	4.80	1.15	0.41	246	0.68	0.06
	Amotivation	1.85	1.36	1.81	1.22	0.23	246	0.82	0.03

* $p < 0.05$

Table 4. Statistics and t-test results for attractors and facilitators and motivation by course entry method.

Other Teaching Method

Pre-service teachers who were completing health as a second teaching method reported significantly higher scores for low perceived as an attractor to the primary physical education specialisation than pre-service who were completing other teaching methods (Table 5) There were no statistically significant differences for any type of motivation between students who had health as a second teaching method and those who had other teaching methods.

	Subscales	Teaching method				*t*	*df*	*p*	*d*
		Health (*n*=158)		Other teaching methods (*n*=90)					
		M	SD	M	SD				
AFPE									
	Confident interpersonal service	5.81	0.77	5.64	0.79	-1.55	246	0.12	0.21
	Sport and Physical Activity	6.05	0.83	5.87	0.96	-1.54	246	0.13	0.20
	Low perceived demand	3.78	1.14	3.43	1.00	-2.43	246	0.02*	0.34
	Role Models	5.51	1.31	5.36	1.53	-0.79	246	0.43	0.11
	Family	2.26	1.71	2.34	1.77	0.36	246	0.72	0.05
AMS									
	Intrinsic motivation – to know	5.34	1.09	5.24	0.98	0.76	246	0.45	0.06
	Intrinsic motivation – toward accomplishment	4.80	1.20	4.62	1.20	1.04	246	0.30	0.15
	Intrinsic motivation – to experience stimulation	3.91	1.34	3.70	1.28	1.25	246	0.22	0.15
	Extrinsic motivation – identified	6.01	0.82	5.85	0.84	1.46	246	0.14	0.19
	Extrinsic motivation – introjected	4.89	1.40	4.99	1.22	-0.57	246	0.57	0.08
	Extrinsic motivation – external regulation	4.79	1.37	4.89	1.24	-0.60	246	0.55	0.08
	Amotivation	1.77	1.35	1.87	1.30	-0.58	246	0.56	0.08

* $p < 0.05$

Table 5. Descriptive statistics and t-test results for attractors and facilitators and motivation by teaching method

Relationships Between Attractors and Facilitators and Motivation

Pearson's correlations to explore the relationships between attractors and facilitators and motivation subscales indicated that all the attractors and facilitators were related to motivation (Table 6). Only the relationships between extrinsic motivation – identified with low perceived demand and family were not significant. There were negative relationships between confident interpersonal service and amotivation. Most relationships were between 0.17 and 0.48.

	Confident interpersonal service	Sport and physical activity	Low perceived demand	Role models	Family
Intrinsic motivation to know	0.48**	0.33**	0.18**	0.29**	0.21**
Intrinsic motivation toward accomplishment	0.39**	0.31**	0.24**	0.28**	0.18**
Intrinsic motivation to experience stimulation	0.24**	0.23**	0.38**	0.25**	0.31**
Extrinsic motivation - identified	0.44**	0.23**	0.04	0.30**	-.03
Extrinsic motivation - introjected	0.37**	0.26**	0.36**	0.26**	0.17**
Extrinsic motivation – external regulation	0.23**	0.31**	0.43**	0.22**	0.19**
Amotivation	-0.20**	0.23**	0.43**	-0.03	0.26**

** $p < 0.01$

Table 6. Pearson's correlations between attractors and facilitators and motivation

Factors Predicting Motivation

Forward linear regression analyses were conducted to evaluate how well the five factors for choosing primary physical education teaching (confident interpersonal service, sport and physical activity, low perceived demand, role models, and family) predicted levels of motivation (intrinsic, extrinsic, and amotivation). The results of the final models for each type of motivation are provided in Table 7. The null hypothesis that none of the motivational variables were related to the five factors was rejected in each analysis, with significant F-tests for intrinsic motivation, extrinsic motivation, and amotivation (Table 7).

The intrinsic motivation model displayed a moderate effect size ($R_2 = 0.24$), indicating that the model accounted for 24% of the variance in intrinsic motivation. Confident interpersonal service was the first predictor used, then family, and then low perceived demand. Adding these changes produced R_2 changes of 0.05 and 0.02 respectively. These results indicate that confident interpersonal service, family, and low perceived demand were the main predictors of intrinsic motivation, with confident interpersonal service the strongest predictor.

The extrinsic motivation model also had a moderate effect size ($R_2 = 0.24$), again accounting for 24% of the variance in intrinsic motivation. The model only used two predictors, confident interpersonal service and low perceived demand, which were used in that order. Adding low perceived demand produced an R_2 change of 0.08. These results indicate that students who chose primary physical education for confident interpersonal service reasons and low perceived demand were more likely to be extrinsically motivated.

The amotivation model had the largest effect size ($R_2 = 0.29$), accounting for 29% of the variance in amotivation. Again, low perceived demand and confident interpersonal service were the predictors used, but were used in a different order, with low perceived demand entered first. Adding confident interpersonal service improved the model by a change in R_2 of 0.10. The results of the linear regression suggested that students who chose primary physical education for low perceived demand were more likely to be amotivated, and conversely, those who chose it for confident interpersonal service reasons were less likely to experience amotivation.

Predictors	*B*	*SE B*	*ß*	95% CI
Intrinsic motivation				
Constant	3.59	1.30		[1.03, 6.14]
Confident interpersonal service	1.39	0.23	0.35	[0.94, 1.84]
Family	0.30	0.11	0.17	[0.08, 0.76]
Low perceived demand	0.41	0.18	0.15	[0.15, 2.28]
R^2	0.24			
F	25.34***			
Extrinsic motivation				
Constant	6.25	1.20		[3.89, 8.60]
Confident interpersonal service	1.19	0.21	0.33	[0.77, 1.60]
Low perceived demand	0.73	0.15	0.28	[0.43, 1.02]
R^2	0.24			
F	37.84***			
Amotivation				
Constant	11.28	2.15		[7.04, 15.51]
Low perceived demand	2.49	0.27	0.52	[1.96, 3.01]
Confident interpersonal service	-2.263	0.38	-0.34	[-3.01, -1.52]
R^2	0.29			
F	49.64***			

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

Table 7. Forward linear regression models for predictors of intrinsic motivation, extrinsic motivation, and amotivation

Discussion

This study explored the reasons for choosing to specialise in primary physical education and the motivation of students completing this specialisation as part of a Bachelor of Education (P-12) course. Previous research has explored factors related to choice of physical education teachers' choice of career (e.g., Dewar & Lawson, 1984; Hutchinson, 1993; Pooley, 1972; Templin et al., 1982). Research has also investigated the facilitators and attractors of pre-service physical education teachers (Spittle et al., 2009), but the attractors and facilitators of Bachelor of Education (P-12) students who choose primary physical education as a specialisation as part of their training has not been investigated. Thus, this study extends previous research by exploring the choice of those enrolled in a Bachelor of Education (P-12) course choosing a primary physical education specialisation rather than the reasons and motives of those pursuing a specialist physical education degree. In addition, it builds on the previous research by relating these reasons to motivation using an established motivational framework. Previous research on physical education teacher's motivation identified a range of reasons behind motivation, measuring the connection with the choice of teaching as a career (Dewar & Lawson, 1984; Hutchinson, 1993; Richardson & Watt, 2005, 2006). Using an established motivational model provides for deeper understanding of the

underlying motivation behind the descriptive reasons pre-service teachers provide when asked why they chose their profession. The self-determination model (Deci & Ryan, 1985; Vallerand, 2000) provided a framework for understanding how the attractors and facilitators influence motivation.

The main findings of the study were that sport and physical activity, confident interpersonal service, and role models were the most common reasons for choosing to specialise in primary physical education. The pre-service teachers reported high levels of extrinsic motivation – identified and intrinsic motivation – to know and low levels of amotivation. Males were more likely than females to choose the primary physical education specialisation for low perceived demand and family reasons than females. Second year students chose the primary physical education specialisation more for confident interpersonal reasons and sport and physical activity and family reasons and had higher extrinsic motivation – identified than third year students. They also chose the specialisation more for family reasons than first year students. First year students chose the primary physical education specialisation more because of role models and had lower amotivation than third year students.

Students who entered the course from other entry methods reported higher confident interpersonal service and sport and physical activity reasons and higher intrinsic motivation – toward accomplishment than students who entered the course straight from high school. Pre-service teachers who were completing health as a second teaching method chose the physical education specialisation more for low perceived demand than pre-service who were completing other teaching methods.

There were a number of significant relationships between the attractors and facilitators and motivation. The strongest predictors of intrinsic motivation were choosing the specialisation because of confident interpersonal service, low perceived demand, and family reasons. The strongest predictors of extrinsic motivation were confident interpersonal service and low perceived demand reasons. The strongest predictors of amotivation were low perceived demand or not choosing the specialisation for confident interpersonal service reasons.

Attractors and Facilitators

The most common reasons for the Bachelor of Education (P-12) students choosing to specialise in physical education were sport and physical activity, confident interpersonal service, and role model reasons. Low perceived demand was a moderate factor and family reasons a less common reason. That is, students were most likely to become primary physical education specialists because they wanted sport and physical activity to be part of their job, because they were confident and enjoyed helping others in a school setting, and to emulate a teacher, physical education teacher, or significant other. This is consistent with previous research that has identified desires to be physically active (not to be in sedentary work), the desire to coach sport (use if the profession as a means to an end) as reasons for choosing physical education as a career (Hutchinson, 1993). It is also coherent with findings that emulating a good teacher or being the antithesis of a bad teacher is a reason for becoming a teacher (Templin at al., 1982), as well as research that pre-service physical education teachers view themselves and their peers as sporty and outgoing (Spittle et al., 2011).

Research has suggested that people who desire a sport-related job typically get this through physical education or persist with the physical education component of the job for their preferred activity of coaching sport (Hutchinson, 1993; Lawson, 1983). The finding of confident interpersonal service being a common reason is also consistent with research where those who chose a career in physical education teaching desire to work in a people-focused occupation where they can help others (Dewar & Lawson, 1984). The findings for sport and

confident interpersonal service support research that has found that the highest ranking attractors to teaching physical education were having fun at work, helping others, and continued involvement in physical activity (Belka et al., 1991). This also suggests that sport and physical activity and helping others are activities that are anticipated as part of a physical education specialisation by students. The importance of confident interpersonal service findings and lower importance of family and low perceived demand are also consistent with research in teacher education outside of physical education, where sport and physical activity would not be a focus. For example, Richardson and Watt (2006) found perceived ability and intrinsic reasons to be important and using teaching as a fallback career as a lower ranked reason.

The AFPE was internally consistent, supporting its use in future studies of reasons for choosing physical education teaching as a career. The development of the AFPE was originally based on seven attractors and facilitators, but the factor analysis loaded on five factors (Spittle et al., 2009). The internal consistency data in this study was strong, supporting that the five-factor structure of confident interpersonal service, sport and physical activity, low perceived demand, role model, and family was reliable. The questionnaire stem used in this study was adapted specifically to primary physical education but this change did not appear to alter the internal consistency of the measure.

Motivation

The motivation levels suggest that the pre-service teachers were motivated towards study, with most forms of motivation moderate to high (above 4.5 on a 7 point scale) and low scores on amotivation. The pre-service teachers reported higher extrinsic motivation – identified and intrinsic motivation – to know than other forms of motivation and lower scores for amotivation. Scoring higher on extrinsic motivation – identified and intrinsic motivation – to know suggests that the pre-service teachers were motivated because they identified the course and specialisation as worthwhile and had a need or desire to understand and learn. These two forms of motivation represent relatively self-determined behaviour, given that they represent as identifying the course as worthwhile, rather than being regulated by someone else and are motivated by an internal desire to learn (Vallerand, 2000). The low scores on amotivation are also positive, in suggesting that students felt that they were self-determined in the choices and in their study in becoming teachers.

The motivation results support previous research in teacher education, which has suggested that teachers cite a range of reasons related to these motivational constructs, including making a difference in the lives of students, teaching is a rewarding career, having a love of learning, and working with children (Osguthrope & Sanger, 2013). It is also very consistent with the findings for physical education pre-service teachers (Spittle et al., 2009), that the pre-service teachers were generally moderate to highly motivated on the forms of motivation, although motivation across all the forms of motivation appeared to be fractionally higher in the current study. What was particularly noteworthy was the uniformity of high and lower scoring forms of motivation. In both studies, the pre-service teachers reported higher extrinsic motivation – identified and intrinsic motivation – to know than other forms of motivation and lower scores for amotivation.

The AMS (Vallerand et al., 1992) was internally consistent, with only extrinsic motivation – identified subscale marginal with a value of 0.69. This was also the case in the previous study by Spittle et al. (2009) with the extrinsic motivation – identified subscale again the only marginal subscale with a value of 0.64. This generally supports the use of the AMS for exploring the motivation pre-service teachers.

Differences in Attractors and Facilitators and Motivation

Low perceived demand and family were stronger reasons for choosing the primary physical education specialisation for males than females. This suggests that males expected the specialisation to be easier than other specialisations such as, creativity and the arts, home economics, humanities and social sciences, mathematics teaching, psychology, English, mathematics, history, psychology, information technology, outdoor education, and science. Choosing physical education for this reason was linked with amotivation, so there is a concern that this may lead to males being less self-determined in their course. There were no differences in motivation between the genders, which is of interest as previous research with physical education pre-service teachers has suggested higher motivation for females than males (Spittle et al., 2009). Perhaps this highlights differences in the cohorts of students who are either training as specialist physical education teachers or specialising in physical education as part of their training.

Second year students reported stronger confident interpersonal reasons and sport and physical activity and family reasons and had higher extrinsic motivation – identified than third year students. They also chose the specialisation more for family reasons than first year students. First year students chose the primary physical education specialisation more because of role models and had lower amotivation than third year students. First year students probably considered that they were more influenced by physical education teachers and teachers they had contact with before entering the course as role models.

These findings generally suggest that the third year students reported less obvious reasons and may have lower motivation than the other year levels, given the differences in extrinsic motivation – identified and amotivation. This is also consistent with the findings of Spittle et al. (2009) that third year students had higher amotivation than other year levels. These lower scores in third year could be attributed to university burnout or fatigue, with first and second year students still experiencing the "newness" of the course and their profession and fourth years seeing a new beginning at the end. Amotivation results from not valuing an activity, not feeling competent, or not believing it will result in a desired outcome (Ryan & Deci, 2000). Amotivated pre-service teachers in third year may experience feelings of incompetence and lack of control over their behaviour, so may feel trapped in the course, with the end a long way off. This suggests that teacher educators should consider the motivational needs of third year students in four year Bachelor of Education courses and implement strategies to increase perceptions of competence and control. This finding also warrants further research in teacher education to identify if there are motivational issues in third year students and if so, what the causes are.

Students who entered the course from other entry methods reported higher confident interpersonal service and sport and physical activity reasons and higher intrinsic motivation – toward accomplishment than students who entered the course straight from high school. The attractors may have been higher for this group as they include students who have come from a range of alternative entry points, for example work or other study, and have made a clear choice to enter onto the course after having been exposed to other options. The higher intrinsic motivation towards accomplishment reflects undertaking the course of study to gain a sense of achievement and capability, which may reflect a desire to prove that they are capable in this career. Further research could explore differences for students entering directly from high school and from other entry methods to clarify if there are motivational and career choice differences that may impact on this motivation. This is important given that students appear to be entering higher education more and more from a range of backgrounds and studies.

Pre-service teachers who were completing health as a second teaching method, chose the primary physical education specialisation more for low perceived than pre-service who were completing other teaching methods. This suggests that students who were also

specialising in health perceived the primary physical education specialisation to be easy and have low demands. This could be because health and physical education are now considered as one discipline, for example in the Australian Health and Physical Education Curriculum (F-10) (ACARA, 2012), so students may think that it is like doing two methods in one, making it easier than doing two separate methods.

Relationship between Attractors and Facilitators and Motivation

There were a number of significant relationships between the attractors and facilitators and motivation. In general, the relationships, although significant, were weak to moderate associations. The correlations were also largely as would be expected based on the self-determination model. For example, the lack of self-determination, amotivation, was negatively related to confident interpersonal service and most positively related to low perceived demand, which is related to choosing primary physical education teaching because it is considered to be easy (Spittle et al., 2009).

Predicting Motivation

The models used found that certain attractors and facilitators were quite successful in predicting the various forms of motivation of the pre-service teachers. The regression models were statistically significant ($p<0.001$) and accounted for 24 to 28% of the variance in the intrinsic motivation, extrinsic motivation, and amotivation. Given that Vallerand's (2000) model suggests that a range of global, contextual and situational factors can affect motivation, explaining 24% of the variance is meaningful. The model for intrinsic motivation had confident interpersonal service, low perceived demand, and family as predictors of intrinsic motivation, with confident interpersonal service providing a greater weight than low perceived demand and family (= 0.35, 0.17, and 0.15 respectively). The predictors of extrinsic motivation were confident interpersonal service and low perceived demand. The predictors of amotivation were again, low perceived demand and confident interpersonal service, but this time, confident interpersonal service had a negative coefficient. It would be beneficial to include other universities, and perhaps other specialisations to investigate if the trends observed here are common in different environments and in different courses.

The models suggest that students who chose primary physical education teaching for confident interpersonal service, low perceived demand, and family were more likely to be intrinsically motivated. Students who chose primary physical education teaching for confident interpersonal service and low perceived demand reasons were also more likely to be extrinsically motivated. Students who chose primary physical education teaching due to a low perceived demand or not for confident interpersonal service were most likely to experience amotivation. This is generally consistent with expectations from self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2002; Vallerand & Ratelle, 2002), with more self-determined motivation, intrinsic motivation, related to confident interpersonal service, low perceived demand, and family reasons and amotivation related to low perceived demand and lower confident interpersonal service reasons.

It is interesting that low perceived demand was a predictor of intrinsic motivation, which may not be expected, given that it appears to be less of an intrinsically motivated choice. Perhaps the pre-service teachers felt that it will be easy for them to teach primary physical education because they are confident in this domain, making the choice to specialise in this domain much more of a personal, self-determined choice. For example, previous research into teaching primary physical education has identified team games and sports as one of the content areas physical education teachers feel most confident to teach, and as a

consequence, spend more time teaching (Morgan & Bourke, 2005). This would explain why confident interpersonal service was also a predictor.

The results are somewhat similar to those of Spittle et al. (2009) with physical education pre-service teachers, rather than the primary specialists. Spittle et al. found that confident interpersonal service reasons were the strongest predictor of intrinsic motivation, which was also the case in the current study, but the model also included low perceived demand and family reasons as predictors. Sport and physical activity was the strongest predictor of extrinsic motivation for the physical education pre-service teachers, whereas for the primary physical education pre-service teachers in the current study, confident interpersonal service and low perceived demand reasons were the strongest predictors. The finding for amotivation was more consistent, with confident interpersonal service and low perceived demand predicting amotivation in both studies, although Spittle et al. also found that sport and physical activity was a predictor of amotivation. The interesting comparison between the two studies is the role of sport and physical activity. Sport and physical activity played much less of a role in predicting the different forms of motivation for the primary physical education specialists than for the physical education pre-service teachers. This perhaps suggests that students selected the specialisation or education course more for reasons other than physical activity and sport than those specially training in physical education This does make some sense, because the physical education pre-service teachers in the Spittle et al. study chose a physical education course to enrol in, perhaps with the expectation that there would be a significant sport and physical activity component to it. In the current study, students chose an education course and then, once enrolled, elected which specialisation to take. Thus, they may have chosen their course initially without a clear motivation to be involved in sport and physical activity. This does, however, seem to contradict the finding that sport and physical activity was the highest scoring reason in the current study.

The finding that pre-service teachers who had the highest levels of amotivation chose primary physical education teaching due to a low perceived demand or not for confident interpersonal service reasons is coherent with expectations of the self-determination model. Electing to take the specialisation because it is easy or low in demand is more likely to be associated with lower levels of self-determination. Self-determination is achieved when an individual perceives that they are the origin of their behaviour (Ryan & Deci, 2000) and choosing an activity because it is easy is a less proactive choice. This is a concern for those who do specialise for low perceived demand reasons because the subsequent motivation can influence teacher behaviour (Pelletier et al., 2002, Reeve et al., 1999) and student outcomes in physical education (Ntoumanis & Standage, 2009).. Thus, it is important to help pre-service teachers consider the reasons for why they are selecting a particular specialisation, especially if it is for reasons that are less self-determined.

Choosing a course and career can be difficult, and selecting a course one knows little about may lead to negative consequences such as failure or lack of enjoyment. Physical education may be seen as an easy option (Belka et al., 1991), and this may be even more so for those already enrolled in a Bachelor of Education course seeking a teaching method to specialise in. especially if it is teaching primary school physical education. This study has found that there is a danger in selecting the primary physical education specialisation because of low perceived demand, with its strong association with amotivation. The confident interpersonal service reason was a strong predictor of all forms of motivation, making it a very strong reason behind motivation in pre-service primary physical education teachers. Encouraging students to select teacher education courses and specialisations based on what they are confident in and to help others and supporting students in fostering these desires would appear to be important in maintaining motivation.

Intrinsic motivation of teachers has been linked with positive outcomes for students (e.g., Pelletier et al., 2002, Reeve et al., 1999). This study suggested students with confident

interpersonal service, low perceived demand, and family reasons for completing the course were more likely to be intrinsically motivated. Thus, there are good reasons for encouraging and maintaining the motivation of pre-service teachers, and for developing intrinsic motivation in particular. Future studies could extend this research by investigating how these reasons and motivations impact on pre-service teacher outcomes in terms of performance in the course and as teachers.

References

ACARA (2012). The shape of the Australian curriculum: Health and physical education. Australian Curriculum, Assessment and Reporting Authority. Retrieved from: http://www.acara.edu.au

Belka, D., Lawson, H., & Lipnickey, S. (1991). An exploratory study of undergraduate recruitment into several major programs at one university. Journal of Teaching in Physical Education, 10, 286-306.

Boiche, J.C.S., Sarrazin, P.G., Grouzet, F.M.E., Pelletier, L.G., & Chanal, J.P. (2008). Students' motivational profiles and achievement outcomes in physical education: A self-determination perspective. Journal of Educational Psychology, 100, 688-710. http://dx.doi.org/10.1037/0022-0663.100.3.688

Book, C. L., & Freeman, D. J. (1986). Differences in entry characteristics of elementary and secondary teacher candidates. Journal of Teacher Education, 37, 47-51. http://dx.doi.org/10.1177/002248718603700209

Brookhart, S. M., & Freeman, D. J. (1992). Characteristics of entering teacher candidates. Review of Educational Research, 62, 37-60. http://dx.doi.org/10.3102/00346543062001037

Deci, E., & Ryan, R. (1985). Intrinsic motivation and self-determination in human behavior. New York, NY: Plenum Press. http://dx.doi.org/10.1007/978-1-4899-2271-7

Dewar, A., & Lawson, H. (1984). The subjective warrant and recruitment into physical education. Quest, 36, 15-25. http://dx.doi.org/10.1080/00336297.1984.10483797

Goodlad, J. I. (1984). A place called school: Prospects for the future. New York, NY: McGraw-Hill.

Hutchinson, G. (1993). Prospective teachers' perspectives on teaching physical education: An interview study on the recruitment phase of teacher socialization. Journal of Teaching in Physical Education, 12, 344-354.

Joseph, P. B., & Green, N. (1986). Perspectives on reasons for becoming teachers. Journal of Teacher Education, 37(6), 28Ð33. http://dx.doi.org/10.1177/002248718603700605

Kirk, D. (2005). Physical education, youth sport and lifelong participation: the importance of early learning experiences. European Physical Education Review, 11(3), 239 - 255.Lawson, J. (1983). Toward a model of teacher socialization in physical education: The subjective warrant, recruitment, and teacher education (Part 1), Journal of Teaching in Physical Education, 2, 3-16.

Lindholm, J. A. (1997). Secondary school physical education teacher motivation: An application of personal investment theory. Journal of Teaching in Physical Education, 16, 426-439.

Lortie, D. (1975). Schoolteacher: A sociological study. Chicago, IL: University of Chicago Press.

Macdonald, D., Hutchins, C., & Madden, J. (1994). To leave or not to leave: Health and physical education teachers' career choices. ACHPER Healthy Lifestyles Journal, 41, 19-22.

Malmberg, L. (2006). Goal-orientation and teacher motivation among teacher applicants and

student teachers. Teaching and Teacher Education, 22, 58-76. http://dx.doi.org/10.1016/j.tate.2005.07.005
Moreira, H., Fox, K. R., & Sparkes, A. C. (2002). Job motivation profiles of physical educators: theoretical background and instrument development. British Educational Research Journal, 28, 845-861. http://dx.doi.org/10.1080/0141192022000019099
Morgan, P. J. (2005). Primary school physical education: Far from reaching its potential. Every Child, 11(1), 20 Đ 21.
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 Đ 13.
Ntoumanis, N. (2005). A prospective study of participation in optional school physical education using a self-determination theory framework. Journal of Educational Psychology, 97(3), 444-453. http://dx.doi.org/10.1037/0022-0663.97.3.444
Ntoumanis, N., & Standage, M. (2009). Motivation in physical education classes: A self-determination theory perspective. Theory and Research in Education, 7(2), 194-202. http://dx.doi.org/10.1177/1477878509104324
O'Brien, P., & Goddard, R. (2006). Beginning teachers: Easing transition to the classroom. Australian Educational Leader, 28, 28-31.
Osguthorpe, R., & Sanger, M. (2013). The moral nature of teacher candidate beliefs about the purposes of schooling and their reasons for choosing teaching as a career. Peabody Journal of Education, 88(2), 180-197. http://dx.doi.org/10.1080/0161956X.2013.775871
Pelletier, L., Seguin-Levesque, C., & Legault, L. (2002). Pressure from above and pressure from below as determinants of teachers' motivation and teaching behaviours. Journal of Educational Psychology, 94, 186-196. http://dx.doi.org/10.1037/0022-0663.94.1.186
Pooley, J. (1972). Professional socialization: A model of the pre training phase applicable to physical education students. Quest, 18, 57-68. http://dx.doi.org/10.1080/00336297.1972.10519736
Reeve, J., Bolt, E., & Cai, Y. (1999). Autonomy-supportive teachers: How they teach and motivate students. Journal of Educational Psychology, 9, 537Đ548. http://dx.doi.org/10.1037/0022-0663.91.3.537
Richardson, P., & Watt, H. (2005). "I've decided to become a teacher": Influences on career change. Teaching and Teacher Education, 21, 475 Đ 489. http://dx.doi.org/10.1016/j.tate.2005.03.007
Richardson, P., & Watt, H. (2006). Who chooses teaching and why? Profiling characteristics and motivations across three Australian universities. Asia-Pacific Journal of Teacher Education, 34, 27-56. http://dx.doi.org/10.1080/13598660500480290
Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55, 68-78. http://dx.doi.org/10.1037/0003-066X.55.1.68
Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), Handbook of self-determination research (pp. 3-33). Rochester, NY: The University of Rochester Press.
Serow, R. C., Eaker, D., & Ciechalski, J. (1992). Calling, service, and legitimacy: Professional orientations and career commitment among prospective teachers. Journal of Research and Development in Education, 25, 136Đ141.
Spittle, M., Jackson, K., & Casey, M. (2009). Applying self-determination theory to understand the motivation for becoming a physical education teacher. Teaching and Teacher Education, 25, 190-197. http://dx.doi.org/10.1016/j.tate.2008.07.005
Spittle, M., Petering, F., Kremer, P., & Spittle, S. (2011) Stereotypes and self-perceptions of physical education pre-service teachers. Australian Journal of Teacher Education,

37(1), Article 2.
Standage, M., Duda, J.L., & Ntoumanis, N. (2005). A test of self-determination theory in school physical education. British Journal of Educational Psychology, 75, 411-433. http://dx.doi.org/10.1348/000709904X22359
Stroot, S. A., & Ko, B. (2006). Induction of beginning physical education teachers into the school setting. In D. Kirk, D. Macdonald & M. O'Sullivan (Eds.), The handbook of physical education (pp. 425-448). London, England: Sage Publications. http://dx.doi.org/10.4135/9781848608009.n24
Templin, T., Woodford, R., & Mulling, C. (1982). On becoming a physical educator: Occupational choice and the anticipatory socialization process. Quest, 34, 119-133. http://dx.doi.org/10.1080/00336297.1982.10483771
Vallerand, R. J. (2000). Deci and Ryan's self-determination theory: A view from the hierarchical model of intrinsic and extrinsic motivation. Psychological Inquiry, 11, 312-318.
Vallerand, R. J., Pelletier, L., Blais, M., Briere, N., Senecal, C., & Vallieres, E. (1992). The academic motivation scale: A measure of intrinsic motivation, extrinsic motivation, and amotivation in education. Education and Psychological Measurement, 52, 1003-1017. http://dx.doi.org/10.1177/0013164492052004025
Vallerand, R. J., & Ratelle, C. F. (2002). Intrinsic and extrinsic motivation: A hierarchical model. In E. L. Deci & R. M. Ryan (Eds.), Handbook of self-determination research (pp. 3-33). Rochester, NY: The University of Rochester Press.
Watt, H. M. G., & Richardson, P. W. (2007). Motivational factors influencing teaching as a career choice: Development and validation of the FIT-Choice Scale. The Journal of Experimental Education, 75, 167Ð202. http://dx.doi.org/10.3200/JEXE.75.3.167-202