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The relationship between PE biographies and PE teaching practices of classroom teachers

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Abstract

The current study sought to explore the relationship between personal school physical education (PE) experiences and current PE teaching practices of classroom teachers. Questionnaires were completed by 189 teachers from 38 randomly selected schools. Additionally, semi-structured interviews of 31 classroom teachers were conducted. Results indicated that many teachers had negative memories of school PE and believed they were not taught anything. Interestingly, teachers involved in the study held reasonably positive attitudes towards teaching PE but examination of their current teaching practices indicated that little 'teaching' was evident in their PE programs. A hierarchical regression model was used to examine key predictors of PE program quality and accounted for 32% of the variance. Personal school experiences in primary school PE, quality of preservice education and attitudes to teaching PE were established as significant predictors. A key finding of the current study was the significant relationship evident between personal school experiences in PE and current teaching practices which has not been previously established with classroom teachers. The implications of these findings for preservice education and professional development will be discussed.

Keywords: Attitudinal disposition; Program success; Primary school.

The relationship between PE biographies and PE teaching practices of classroom teachers

The theory of teacher socialization has highlighted the significant influence of past school experiences on a teacher's attitudinal disposition and beliefs they bring to preservice education and the workplace (Lortie, 1975). Lortie (1975) proposed that preservice teachers enter teacher education programs thinking they hold a 'subjective warrant to teach'. That is, many student teachers believe they already know what they need to be able to teach, as a result of having the opportunity to observe teachers every school day over many years (Calderhead & Robson, 1991). In the physical education (PE) literature, the notion of the 'subjective warrant' has been explored with PE specialists. Most students who enter PE teacher education degrees have generally experienced PE for 12 years in schools. Furthermore, PE recruits decide on a career in PE generally thinking that teaching involves teaching others how to play games (Dewar and Lawson, 1984). That is, most preservice teachers enter teacher training with a 'conservative' or custodial orientation to PE, as a result of participation in traditional programs which focus on major team games.

Based on Bandura's (1977, 1986) theory of social learning, the biographical experiences in PE of prospective PE teachers may influence their future teaching styles and confidence. Bandura (1977) outlined how it is through life experiences that individuals develop a general expectancy about action-outcome contingencies and a belief about their own coping abilities, confidence or self-efficacy. For teachers, prior PE experiences may impact on their ability to cope with a specific PE teaching situation. Teachers' prior experiences are regarded as 'sources of information' about a specific situation and are cognitively processed to determine levels of efficacy and ultimately behaviour. Therefore, the type of PE programs experienced by teachers appears to be important in determining levels of PE teacher efficacy.

1 Wilcox (1987) suggested that PE teachers follow teaching styles and programs that are
2 similar to their school experience, displaying minimal appreciation for the nature and needs of
3 students. For example, if PE was exclusively ‘playing games’, a teachers may believe that PE is easy
4 to teach. Consequently, students develop a ‘subjective warrant’ (Lawson, 1983, 1986) for PE in
5 which teaching is considered only a small component (Crum, 1990). Similarly, these types of
6 experiences may potentially perpetuate a teaching force previously stereotyped as “rolling out the
7 ball” (Hutchinson, 1993, p. 353).

8 Crum (1990) described these types of school experiences of students who pursue careers in
9 PE teaching as more influential than PE teacher education, and perpetuate a non-teaching ideology.
10 The notions PE recruits acquire during this ‘apprenticeship of observation’ (Lortie, 1975) strongly
11 affect their perceptions and actions regarding PE, which potentially may not be offset by teacher
12 education. Crum (1993) suggested that the impact of teacher training may be minimal, conferring
13 with other research (Graber, 1989; Lawson, 1983, 1986). Moreover, Crum (1990, 1993) explained
14 how the ‘wash out’ effect (Zeichner & Tabachnick, 1981) upon entry into schools, potentially
15 negates the influence of teacher training. He argued that entry into schools as new teachers
16 reactivates old perspectives acquired in the role as a student (Placek & Dodds, 1988), through
17 contact with colleagues, principals, parents, and students (Crum, 1993).

18 A limited amount of research has examined the influence of the PE biographies of classroom
19 teachers or non-specialists and it is unclear how these may impact on their beliefs and teaching
20 styles. Similarly, although Crum’s theories (1990, 1993) focused on the unfavourable perpetuation
21 of a non-teaching ideology, its relevance can be extended to include the impact and perpetuation of
22 negative experiences for non-specialists. Non-specialists may hold very different memories of
23 success and enjoyment in PE as school students when compared to specialists, as it could be
24 expected that those with unfavourable personal PE experiences would be less likely to enter a

1 specialist PE teaching role. Of the limited studies examining prior PE experiences of non-specialists,
2 there is a general agreement that they have poor memories of PE. Most of the research has focused
3 on preservice teachers (Clayton, 1999; Portman, 1996). For example, Portman (1996) found that
4 preservice teachers were reluctant to teach PE as they associated PE with negative memories and
5 embarrassing situations.

6 A small body of research has examined the impact of personal school experiences in PE on
7 non-specialist teachers' attitudinal disposition towards PE (Chedzoy, 2000; Kirk, Colquhoun &
8 Gore, 1988; Morgan & Bourke, in press). Importantly, classroom teachers may have minimal
9 sources of information about their PE teaching ability as many teachers may not have taught PE
10 throughout their teacher training and are critical of the short length of their PETE (Morgan &
11 Bourke, 2005). As such, their perceptions of their competence may be based on recollections of their
12 school PE. Personal school experiences in PE may be quite influential in the formation of perceived
13 competencies and attitudinal dispositions of teachers.

14 It is important to acknowledge the potential negative implications of poor school PE
15 experiences. If a teacher disliked PE as a school student, he or she may avoid teaching PE. If a
16 teacher experienced a games-oriented program, he or she may believe they hold a 'subjective
17 warrant' to teach PE and perpetuate a program of competitive sports. Allison, Pissanos and Sakola
18 (1990) studied the PE biographies of preservice non-specialist teachers and found they were very
19 influential in the formation of perceptions of PE. Many of the preservice teachers reported
20 embarrassment particularly when remembering how unskilled they had felt in comparison to their
21 peers. Pickup and Trace (2005) found that preservice non-specialist teachers' perceptions of PE
22 were shaped by their attitudes and experiences and was related to their level of competence within
23 activities. In a study of British primary preservice teachers, Carney and Chedzoy (1998) reported
24 that subjects with negative prior experiences held such strong adverse beliefs about their abilities

that it affected their learning at university. Overall, more research is needed to better understand the nature of personal school PE experiences of classroom teachers and, importantly, the influence of these experiences on their PE teaching practices.

Purpose of the Study

The importance of PE for primary-aged children has been well established in the literature. However, the quality of PE programs delivered by classroom teachers in Australia has been criticized. Problems with the delivery of primary school PE appear to be similar around the world. In a world-wide survey on the state and status of PE in schools, Hardman and Marshall (2001) found that classroom teachers lack the skills, confidence and willingness to teach PE. International studies over the past 30 years have highlighted some of the difficulties classroom teachers face in teaching PE including a lack of confidence, time and interest and poor levels of resources and training (DeCorby, Halas, Dixon, Wintrup & Janzen, 2005; Morgan & Bourke, 2005).

It is important to understand why teachers may lack confidence in PE or improve understanding of why teachers teach the way they do. Notably, a teacher's PE biography may play a significant role in how their current attitudes, confidence and ultimately behaviours are shaped. The influence of previous PE experiences on current teaching practices has not been explored with classroom teachers. Little is also currently known about the nature of PE programs currently being designed and implemented by teachers in New South Wales (NSW) primary schools. This information is essential to tailor interventions specifically for classroom teachers which take into account their previous experiences and attitudinal disposition. Therefore, the aim of the current study was to examine the:

- (i) personal school PE experiences of classroom teachers
- (ii) feelings about PE held by classroom teachers
- (iii) current PE teaching practices of classroom teachers

(iv) relationship between experiences, feelings and practices in PE

Methods

Participants and Recruitment

A total of 72 primary schools from the ten educational regions in NSW, Australia were randomly selected from regional lists provided by the NSW Department of Education and Training. Principals from each school were sent an information pack about the study and invited to volunteer their school for participation upon which the school was sent the indicated number of teacher information packs for distribution to teachers. Teachers willing to participate were then requested to return their completed questionnaire together with a consent form. Consent was received from 40 school principals. A total of 189 teachers from 38 different schools returned a completed questionnaire with 56 teachers indicating a willingness to participate in an interview. Not all teachers were interviewed due to budget constraints. However, a purposive sampling strategy was employed to select 31 of these teachers for interview, which were all conducted via telephone and audio-taped. Teachers were selected for interviews based on questionnaire responses so that a range of teachers were interviewed that held both positive and negative attitudes towards PE. Interviews were conducted by either the chief investigator or a trained research assistant and lasted for approximately 35-40 minutes. Verbatim transcripts of all interviews were generated.

The total sample consisted of 78.5% female teachers and 21.5% males, which is representative of the gender bias inherent in primary school settings. The median age category was 46-50 years for teachers. The average number of years spent teaching was 18.4 (SD = 10.4).

Design and Measures

A mixed-mode methodology was utilized in the current study. Both quantitative and qualitative data collection procedures were used in order to obtain a more detailed understanding of important issues. The data source triangulation achieved by the combination of these two methods

was expected to increase confidence in the validity of the quantitative data. The questionnaire used in the current study was developed to gather basic demographic information and data in the following domains:

- *Memories of School PE* - teachers responded to 11 items for both their primary and high school PE experiences. Items related to enjoyment, achievement of outcomes in learning and physical activity, lesson quality and teacher enthusiasm and knowledge. A six-point Likert scale was utilized from (1) strongly disagree to (6) strongly agree.

- *Attitudes to Teaching PE* - a five-item instrument was used to determine teachers' feelings towards PE which utilized a six-point Likert scale from (1) strongly disagree to (6) strongly agree. Items related to teachers' level of enjoyment and enthusiasm towards teaching PE.

- *Adequacy of Preservice Education in PE* - teachers were asked to indicate whether they believed the quality of their preservice education was (1) *very poor* (2) *poor* (3) *fair* (4) *average* (5) *good* or (6) *excellent* for four PE content areas: Gymnastics, Dance, Active Lifestyle and Games and Sports. A total score representing perceptions of the adequacy of preservice education in PE was calculated by adding scores for all content areas and dividing by four.

- *Confidence Teaching PE* - teachers were asked to indicate from (1) strongly disagree to (6) strongly agree for four items relating to PE content areas: Gymnastics, Dance, Active Lifestyle and Games and Sports.

- *Perceived Success of PE programs* - teachers responded to 11 items relating to how successful they felt their PE programs had been in achieving specific student outcomes in the previous 12 months. Outcomes related to improved levels of physical activity, self esteem, basic motor skills, enjoyment, fitness, attitudes and knowledge. A six-point Likert scale was utilized from (1) very unsuccessful to (6) very successful.

1 - *Frequency of PE lessons* - teachers were asked to indicate whether they taught PE on a frequent basis which was assessed on a six-point Likert scale from (1) strongly disagree to (6) strongly agree.

3 - *Programming in PE* - A 19-item instrument was developed to examine teachers' programming practices including items relating to planning, implementing, assessing, reporting and evaluating in PE.

The questionnaire also asked teachers to indicate whether they would be willing to participate in a telephone interview as part of the study. For the interviews, a semi-structured discussion framework was developed by the research team, which focused on teachers' memories of school PE, their attitudinal disposition towards PE and their PE programs including the type of programs they deliver. While this framework was used by the interviewers to guide the interview topics, specific questions asked and topics discussed in the course of the interview were based on each teacher's specific responses to the written survey. This allowed more detailed insight into the reasons for the feelings, attitudes and practices indicated.

14 *Data Analysis*

In the early stage of code development, transcripts from three interviews were examined for thematic content and inductively derived codes were formulated. A draft of a more detailed non-hierarchical coding scheme was developed on the basis of this initial analysis. This draft was revised after the coding of a further two transcripts, and a final coding scheme was developed. Coding of the remainder of the data was performed. During the coding, more detailed code descriptors were developed and continually revised. This formed the basis of a thematic analysis, applying the constant comparison method.

Simple univariate analyses were used to screen the quantitative data. A normality check was undertaken for discrete variables to ensure distributions were not seriously skewed. Frequency distributions and other descriptive statistics were also examined. Several statistical tests were used

to determine group differences among selected variables including *t*-tests and analysis of variance (ANOVA). Scheffe's *t*-test for multiple comparisons was utilized in this investigation, helping to reduce Type I error. Pearson Product Moment correlation coefficients were used to investigate relationships between key variables. Variables with at least marginally significant associations were entered into hierarchical regression models explaining PE program quality. Hierarchical regression analyses were conducted to examine the relationship between a number of background and mediating variables on the outcome variable. Variables were entered in three steps: gender and age were entered as background variables in the first step followed by previous PE-related experiences (e.g. personal school experiences in primary & high school PE & preservice education) then psychological factors (confidence teaching PE & attitudes towards PE).

Results

Memories of School PE

Overall, 94% of teachers received PE lessons while attending primary school. These lessons occurred once a week or more for 68.5% of the sample. Primary school PE lessons were taught by their classroom teacher for 81.5% of teachers while 8.9% were taught by both their classroom teacher and a specialist. Teachers were asked to recall how often they participated in a range of activities on a Likert scale from 1 (never) to 6 (always). In primary school, respondents indicated they participated in major games '*quite often*' fundamental motor skills (e.g. run, throw, catch), athletics and fitness '*sometimes*' and gymnastics and aquatics '*now and then*'. In high school, respondents indicated they participated in major games and fitness '*quite often*' and all other activities only '*sometimes*'.

Teachers were also asked to list the three activities they believed they spent most time participating in both primary and high school. The most common primary school PE activity was team sports (42%) followed by fitness/running (17%), Athletics (13%) and Dance (11%). Of the

respondents that identified specific team sports, 45% listed Softball followed by Netball (32%) and Soccer (12%). The most common high school PE activity was team sports (47.2%) followed by fitness/running (12.9%), Athletics (11.5%) and Gymnastics (10.4%). Of the respondents that identified specific team sports, 16.1% listed Basketball followed by Netball (13.6%), Hockey (12.2%) and Softball (11.7%).

Both quantitative and qualitative analyses revealed that negative PE experiences from teachers' own schooling were quite prevalent. While only a few teachers revealed any positive PE experiences from their own schooling, it was generally noted that high school teachers had been perceived as more committed and knowledgeable in PE ($M = 3.93$, $SD = 1.43$) than primary school teachers ($M = 3.29$, $SD = 1.45$). Because high school teachers were considered specialists in their field, they had been seen as better able to teach fundamental motor skills rather than just games, which had been a common experience from primary school. Some teachers also remarked that they enjoyed PE despite not actually learning anything and weren't too critical of their primary school teachers. The overall mean score was 3.77 (1.11) for the primary school PE variable (*Cronbach's Alpha* = 0.93, $n = 10$) and 4.12 (1.11) for the high school PE variable (*Cronbach's Alpha* = 0.93, $n = 10$).

A common complaint from teachers was feeling they had not learned anything in PE, with most mentioning that PE had involved playing games, but not being taught the specific skills to play. PE in both primary and high school resembled sport. Some teachers mentioned that they (as children) had been less coordinated or talented and as a result did not receive any attention from their teacher. The widely held view was that if you had no perceived potential you were not helped and encouraged, hence making these individuals more self-conscious, which they felt had affected their confidence:

1 *I don't think learned a great deal. I think about the way some kids were treated when they*
 2 *were a little more uncoordinated and stuff than others, and especially at high school the way*
 3 *they were ignored, because it was just pushed beyond them and they weren't helped.*
 4 *(Teacher¹⁴)*

5 Surprisingly, a number of teachers had vivid memories of their PE teachers being 'tyrants',
 6 whom had expected far too much from students "*Dreadful.. The teacher we had was a tyrant. ...they*
 7 *expected our skills to be quite good and they wanted us to do somersaults in the air. We didn't know*
 8 *how to do that.*" (Teacher¹¹)

9 Many teachers remembered feelings of incompetence and strong (negative) competition
 10 being encouraged, and being excluded from activities because of lack of skill:

11 *I'm very unco [uncoordinated] I throw like a girl. I'm absolutely useless at hitting a ball or*
 12 *anything like that..I found that because the emphasis was on school teams or representing*
 13 *the school, I remember being left out of things more than I remember enjoying the lessons...I*
 14 *definitely didn't learn how to throw or catch.. I don't remember being taught much.*
 15 *(Teacher¹⁰)*

16 And:

17 *I can remember I was scared to play things like softball. .. I don't think we were ever taught*
 18 *to do it properly. We just played the games and because I was never taught how to catch, I*
 19 *was just scared of it. I felt as though it would hit me. I had no idea what I was supposed to*
 20 *do with it. I probably avoided a lot of it. We were never actually taught the skills. (Teacher²²)*

21 Lack of teaching and lack of enjoyment often occurred together and most teachers were quite
 22 critical of the quality of PE programs they had experienced:

23 *it was structured, lacking in creativity, and it really didn't teach any skills. I didn't like*
 24 *anything about it. It involved every morning, lining up in lines and just doing basic*

1 *kinaesthetics on the spot, and that was it...it was very poor. Irregular, lacking in teaching*
 2 *format, very uninteresting. (Teacher³¹)*

3 And:

4 *There wasn't any teaching at all, but we were just playing games, so if you could do it and*
 5 *you enjoyed it, but if you were a kid who couldn't, then you weren't shown how to throw, you*
 6 *weren't shown how to hit at all. (Teacher¹⁶)*

7 Playing games appeared to be a common PE memory with T-ball the most common PE activity:

8 *lets just go out play a game.... let's go and play T ball. Let's go out and play a game of*
 9 *softball, something and rather than them teach you how to throw the ball, or how to catch it*
 10 *properly, there was just sort of like oh well they've missed the ball, they just can't catch, and*
 11 *so I felt that that part lacked quite a bit. I think that went basically all the way throughout*
 12 *primary school and high school. (Teacher¹⁹)*

13 *Feelings and Confidence towards Teaching PE*

14 In general, teachers held somewhat positive attitudes towards PE in terms of their
 15 enthusiasm for teaching PE (M = 4.10, SD = 1.54), enjoyment teaching PE (M = 4.67, SD = 1.21)
 16 and held particularly strong beliefs about the importance of PE in the curriculum (M = 5.38, SD =
 17 0.74). Teachers felt most confident teaching Games and Sports (M = 4.76, SD = 1.07) and least
 18 confident teaching Dance (M = 3.90, SD = 1.34) and Gymnastics (M = 2.59, SD = 1.46). However,
 19 their level of commitment to teaching PE was average (M = 4.06, SD = 1.16). A number of teachers
 20 also did not feel they had the necessary expertise or physical skills to teach PE and considered their
 21 preservice training in Games and Sports (M = 3.90, SD = 1.31) and Active Lifestyle (M = 3.55, SD
 22 = 1.26) to be *fair-to-average* while their training in Dance (M = 3.19, SD = 1.25) and Gymnastics
 23 (M = 2.99, SD = 1.36) was perceived to be only *fair*. Many teachers believed they had never been
 24 taught how to teach fundamental motor skills to children and preservice education in PE was too

brief. Notably, the correlation between quality of preservice education in PE and level of confidence teaching PE was significant and of moderate strength ($r = 0.42$, $p < .01$).

The qualitative data provided insight into why teachers did or did not enjoy teaching PE. Some teachers gained enjoyment from PE because of the perceived benefits. It was also common for teachers to mention that is good to see children achieve in PE who are not normally high achievers in the classroom. It was frequently mentioned that it is good to teach children in a different context and improve rapport:

You develop positive relationships with the children, and I also think it's a chance for kids who perhaps don't shine in the classroom to shine in another arena. You discover a whole range of skills that you may not see in the classroom ever. (Teacher⁸)

Getting out of the classroom was a common reason for enjoyment. Understandably, most teachers reporting gaining enjoyment from PE were those that had enjoyed sport throughout their lives. However, many teachers felt they lacked the skills to teach PE which was a common reason provided for not enjoying or avoiding teaching PE:

I just don't enjoy teaching it cause I don't feel that I have the skills to teach children properly. I'm not confident enough with the rules or how to teach those skills to sort of make it interesting for them. (Teacher²)

Most of the teachers who reported not liking PE also reported negative personal school PE experiences and did not participate in sport during their childhood/youth: *"I hate sport. I don't exercise personally. I never have. I haven't participated in weekend sport or adult sport. I didn't play sport as a child."* (Teacher¹²)

It is important to note that a number of teachers mentioned that other teachers at their school did not feel confident teaching PE:

1 *Well, I know in my case it's fine but in the case of a lot of others because they're not*
 2 *sportingly inclined... not to say they don't see the importance of it, they don't feel confident*
 3 *enough to do it. They don't know the skills well enough or haven't been trained in them*
 4 *enough. (Teacher¹⁸)*

5 *Gender and age differences.*

6 For the *Attitude to Teaching PE* variable, all items from the scale were examined using
 7 principal components factor analysis with varimax rotation. The items relating to feelings towards
 8 PE were subject to factor and reliability analysis. Results indicated a reliable construct (*Cronbach's*
 9 *Alpha* = 0.91, *n* = 4). Analysis of gender differences revealed that males possessed significantly
 10 more positive attitudes towards teaching PE ($t[180] = 2.25, p = 0.03$) but no significant gender
 11 differences were found for *Confidence Teaching PE* ($t[183] = 1.7, p = 0.09$). No significant
 12 differences were found between age categories for the constructs *Attitude to Teaching PE* and
 13 *Confidence Teaching PE*.

14 *The Nature of PE Programs in Primary Schools*

15 Approximately 62% of the teachers were solely responsible for the delivery of PE programs
 16 at their school with a further 36% receiving some level of assistance from other sources including
 17 external providers, sports development officers, part-time specialists or parents. Many of the
 18 teachers believed the greatest barrier to teaching PE was the demand to teach other key learning
 19 areas. If PE was not taught or taught infrequently, it was often due to a lack of time. Teachers
 20 believed a lack of funding, support and resources compounded issues of time: "*we have sport on a*
 21 *Friday for an hour, but apart from that, daily PE is very much at the teacher's discretion, and in a*
 22 *lot of cases doesn't happen.*" (Teacher¹⁶). Various barriers to teaching PE meant teachers were
 23 increasingly reliant on outside agencies to deliver physical activity-related programs as a substitute
 24 for PE:

1 *I don't have one. I don't do PE lessons. We have another group called Fit Kids come in and*
 2 *they do a one hour session with the kids on a Friday which the kids pay for - \$3.80 a week.*
 3 *(Teacher¹⁷)*

4 It was evident that PE programs varied significantly from school to school and teacher to
 5 teacher. Considerable variation existed in terms of the amount of time spent teaching PE each week
 6 and also in the type and or quality of programs being delivered. A lack of time as a result of the
 7 'crowded curriculum' was adversely impacting on the number of lessons teachers could deliver but
 8 also on the time teachers had to prepare programs. Many teachers found it difficult justifying time
 9 spent teaching PE lessons. In summary, the teachers surveyed only agreed slightly with statements
 10 regarding programming ($M = 3.73$, $SD = .94$) such as selecting appropriate learning experiences.
 11 The areas of planning ($M = 3.31$, $SD = .98$), assessing ($M = 3.55$, $SD = 1.15$), evaluating ($M = 3.42$,
 12 $SD = 1.19$) and reporting ($M = 3.67$, $SD = 1.22$) were generally not completed adequately. Notably,
 13 *Attitude to Teaching PE* ($r = .24$, $p < .01$) and *Confidence Teaching PE* ($r = .18$, $p < .05$) were
 14 significantly, albeit weakly, related to the frequency of PE lessons delivered. Overall, PE lessons are
 15 generally taught on a somewhat frequent basis ($M = 4.66$, $SD = 1.06$) and the average lesson time
 16 reported per week was 1 hour and 10 minutes. Teachers believed their programs were somewhat
 17 successful in achieving outcomes with a score of 4.43 (0.63) for *Perceived Success of PE Programs*.

18 Detailed descriptions of programs by teachers revealed that many lessons were not formally
 19 prepared and were simply designed to get children 'outside and moving' rather than following any
 20 lesson plan or attempting to achieve syllabus outcomes. Many programs focused on large-sided
 21 team sports with minimal emphasis on fundamental motor skills development or physical activity
 22 promotion. Interestingly, many teachers were aware of the limitations of their lessons, but were
 23 unsure how to improve these and rationalized lessons as an opportunity to get children outside and
 24 expend some energy:

1 *the PE program consisted of going out and playing a game of T-ball, or playing a game of 4-*
 2 *wicket cricket or something like that, but not isolating the skill involved in those games... I*
 3 *was a lot the same because that was the way I was taught, I was taught games, and not how*
 4 *to throw, how to catch a ball, how to kick a ball.. (Teacher⁴)*

5 Teachers were asked to indicate how often their class participated in a range of activities
 6 when they actually taught PE on a Likert scale from 1 (never) to 6 (always). They indicated they
 7 participated in Fitness and fundamental motor skills ‘often’, Major Games, Dance and Athletics
 8 ‘quite often’ and Gymnastics and Aquatics ‘now and then’. Teachers were also asked to list the three
 9 activities they believed they spent most time participating in during PE lessons. The most common
 10 PE activity was Fitness (34.3%), fundamental motor skills (30.9%), Games and Sports (20.3%) and
 11 Dance (10.4%).

12 *The Relationship Between PE Biographies and PE Teaching Practices*

13 Preliminary analyses were conducted by calculating Pearson Product Moment correlation
 14 coefficients to investigate the relationship between PE activities experienced as students in primary
 15 school and current PE teaching practices. There was a significant relationship between Aquatics
 16 (.225**), Games (.159*), Fitness (.188*), fundamental motor skills (.191*), Athletics (.408**). That
 17 is, for most activities, if a teacher experienced the activity as a student, they were more likely to
 18 include it in their current teaching programs. No significant correlations were found for Gymnastics
 19 and Dance which were also two of the least taught PE activities. A composite variable was
 20 developed to represent a measure of PE program quality. The *PE Program Quality* variable
 21 combined scores for the two variables *Programming in PE* and *Perceived Success of PE programs*.
 22 This variable represents teachers’ PE programming practices including planning, implementing,
 23 assessing, reporting and evaluating and how successful teachers felt their PE programs had been in

achieving specific student outcomes. A number of significant relationships were established between key study variables (Table 1).

Variables were entered into a hierarchical regression model in three steps: *Gender* and *Age* were entered as background variables in the first step followed by previous experiences (*Quality of Primary School PE Experience*, *Quality of High School PE Experience*, *Adequacy of Preservice Education in PE*) then psychological factors (*Confidence Teaching PE & Attitude Toward Teaching PE*). *PE Program Quality* was the dependent variable. Results are displayed in Table 2. For the final model, *Quality of Primary School PE Experience* was entered as the first step, *Adequacy of Preservice Education in PE* was entered in the second step and *Attitude to Teaching PE* was entered in the third and final step. In step one, *Quality of Primary School PE Experience* explained 14.8% of the variance in *PE Program Quality* [$F(1, 137) = 25.05, p = .000$]. In step two, *Adequacy of Preservice Education in PE* explained an additional 6.3% of the variance [$F(2, 136) = 19.46, p = .000$]. In the final step, an additional 10.9% of variance was explained by the inclusion of *Attitude to Teaching PE* [$F(3, 135) = 22.63, p = .000$]. In the final regression model, all three variables were statistically significant predictors of *PE Program Quality* explaining 32% of the variance.

The qualitative findings were able to add further insight into the hypothesised relationship between biographies and practices. There was a clear link between experiences as a student at school and current practices. Very rarely did a teacher describe that their PE programs incorporated a lot of teaching in the role of students or teachers. However, some teachers explained that they now take care not to repeat the perceived mistakes of their own teachers and were more aware of the needs of less physically talented kids.

The quality [as a school student] was really poor and it was embarrassing for the participants. I don't really think I learnt anything. I didn't learn any skills, I didn't learn how to use the apparatus properly, all I came away with knowing I wasn't as good as other

people....Well now I'm very aware of children who aren't successful, and ah I make sure that my lessons cater for them. (Teacher¹⁹)

Interviewed teachers also clearly outlined how poor quality preservice education adversely influenced their capacity to deliver meaningful lessons in PE.

Discussion

Before discussing the findings, it is important to outline some limitations of the current study. One component of the measure developed to represent PE program quality was teacher perceptions of individual success rather than an external assessment of programs or of student outcomes. However, the measure did include all aspects of PE programming including planning, implementing, assessing, reporting and evaluating. Similarly, while previous school experiences are an important variable, they are represented in this study as memories of teachers which may be different to actual experiences. Furthermore, although selected schools were considered representative and a random sample of the total population, teacher participation was conditional upon principal consent being given. It is important to acknowledge that a selection bias was possibly introduced by the self-selected convenience sampling used, possibly causing more confident PE teachers to volunteer for the qualitative part of the study.

The results of this study clearly identified that many classroom teachers experienced poor quality PE as students in both primary and high school. Concurring with findings in a similar study by Morgan and Bourke (in press), those teachers who experienced poor levels of outcome attainment in primary school PE were more likely to report a negative experience in high school PE. Despite literature describing the potential benefits to students who experience quality PE (Bailey, 2006; Sallis & McKenzie, 1991), two common criticisms of PE have been described in the literature; (i) a ‘games-oriented’ or competitive program is presented where little teaching takes place (ii) the PE experience is described as negative and unpleasant. Most studies critical of PE suggest that a

1 lack of learning and lack of enjoyment occur together while others have suggested that they are
2 mutually exclusive (Wright, 2001). However, it was hypothesized that a teacher may have
3 experienced a ‘non-teaching’ PE program that he or she perceived to be either enjoyable or not
4 enjoyable. Similarly, a teacher could have experienced a more appropriate teaching-based program
5 that he or she may or may not have enjoyed.

6 In the current study, poor quality PE was generally represented in three major ways: (1) as
7 not enjoyable (2) as not enjoyable and no teaching and learning took place (3) as enjoyable but no
8 teaching and learning took place. The findings of the current study suggested that many teachers’ PE
9 experiences were dominated by a games-oriented curriculum that was not enjoyed. The finding that
10 many teachers have been subject to PE programs that were dominated by team games is not original
11 (Placek, Dodds, Doolittle, Portman, Ratliffe, & Pinkham, 1995; Morgan & Bourke, in press).
12 Teachers with positive PE experiences spoke of inclusive, fun and organised lessons with a variety
13 of activities where they experienced success. Pickup and Trace (2005) reported similar findings in a
14 study of preservice teachers. They reported that the most common factor in negative experiences
15 was a focus on competitive activities and activities where little learning took place, particularly
16 when fundamental motor skills were not improved or mastered.

17 The PE programs delivered by teachers varied considerably from school to school
18 concurring with the findings of Webster (2002). Variation existed in terms of the type of programs
19 delivered, the delivery agent, frequency and length of lessons and teacher perceptions of success.
20 Many teachers struggled to find time to teach PE due to a ‘crowded curriculum’ which was
21 adversely impacting on preparation time, lesson quality and willingness to teach PE. Many of their
22 PE lessons were either movement-based or games-oriented and did not provide meaningful,
23 educational or syllabus-based experiences for students. ‘Movement-based’ lessons simply aimed to
24 get children ‘outside and moving’ without any lesson plan, structure or syllabus-related aims and

1 outcomes. The consequences of these types of programs have been reported. Many years ago Kirk
2 (1989) spoke of the dangers of physical activity/fitness-based PE programs. Kirk described how the
3 'Daily PE Program' introduced in Australian primary schools over two decades ago had turned into
4 a 10 minute fitness session each morning and no education or cognitive learning was emphasized,
5 rather, emphasis was solely based on the physiological effect of exercise. Tinning and Hawkins
6 (1988) also warned that classroom teachers were not teaching fundamental motor skills and PE had
7 deteriorated to supervised 'fitness sessions'.

8 Previous studies have also found that classroom teachers' games-oriented PE lessons
9 resemble 'supervised play' and are poorly organized (Hardman & Marshall, 2001) where students
10 participate as an entire class in game-type activities with low levels of skill development (Faucette
11 & Patterson, 1989). Some have reported the negative consequences of such programs (Evans &
12 Roberts, 1987; Sallis & McKenzie, 1991). It is of note that many teachers were aware of the
13 limitations of their PE programs, but did not feel they had the knowledge, skills or time to improve
14 them. PE lessons were often justified as simply an opportunity for children to expend some energy.

15 Consistent with previous studies in this area, significant relationships existed between a
16 teacher's personal school experiences in PE and their current attitudes and perceived confidence
17 teaching PE. Their PE experiences acted to socialize teachers into particular ideologies about PE
18 teaching, as previously found by Green (2002). It was clear that those teachers who remembered
19 more favourable PE experiences in terms of enjoyment and learning were more likely to report
20 positive attitudes to teaching PE and a greater belief in their ability to teach effective PE lessons.
21 Similarly, those teachers who believed they experienced better quality preservice education in PE
22 also felt more confident to teach PE supporting the findings of Morgan and Bourke (2005) and
23 Chedzoy (2000).

1 A key finding of the current study was the significant relationship established between
2 personal school experiences in PE and current teaching practices which has not been previously
3 documented with classroom teachers. Applying Bandura's theory of social learning, past
4 experiences can markedly influence efficacy expectations regarding PE teaching and PE teaching
5 behaviours. In the current study, previous PE experiences in primary school and preservice
6 education were related to the quality of a teacher's PE program. Similarly, these variables were
7 significantly related to a teacher's attitude to teaching PE.

8 The qualitative findings enabled a greater insight into how the PE biographies of teachers
9 were related to their current PE teaching practices. Interviewed teachers who experienced poor
10 quality PE as school students made efforts to ensure these were not repeated for their current
11 students. In particular, teachers seemed more aware of the needs of students with lower levels of
12 physical competence. However, these efforts appeared to focus on ensuring students were not left
13 out rather than ensuring they were achieving syllabus outcomes relating to skill and knowledge
14 development. These findings support the notion that these teachers possessed a 'conservative' or
15 custodial orientation to PE, as a result of participation in traditional programs in PE which focused
16 on major team games. Crum (1993) elucidated that many PE teachers hold non-teaching
17 perspectives as a result of conventional PE ideologies. Despite many teachers possessing relatively
18 positive attitudes to teaching PE and being aware of some of the limitations of their school
19 experiences, many still were delivering poor quality programs. Interestingly, previous research has
20 demonstrated that a belief in the value of PE by teachers does not guarantee a quality program nor
21 does it ensure that students will develop knowledge and skills to be physically educated individuals
22 (DeCorby et al., 2005).

23 By examining the relationship between PE biographies and current PE teaching practices,
24 this study has highlighted that the specific nature of prior PE experiences may adversely impact on a

1 teacher's practices a number of ways: a teacher with negative memories may avoid teaching PE; a
2 teacher who has experienced PE with a non-teaching ideology may also believe that teaching PE is
3 unimportant and/or present PE the way they remembered it, that is, a games-oriented curriculum or
4 as simply 'running around' outside. The presentation of a games-oriented PE curriculum represents
5 a process of 'self-replication' and becomes self-fulfilling (Green, 2002). Many teachers who have
6 had negative experiences in PE and lack confidence and knowledge regarding quality teaching in PE
7 are perpetuating a vicious cycle of poor experiences for their students, and potential future
8 classroom teachers. A negative PE experience may inhibit the development of positive attitudes
9 about PE teaching and lead to a perpetuation of negative experiences for future students.

10 Moreover, those teachers who had positive or negative experiences in PE but were delivering
11 PE lessons where little teaching and learning took place may not be aware of the adverse
12 consequences of these programs. A non-teaching PE experience may lead to the perpetuation of a
13 non-teaching ideology by teachers and is linked to the 'subjective warrant' to teach PE. The findings
14 suggest the importance of school experiences in PE in the development of attitudes regarding PE
15 and ultimately, teaching practice. Many teachers are avoiding teaching PE or teach it poorly, based
16 on their own negative perceptions, experiences and low levels of confidence. Additionally, teachers'
17 perceptions in the current study of poor quality preservice PE teacher education may force teachers
18 to rely on their own PE and sporting experiences to guide decisions regarding program development
19 and teaching.

20 The implications of these findings for preservice education and professional development
21 need to be briefly addressed. Various interventions have been somewhat successful in increasing
22 non-specialist teachers' mastery expectations through involvement in innovative preservice and
23 inservice training courses that include observing and teaching PE lessons (Clarke & Hubball, 2001;
24 Faucette, Nugent, Sallis, & McKenzie, 2002; Xiang, Lowy & McBride, 2002). Faucette et al. (2002)

has recently shown that classroom teachers spoke of the value of watching a specialist teacher teach PE during inservice courses. Increasing the amount of PE teaching and/or observation experiences may assist teachers become more confident to teach appropriate PE lessons and increase mastery expectations. Models of professional development could involve consultants, visiting specialists, or working with preservice PE or primary majors to team teach. Teacher educators should consider the value in organizing courses/professional placements where PE preservice teachers could work in (a) primary schools with classroom teachers and/or (b) with primary preservice teachers as part of their PE teacher education courses. For example, in scenario (a), a school-based practicum PE program could be designed so that a two-way mentoring relationship could be established between PE preservice teachers and classroom teachers. In a team teaching format, (i) classroom teachers could observe and learn about discipline-based strategies for effective PE teaching from preservice teachers and (ii) preservice teachers could receive feedback and learn about generic teaching skills including classroom management from classroom teachers. Programs of this nature could occur once a week for a set period of time. Importantly, observing specialists demonstrate PE may also dispel inaccurate and detrimental stereotypes of primary school PE. It is also vital that teachers have successful early experiences teaching PE.

Pajares (1992) has previously identified that beliefs are resistant to change and need to be challenged. Professional development opportunities in PE should begin with critical reflection on previous PE experiences and be led by knowledgeable and empathetic facilitators. The quality and adequacy of PE experiences needs to be discussed and comparisons made with current teaching practices. Our findings suggest that the current PE teaching ideologies of many teachers may need to be challenged before any meaningful professional development in PE will occur. The feasibility and effectiveness of intervention strategies to improve the quality of PE programs and teacher confidence relating to PE teaching should be investigated in both PE teacher education and schools.

Interventions must consider the biographies of teachers and the barriers that inhibit the delivery of PE. There may also be value in presenting alternative PE teaching instructional models to both preservice and classroom teachers which may be more appropriately aligned with their biographies. Curtner-Smith and Sofo (2004) found that PE preservice teachers believed the Sport Education model was more appealing than traditional PE due to the similarities of Sport Education to their biographies. Future research in this area with non-specialists is warranted.

Conclusion

This study has found a clear relationship between personal school experiences in PE and a teacher's practices regarding the implementation of PE programs. Ongoing professional development and teacher education involving observations of effective teaching with a focus on increasing mastery expectations must be considered to help teachers understand the nature of quality teaching in PE. Future research examining the feasibility and impact of interventions in both PE teacher education and schools to improve PE in the primary school is urgently needed. Longitudinal studies may also help determine causality of the relationships between key variables assessed in this study.

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Tables

Table I Intercorrelations Between Potential Predictors of PE Program Quality

*Table II Results of Regression Analysis for Final Model with PE Program Quality as
Dependent Variable*

Table I Intercorrelations Between Potential Predictors of PE Program Quality

	1	2	3	4	5	6	7	8
1. Gender	-	-.11	-.12	-.16*	-.14	-.12	-.17*	.06
2. Age		-	-.32**	-.13	-.24**	-.15*	-.03	-.20*
3. Quality of Primary School PE Experience			-	.63**	.35**	.32**	.39**	.38**
4. Quality of High School PE Experience				-	.15	.29**	.37**	.30**
5. Adequacy of Preservice Education in PE					-	.42**	.26**	.35**
6. Confidence Teaching PE						-	.54**	.42**
7. Attitude to Teaching PE							-	.46**
8. PE Program Quality								-

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table II Results of Regression Analysis for Final Model with PE Program Quality as Dependent Variable

	Standardized coefficients (B)	Significance level (P)	Adjusted R ²
Step 1			.15
<i>Quality of Primary School PE Experience</i>	.393	.000	
Step 2			.21
<i>Quality of Primary School PE Experience</i>	.298	.000	
<i>Adequacy of Preservice Education in PE</i>	.277	.001	
Step 3			.32
<i>Quality of Primary School PE Experience</i>	.171	.033	
<i>Adequacy of Preservice Education in PE</i>	.234	.002	
<i>Attitude to Teaching PE</i>	.366	.000	