

PEDAGOGY

Memories of Physical Education

Amy M. Sidwell and Richard T. Walls

Abstract

The purpose of this investigation was to explore college students' autobiographical memories of physical education (PE). Questionnaires were distributed to students enrolled in undergraduate Introduction to PE and Introduction to Communications courses. The 261 participants wrote about memories of PE. These students recalled events from Grades K–4, 5–8, and 9–12. Memories were coded by using themes and activities. Positive and Negative Interpersonal Experiences were the most frequent themes for School of PE majors, and Positive and Negative Learning Experiences were the most frequent themes for non-School of PE majors. Additional themes included Injuries, Participant as Hero, and Embarrassment. Activities included Running/Track, Dodgeball, Basketball, and Bat/Ball Games. School of PE majors rated their memories of PE more pleasant than non-School of PE majors.

Many people have strong feelings about physical education (PE). Too often politicians, pundits, and parents decry the state of PE in schools. Their opinions may be based upon their own experiences in PE when they were in school. In this investigation, the researchers wanted to examine what people remembered from PE in kindergarten through Grade 12. What people remember about PE during their school years may affect how they perceive the value of the PE profession.

Amy M. Sidwell is an assistant professor, School of Education, Health, and Human Performance, Fairmont State University. Richard T. Walls is a professor emeritus, College of Human Resources and Education, West Virginia University. Please send author correspondence to Amy M. Sidwell, 1201 Locust Avenue, 343 Education Building, Fairmont, WV 26554. E-mail. asidwell1@fairmontstate.edu

The purpose of this investigation was to explore college students' autobiographical memories of PE. This research was designed to systematically describe the recollections of PE across grades. Additionally, these autobiographical recollections of PE in relation to grade level, how well the event was remembered, and how pleasant the experience was for the individual are contrasted for PE majors versus non-PE majors. The researchers wanted to understand how PE majors remembered their experiences and to see whether their memories were different than college students not planning to enter the profession. By evaluating these two groups' memories, the researchers believe they can make important inferences about PE majors' subjective warrants and discuss implications for PETE programs.

Autobiographical memory theory includes interaction of constructs such as themes, recency, frequency, and emotion contributing to episodic recall. Autobiographical memory research (e.g., Conway, 1996; Conway & Rubin, 1993; Thompson, Skowronski, Larsen, & Betz, 1996) would predict better recall for (a) memories organized around themes, (b) emotional memories, and (c) more recent memories. Memories of events are often clustered together and thematically related (Brown, 2005). Event clusters can be retrieved through the use of memory tasks, such as using a word prompt to elicit a recollection (Hyland & Ackerman, 1988). Strong memories usually have multiple activating stimuli (Baddeley, Eysenck, & Anderson, 2009). Thus, the memory of playing dodgeball in Grade 9 may include classmates, what happened, and emotions. Also, the more often a memory has been retrieved, the stronger it becomes in the individual's recollections (Baddeley et al., 2009).

An important subtheory concerning autobiographical memory is the *reminiscence bump*. Adults have a high number of memories from the ages of 10 to 30 years (Rathbone, Moulin, & Conway, 2008). When college-aged participants are asked to retrieve memories of specific events, the likelihood they will report an older memory decreases, and they are more likely to report more recent memories.

Rothenberg (1994) assessed "memories of schooling" by having college students describe their best and worst recollections. Important themes that emerged from their essays were individual assessment, competition, personal striving, peer and sibling comparisons, concerns about growing up, enjoying learning, challenges and success, tracking or grouping, early school experiences, and humilia-

tion. Enjoying learning was sometimes attributed to a teacher or the person's own capabilities. Worst experiences were related to feelings of humiliation.

Walls, Sperling, and Weber (2001) conducted two studies on autobiographical memories (recollections) about school. In Study 1, undergraduate students were asked to recall one pleasant memory and one unpleasant memory in each of four grade levels (Grades 1–3, 4–6, 7–9, and 10–12). The memory categories of (a) teacher-principal-staff, (b) misbehavior-discipline, and (c) learned-accomplished-created were represented relatively more often in the earlier grade levels (Grades 1–3 and 4–6), but memories of (d) sports-games, (e) boy-girl, (f) graduation, and (g) alcohol-drugs-tobacco were reported more for the later grade levels (Grades 7–9 and 10–12). Two categories that were high in frequency of remembering across all grade levels (Grades 1–3, 4–6, 7–9, and 10–12) were (h) elected-chosen-honor-award and (i) injury-illness-misfortune-embarrassment. Males tended to produce more memories than females about (a) sports-games, (b) misbehavior-discipline, (c) academic grades, (d) fight, and (e) general school experiences. Females tended to produce more memories than males about (a) elected-chosen-honor-award, (b) boy-girl, (c) friend, and (d) party-event. Both genders frequently reported memories in the injury-illness-misfortune-embarrassment category. Overall, the highest ranked category was sports-games; and misfortune or success was involved in the description of most of those sports-games memories.

In Study 2 (Walls et al., 2001), undergraduates were asked to write eight “recollections, unconstrained by grade or affect” (p. 116). One major finding was a recency effect, where students' memories were more salient or vivid in the upper grades (Grades 10–12). The most frequent memories were about misfortunes, sports, misbehavior, honors, and boy-girl relationships. The trends for the two most-remembered categories were (a) decrease across the grades for injury-illness-misfortune-embarrassment and (b) increase across the grades for sports-games. Only 13% of the memories were academic (e.g., spelling bee), and the majority of the memories were more social (e.g., hurt knee on playground).

The literature showing what people remember about their PE experiences in school is relatively limited. Thomas (1985) analyzed conversations with mothers about their memories of PE at school. She interviewed 25 mothers (aged 25 to 40). The primary question was, “What can you remember about PE when you were at school?”

Did you enjoy it?" (p. 3). About half of the women had "hated" PE. Several had enjoyed only one activity, and just three mothers enjoyed PE lessons, overall. Their most vivid recollections were of things they disliked the most. The activity most often cited as hated was hockey. Additionally, common complaints were (a) being forced to compete and (b) being labeled or labeling themselves as nonathletic or clumsy: "All twenty-five women stated unequivocally that they actively disliked the element of competition in many sports and physical activities" (p. 4).

In a qualitative study of 15 Canadian and U.S. participants who identified themselves as fat, individuals' memories of PE were explored (Sykes & McPhail, 2008). In addition to the memories of PE, the researchers asked what PE teachers may learn from the participants' experiences of marginalization. One theme revealed that fat students do not form positive identifications with fatness while at school, particularly within PE. Participants experienced distress and humiliation as a result of being weighed and measured publicly.

It is well established that emotional events are likely to become vivid autobiographical memories (e.g., Riddle, Potter, Metzger, Nabi, & Linz, 2011). Although positive and negative emotions may contribute to memory intensity, the extreme negatives of devastating humiliation, bloody injuries, and interpersonal quarrels boost the probability of recall. Furthermore, intensity of the emotion (high vs. low) is a more consistent predictor of the strength of autobiographical memory for an event than the direction of the valence (positive vs. negative; Talarico, Labar, & Rubin, 2004).

Method

The primary purpose of this study was to determine college students' autobiographical memories of PE in Grades K–12.

Participants

Participants were recruited from an Introduction to Physical Education course and an Introduction to Communications Studies course at a university. Students in Introduction to Physical Education were majors in pre-physical education teaching, pre-athletic coaching education, and pre-sport management. Eighty-four questionnaires and three in-depth interviews were completed. Of the 84 participants, 46 majored in pre-physical education teaching, 20 majored in pre-sport management, 14 majored in pre-athletic coaching education, two indicated *other* as their major, and two students did not list their major. The gender of participants was skewed, with

62 males and 17 females completing the questionnaires and three males completing the in-depth interviews. Five participants did not indicate their gender.

Participants from the Introduction to Communications Studies course included 177 university undergraduate students from several undergraduate majors. Seventy-eight males and 99 females among several majors (e.g., business, engineering, and education) participated.

Instruments

The instrument was administered during regularly scheduled class sessions. The instrument was based on those used in the studies described by Walls et al. (2001) to elicit adults' autobiographical memories of school. In this memories of physical education study, memories of PE for Grades K–4, 5–8, and 9–12 were elicited. These grade categories are aligned with many university physical education teacher education programs, which prepare pre-service physical educators for roles in elementary, middle, or secondary placements.

Students enrolled in these undergraduate courses were asked to fill in gender, major, and rank, but they were asked to refrain from putting their names on the packets so confidentiality could be maintained. Students were instructed to describe events that happened at school during PE classes. These events were to be specifically about PE, not sport, recess, or another activity in school. The participants were asked to write about one event in PE for Grade K, 1, 2, 3, or 4 (Event 1); one event in Grade 5, 6, 7, or 8 (Event 2); and one event in Grade 9, 10, 11, or 12 (Event 3). Participants were asked to write who was involved and what happened. After writing each description, participants were asked to circle the information related to in which grade the event occurred, how well he or she remembered the event, and how pleasant or unpleasant he or she perceived the event. The question, how well do you remember this event? was on a Likert scale, with 1 indicating he or she *barely* remembered the event and 6 indicating he or she remembered the event *almost perfectly*. The question, how unpleasant or pleasant was this event? was also on a Likert scale, with 1 being *extremely unpleasant* and 6 indicating the event was *extremely pleasant*. Interview questions were identical to the questionnaires, but they allowed time for interviewees to expand upon their responses.

Procedure

Eighty-four students wrote about memories of PE during one class session of the Introduction to Physical Education course, and 177 students wrote their memories of PE during one class session of the Introduction to Communications Studies course. During class sessions, students learned about the study and received a hard copy of the letter of consent. Students were informed they could withdraw their consent at any time.

All written questionnaires were labeled with numeric identifiers and read through twice by the authors before data analysis began. Written data were managed using SPSS (version 14) to organize data and provide frequency counts on demographic information. In grounded theory (Creswell, 2005), systematic analytic procedures allow derivation of reliable themes from valid data. The intent of this study was to identify thematic foci from majors' and nonmajors' recollections of their PE experiences. For this investigation, themes were generated through extensive document analysis and rigorous coding. The initial coding was based on themes Walls et al. (2001) identified. These primary themes included Positive Teacher Behavior, Negative Teacher Behavior, Positive Learning Experience, Negative Learning Experience, Positive Interpersonal Experience, Negative Interpersonal Experience, Positive Recognition, and Negative Recognition. However, these primary themes did not always capture the most important aspects of the memories as they related to PE. Accordingly, a group of secondary themes and an activity category were needed to more fully describe PE events.

The secondary themes that emerged were Participant as Hero, Injuries, Gender Issues, Embarrassment, Running as Punishment, Being Picked Last, Bullying, and No Secondary Theme. The purpose of using secondary themes was to further amplify the primary themes. For instance, the primary theme Negative Learning Experience may be clarified by the secondary theme Embarrassment. Additionally, an activity category was created. Participants mentioned activities or sports frequently, so it seemed necessary to include an activities category to describe how frequently those activities or sports (e.g., basketball, running, bat and ball games) were mentioned.

The authors of this study independently scored a sample of the memories for the two groups (School of Physical Education majors and non-School of Physical Education majors). Percentage of agreement between two scorers is often used as a measure of interrater

reliability (Salkind, 2004). Interrater reliability was calculated by the following formula: Percentage of Agreement = $[\text{Agreements} \div (\text{Agreements} + \text{Disagreements})] \times 100$. The interrater reliability (percentage of agreement) was 86%. This represents the use of discriminable scoring categories in an acceptable metric. For example, a participant's memory could be accurately coded as Positive Interpersonal Experience (as a primary theme) and Participant as Hero (as a secondary theme).

Results

Samples of primary and secondary themes in the participants' words serve as descriptors for each theme. The student may have written several sentences to fully describe the event memory or spent several minutes describing an event during an interview, but only a short description is provided here to illustrate the eight primary themes and eight secondary themes. Additionally, 13 activity categories were identified.

Primary Themes, Secondary Themes, and Activity Categories

The primary themes included Positive Teacher Behavior, Negative Teacher Behavior, Positive Learning Experience, Negative Learning Experience, Positive Interpersonal Experience, Negative Interpersonal Experience, Positive Recognition, and Negative Recognition. In scoring a participant's memory positive or negative, a pleasantness rating on a scale of 1 to 6 was used. If the participant rated a memory as 1 to 3, it was identified as negative, and a memory rated 4 to 6 was identified as positive. Examples follow to describe each primary theme. Students described Positive Teacher Behavior with (a) "Teacher put on fight song" and (b) "Teacher let us do different things." Students described Negative Teacher Behavior with (a) "Our teacher was old, and she put in a tape of Pilates" and (b) "The teacher could do whatever and not worry about what happened." Students described Positive Learning Experience with (a) "I loved running laps while a CD was playing" and (b) "Every morning I would get up extra early to get to the school to run to get extra points for PE." Students described Negative Learning Experience with (a) "K-3 we had to square dance" and (b) "I ran 1,000 laps around the gym...I thought I was going to die." Students described Positive Interpersonal Experience with (a) "I was a wrestler, and my gym teacher was my coach" and (b) "...they were all joking around." Students described Negative Interpersonal Experience with (a) "One of my best friends was hit in the face, and I had to take him

to the nurse” and (b) “Playing football...he came down on his ankle and was in a lot of pain. I felt horrible.” Students described Positive Recognition with (a) “I always got the Presidential Award” and (b) “I was scoring too many goals in hockey so my teacher made me be goalie.” Students described Negative Recognition with (a) “[The teacher] yelled at me in front of the whole class and told me not to argue back” and (b) “I got in a fight with my gym teacher and things got intense.” Recognition was an important aspect of the events in the primary themes. The Positive Recognition theme helped clarify the need for the secondary theme of Participant as Hero.

The secondary themes included Participant as Hero, Injuries, Gender Issues, Embarrassment, Running as Punishment, Being Picked Last, and Bullying. After examining the written questionnaires, the researchers in this study found these secondary themes beyond those captured by the primary themes, which were important for the field of PE. Memories to demonstrate Participant as Hero include (a) “Breaking the school record for both boys and girls” and (b) “I managed to pull-off a comeback attempt and won the match.” Students mentioned Injuries frequently across grade levels, including (a) “Almost every day someone got hurt” and (b) “...the gym teacher was smacked in the face with the ball.” Gender Issues included memories such as (a) “...boys got to play basketball, and the girls had to stay in the locker room” and (b) “I was very attracted to seeing her in a tank top and short shorts.” Students illustrated Embarrassment with comments such as (a) “The teacher yelled at me in front of the whole class” and (b) “...I had to spend the rest of the day outside in my gross gym clothes.” Running as Punishment included these examples: (a) “...my gym teacher blew his whistle and made us run laps the rest of the class” and (b) “I came in late to class, and everyone watched me run 2 miles.” The secondary themes Being Picked Last and Bullying initially did not seem to be salient for the School of Physical Education majors, but those themes emerged as important for the non-School of Physical Education majors. All of the written memories had a primary theme, but many of the memories had No Secondary Theme.

The activity categories included Dodgeball, Fitness Testing, Basketball, Bat/Ball Games, Dance, Parachutes, Football, Rope Climbing, Running/Track, Volleyball, Hockey/Field Hockey/Floor Hockey, Soccer, and No Activity Context Determined. Activity issues were particularly important for memories about PE. Unlike English, math, science, social studies, and other subjects typically

delivered in classrooms, PE is delivered in a gym, in a classroom, outdoors, in hallways, or in other venues. Additionally, the activities of PE are unlike other subject matter. Activities such as dodgeball, parachutes, and rope climbing were mentioned frequently.

Pleasantness Ratings

After writing the memories of PE, the participants rated the pleasantness of that event. The ratings were on a Likert scale from 1 (*extremely unpleasant*) to 6 (*extremely pleasant*). Pleasantness ratings given by the School of Physical Education majors versus the non-School of Physical Education majors are shown in Table 1. Degree of pleasantness for memories of PE in Grades K–4, 5–8, and 9–12 show a pattern of higher pleasantness ratings for the School of Physical Education majors. For Grades K–4, School of Physical Education majors rated 56% of those memories pleasant (5–6), and non-School of Physical Education majors rated 52% of those memories pleasant. For Grades 5–8, a large discrepancy showed 46% of the memories from the School of Physical Education majors were pleasant (5–6) versus 31% of the non-School of Physical Education majors' memories being pleasant. Accordingly, substantial contrast existed in the unpleasant (1–2) ratings with non-School of Physical Education majors reporting more unpleasant memories. For Grades 9–12, again the School of Physical Education majors had higher pleasantness ratings for their memories of PE than the non-School of Physical Education majors, 59% versus 46%, respectively. Overall, the School of Physical Education majors remembered their PE experiences as being more pleasant than the non-School of Physical Education majors did.

How Well the Event Was Remembered

Participants wrote memories of PE and rated the degree to which they remembered each of those events. The ratings were on a Likert scale from 1 (*barely*) to 6 (*almost perfectly*). The ratings are summarized in Table 2. There is a recency effect in that participants remembered events from Grades 9–12 better than events from Grades 5–8 and events from Grades 5–8 better than events from Grades K–4. In Grades K–4, identical proportions (43% and 43%) of the memories of PE were remembered 5 to 6 (high) for both groups. In Grades 5–8, similar proportions (64% and 66%) of the memories were remembered 5 to 6 (high) for the School of Physical Education majors and non-School of Physical Education majors, respectively.

In Grades 9–12, almost identical proportions (85% and 86%) of the memories were remembered 5 to 6 (high) for the School of Physical Education majors and non-School of Physical Education majors, respectively. Overall, how well the event was remembered was not predicated upon whether participants were enrolled as a School of Physical Education major. In general, respondents who reported events about PE remembered them well.

Table 1
Pleasantness of the Physical Education Memories for PE Majors and Non-PE Majors

Grade level	Pleasantness rating	PE majors	Non-PE majors
K–4	Unpleasant (1–2)	24%	31%
	Neutral (3–4)	20%	17%
	Pleasant (5–6)	56%	52%
		100%	100%
5–8	Unpleasant (1–2)	27%	48%
	Neutral (3–4)	27%	21%
	Pleasant (5–6)	46%	31%
		100%	100%
9–12	Unpleasant (1–2)	24%	31%
	Neutral (3–4)	17%	23%
	Pleasant (5–6)	59%	46%
		100%	100%

Note. Participants rated each memory of PE on a scale from 1 (*extremely unpleasant*) to 6 (*extremely pleasant*) in response to the question, how unpleasant or pleasant was this event?

Table 2
How Well PE Majors and Non-PE Majors Remembered the Physical Education Event

Grade level	Pleasantness rating	PE majors	Non-PE majors
K–4	Low (1–2)	14%	11%
	Medium (3–4)	43%	46%
	High (5–6)	43%	43%
		100%	100%
5–8	Low (1–2)	4%	4%
	Medium (3–4)	32%	30%
	High (5–6)	64%	66%
		100%	100%

Table 2 (cont.)

Grade level	Pleasantness rating	PE majors	Non-PE majors
9–12	Low (1–2)	0%	1%
	Medium (3–4)	15%	13%
	High (5–6)	85%	86%
		100%	100%

Note. Participants rated each memory of PE on a scale from 1 (*barely*) to 6 (*almost perfectly*) in response to the question, how well do you remember this event?

Primary Themes

The primary themes were tabulated for School of Physical Education majors and non-School of Physical Education majors. As noted previously, memories were scored according to (a) primary themes, (b) secondary themes, and (c) activity, and interrater reliability equaled 86% in the classification of these memories. Table 3 shows that Positive Interpersonal Experience was the primary theme of most of the memories for the School of Physical Education majors in Grades K–4, 5–8, and 9–12, with 42%, 42%, and 39%, respectively. Negative Interpersonal Experience was the next most frequent primary theme, with 23%, 33%, and 26%, for Grades K–4, 5–8, and 9–12, respectively.

The primary themes for non-School of Physical Education majors are also shown in Table 3. In Grades K–4, the dominant primary themes were Positive Learning Experience (37%), Positive Recognition (26%), Negative Learning Experience (17%), and Negative Interpersonal Experience (11%). In Grades 5–8, the dominant primary themes were Negative Learning Experience (33%), Negative Interpersonal Experience (27%), Positive Recognition (18%), and Positive Learning Experience (12%). In Grades 9–12, the dominant primary themes were Negative Learning Experience (23%), Positive Learning Experience (20%), Negative Interpersonal Experience (19%), and Positive Recognition (16%).

Thus, the School of Physical Education majors had most memories of Positive and Negative Interpersonal Experiences. In contrast, non-School of Physical Education majors had relatively high numbers of memories for Negative Interpersonal Experiences and low numbers of Positive Interpersonal Experience memories.

Table 3
Primary Themes in Memories of Physical Education

Primary themes	School of Physical Education majors			Non-School of Physical Education majors		
	Grades K–4	Grades 5–8	Grades 9–12	Grades K–4	Grades 5–8	Grades 9–12
Positive Teacher Behavior	5%	2%	3%	0%	0%	1%
Negative Teacher Behavior	5%	9%	8%	0%	7%	4%
Positive Learning Experience	10%	2%	5%	37%	12%	20%
Negative Learning Experience	6%	4%	11%	17%	33%	23%
Positive Interpersonal Experience	42%	42%	39%	6%	3%	9%
Negative Interpersonal Experience	23%	33%	26%	11%	27%	19%
Positive Recognition	8%	6%	8%	26%	18%	16%
Negative Recognition	1%	2%	1%	3%	0%	8%
Total	100%	100%	100%	100%	100%	100%

Secondary Themes

The secondary themes for School of Physical Education majors and non-School of Physical Education majors were tabulated. Results are presented in Table 4. The secondary themes Participant as Hero and Injuries were frequently mentioned by School of Physical Education majors. For School of Physical Education majors, Participant as Hero accounted for 25% of memories in Grades K–4, 22% of memories in Grades 5–8, and 27% of memories in Grades 9–12. For School of Physical Education majors, Injuries accounted for 24% of memories in Grades K–4, 29% of memories in Grades 5–8, and 25% of memories in Grades 9–12.

For non-School of Physical Education majors, secondary themes were focused most on Injuries and Embarrassment. Although memories of Injuries were highest of the secondary themes in Grades K–4 and 5–8, Embarrassment was highest in Grades 9–12. Participant as Hero was also a frequent secondary theme in Grades 5–8 and 9–12.

Activity Categories

Many of the memories had an activity. For example, the student may have described a Positive Interpersonal Experience (primary theme), which involved Participant as Hero (secondary theme), in a basketball lesson (activity). The activities most prevalent for Grades K–4 for School of Physical Education majors were Running/Track, Dodgeball, Basketball, and Parachutes. Similarly, the most prevalent activities for Grades K–4 for non-School of Physical Education majors were Running/Track, Dodgeball, Basketball, and Fitness Testing. In Grades 5–8, the memories for School of Physical Education majors were most often Running/Track, Basketball, Baseball, and Fitness Testing. For non-School of Physical Education majors, the activities for their memories of PE in Grades 5–8 were Running/Track, Fitness Testing, Dodgeball, Bat/Ball Games, and Rope Climbing. In Grades 9–12, the memories for School of Physical Education majors often included Bat/Ball Games, Running/Track, Basketball, and Football. For non-School of Physical Education majors, activities for Grades 9–12 were Running/Track, Basketball, Fitness Testing, and Hockey.

Table 4
Secondary Themes in Memories of Physical Education

Primary themes	School of Physical Education majors			Non-School of Physical Education majors		
	Grades K–4	Grades 5–8	Grades 9–12	Grades K–4	Grades 5–8	Grades 9–12
Participant as Hero	25%	22%	27%	6%	13%	12%
Injuries	24%	29%	25%	23%	24%	9%
Gender Issues	6%	3%	3%	0%	10%	8%
Embarrassment	6%	0%	4%	9%	13%	13%
Running as Punishment	0%	0%	3%	0%	2%	3%
Being Picked Last	0%	0%	0%	0%	2%	1%
Bullying	0%	0%	0%	0%	2%	7%
No Secondary Theme	39%	46%	39%	62%	34%	47%
Total	100%	100%	100%	100%	100%	100%

Discussion

Adult college students remember some of their PE experiences in school. Respondents who reported events about PE generally remembered them well, regardless of their enrollment in a School of Physical Education major or non-School of Physical Education major. Perhaps adults remember PE well because there are opportunities for physically and emotionally challenging events in PE.

Differences existed in how School of Physical Education majors perceived their PE memories compared to the non-School of Physical Education majors. School of Physical Education majors remembered their PE experiences as being more pleasant than non-School of Physical Education majors did. Similar to the Walls et al. (2001) study, high percentages of injury and embarrassment were reported.

Positive Interpersonal Experience was the primary theme of most of the memories for the School of Physical Education majors in Grades K–4, 5–8, and 9–12. In contrast, non-School of Physical Education majors had higher numbers of memories for Negative Interpersonal Experiences and low numbers of Positive Interpersonal Experience memories. Positive and Negative Interpersonal Experiences were frequent primary themes for both groups. This is consistent with the findings of Walls et al. (2001) in which they describe only 13% of memories being academic, whereas the remainder were social. In this study, participants reported fewer memories about learning experiences or teacher behavior.

These findings about positive and negative experiences are important. PETE faculty have a responsibility to explore their pre-service teachers' subjective warrants for entering the profession. Pre-service teachers should understand their PE experiences were likely more positive than most of the students with whom they will work. For example, physical educators may have been unlikely to be picked last during PE classes. For educators to foster positive learning experiences, they should consider the interpersonal experiences of their students, particularly in light of adults' memories of personal achievement (Participant as Hero), injuries, and embarrassment.

Activity categories were similar across grade levels for School of Physical Education majors and non-School of Physical Education majors. In Grades K–4, participants remembered Running/Track, Dodgeball, Basketball, Parachutes, and Fitness Testing.

In Grades 5–8, participants remembered Running/Track, Basketball, Fitness Testing, Dodgeball, Bat/Ball Games, and Rope Climbing. In Grades 9–12, the memories were often about Bat/Ball

Games, Running/Track, Basketball, Football, and Hockey. Across grade levels, some activities were mentioned infrequently, but they were unique and thus memorable. For example, one participant recalled playing archery, and he both enjoyed it and remembered it because it was an activity he had never tried before in PE.

Creating unique and memorable activities has important implications for physical educators. Activities may elicit positive or negative memories. If physical educators are able to provide pleasant PE experiences, they may be able to build positive perceptions about PE. Lesson plans that address safety to minimize chances of injuries or embarrassment and maximize opportunities for Participants as Heroes may promote lasting pleasant memories in PE. When adults are left with predominant memories of Negative Interpersonal Experience and Negative Learning Experience from their PE classes, the legacy is objectionable.

References

- Baddeley, A., Eysenck, M. W., & Anderson, M. C. (2009). *Memory*. New York, NY: Psychology Press.
- Brown, N. R. (2005). On the prevalences of event clusters in autobiographical memory. *Social Cognition, 23*(1), 35–69.
- Conway, M. A. (1996). Failures of autobiographical remembering. In D. Herrmann, C. McEvoy, C. Hertzog, P. Hertel, & M. K. Johnson (Eds.), *Basic and applied memory research: Theory in context* (pp. 295–313). Mahwah, NJ: Erlbaum.
- Conway, M. A., & Rubin, D. C. (1993). The structure of autobiographical memory. In A. F. Collins, S. E. Gathercole, M. A. Conway, & P. E. Morris (Eds.), *Theories of memory* (pp. 107–137). Hillsdale, NJ: Erlbaum.
- Creswell, J. W. (2005). *Evaluation research: Planning, conducting and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson Education.
- Hyland, D. T., & Ackerman, A. M. (1988). Reminiscence and autobiographical memory in the study of the personal past. *Journal of Gerontology, 43*(2), 35–39.
- Rathbone, C. J., Moulin, C. J. A., & Conway, M. A. (2008). Self-centered memories: The reminiscence bump and the self. *Memory and Cognition, 36*(8), 1403–1414.

- Riddle, K., Potter, W. J., Metzger, M. J., Nabi, R. L., & Linz, D. G. (2011). Beyond cultivation: Exploring the effects of frequency, recency, and vivid autobiographical memories for violent media. *Media Psychology, 14*(2), 168–191.
- Rothenberg, J. J. (1994). Memories of schooling. *Teaching and Teacher Education, 10*(4), 369–379.
- Salkind, N. L. (2004). *Statistics for people who think they hate statistics*. Thousand Oaks, CA: Sage.
- Sykes, H., & McPhail, D. (2008). Unbearable lessons: Contesting fat phobia in physical education. *Sociology of Sport Journal, 25*(1), 66–96.
- Talarico, J. M., Labar, K. S., & Rubin, D. C. (2004). Emotional intensity predicts autobiographical memory experience. *Memory & Cognition, 32*(7), 1118–1132.
- Thomas, J. (1985). Remembrance of things past and best forgotten: Conversations with mothers about their memories of physical education at school. *Physical Education Review, 8*(1), 3–6.
- Thompson, C. P., Skowronski, J. J., Larsen, S. F., & Betz, A. L. (1996). *Autobiographical memory: Remembering what and remembering when*. Mahwah, NJ: Erlbaum.
- Walls, R. T., Sperling, R. A., & Weber, K. D. (2001). Autobiographical memory of school. *The Journal of Educational Research, 95*(2), 116–127.