

# Do Senior Adults (50+) Know What Practices are Appropriate In Physical Education 中年人對體育的知識

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## Abstract

The purpose of this study was to investigate senior 50 and older adult's knowledge of appropriate instructional practices (AIP) in physical education. This study is a continued line of studies assessing certain populations knowledge of AIP. Previous research has been conducted among Physical Education Teacher Education (PETE) majors, parents, school administrators, elementary, middle school and high school students. For this study 372 senior adults were surveyed regarding their knowledge of AIP in PE. Surveys were distributed to the participants at the Huntsman Senior World Games. It was found that senior adults misidentified nine instructional practices from the survey. It was found that senior adults identified having winners and losers in games in PE class, students that misbehave should be punished with exercising, and playing dodge ball is OK for students to play. These instructional practices are considered inappropriate. The implications of this study reinforce that physical educators need to educate senior adults and that implementing appropriate instructional practices is an effective method to educate senior adults and the general public.

## Introduction

A students' participation in k-12 physical education (PE) has the potential of benefitting them throughout their life (Barney & Prusak, 2016). One of the main components of PE that could affect lifetime physical activity is the instructional practices students are exposed to. For example, if students have to exercise as a form of punishment or if the teacher chooses students to serve as captains to come to the front of the class and pick teams, the results could possibly be detrimental to the students. Barney, Pleban, Fullmer, Griffiths, Higginson, and Whaley (2016) investigated former PE student's experiences dealing with exercise as punishment when they were in PE classes. The former students stated that exercise as punishment "was humiliating", "It can

traumatize a student", and that it "did not accomplish anything." Barney, Prusak, Beddoes, and Eggett (2016) studied the effects of students (captains) picking teams in PE class. For this study, junior high aged male students were surveyed and interviewed regarding their perceptions and feelings about captains picking teams in PE class. Surprisingly, the survey data revealed that junior high aged males weren't negatively affected by captains picking teams in front of their PE class. Yet, the interview data portrayed a different picture. Some students knew they would be picked last, not liking it particularly. They just wanted to be on the same team with a friend. The more skilled students that were picked first felt bad for their classmates that were picked last or towards the end. Both studies illustrate that inappropriate instructional practices in PE can have the

potential to affect student attitudes towards PE and the possibility of being physical activity throughout their life.

For years having student exercising as punishment and having captains pick team in front of the class have been accepted as everyday occurrences or appropriate instructional practices (AIP) in PE. The national organization of Society of Health and Physical Education (SHAPE America), the National Association of Sport and Physical Education (NASPE) have created three documents for the purpose of informing K-12 physical educators regarding appropriate instructional guidelines for physical education. The three documents are for elementary (2009a), middle school (2009b) and high school (2009c) physical education. The three documents “offer specific guidelines for recognizing and implementing developmentally appropriate instructional practices in (elementary, middle school & high school) physical education” (Barney & Strand, 2008). The documents state that the practices should be in the best interests of students (appropriate) and those that are counterproductive (inappropriate) should be avoided. Thus, the purpose of these documents is to aid physical educators in exposing students to appropriate instructional practices in PE, enabling students to be successful in activity throughout their lives (Barney, Strand & Prusak, 2013). A series of studies have been conducted to better understand AIP in PE. Barney and colleagues have surveyed K-12 students (Barney & Christenson, 2014; Barney, Christenson, & Pleban, 2012), physical education teacher (PETE) majors (Barney & Christenson, 2013; Barney, Christenson, & Pleban, 2012), school administrators (Barney & Prusak, 2016); and parents (Barney & Pleban, 2010). Generally, each group could correctly identify appropriate and inappropriate instructional practices from K-12 PE. Yet, there were eight instructional practices that were consistently misidentified. The misidentified survey items are a) students should participate in activities with large number of students on a team, b) competitive activities have identified ‘winners and losers’, c) public picking of captains and teams, d) fitness testing for public recognition and rewards, e) the use of militaristic calisthenics for fitness purposes, f) inclusion of dodge ball, g) skill assessment in nonauthentic or contrived settings, and h) grading student attitudes based on attendance, wearing gym clothes and effort (Barney & Christenson, 2013, 2014; Barney, Christenson, & Pleban, 2012; Barney & Pleban, 2010; Barney & Prusak,

2016; Barney & Strand, 2008). With these populations that were studied regarding their knowledge of AIP, the authors felt that another population could continue to shed light on AIP in PE. For this reason, the purpose of this study was to investigate 50 and older adult’s knowledge of appropriate instructional practices in K-12 PE.

## Method

For this study 372 senior adults (50 and older) (171 males & 156 females; 50’s: 49; 60’s: 138, 70’s: 114, 80’s: 25 & 90’s: 1) participated in this study. The participants were from the United States, Canada, Italy, Mexico and Japan.

## Instrumentation

For this study, the researcher utilized surveys that was created and used from other AIP research studies (Barney & Pleban, 2010; Barney & Strand, 2008; Barney & Prusak, 2016; Barney & Christenson, 2014). The survey had a total of 21 statements, focusing in five areas regarding physical education. The participants would mark their answer on the survey either ‘Y’ if they agreed with the survey statement or ‘N’ if they did not agree with the survey statement. The five areas were a) curricular decisions, b) health-related fitness, c) assessment, d) active participation, and e) instructional strategies. Four statements refer to curricular decisions, five statements for health-related fitness, three statements for assessment, one statement for active participation, seven statements for instructional strategies and one demographic question. Descriptive statistics were used, including perceptions to determine if seniors agreed or disagreed for each survey statement to help explain the results.

## Procedures

The researchers employed nonprobability sampling to collect study survey data. The researchers placed themselves by the carotid artery screening station at the Huntsman World Senior Games in St. George, Utah. As the participants waited to participate in the carotid artery screening they were asked if they would be willing to participate in this study. Prior to data collection, the university review board (IRB) granted approval to conduct this study.

## Data Analysis

The data were analyzed using descriptive statistics in the Statistical Package for the Social Science (SPSS) 24.0 program. Percentages were used to reflect the senior's responses for each item being analyzed. The other method of data analysis was analyzing senior's responses to the questions from the survey. The researchers read and re-read the data from the survey statements until common themes became evident (O'Sullivan & Tsanaridou, 1992).

## Results

Table 1 reveals nine statements that the senior participants incorrectly identified as appropriate and inappropriate instructional practices in PE. Results pertinent to each of the five general areas (curricular decisions, health-related fitness, assessment, active participation and instructional strategies) are further discussed.

### Curricular Decisions

A majority of the senior participants incorrectly identified one curricular decision statement as inappropriate. Statement 17 stated, "Outside of class assignments are not necessary for physical education." Surprisingly, a majority of the female participants (51%) felt that outside of class assignments were not necessary. And 63% of the male participants correctly answered the survey statement.

### Health-Related Fitness

For these survey statements two statements were incorrectly answered (6 & 15). Statement six says, "If a student gets in trouble or misbehave in PE class, it's OK for them to have to run a long time, or do push-ups." For this survey statement the male participants incorrectly answered (54%) this statement. Conversely, a majority of the female participants correctly answered (60%) this statement. For statement 15, which states, "Fitness activities in PE class should consist of mass exercises, following a designated leader", 60% of the male participants incorrectly answered this statement.

## Active Participation

A majority of both male and female participants incorrectly identified one survey statement dealing with active participation. Statement nine states, "It is OK for students to play dodge ball in PE class." For the male participants 83% identified playing dodge ball in PE as an appropriate practice. For the female participants 73% misidentified this statement.

## Assessment

For the assessment survey statements, three statements were incorrectly identified (7, 8, & 18). Statement seven states, "A student's grade in PE class should show how hard they work in class and how good they are at games." The data revealed that 67% of male participants and 53% of the female participants incorrectly answered this survey statement. For statement eight, which states "For basketball lessons, a student should be graded on how well they can dribble a ball through a line of cones", a majority of the male participants incorrectly (54%) identified this statement. And for statement 18, it states, "Part of a students' grade should be based on attendance, dressing for activity, and compliance to classroom rules." For this statement 91% of the males and 97% of the female participants misidentified this survey statement.

## Instructional Strategies

Two survey statements (1 & 13) were incorrectly answered regarding instructional strategies. Statement one states, "In PE class, games and activities should have 'winners and losers.'" Both male and female participants incorrectly answered this statement. For the male participants, 64% incorrectly identified the statement. And 56% of the female participants misidentified the statement. Statement 13 states, "Every student should have a piece of equipment for all activities played in PE class." This statement should have been answered as an appropriate instructional practice. Yet, 54% of the males and 51% of the females incorrectly identified this statement.

## Qualitative Analysis

For this study, the participants were asked to answer the survey questions provided to them. Yet, the researcher were pleasantly surprised that when the participants filled out the survey they would write their feelings or opinions regarding certain survey questions. These responses the participants expressed were not asked for or initiated by the researchers. Many of the participant's responses aligned with the survey questions that were misidentified.

## Curricular Decisions

Participant responses regarding outside of class assignments were "Depends on the assignment", "Yes, but they can be lots of fun", and "No, they may not be necessary, but learning that exercise is important in their lives."

## Health-Related Fitness

The participant's comments regarding fitness activities in PE class should consist of mass exercises by following a designated leader were, "Maybe just for warm-ups", "sometimes it is OK", and "This might happen occasionally but not generally." The other survey question the participants responded to dealt with students having to exercise as punishment for getting into trouble or misbehavior. One participant stated, "Depends. It might help." Another participant said, "Only if it changes the kid's behavior."

## Active Participation

The survey question dealing with student's participation in dodge ball in PE class was mixed. One participant stated, "Worst event from my childhood", and another participant stated, "Don't make kids hate PE." One participant stated, "We did it (played dodge ball) and enjoyed it", and "Modifications were made with squish balls. So, the ball won't hurt."

## Instructional Strategies

Participant responses dealing with having winners and losers in PE were "Absolutely. That is how we did it in PE", and "Maybe. Some students may not want to be known as a loser."

## Discussion

The purpose of this study was to investigate 50 and older adult's knowledge of appropriate instructional practices in k-12 physical education. Participants of this study felt that PE class should have 'winners and losers' in class activities, that student's that get into trouble or misbehave should run a long time or do push-ups as punishment, a student's grade should be determined how good they are at games in PE class, that students should be graded on how well they can dribble a ball through cones, that playing dodge ball in PE class is acceptable, that when all student are learning a skill they should not have a piece of equipment to assist their learning, fitness activities should consist of mass exercises led by a class leader, outside of class assignments are not necessary, and student grades should be based on attendance, dressing for activity and compliance to classroom rules.

One of the first items the participants misidentified as an appropriate practice dealt with out of class assignments are not necessary. Pantanowitz, Lidor, Nemet, and Eliakim (2011) studied the attitudes and compliance towards homework assignments in PE among high school students in Israel. The main finding from this study was that the parents and over half of the students supported the provision of homework assignments in PE. Yet, very few of the students completed homework assignments. This study illustrates that the idea of homework in PE is a good idea. But having the student actually do and complete the homework assignment is the real question. The idea of homework in PE is not a new idea. Novak and Lynott (2015) have stated that the notion of homework in PE has been discussed for 50 years. Yet, it has not taken hold or promoted to benefit students. The participants in this study did not see its value for students.

Another point for discussion comes from statement six which states, "If a student gets in trouble or misbehaves in PE class, it is OK for them to have them run a long time or do push-ups." This statement dealing with exercising as punishment. The results from this study revealed that 54% of the male participants found exercise as punishment is an appropriate instructional practice in PE. Research has found that when PE teachers have students exercise as a form of punishment, students don't like it. One study conducted by Barney, Pleban, Fullmer, Griffiths, Higginson and Whaley (2016)

investigated former K-12 PE students experiences with exercise as punishment in PE. College-aged student were surveyed. Participants were asked if they felt exercise as punishment was appropriate. Participants said, "it is cruel and unusual punishment", and "it sends a bad message." Students were also asked how they felt when they witnessed students exercising as punishment. They stated, "It scares the group or makes them feel uneasy", and "It makes us fear the teacher." These types of instructional practices do not create positive attitudes towards PE class and in some cases, being not being physically active throughout life.

A third point of discussion comes from statement nine, which states, "It is OK for students to play dodge ball in PE class." The topic of dodge ball has been debated as both a positive and negative activity for students to play in PE class. Dodge ball has been glamorized in movies (Cooper, Dobkins, & Gillespie, 2007) and in print media (Reilly, 2001). The game of dodge ball in PE has been debated in state legislators, to the point of being banned (Associated Press, 2004). For the fact that dodge ball is banned in many states and in many school districts, Barney and Prusak (2016) studied school administrator's knowledge of certain instructional practices in PE. One of the surprising results of their study was that 75% of school administrators surveyed in this study felt dodge ball is appropriate to play in PE. The results from this current study revealed that a large majority of the participants felt dodge ball was an appropriate instructional practice in PE. Yet, one participant stated that her participation in dodge ball was the "worst event from my childhood." The participation of students playing dodge ball is another instructional practice that PE teachers need to seriously reconsider having their students participate in. Dodge ball only serves the strong and most skilled students. The last point of discussion is from statement 18, which states, "Part of a student's grade should be based on attendance, dressing for activity, and compliance to classroom rules." Can you imagine a student just 'showing up' in a math class and receiving a passing grade? For some reason, many of the participants in this study felt that attending class, dressing for class and complying to class rules will be a part of a students' grade. These behaviors are important for the student to incorporate while attending their class. Yet, this is a common thought for many years dealing with PE. Because of this assessment practice that has taken place in PE, it

has created questions in the minds of parents regarding the importance and legitimacy of physical education. Because of this practice the participants of this study probably consider PE as nothing more than play time.

## Implications

Barney, Prusak, Strand & Christenson (in press) wrote a review of research dealing with appropriate instructional practices in PE. They reported results of research studies conducted with parents (Barney & Pleban, 2010), elementary-aged students (Barney & Christenson, 2014), middle school students (Barney, Prusak & Strand, 2013), high school students (Barney & Strand, 2008), elementary education majors (Strand, Barney & DeFries-Evans, 2008; Barney & Strand, 2006), physical education majors (PETE) (Barney & Christenson, 2013; Barney, Christenson & Pleban, 2012), School Administrators (Barney & Prusak, 2016), and k-12 physical educators (Strand & Bender, 2011). In their review, it was reported that eight instructional practices were continually misidentified from the above-mentioned populations. Thus, known as the 8 repeat offenders.

For this study five of the eight repeat offenders were misidentified. With this population, the question may be asked, how can these older adults affect K-12 physical education? In some cases, they may not have any effect on K-12 PE. Yet, this population is a growing number of people that suggests that students have been exposed to inappropriate instructional practices for a number of years. Because of the exposure to inappropriate instructional practices, many of these populations, including these senior participants, are of the opinion that these instructional practices are appropriate for students to be exposed to, and that this is just what is done in PE class. These kinds of results from this study put the onus on PE teachers to implement and have their students participate in activities that will create positive experiences that will lead to a lifetime of being physically active. Another important implication from this study is that PE class is not the same that these senior's participated when they were in K-12 PE. Physical educators have an opportunity to educate the public regarding appropriate instructional practices in PE. As physical educators educate the public, many of the people are parents, grandparents, school board members and voters. With a better-informed perspective, they can affect the future of PE in a child's school and school district (Aicinena, 1991).

As the researchers analyzed the data they concluded that many of these inappropriate instructional practices have been taught in PE classes for many years. And because these instructional practices have been conducted for so many years, society is of the opinion that this is standard operating procedure in physical education class. These inappropriate instructional practices have the potential to negatively affect a person's lifetime of physical activity. If physical educators want to play a part in a students' lifetime activity, as these athletes in the senior games, then AIP need to be implemented in PE lessons.

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**Table 1. Results of Misidentified Statements Regarding Appropriate Instructional Practices from 50+ Adults**

Question	Male		Female	
	Y	N	Y	N
1. In PE class, games and activities should have “winners and losers.”	64%	36%	56%	44%
6. If a student gets in trouble of misbehaves in PE class, it's OK for them to have to run a long time, or do push-ups	54%	46%	40%	60%
7. A students' grade in PE class should show how hard they work in class and how good they are at games.	67%	33%	53%	47%
8. For basketball lessons, a student should be graded on how well they can dribble a ball through a line of cones.	54%	46%	42%	58%
9. It is OK for students to play dodgeball in PE class?	83%	17%	73%	27%
13. Every student should have a piece of equipment for all activities played in PE class.	46%	54%	50%	50%
15. Fitness activities in PE class should consist of Mass exercises, following a designated leader.	61%	39%	52%	48%
17. Outside of class assignments are not necessary for physical education.	37%	63%	52%	48%
18. Part of a students' grade should be based on attendance, and compliance to classroom rules.	91%	9%	97%	3%