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ADAPTED PHYSICAL EDUCATION

Adapted Physical Education Service Approaches and the Effects on the Perceived Efficacy Beliefs of General Physical Education Teachers

Donna L. Umhoefer, Tiffanye M. Vargas, Robbi Beyer

Abstract

The purpose of this study was to determine what effect the type of APE service approach had on GPE teachers' efficacy when working with students with disabilities. The three approaches of APE service delivery chosen for the study were (a) consultation, (b) itinerant, and (c) collaborative. Results indicate significant differences between levels of service: Consult, $F(3, 98) = 5.09, p = .003$; Itinerant, $F(3, 97) = 10.80, p = .000$; Collaborative, $F(3, 98) = 13.64, p = .000$. As well, the collaborative method produced the highest level of efficacy in the participants, $F(3, 303) = 19.09, p = .000$. The study indicates the collaborative approach of APE service support may be the most effective in increasing GPE teacher efficacy when working with children with disabilities.

Since 1975, and Public Law 94-142, there has been a push for inclusive education classes in which students with disabilities are educated along with their peers without disabilities in the least restric-

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tive environment (LRE). This has led to many interpretations of the terms *inclusion* and *least restrictive environment* (Block, 1996). Some see inclusion as full-time integration, whereas others see it resembling the old term *mainstreaming* by placing a student into special rotations such as art, music, or physical education for socialization purposes only. Kudlacek, Jesina, Sterbova, and Sherrill (2008) described inclusion as providing the support needed to ensure students with disabilities remain successful as part of the general education classroom. The physical education classroom is no exception to the laws; despite their disabilities, students should have the opportunity to participate with their peers in the general physical education (GPE) class.

Despite the interpretation used, the GPE teacher is obligated to ensure the students with disabilities as well as the students without disabilities are successful in their classes. Many researchers have found teachers feel inadequately prepared to adapt and modify their lessons and feel they need more training and support when working with these combined groups (Ammah & Hodge, 2006; Hodge, Ammah, Casebolt, LaMaster, & Sullivan, 2004). Cook, Tankersley, Cook, and Landrum (2000) found many teachers lack the understanding of working with the unique characteristics of a student with a disability. In contrast, Salend and Dehaney (1999) found teachers who have collaborative and consultation support by qualified personnel have a more positive attitude toward working with students with disabilities in their classrooms.

One way of providing these supports for the GPE teacher is having the availability of an adapted physical education (APE) specialist to provide collaboration and consultation. However, across the nation, APE services are interpreted differently, varying greatly from state to state. Such areas of interpretations include determining which educational professionals are qualified to teach APE and how APE services should be delivered (Obrusnikova & Kelly, 2009). Some efforts have been made to determine appropriate qualifications for an APE instructor (Kelly, 2006). However, not much effort has been made to examine which approach, or approaches, is most effective for APE service delivery. In some school districts, collaborative teaching is offered with an APE specialist working in a class along with the GPE teacher, whereas in other districts, no direct APE support is provided (Arnhold, 2006).

Three of the most common APE service delivery approaches are consultation, itinerant, and collaborative (Obrusnikova & Kelly, 2009). These approaches are designed not only for the student who qualifies, but also as a service for the GPE teacher, who is often the individual responsible for providing the service to the students with special needs. All three delivery approaches include consultation as part of their services; however, the level of consultation varies based on caseload, size of district, and available APE specialists. With such diversity in service delivery in APE, it is expected the efficacy levels of the GPE teachers who are expected to take on the task of inclusion would vary based on the level of support they receive. As efficacy theory suggests, support areas such as mentoring through vicarious experience play a significant role in developing a person's efficacy beliefs. Many GPE teachers who receive little training or support from specialists such as an APE specialist feel frustrated and inadequate at dealing with the unique needs of students with disabilities, especially in the areas of severe physical limitations (LaMaster, Gall, Kinchin, & Siedentop, 1998). This frustration may affect the GPE teachers' efficacy level when working with students with disabilities. Teachers with higher teaching efficacy are more likely to believe they can make a difference with their students. They are also more likely to put forth the necessary effort to make accommodations and modifications for students with special needs (Obrusnikova & Kelly, 2009; Tschannen-Moran & Hoy, 2001).

Consultation Approach

In a consultation approach, the APE specialists collaborate with the classroom teachers, parents, and the GPE teachers to make accommodations in the GPE class so the physical education needs of students who qualify for APE services are met in the general education setting (Block, 1999). Those who work in a consultation capacity usually carry a large caseload. Lytle and Collier (2002) studied the perceptions of APE specialists on the consultation process. Six APE specialists (four females and two males, ranging in experience from 3–18 years) participated in the qualitative study. Interviews and observations were used to gather the information; the participants agreed consultation is designed to be a collaborative effort to meet the students' specific and individualized needs, but it does not

include working directly with the students in a physical education setting. In this delivery system, the GPE teacher is responsible for implementing the APE goals from the individualized education plan (IEP) and is supported through varied interactions such as talking to the APE specialist without visual contact (e.g., e-mail, telephone contact), meeting in person with the APE specialist, and at times, modeling with the APE specialist or instructional assistant.

The consultation approach is used in many districts because it is cost effective and satisfies their interpretation of IDEA. In a study by Kelly and Gansneder (1998), 59% of APE specialists surveyed provided indirect teaching support and acted only as consult to the GPE teacher. Heikinaro-Johansson, Sherrill, French, and Huuhnka (1995) developed and tested a consultation approach of APE to determine if it would assist the GPE teachers with including students with disabilities in their classes. Data were collected from the GPE teachers in two communities in Finland. They were given the following APE consultation assistance: telephone contact to inquire if assistance was needed, intensive consultation two times a week with personal contact and collaborative efforts to analyze needs and create lesson plans, and limited consultation with one-time-a-week or less collaborative contact and more individual assistance on lesson plans through video analysis. Heikinaro-Johansson et al. found evidence that teachers, paraprofessionals, and students benefited from APE consultation. Most indicated they benefited from the assistance with developing lesson plans as well as the modeling of the lessons with the specific accommodations. As noted in the study, as the teachers' skills improved, so did their trust in their own ability. Some teachers even reported increased confidence when including students with disabilities into their classroom. It has further been suggested GPE teachers who receive consultation from an APE specialist are more likely to accept students with disabilities into their classrooms (Block & Obrusnikova, 2007).

Consultation appears to be used more often (Kelly & Gansneder, 1998), but it is only one of the delivery systems available. This approach is preferred in some districts, whereas in other districts a more direct service of APE is provided that may also include providing consultation to the GPE teacher as needed.

Itinerant Approach

In the itinerant approach of service delivery, the APE specialists travel to several campuses to work with students who qualify for APE services. Many students who qualify for APE services participate in the GPE class, but also receive APE support outside of the GPE class. Often, this direct service is provided by incorporating a “pull-out” method of taking the student out of the classroom to give additional support and service for the specified amount of time designated in the IEP (Hodge & Akuffo, 2007). Akuffo and Hodge (2007) completed a study to examine the roles and responsibilities of itinerant APE specialists. In this study, six female APE specialists with 4–24 years of experience in an urban school district participated in an exploratory multiple-case study. Data collection was completed through demographic data sheets, interviews, and on-site observations. The itinerant approach was identified as service delivery in a self-contained setting taught exclusively to the students with disabilities by the APE specialist. Roles and responsibilities included providing a fun and safe environment for learning, developing IEPs, and designing and delivering lesson plans. The APE specialist was also responsible for evaluation, development of IEP goals, and documentation of progress toward those goals while working directly with the student. The itinerant APE specialist also may provide consultation to the GPE teacher for students participating in the GPE class (Akuffo & Hodge, 2008; Hodge & Akuffo, 2007). Although the itinerant approach provides the direct service to the student as well as consultation to the GPE teachers, it is often seen as an independent service from the GPE class because of the “pull-out” lessons provided in a less intensive setting. Therefore, in some districts, the delivery approaches of consultation and itinerant are combined into a collaborative approach.

Collaborative Approach

A third means of service delivery is the campus collaboration approach in which APE specialists are assigned to a home campus. In this approach, the APE specialist and GPE teacher work together in a collaborative setting (Lytle, Robinson, Lavax, & Huettig, 2003). Classes comprise students with IEPs for APE and GPE students who provide peer role approaches in the physical education setting. Small

class instruction is also provided as needed. It is common for lesson plans to be devised together with accommodations and modifications created as part of the GPE lesson. Responsibilities of the APE specialist include initiating accommodations while the GPE teacher instructs the class. It is also common for the collaboration approach to include parents, the classroom teachers, and related services as part of the process (Maguire, 1994). Lytle et al. (2003) define collaboration as a partnership that allows professionals to reflect on their own practice, share responsibility, share resources, and share equal power. In return, they are equally accountable. Research on the collaboration approach is sparse. Vogler, Koranda, and Romance (2000) found positive effects of the collaborative approach when examining an inclusive class that contained students with disabilities (including students with severe disabilities) and the support of a full-time APE teacher. This concurs with the study by Heikinaro-Johansson et al. (1995), in which they found the teachers felt they benefited from the hands-on experience with an APE specialist in the classroom to approach accommodations in a real-time situation.

In each of the three APE service delivery approaches, the APE specialist provides support to the educational staff. Particularly important is the provision of consultation and in-service training support to GPE teachers, special education teachers, classroom teachers, and paraprofessionals in each approach (Silliman-French & Buswell, 2008). With the support approaches being used in APE, teachers' efficacy beliefs and their resultant persistence and understanding of inclusion may be affected.

Teacher Efficacy

Teacher efficacy is the teacher's beliefs in his or her ability to bring out the desired outcomes of student engagement and learning (Tschannen-Moran & Hoy, 2001). Personal factors, behavior, and the environment that surrounds them determine human behavior (Bandura, 1977, 1986). Bandura (1989) also suggested individuals are influenced by the actions surrounding them and the actions of others. Through this influence of social situations, a person develops the capability to adapt to outside events. Multiple variables may account for and affect teacher efficacy, including amount of teaching experience (performance accomplishments), having previous good modeling of APE services (vicarious experience), and the provision

of in-service training and support from the district (verbal persuasion). According to the social cognitive theory (Bandura, 1977), these are sources of efficacy beliefs and thus may have a direct effect on the GPE teacher's efficacy level when working with students with disabilities in areas such as adaptations of lesson plans, implementations of accommodations, and participation in the IEP process (Block, Taliaferro, Harris, & Krause, 2010). Many researchers believe teacher efficacy is directly related to student achievement (Ashton & Webb, 1986; Ross, 1992). Using this concept, teachers who had preservice experience as well as experience teaching children with disabilities may have higher teacher efficacy in the inclusion setting.

Performance Accomplishments

A performance accomplishment is the personal experience a person may have while completing a task. Whether the experience is positive or negative may play a large part in teacher efficacy. Hoy and Woolfolk (1990) completed a study with 191 liberal arts majors engaged in their student teaching for general education. Twenty items from the Teacher Efficacy Scale, developed by Gibson and Dembo (1984), as well as two questions from the Rand Corporation evaluations, were used as the survey instrument. The survey used a 6-point Likert scale with a response scale from *strongly agree* to *strongly disagree*. The survey was distributed on two occasions: at the beginning of participants' student teaching practice and at the end of term. Teaching experience during student teaching practicum had a greater effect on personal teaching efficacy than did not having preservice experience. The need for successful experiences was further documented in a qualitative study of two secondary GPE teachers who provided inclusion practice for students with severe disabilities in the GPE class (Ammah & Hodge, 2006). Questionnaires, observations, and interviews were used to collect data. In both cases, the teachers felt they were inadequately prepared to teach students with disabilities; both felt the need for more preservice training and experience. Hodge and Jansma (1999) concurred, describing student teaching as an important factor in attitude development when working in a full inclusion setting.

Vicarious Experiences

Personal experiences have been shown to be an important factor, but vicarious experiences may be another source of a person's efficacy beliefs. Vicarious experiences are gained through modeling, such as observing someone else perform and be successful at a specific task. Hagen, Gutkin, Wilson, and Oats (1998) studied the use of vicarious experience to enhance efficacy beliefs of preservice general education teachers. Eighty-nine preservice teachers were randomly assigned to one of two groups and completed questionnaires pertaining to their efficacy beliefs about being a future teacher. The participants in the experimental group then watched a behavior management videotape, whereas the control group watched a placebo tape pertaining to the discrimination against people with disabilities. The experimental group had significantly higher levels of perceived efficacy on management, discipline, and personal teaching efficacy than the control group. Hagen et al. found the efficacy level of those in the experimental group increased when observing others practicing good management and discipline techniques. Studies such as this lend evidence to the idea that GPE teachers who have the opportunity to student teach or observe an APE specialist when making accommodations to lesson plans may have higher teacher efficacy when asked to complete such tasks on their own. Thus, it is also easy to assume that because many veteran teachers did not have the opportunity to student teach in an inclusive environment, this lack of opportunity to model from a mentor teacher in such an environment may negatively influence teacher efficacy. With most delivery approaches of APE services, the GPE teacher has personal contact with the APE specialist through consultation. In other delivery approaches such as itinerant and collaboration, the APE specialist is available to demonstrate physically how to deliver accommodations and modifications during the activity and model how to meet the needs of the students involved. This collaborative method of service delivery, in which an APE specialist team-teaches with the GPE teacher, can be a highly effective educational practice as the GPE teacher is given the opportunity to model the APE specialist and in turn become more confident in working with students with disabilities (Vogler et al., 2000).

Social Persuasion

A third factor that effects teacher efficacy is social persuasion, defined as encouragement and positive support for a person's efforts. Bandura (1977) stated a person can be persuaded to believe they have the skills to be successful based on others' words or their own self-talk. An example of this is when an observer tells a teacher how much they enjoyed the lesson they just watched and explains how they felt the student was successful in that activity. This feedback increases a feeling of preparedness. Another strategy used of social persuasion is self-talk. Self-talk is an efficient learning strategy; it is a way for teachers to think and focus on their performance. Through this strategy, a teacher is able to accept new challenges with confidence and persistence (Anderson, 1997). Unfortunately, research continually indicates that many teachers have low perceived efficacy and feel ill-prepared because of a lack of support from their district and their APE staff, which likely results in a lack of feedback and negative self-talk (Ammah & Hodge, 2006; Hodge et al., 2004; Kudlacek et al., 2008; LaMaster et al., 1998). Fostering and promoting positive self-talk can help build teacher efficacy and support the GPE teacher when asked to work with children with disabilities. Although research on social persuasion and the effects on teacher efficacy in the field of physical education is limited, Bandura (1977) noted that by itself, social persuasion may not be a long-lasting performance enhancer; however, it may enhance the effects of the other interventions such as performance accomplishments, vicarious experience, and the perceptions and control of physiological factors. The role of the APE specialist in any service delivery approach is to provide this type of consultation and intervention for the GPE teacher, which may lead to higher teacher efficacy.

APE Support and Teacher Efficacy

The idea that teacher efficacy may be self-aiding or self-hindering is an important factor in the role of the GPE teacher when working with large classes and when making adaptations to lessons. Based on the theory of teacher efficacy, the more positive experiences the teacher has, the higher the motivation to make the necessary accommodations and modifications to allow students to be successful. Teachers with higher teacher efficacy are also predicted to work

longer with students who are struggling in their classes (Gibson & Dembo, 1984).

According to the *Adapted Physical Education Manual of Best Practices* (Silliman & French, 2008), the APE specialist should provide consultation services and in-service education to the GPE teacher. These actions, along with appropriate modeling, encouragement, and support, may assist in providing the action and influence Bandura (1977, 1989) described to increase teacher efficacy when working with children with disabilities in a physically active setting. In return, the GPE teachers may be more receptive to making the adaptations necessary for successful inclusion of students with disabilities in their classroom. Teachers with higher teaching efficacy tend to be more receptive to implementing new instructional practices (Guskey, 1988) and provide a more active effort to addressing difficult challenges (Bandura, 1977, 1989).

The concept that the GPE teacher may be more willing to make the necessary effort in making accommodations and modifications for an already large class size is important when GPE teachers are asked to incorporate students with disabilities into their classes with their peers without disabilities. Block et al. (2010) support that access to specialists and resources is a major factor in making inclusion successful for the GPE teacher. APE services such as consultation, in-services, modeling, and collaboration can be the strong support base to which GPE teachers can turn to enhance their teacher efficacy when working in inclusive settings. These services may provide the GPE teacher with opportunities for performance accomplishments, vicarious experiences, and social persuasion. However, with the various support available through APE services, it is unclear which support has the highest influence on the GPE teacher efficacy. Even though it is recommended that each service delivery approach provide the GPE teacher with support such as consultation, collaboration, and teacher in-servicing, studies show that APE specialists do not always view this as a priority (Akuffo & Hodge, 2008). Because Texas, as with many states, is not unified on the delivery of APE services, GPE teachers receive various levels of support that may or may not meet intervention needs for their students with disabilities.

According to Bandura (1977), performance accomplishments, vicarious experiences, and social persuasion play important roles in the efficacy beliefs of the instructors. In turn, these factors may play a

vital role in teachers' efforts and their belief in their ability to include students with disabilities into their classrooms. The levels of support in APE such as consultation, itinerant, and collaboration directly affect the amount of performance accomplishments, vicarious experiences, and social persuasion GPE teachers experience when working with students with disabilities and in turn may directly affect teachers' efficacy levels when working in an inclusive setting. Although best practices in the area of GPE have been suggested, standards have not been set for delivering APE services. This leaves district administrators to decide how APE services will be rendered, leaving many GPE teachers to teach in an inclusive setting with potentially low teacher efficacy levels. It is imperative studies be completed to see which method of service delivery best meets not only the needs of the students, but also the needs of the GPE teachers, who are ultimately responsible for the successful inclusion of all students into their classrooms.

Purpose of the Study

The purpose of this study was to determine the effects that various APE service delivery options have on teacher efficacy toward working with children with disabilities in a GPE class. Two research questions were tested. The first was if GPE teachers who have children with disabilities included in their classes with their peers without disabilities will show significantly different perceived teaching efficacy levels among the three methods of APE service delivery in each district. The second research question was if GPE teachers who have children with disabilities included in their classes with their peers without disabilities will have a significantly higher perceived teaching efficacy level when working with a collaborative delivery service compared with the consultation and itinerant approaches of APE service delivery.

Method

Participants

Upon receiving institutional human subjects approval, individuals were solicited to participate in this study. The participants were recruited from the GPE staff at a large school district in Texas and a smaller school district in the surrounding area. Participants who

agreed to complete the survey were 102 elementary GPE teachers with 2 or more years of experience. Participants were informed of the purpose of the research and completed and signed an informed consent form. Participants were 70 female GPE teachers and 32 male GPE teachers. The average age of the participants was 43.71 ($SD = 9.75$). The average teaching experience of the GPE teachers who participated in the survey was 16.05 years ($SD = 8.48$), and the average number of GPE students per class was 53.66 ($SD = 19.90$). Of 101 responses, 29 participants reported currently using the consult method, 32 reported using the itinerant method, 24 reported the collaborative method, 16 reported none, and one participant did not respond. Participants have taken an average of 3.09 ($SD = 1.20$) university courses pertaining to individuals with disabilities.

Instruments

Demographic questionnaire. The participants completed a demographic section of the survey. The participants were asked the following: gender, age, ethnicity, the average number of students in the GPE class, the number of years teaching in the GPE classroom, and the number of university courses they had completed regarding children with disabilities in the GPE class.

General physical education efficacy survey. The instrumentation used was a 26-item questionnaire. We developed the questionnaire based on recommendations of APE practices and expectations in the *Adapted Physical Education Manual of Best Practices* (Silliman-French & Buswell, 2008) as well as the *Adapted Physical Education National Standards* (Kelly, 2006). Each of these resources added validity to the GPE efficacy survey as they cumulatively address the competencies and best practices being used nationally to train and prepare adapted physical educators. The questionnaire was used to measure the GPE teachers' perceived level of confidence when working with students with disabilities in the GPE class with the various service delivery approaches: Consultation, Itinerant, and Collaborative.

The three support services were defined, and the GPE teachers used a 7-point Likert scale from 1 (*not confident*) to 7 (*very confident*) to best describe their confidence in the following areas of working with students with disabilities in GPE: planning learning activities, modifying games or activities, using assistive devices, understand-

ing contraindicated activities, participating in the IEP process, and including students with severe physical disabilities. The higher score indicated a higher perceived efficacy for each question.

Validity and reliability evidence. The survey was given to a panel of five experts in the fields of GPE, APE, and efficacy research for ensuring face and content validity. At the request of the panel experts, formatting changes were made to define each area and clarify the meaning of the Likert scale. Other changes were made to clarify the definitions of the three approaches of APE service delivery options chosen for study. None of the corrections made changed the direction of the study. The experts ranked each question on a scale from 1 (*question was inappropriate*) to 5 (*very appropriate*). The highest ranking average score possible from the experts was 25, indicating a perfect score. The experts scored an average 23.1 out of 25. The lowest score was 22 and the highest score was 25 from the panel of experts. These results indicate the survey is valid for this study. To test survey reliability, 20 elementary GPE teachers took the survey, and 1 week later, they took the same survey again. The results deem the survey reliable: Consult ($r = .707$), Itinerant ($r = .748$), Collaborative ($r = .769$).

Procedures

Permission to conduct the study was obtained from the institutional review board. A letter was sent to each elementary teacher explaining the purpose of the survey as well as confidentiality procedures. The letter also contained an incentive for completing the survey. Participants were informed that if they participated in the survey, they would be included in a drawing for a \$25 gift card to a local retailer. A ticket containing two sets of numbers was attached to each survey. The participants returned one half of their ticket attached to their survey. Tickets were immediately removed upon receipt and placed in a sealed container. Once surveys were returned, a drawing was done and participants were notified of the winning number via e-mail. Permission was given in each participating district to have the questionnaires sent via the internal mail system for its district. For districts outside the local area, participants completed and returned the survey online.

Data Analysis

Descriptive analyses were used to address age, gender, ethnicity, years of GPE experience, number of GPE students in the class, and number of university courses completed regarding children with disabilities. Means were computed for each subscale and used in the analyses. SPSS 18.0 was used to compare the three methods of APE service delivery; to test the first research question, a one-way analysis of variance was conducted, and to test the second research question, a repeated measures analysis was conducted.

Results

To test the first research question, that GPE teachers who have children with disabilities included in their classes with their peers without disabilities will show significantly different perceived efficacy levels among the three approaches of APE service delivery in each district, three one-way ANOVAs were performed to examine the difference among the four groups for each delivery approach: Consult, $F(3, 98) = 5.09, p = .003$; Itinerant, $F(3, 97) = 10.80, p = .000$; Collaborative, $F(3, 98) = 13.64, p = .000$.

A post hoc Tukey HSD test was conducted, and the most significant difference occurred between those who have no APE service and all other service approaches: No APE vs. Consult ($p = .002$), No APE vs. Itinerant ($p = .005$), and No APE vs. Collaborative ($p = .026$).

To test the second research question, that GPE teachers who have children with disabilities included in their classes with their peers without disabilities will have a significantly higher perceived efficacy level when working with a collaborative delivery service compared with the consultation and itinerant approaches of APE service delivery options, a one-way repeated measures analysis was completed and showed a significant difference between the approaches, $F(3, 303) = 19.09, p = .000$.

A post hoc Bonferroni test was conducted, and all of the delivery approaches were significantly different. A difference was also found between the itinerant and consult approaches as well as a significant difference between the collaborative model and the consult and itinerant approaches ($p = .000, p = .000$).

Discussion

The purpose of the study was to determine the effects various APE service delivery options have on teachers' perceived efficacy toward working with children with disabilities in a GPE class. We examined if various APE service delivery approaches affect perceived teacher efficacy and if perceived teacher efficacy was higher when the collaboration model was used.

This study demonstrates a trend of higher efficacy scores as APE support increases throughout the three delivery approaches. Participants who currently have no APE support in their district reported the lowest efficacy when working with students with disabilities compared with all other approaches. As expected, this seems to suggest the lack of positive personal experiences, vicarious experiences, and social persuasion available for these teachers resulted in a lower rate of teacher efficacy. In contrast, the consult method of support, which in this study included only verbal and e-mail contact between the APE specialist and the GPE teacher, was related to higher teacher efficacy. This seems to indicate that even when support is limited, it is still useful for increasing teacher efficacy, and this is consistent with previous findings by Lytle and Collier (2002) whereby consult methods used between the GPE and the adapted physical educator, whether direct or indirect, increased teacher efficacy.

Comparison with the itinerant model indicates perceived efficacy levels that were also significantly higher than those with no APE support. This result supports suggestions by Block et al. (2010) on using APE staff as a necessary resource for making inclusion successful. The findings of this study also concur with Lytle and Collier's (2002) and Heikinaro-Johansson et al.'s (1995) studies in which having an APE specialist on campus who worked directly with the GPE teacher helped increase GPE teachers' perceived efficacy.

The highest reported teacher efficacy was for the collaborative method, which included team teaching, lesson plan collaboration, and hands-on assistance with accommodations and modifications. This method not only gives the GPE teacher the vicarious experiences absent in the other approaches, but also allows for replication and refinement of delivery strategies as the GPE teacher is able to model the APE specialist working directly with the student. This model allows the GPE teacher to visualize the various methods for

increasing students' potential, rather than focusing on the lack of potential, which may also decrease the apprehension and negative self-talk present within the GPE teacher without collaboration. By seeing the instructional strategies being used successfully to elicit the positive acts of students with disabilities, the GPE teacher may have less anxiety and fewer doubts, consequently allowing efficacy to increase. With the lack of previous research on the collaborative method and teacher efficacy, it is difficult to corroborate the findings; however, these results illustrate the need for future studies on this APE service method and its effects.

As the level of APE support increased, so did the efficacy level of the GPE teachers. The collaborative model, by design, includes team teaching, lesson plans, accommodations, modifications, modeling, hands-on assistance, and encouragement, so it is reasonable to assume these factors play a direct role in the increase of GPE teachers' efficacy, which makes sense as these are sources of efficacy beliefs (Bandura, 1977). As well, this model allows for GPE teachers to work through the physiological factors they may be experiencing such as nervousness or hesitation, which may occur when working with children with disabilities, and to discuss the specific needs with the specialist in real time. The collaborative method also allows for systematic reflection and brainstorming to predict the needs for accommodations and modifications and to plan strategies for implementation. Based on these factors, the theoretical implications of the findings indicate the collaborative method is considered the highest level of support and therefore may produce the highest level of efficacy in GPE teachers when working with students with disabilities in their classes.

Limitations

Within this study, limitations in the design and internal validity were present. For example, the questionnaire was not specific to the program the participants were using. Having the participants predict their confidence levels for a program in which they may never have participated may have led to an over- or underestimation of efficacy. We attempted to address this threat by making sure the description of the service delivery approaches offered a clear definition and representation of the variables for each approach to increase comprehension of the participants so they could more clearly represent their

level of confidence. Additionally, we did not control for the background experiences of the participants. Teacher demographics such as age, the number of university courses previously taken, and the teachers' experience in each model may have also affected the internal validity. Thus, these findings should be interpreted with caution; however, these findings initiate and highlight an important area of research within physical education. In future studies in this area, researchers should try to control for participants' background as well as examine GPE teachers using each approach and then examine their present level of confidence. The sample size was also relatively small and encompassed a small section of the Texas region, thus limiting generalizability. This also may have been a limitation on the participants. Participants in the study consisted solely of GPE teachers. Other professionals who are expected to assist students with disabilities such as support staff and classroom teachers were not surveyed; these staff are included in the responsibility of the APE specialist and perhaps should be included in future studies of services and efficacy.

Another variable may have affected the external validity of the study: Because there is no unified method of APE services delivery, each approach may be implemented differently within each district; therefore, the impression of consult to one GPE teacher may not be the same impression to another. For analysis of the data, we relied on grouping the participants by current level of service. In future studies, researchers should more clearly define the independent variables such as the current program as part of the questionnaire and have the participants only consider current level of efficacy when working with students with disabilities.

However, although limitations were present, these results show that of the three most currently used methods of APE services, the collaborative method may be the most appropriate to increase teacher efficacy when working with students with disabilities. These results should not be discounted and should serve as a foundation for future research.

Conclusion

We sought to answer the question of whether the method of APE service delivery affected the efficacy of the GPE teacher as well as which approach of APE services may be best for enhancing GPE teacher efficacy. We found higher perceived teacher efficacy as the

level of support increased. Perceived teacher efficacy was highest with the collaborative method, which included consultation, collaborative lesson plan design, and team teaching. These findings create a foundation for a unified delivery of APE services throughout the state of Texas to ensure all GPE teachers are receiving similar support within the various districts. As well, the study assists in clarifying the need for more collaborative support in the GPE classroom to increase teacher efficacy and meet the unique needs of individuals with disabilities. If APE services are more unified and teachers are provided with appropriate support, individuals with disabilities will have every opportunity to participate successfully in regular physical activity and reap the physical, social, and cognitive benefits.

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FITNESS

Implementation of a Personal Fitness Unit Using the Personalized System of Instruction Model

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Abstract

Levels of physical activity and health-related fitness (HRF) are decreasing among adolescents in the United States. Several interventions have been implemented to reverse this downtrend. Traditionally, physical educators incorporate a direct instruction (DI) strategy, with teaching potentially leading students to disengage during class. An instructional strategy that has been shown to be effective in increasing content knowledge and skill competency in physical education is the personalized system of instruction (PSI). Students (N = 24) from a private, urban high school in a major city within the Mountain West region of the United States participated in the 6-week study. Video and audiotaping, along with interviews and journals, were used to determine if criteria standards associated with PSI were met. Three of the 4 components of PSI were met as well as 10 of 12 design features, indicating that implementing the personal fitness unit using PSI was suc-

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cessful. The results indicate PSI was successfully implemented. With its characteristics of self-pacing and mastery learning, PSI has the potential to be an effective teaching model within physical education.

Regular engagement in physical activity is important in the growth and maturation of adolescents. A growing concern is the significant decrease in activity levels of adolescents. The Centers for Disease Control and Prevention (2011) recommends adolescents participate in at least 60 min of aerobic activity a day, 7 days a week, and at least 3 days of muscle strength activities a week. According to Song, Carroll, and Fulton (2013), only 16.3% of adolescents in the United States achieve these recommended goals and almost half (47.8%) meet neither goal. Others have reported significant decreases in physical education (PE) participation between eighth (91%) and 12th (34%) grades (CDC, 2011). It is well known that potential consequences of being physically inactive include increased risk for obesity (Trost, Kerr, Ward, & Pate, 2001) and decreases in cardiovascular health, physical fitness (Grunbaum et al., 2004), and psychological well-being (Goldfield et al., 2011). If a national goal is helping teenagers lead healthy lives by increasing physical activity, the reasons why teenagers stop being as active during the adolescence needs to be examined.

For the majority of adolescents, PE classes provide the best environment for increasing activity levels and thereby personal fitness levels (Moreno Murcia, Coll, & Ruiz Pérez, 2009; Pate, Ward, O'Neill, & Dowda, 2007; Sallis et al., 2012). Others have also reported decreases in motivation and perceived relevance toward PE (Olafson, 2002; Osborne, Bauer, & Sutliff, 2002; Parish & Treasure, 2003; Saffici, 2011; Webster, Mindrila, & Weaver, 2011; Whitehead & Biddle, 2008). Trudeau and Shepard (2005) suggested that decreases in participation in PE may be due to the formatting or structuring of the class. When students do not perceive that what or how something is taught is important to their lives, there is potential for decreased involvement and decreased activity within the classroom (Webster et al., 2011). Cothran and Ennis (1999) also reported that when students perceive the curriculum as enjoyable and meaningful, the desire on the behalf of the students to participate increases. They go on to say that to meet this desire for relevance, physical educators

need to evaluate what is being taught and how it is being taught. Models-based instruction provides a multitude of benefits including (a) provides an overall plan for teaching, (b) has research support, (c) allows for valid assessments, and (d) promotes specific standards and learning outcomes (Metzler, 2005).

Traditionally, secondary PE teachers use a direct instruction model (DI) to teach traditional team sports, such as flag football, basketball, and soccer (Bauman et al., 2009). DI can be effective, but consistent decreases in student motivation, participation, and health-related fitness (HRF) highlight a need to examine other potential instructional strategies. Curtner-Smith, Todorovich, McCaughtry, and Lacon (2001) suggested PE teachers need to move from the direct, teacher-centered methods of teaching and incorporate more indirect, pupil-centered instructional strategies to help increase motivation and participation within PE. Indirect instruction generally allows students to learn at their own pace by providing more opportunities for learning and practice. Increased practice time leads to higher levels of perceived competence, which can lead to higher levels of activity. Student-centered practices can encourage a task or mastery-involved environment in which students are allowed to perform based on predetermined criteria, rather than an ego-involved environment in which the concentration is more on the ranking of students based upon performance. The personalized system of instruction (PSI) is an instructional model in PE that has the potential to increase physical activity and skill and knowledge simultaneously.

The PSI model was originally designed by Dr. Fred Keller in the early 1960s (Keller, 1968) to replace traditional lecturing and incorporate an independent, self-paced approach to learning. Because of larger class sizes, Dr. Keller had doubts the traditional DI model would work. Through prior work, he realized individuals generally learn at their own pace rather than a predetermined rate and they can learn independently when provided with proper support materials, including written handouts and feedback through an individual who has already mastered the material. This personalization is one of the driving forces for PSI.

The “Keller Plan,” as PSI is sometimes referred to, has five distinct characteristics: (a) self-pacing, (b) mastery learning, (c) teacher as motivator, (d) emphasis on the written word, and (e) the use of proc-

tors (Keller, 1968). Self-pacing allows students to work at their own speed, or as Metzler (2000) stated, as fast as they want or as slow as they need. Self-pacing is determined by the experience of the student and the external demands of life. Mastery learning means students may only progress to the next unit or modular when they have demonstrated mastery of the current subject. This usually takes the form of a written assessment, but can be another form that is approved by the instructor that allows for students to showcase what they have learned, whether skills or knowledge. The third characteristic is that the teacher acts as a motivator as opposed to the sole source of information. Traditionally in education, emphasis is placed upon the teacher's knowledge and the passing on of skills and knowledge to the students. Within PSI, the teachers' knowledge is incorporated into the lessons and modules, making the emphasis on the written word for materials and learning, usually a workbook. The fifth characteristic is the use of proctors to aid in assessments. There are mixed feelings regarding this characteristic within the PSI literature. Several authors have commented on the importance of proctors to the successful use of PSI in the classroom (Calhoun, 1977; Carlson & Minke, 1976; Farmer, Lachter, Blaustein, & Cole, 1972). The use of proctors provides several benefits including allowing students quick or immediate feedback on assessments and providing the opportunity to repeat assessments if needed. Others have commented on the negative aspects of proctors. Depending on the environment of the class, particularly in secondary education, the use of proctors may cause more problems than solutions (Caldwell, 1985). Others have reported similar instances of student learning outcomes not being met because of the subjective assessments that were used (Caldwell et al., 1978). Robin and Cook (1978) commented about the effort needed to train proctors properly, therefore making the use of proctors potentially counterproductive.

In the 1970s, researchers of PSI suggested it would replace or at least be comparable to traditional lecture in higher education (Taveggia, 1976). During the 1980s, the use of PSI declined, but implementation began to increase during the 1990s. With the trend of online and Web-based learning in the 21st century, PSI has again shown its viability as a legitimate instructional model within education (Grant & Spencer, 2003) through the posting of online materi-

als (compared with traditional written workbook). Testing is offered on several online teaching platforms, which provides students with immediate feedback on some assessments. Online sources, such as YouTube, can be used to demonstrate proper activities compared to still pictures and diagrams previously used. Finally, with readily available access to the Internet through tablets and phones, instructors have a wealth of resources to aid in their teaching.

Researchers have highlighted the effectiveness of PSI as a legitimate mode of teaching in many fields ranging from psychology (Calhoun, 1977; Johnson & Croft, 1975; Springer & Pear, 2008), nurse education (Fell, 1989), distance education (Grant & Spencer, 2003), mathematics (Hambleton, Foster, & Richardson, 1998), and biochemistry (Ocorr & Osgood, 2003). Research on PSI within PE is limited (Pritchard, Penix, Colquitt, & McCollum, 2012). The use of PSI in PE to teach skills has been documented in volleyball, golf, racquetball, and tennis (Metzler & Sebolt, 1994). Others have demonstrated the use of PSI to teach more health-related content knowledge. Hannon, Holt, and Hatten (2008) successfully implemented an HRF unit using PSI to teach postrehabilitation fitness in a high school setting. Their 3-week study demonstrates the effectiveness of PSI to teach content knowledge successfully as opposed to the traditionally researched skill acquisition. Pritchard et al. (2012) reported increases in content knowledge as well as fitness levels (cardiovascular endurance, muscle strength and endurance, flexibility) in a collegiate weight training class.

The majority of research on PSI has been for skill development and acquisition primarily at the collegiate level. Metzler and Sebolt (1994) stated that units in which PSI is used could easily be adapted to middle and high school levels. According to the Society of Health and Physical Educators (2014), the outcome of an effective PE program is to “develop physically literate individuals who have the knowledge, skills, and confidence to enjoy a lifetime of healthful physical activity” (para. 1). To accomplish this, research needs to be done in which different instructional strategies are examined, beyond the traditional lecture-based approach.

An issue that arises with implementing theoretical strategies into daily practices is the concept of fidelity. O'Donnell (2008) stated that fidelity of implementation determines how well the intervention

compares to the original design. Without an examination of fidelity, gaps arise that can significantly alter intended outcomes within the study (Hulleman & Cordray, 2009). As with other research, the usage of a different convention of teaching must be examined to make sure what is being taught and how it is being taught matches the theory. With a myriad of instructional strategies, using one particular instrument to determine fidelity can be difficult. As previously mentioned, PSI has been incorporated and determined successful in a variety of educational areas, including PE. However, only a handful of researchers have examined the fidelity of implementation of PSI (Cregger & Metzler, 1992; Hannon et al., 2008), whereas others have used benchmarks to maintain fidelity (Colquitt, Pritchard, & McCollum, 2011; Pritchard et al., 2012). With the potential for PSI to be a highly effective instructional strategy for secondary PE, the purpose of this study was to examine the fidelity of implementing a personal fitness unit using the PSI model at the high school level. In a similar study, Hannon et al. (2008) examined the implementation of PSI and generally looked at the four main characteristics of PSI—self-mastery, self-pacing, teacher as motivator, and emphasis on written material for teaching—as well as the 12 design features:

- Independent Student Progression
- Low Management Time
- High Rate of Cues and Guidance
- High Rate of Task-Related Feedback
- Performance of Tasks to Criterion
- Student Rating of PSI for Learning
- High Rate of Practice Time
- High Rate of Attendance
- Learning Tasks in Written Form
- Study Materials in Written Form
- Class Information in Written Form
- Low Lecture/Demonstration Time

Using the 12 design features reported by Cregger and Metzler (1992), we hypothesized at least nine (75%) of the features would meet the predetermined criteria.

Method

Participants

One PE class of 25 students ($n = 21$ males; $M_{\text{age}} = 15.4 \pm 1.23$ years old) from a local high school in the urban area of a large city in the Mountain West region of the United States was recruited for this study. This school and teacher were approached based on prior relationships and willingness to examine different instructional strategies within PE. Approval from the school and university institutional review board was obtained and parental permission and child assent were granted prior to the beginning of the study. An introductory section of personal fitness was selected based upon the need for proper training of high school students in resistance training, health-related fitness, and the application of this information.

The class met for 6 weeks, on 4 days of the week, for 40 min of weight room activities. Available resources included a moderately sized fitness facility consisting of free weights, dumbbells, weight machines, and cardiovascular equipment. The classroom teacher had a degree in pedagogy with 16 years of teaching experience with knowledge of the format of PSI. The principal investigator (PI) trained the teacher in PSI philosophy and implementation as well as worked closely to maintain fidelity of the instructional strategy and curriculum.

Curriculum and Materials

The curriculum used for this study was adapted from Colquitt et al.'s (2011) personal fitness unit originally developed for secondary and collegiate students. Topics covered included cardiovascular fitness, muscle strength and endurance, flexibility, body composition, and nutrition. Students were required to demonstrate competencies and content knowledge through written assignments, task performance and completion, and creation of exercise workouts based on fitness improvement areas.

The workbook was designed to introduce students to personal fitness through the PSI model with an explanation of how the curriculum (modules) works as well as learning objectives, classroom policies, readings, and access to learning videos demonstrating specific exercise techniques. Students had the opportunity to complete

16 modules during the 6-week study. This program was designed for students to use at the beginning of the PE course as an introduction to health and fitness, with the outcome being the ability to self-evaluate their current fitness levels and, based on these results, to create an individual workout that will assist them in reaching their fitness goals. In the curriculum, an overview of fitness, proper lifting techniques, how to lift safely, and content designed to encourage a healthy lifestyle were provided. The curriculum modules consisted of the following:

- Fitness Assessment
- Cardiovascular Training
- Resistance Training
- Flexibility Training
- Fitness Principles
- Program Design
- Nutrition
- Fluid Balance
- Abdominals and Lower Back
- Hip/Thigh Multi-Joint
- Hip/Thigh Single-Joint
- Chest
- Upper Back
- Shoulders
- Biceps
- Triceps

Instrumentation

Using Cregger and Metzler's (1992) original design, we collected 12 data sources for analysis. These sources were categorized into four parts: (a) course management, (b) instructor and student in-class processes, (c) progress of students, and (d) student ratings of PSI features. The criteria were established based on similar work in PSI and what a "true" PSI model should look like (Table 1). These criteria have been established as the gold standard of measuring PSI fidelity and have been used in other fidelity studies (Hannon et al., 2008; Leach, 2011).

Table 1*Definitions of PSI Confirmation Criteria Data*

Characteristic	Definition
1. Self-Pacing	
a. Independent Student Progression	Mean percentage of tasks students completed each day
b. Low Management Time	Percentage of class time that provided content-related information and spent in management
c. High Rate of Cues and Guidance	Rate per minute the teacher provided verbal guidance and cues
d. High Rate of Task-Related Feedback	Rate per minute of verbal feedback provided during each class
2. Mastery-Based Learning	
a. Performance of Tasks to Criterion	Percentage of tasks (assignments) all students in the class completed to criterion
b. Student Rating of PSI for Learning	Students' perceived increases in skill and knowledge
3. Teacher as Motivator	
a. High Rate of Practice Time	Percentage of class time students spent in subject-related practice
b. High Rate of Attendance	Daily average of students' attendance in class
4. Emphasis Placed on Written Word	
a. Learning Tasks in Written Form	Tasks provided in written form in a workbook
b. Study Materials in Written Form	Study materials provided in written form in a workbook

Table 1 (cont.)

Characteristic	Definition
c. Class Information in Written Form	Class operating policies and procedures provided in written form in a workbook
d. Low Lecture/ Demonstration Time	Percentage of class time students spent in lecture/demonstration

Procedures

Prior to the beginning of the study, students were instructed on the use of the workbooks and other electronic devices (DVDs, laptop, online videos). Students were reminded this unit was self-paced, but they could work with others to complete their modules. This provided the opportunity for spotting of lifts as well as partners to check off learning tasks. Based on the PSI characteristic of mastery learning, students were instructed they needed to complete the first module, Fitness Assessment, before they could move on to another module. Criteria for completing this module included achieving a minimum score of 80% on the assessment quiz as well as completing all tasks within the module. Upon mastering the module, students were allowed to choose the next type of module (i.e., fitness skills or concepts; see Colquitt et al., 2011) on which they wanted to work. Students were instructed that to move from one module to the next, they needed to complete the tasks assigned in the module and score an 80% or higher on the assessment quiz at the end of the module. Six weeks allowed ample time for completing a majority of the modules. As students completed all of the modules at mastery level, they were “recruited” to assist the teacher in checking off performance tasks. During the 6-week study, students and the classroom teacher were encouraged to make comments regarding the learning and teaching process.

Data Analysis

Data were collected and evaluated based upon the four major components of the PSI instructional strategy (Keller, 1968). A variety of sources were used including video and audio recordings, stu-

dent workbooks, and teacher log. Other resources included a single Likert question as well as two questions asked at the conclusion of the study: (1) “Did you feel that you learned from this type of instruction?” and (2) “What were your thoughts regarding the way this class was taught?” Teacher thoughts and comments were obtained through periodic debriefing between the classroom teacher and the PI. At the conclusion of the study, the teacher completed a series of open-ended questions including the following:

1. Compared to other methods of teaching, what is your opinion of the PSI model?
2. How was it different?
3. What were the strengths of the model?
4. What were the weaknesses?
5. What was your sense of student engagement regarding PSI?
6. How would this work in a non-weight training class?
7. How effective do you think this teaching model was in providing students with content knowledge while still giving them sufficient physical activity?
8. Would you use this model in the future?

Responses were used to probe for deeper investigation of the teacher’s thoughts regarding PSI.

To analyze the program, we followed procedures established by Cregger and Metzler (1992) and examined four of the five characteristics of PSI. As mentioned previously, in this study, we did not address the fifth characteristic of PSI, referring to the use of proctors during the class. Because of school scheduling, two out of four classes per week were videotaped with the teacher wearing a cordless microphone for later analysis. The PI and a second trained observer coded and analyzed the video and audio. The criteria data are explained in Table 1. Individual student progress (1a) was determined by calculating the number of tasks the class completed during the study and dividing by number of days within the study. Performance of each task was evaluated similarly by calculating the number of tasks completed by the number of tasks possible. Five of the criteria (1b, 1c, 1d, 3a, and 4d) were evaluated by coding of video and audio recordings. Rates of cues and feedback were analyzed by determining the number of occurrences during the recorded classes and di-

viding by total class time. The remaining three (1d, 3a, and 4d) were determined by recording the time spent in each and then dividing by class time. Task to criterion (2a) was evaluated by dividing the number of tasks completed by the number of tasks possible to create a percentage. Student rating of PSI (2b) was analyzed through a 5-point Likert scale given at the end of the study. Average daily attendance (3b) was determined by subtracting absences from opportunities and dividing by total, then multiplying by 100 to reach a percentage: $(\text{Total} - \text{Absences})/\text{Total}$. The remaining criteria (4a–4c) were check offs from the workbook to determine that they were available to the students via written work.

Results

The primary results from the fidelity study are presented in Table 2. Three of the four design characteristics for effective implementation of PSI were met. The first characteristic, self-pacing, showed partial success (50%). Independent progression exceeded the minimum standard ($\geq 2\%$ per day), signifying students completed 7.7%, or 1.5 tasks, per day. The second feature, low management time, was considered a success with less than 2% of the class time used for general management of the class. Cues and task-related feedback did not meet the criteria for confirmation, with only 0.54 cues per minute of individual guidance and 0.68 occurrences of task feedback. The second characteristic of mastery-based learning achieved 100% confirmation. Both design features, achievement of criterion and the student rate of learning through PSI, exceeded the minimum criteria. The third characteristic, teacher as motivator, also had 100% confirmation. For the design feature of high practice time, 97.7% (~37 min) of class time was available for student practice. Attendance was also high, exceeding the minimum of 80%. The last characteristic investigated, emphasis on the written word, was deemed a success as four out of four (100%) design features for this characteristic met the minimum standard. With the majority of information available to the students via their workbooks, the classroom teacher did not need much time to lecture or demonstrate the skill or activity.

Table 2
Verification of PSI Implementation

Characteristic	Study result	Average result per class (38 min)	Confirmation criteria	Criteria met
1. Self-Pacing				
a. Independent Student Progression	7.7% completed	1.5 tasks	≥ 2.0% each day	Yes
b. Low Management Time	1.9% of class time	0.75 min	≤ 5.0% of class time	Yes
c. High Rate of Cues and Guidance	0.54 per minute	NA	1 per minute	No
d. High Rate of Task-Related Feedback	0.68 per minute	NA	1 per minute	No
2. Mastery-Based Learning				
a. Performance of Tasks to Criterion	83.2% completed	399 out of 480	≥ 70% completed	Yes
b. Student Rating of PSI for Learning	4.02 out of 5	NA	3 or higher	Yes
3. Teacher as Motivator				
a. High Rate of Practice Time	97.7% of class time	37.13 min	≥ 75% of class time	Yes
b. High Rate of Attendance	98% Attendance	0.5 absence per day	≥ 80% attendance	Yes
4. Emphasis Placed on Written Word				
a. Learning Tasks in Written Form	Tasks Provided	NA	Provided	Yes
b. Study Materials in Written Form	Provided	NA	Provided	Yes
c. Class Information in Written Form	Policy Provided	NA	Provided	Yes
d. Low Lecture/Demonstration Time	2.3% of class time	1 min	≤ 10% of class time	Yes

Teacher's Observations and Thoughts

In interviews and open-ended questions, the teacher noted the first several classes were difficult because of explanations of how PSI worked: "I had to adapt to it at first. Once I did it was great." When asked to explain how he adapted, the teacher commented he normally uses a lot of demonstrations and spends a great deal of time explaining. With PSI, he had to remind himself to allow the students to learn on their own through the information in the workbook. The concept of students being responsible for their work and him being a facilitator required adjustment: "They are doing the learning and examples themselves. I am only their Sherpa on the climb." As the study progressed, he spent less time managing the students and more time providing verbal feedback. When asked his impression of student engagement with PSI compared with other methods, the teacher stated it worked well with the students: "A couple of the students needed a bit more urging and direction, but it was relatively easy to see who was not getting it."

The teacher reported he feels the implementation of the PSI model will work better in the future now that he is more familiar with it. Comparing the PSI to other instructional styles, he commented that he "liked how the skills and knowledge were incorporated into the same lesson/module. Other instructional approaches separate the two and the students have a difficult time joining them together." Overall, the teacher was satisfied in how PSI worked in the classroom:

I love the fact that it's a lot of work up front, but then the application is easy. Students are able to have an individualized approach. Each kid is in charge of their own education. Most of all, I am freed up to help students that need it and students that get it are on to the next thing.

The only weakness the teacher reported was the starting of the study: "I was not sure how to start and get things going. Once I started, it was really easy."

Students' Thoughts and Comments

According to the teacher, students were hesitant about the new instructional strategy. One student commented, "I enjoyed learning more about personal fitness, but it seems like we don't get to do anything." This theme of decreased physical activity was common among the students. Some mentioned they just want to lift weights and do not care about gaining the content knowledge. As the study progressed, students were able to incorporate the knowledge and the skills into their activity. One female student said, "I like that I know what and why I am doing when working out. This will definitely help me later." Overall, the majority of students reported they enjoy being able to learn a little more about what they are doing rather than just lifting.

Discussion

The primary aim of this study was to examine the effectiveness of implementing a personal fitness unit using the PSI model. Determining the successful implementation of the PSI model, according to Cregger and Metzler (1992), requires meeting 70% of the 12 design features outlined in Table 1. We hypothesized for this study that at least nine of the 12 (75%) features would be successfully met. Results from the study show the confirmation criteria were met for 10 of the 12 (83%) design features. This indicates the standards of PSI were followed when the curriculum was implemented. In addition, comments from the teacher and students were positive toward the use of PSI in teaching a personal fitness unit for high school students.

An important finding from this study is the use of cues and guidance and task-related feedback. Cregger and Metzler (1992) originally suggested one incident per minute is a criterion for success for each feature. In this study, we reported 0.54 cues per minute and 0.68 occurrences of feedback per minute. One reason for failing to meet the predetermined one occurrence per minute criterion was the lack of proctors. Keller (1968), in his original PSI work, commented on the use of proctors to aid in module assessments. This could alleviate time that could be spent providing feedback and cues. The use of proctors in PSI is mixed. Some have reported decreases in overall learning when proctors are used (Caldwell, 1985), whereas others have stated their use is central to using PSI (Calhoun, 1977; Farmer

et al., 1972). In other studies involving PSI in high school PE, proctors have not been used because of the difficulty in proper training (Hannon et al., 2008). In this study, traditional proctors were not used, but the effects of proctors in high school classes in which PSI is used need to be investigated.

Other key findings from this study include the levels of management time and lecture/demonstration time (1.9% and 2.3% of class time, respectively), thus increasing time spent in practice (97.7% of class time). Increases in practice time may have multiple effects on outcomes of PE. First, increased practice time allows for development of motor skills and competencies that help students to meet national standards (American Alliance for Health, Physical Education, Recreation, and Dance, 2013). These developed skills can manifest in increases in HRF components later in life (Stodden, Langendorfer, & Roberston, 2009). Second, increases in competencies can play a vital role in moving toward more intrinsic motivation toward physical activity (Clark, 2007; Standage & Ryan, 2012; Stodden et al., 2009). A potential drawback of other instructional models is the decrease in time for practice, whereas this study demonstrates the possibility PSI has in increasing practice time, leading to potential higher levels of competency.

A major barrier in implementing a new instructional strategy is the buy-in from the classroom teacher. Most successful teaching models require a lot of planning on the teacher's behalf. This is true of PSI as well. With the creation of the modules, including what skills to teach, how to assess those skills, and other pertinent information, the whole process can be daunting. The classroom teacher in this study acknowledged this, but went on to say that it is worth it because of what PSI does for the student learning experience. Other areas that could appeal to practitioners are the ability of the teacher to engage with more students, provide feedback and cues, and encourage the students in the tasks they are working on.

Although the majority of the results from this study are positive, care must be taken to ensure that generalizations are not made toward other activities in PE. We examined the use of the PSI model in a personal fitness unit. Other content including individual sports and team sports need to be investigated separately for the possible use of PSI.

This study had a few limitations. First, the study took place during the second semester of the school year. Many students were new, but a returning cadre of experienced students may have altered the outcome. Another limitation is the lack of experience in PSI on behalf of the classroom teacher. Although the teacher was familiar with PSI and the PI provided extra training and feedback, the teacher did not have a solid base for this instructional strategy and this may have prevented him from engaging in more feedback and verbal guidance. Gender was not considered during this study, but the majority of participants were males (83.3%), and this may have affected the outcome. Last, the class used in this study was selected for convenience, rather than as a randomized selection.

The traditional approaches of pencil and paper workbook and DVD videos for demonstrating technique were used in this study. With the availability of a plethora of technology, studies need to be conducted using these avenues with PSI. Instead of a pencil and paper workbook, the information could be presented using a tablet or other handheld devices. Quizzes can be taken and corrected using online teaching platforms, and demonstration videos can be shown as well. Implementing these technologies could free up classroom teachers, allowing them to interact more with students as was intended in the original model. More study needs to be conducted to further investigate other variables associated with teaching styles and curriculum including content knowledge, physical activity levels, and psychosocial variables.

Conclusion

The results from this study show that a personal fitness unit in which the PSI teaching model is used can be successfully implemented. It adds to the minimal literature available in which the use of PSI in high school PE is investigated. More research must be done to examine the effects of this instructional strategy in the context of general PE classes.

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FITNESS

Weight Bias in Schools and How Physical Educators Can Assist in Its Demise

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Abstract

One of the unfortunate side effects of the current global obesity pandemic is an increasing anti-fat bias toward overweight and obese individuals. The teaching profession is not immune from having its members included in the ranks of those possessing negative stereotypes associated with overweight or obese individuals. We provide the reader with a literature review of the bias held by individuals within society, provide the relationship of the bias to bullying, and suggest several avenues physical educators can explore in assisting to diminish the bias and its effects.

During the past three decades, the prevalence of childhood obesity has doubled for adolescents and tripled for children (Faigenbaum, 2007). Accompanying this increase is the escalating prevalence of weight bias. By definition, weight bias is the tendency to judge an individual who is overweight or obese negatively based on assumed and/or false character traits, such as being physically unattractive, incompetent, lazy, or lacking self-discipline (Rukavina & Li, 2008).

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In 1996, 7% of the adult population within the United States reported weight discrimination. By 2006, that percentage had risen to 12%, demonstrating a 66% increase (Andreyeva, Puhl, & Brownell, 2008). This bias has also been reported in preschool children 3 to 5 years of age, who associated peers who are overweight with characteristics such as being mean, stupid, ugly, and having few friends (Obesity Action Coalition, 2012). Laziness, unhappiness, messiness, shiftlessness, brainlessness, and simply uneducated are common weight bias stereotypes (Schmalz, 2010). These negative labels are found in all facets of life including schools, job sites, and even doctors' offices (O'Brien, Hunter, & Banks, 2007). Because of these stereotypes, the negative labels follow individuals who are obese or overweight and are difficult to overcome as they move from childhood through adulthood.

The research literature seems to be consistent in dealing with the most common weight biases, namely, implicit and explicit. Rukavina and Li (2008) explained that individuals who knowingly exhibit their weight bias against people who are overweight (i.e., teasing or name-calling) have explicit bias. Implicit bias, which can be triggered by certain events or actions, occurs when one unconsciously exhibits bias by assuming an individual or a group of individuals possesses certain characteristics such as laziness or is unmotivated (Rukavina & Li, 2008).

Medical consequences connected with individuals who are overweight are the focus of the health community, and too often the mental and social issues are overlooked. These issues can have serious effects on the personal and social well-being of individuals who are overweight individuals and may lead to negative health consequences. Weight bias is still considered a socially acceptable form of prejudice today and is rarely challenged (Obesity Action Coalition, 2012).

The purpose of this study was to examine the effects of weight bias in physical education (PE) programs and discuss interventions that may help to eliminate negative consequences. More specifically, we wanted to address two basic practitioner questions:

1. How does weight bias affect students within our schools?
2. When weight bias does occur, what can your school's physical education teacher do to help abolish it?

How Does Weight Bias Affect Students Within Our Schools?

Educators' attitudes toward individuals who are overweight are significant and may influence whether the experiences individuals who are overweight encounter will be positive or negative. Physical educators need to be aware of weight bias and its stigma. This stigma will certainly create negativity in the classroom. Recognizing such attitudes, which may be exhibited by peers, teachers, and the individuals themselves, can assist in developing appropriate lessons and enhancing student motivation. Instructors in PE are not immune to weight bias, and this could subconsciously affect their teaching. The actions revealed in a PE class can have lifelong damaging consequences for students who are overweight. PE classes additionally provide the opportunity for healthy enhancement and improvement of self-esteem. Teachers need to be conscious of the innuendoes of their instruction practices as well as the dynamics of the class. Sadly, youth who are overweight are receiving this message from countless sources, including their PE classes. However, PE specialists within the school can play an enormous part in educating society of the negative stigma placed on these individuals.

As mentioned earlier, weight bias and discrimination may be the last socially "accepted" prejudice. However, given the current state of overweight, obesity, and sedentary lifestyles among youth, physical educators face a challenging task in promoting healthy weight principles and active lifestyles (Greenleaf & Weiller, 2005). Physical educators need to be cognoscenti of weight bias and understand how their influence can shape the attitudes of their students. Greenleaf and Weiller (2005) polled 105 professional members of the National Association for Sport and Physical Education (NASPE) and reported that over 80% of the members believed not enough was being done in schools to fight obesity, but felt that the school setting was an appropriate place for dealing with youth weight problems.

Many components contribute to a person's ability to be physically active. Factors over which physical educators do not have much control are outside-of-school environmental or availability elements. Schmalz (2010) stated in her introduction, "Participation in physical activity is complicated by psychological barriers such as acute sensitivity to perceived weight status and consciousness of

weight stigma, lack of motivation, and low perceived competence” (p. 15). When participating in physical activity, many individuals who are overweight feel embarrassed or self-conscious because they compare themselves to those whose weight is within the averages (Greenleaf, Martin, & Rhea, 2008). Individuals who are overweight struggle with certain physical activities because of their weight and body awareness and therefore become discouraged. Name-calling by peers, along with the embarrassment when comparing themselves with others, can also generate unconstructive beliefs toward being active. The continual negative experiences discourage these individuals from being physically active and receiving the subsequent positive outcomes of exercise (Zabinski, Saelens, Stein, Hayden-Wade, & Wilfley, 2003). This negative lifetime cycle needs to be broken so engaging in physical activity can reduce the effects of being overweight.

According to Greenleaf et al. (2008), “One place where overweight youth should be able to engage in physical activity without encountering social stigma is in the K–12 PE setting which should be free from all types of bias and stigma” (p. S53). This is a challenge because PE classes are where individuals’ body and physical abilities are revealed in front of others. Peer groups play a major role in youth and anti-fat attitudes (Puhl, 2011). Being required to wear PE uniforms, changing in front of peers in the locker rooms, and comparing themselves to others based on their level of performance during physical activity are situations during which students who are overweight begin to witness the negative biases in PE class (Greenleaf & Weiller, 2005). This reinforces the negative stigma that these individuals already sense and can further impede their attempts to stay physically active.

Physical educators encounter individuals of all shapes and sizes in their classes and have the opportunity to be role models for being physically active, fostering physical activity, and reducing unhealthy habits and obesity (Greenleaf & Weiller, 2005). A weight bias mindset by instructors can cause enormous anxieties for individuals who are overweight or obese and their perceptions of being active. If the instructor exhibits negative weight bias, the likelihood exists that the class environment will be destructive for students who are overweight. The teacher who sets the standard within the PE class and remains positive and encouraging with all students creates a posi-

tive learning environment. Physical educators, who have reported weight-biased attitudes and negative stereotypes of individuals who are overweight, may diminish the effectiveness of PE (Greenleaf et al., 2008). Physical educators also hold biased beliefs about elements such as the physical condition of youth who are overweight, their ability to play sports, and their concept of themselves and their bodies (Peterson, Puhl, & Luedicke, 2012). In addition to current in-service teachers, preservice PE majors have shown significantly higher levels of implicit anti-fat bias than other majors (O'Brien et al., 2007). This is disturbing as students enrolled in PE teacher preparation programs are exhibiting weight bias before they enter the profession. A major function of physical educators is to promote lifelong fitness and physical activity by developing classroom environments that are welcoming and nonthreatening.

The PE program should be all-inclusive; however, at times weight bias may distract the instructor's intentions and direction. For example, if the class is participating in a fitness circuit activity and a student who is overweight is seen sitting down or walking through the exercise, this observation may trigger implicit weight bias from the teacher, which may cause the perception that the student is lazy or exhibiting poor effort and intensity. In reality, the student's heart rate may be above the workout zone. How the teacher reacts in this situation is crucial because it can affect the student's confidence. If the teacher announces, "Get going" or "You are not working hard" the student may react negatively and shut down. If, instead, the teacher approaches the student and asks, "How are you feeling?" or "Have you checked your heart rate?" or better yet says, "You have been working really hard. Why don't you go get a drink" the student may have a more positive reaction and may be recharged and work hard at the next station.

Professionals whose careers emphasize research or the clinical management of obesity show very strong weight bias, indicating pervasive and powerful stigma (Schwartz, O'Neal Chambliss, Brownell, Blair, & Billington, 2003). Individuals who are overweight seeking medical advice or care from physical educators and other health professionals who have a weight bias may be perceived as being lazy or not concerned about their health choices. This can further discourage these individuals from improving their health and activity levels.

Greenleaf and Weiller (2005) reported that over 80% of the subjects (105 professional NASPE members of AAHPERD) felt not enough was being done in schools to fight obesity, but believed the school setting was an appropriate place for dealing with youth weight issues. Most of the participants indicated that health curricula should include nutrition and weight control content. They also indicated that low calorie lunches should be accessible and weight control programs should be available in schools. Over 95% of the participants also strongly endorsed the belief that PE teachers should be role models by maintaining a normal weight and that PE classes should be focused on lifelong fitness activities. This study shows contradiction as physical educators firmly believed they needed to lead by example, yet the implicit weight bias continues to be high among these professionals.

Children who are overweight or obese are often teased or bullied because of their weight. Puhl, Luedicke, and Heuer (2011) found that 84% of the high school students reported observing students who are overweight being teased or treated in a mean way because of their weight during physical activity. It was also reported that 34% of adolescents felt excluded, ignored, rejected, teased during gym class, and dismissed from physical activity because of their weight. Teasing and bullying can also affect children of normal weight. Nauert (2014) surveyed students who were normal weight and overweight pertaining to being teased or bullied during physical activity. Physical activity of students of a healthy weight who were bullied decreased, and health-related quality of life for students who were overweight decreased. In a follow-up survey, the children who were of normal weight and overweight and were often teased when they exercised were less likely to participate in physical activity 1 year later. The awareness of bullying in schools has become customary in today's society. Weight bias is a form of bullying. This subject must not be overlooked in schools when implementing bullying prevention. Weight bias awareness can easily be included. The message need not be long, just clear and direct. Teachers should take a few minutes during class to educate their students about weight bias and confirm its connection to bullying.

When Weight Bias Does Occur, What Can Your School’s Physical Education Teacher Do to Help Abolish It?

The first place to start in reducing anti-fat bias is the “ideology of blame” (Greenleaf & Weiller, 2005). This is the idea that people are overweight because they are at fault. This is not necessarily true, but the stereotypes that follow individuals who are overweight support this blame. Interventions need to be focused on deterring the negative stereotypes. Providing professionals the information to change the focus of overweight stereotypes is another way to counter the negativity. Rukavina and Li (2008) also pointed out that by giving examples of people who are overweight and are stars on athletic teams, or actors, or screenwriters, can provide optimizing effects. This should be done at all levels of PE teacher preparation programs. The knowledge that instructors can obtain about weight bias and its effect can positively influence the learning environments of their students. Being able to recognize the negative bias and having methods to redirect the situations into more positive experiences can help students who are overweight feel more confident and willing to be active.

Education is the key. As with many of society’s issues, educating the public with accurate and pertinent information can alleviate many of the misconceptions and biases. Schools and educators need to begin early with children and send the message that weight bias is bullying and will not be tolerated. Many perceptions about the causes of obesity contribute to weight bias. There are many causes of obesity such as genetics and biological and environmental factors over which the individual has no control. The media’s portrayal of individuals who are overweight and the unrealistic ideas of thinness are critical areas that need to be addressed. Highlighting positive associations with people who are overweight and focusing on their accomplishments are other positive examples. An educator’s goal must be to provide discussion opportunities in which feelings and actions in different scenarios of weight bias can be the focus. Having students role-play how to stand up for their peers and not allow negative statements to occur in their schools may also be a successful strategy.

Friedman and Puhl (2012) recommended the following tips for reducing weight bias: (a) be sensitive to potentially embarrassing situations, (b) do not allow weight-based teasing in your classroom, (c) question your own assumptions and use of language about weight, and (d) emphasize the importance of health, rather than being thin. PE is an area of children's lives in which they should feel safe to be active. Children who are overweight should be no exception. In addition to the obvious ways physical educators can help these children, social and personal acceptance need to occur. As teachers, we need to be aware of weight bias and be willing to educate our students to be attentive to name-calling or put-downs of individuals who are overweight and be able to intervene. Students need to understand the causes of obesity and be encouraged to work as hard as they can to achieve the goals in class.

Conclusion

In a study of 1,555 adolescents, almost one third had experienced weight-related victimization, with youth who are overweight being 6 times more likely to report such experiences than thinner youth. Of the adolescents, 92% reported they had witnessed their peers who are overweight and obese being teased at school (Puhl et al., 2011). Because of their weight, many individuals who are overweight and obese experience a stigma perceived by themselves and others. These attitudes and stereotypes are mainly negative and have an adverse influence on their self-worth and confidence. Physical activity can assist individuals who are overweight in bettering themselves physically and mentally when the environment is friendly and positive. The attitudes of physical educators can affect students and be detrimental to youth who are overweight or obese. Physical educators have been conditioned to recognize the characteristics of a healthy body, and that very perception can lead to weight bias. Education is the key to trying to alleviate these negative attitudes. Understanding what weight bias is and how it can affect individuals who are overweight physically and mentally is the beginning. Physical educators need to create fair and accepting classroom environments using supportive techniques. Allowing students to choose their own workout clothes and select from a variety of activities that promote success, no matter the body type or ability level, must be the goal of the educator. Last, focus should be on reducing the number of mental and

physical barriers that individuals who are overweight must endure. Only then can motivation increase and the road to a healthy lifestyle begin.

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HISTORICAL

African American Physical Education Folklore Surrounding School Transition

Elizabeth A. Woodruff and Matthew D. Curtner-Smith

Abstract

Transferring from elementary to secondary school can be difficult for many children, and students making this transition often suffer from anxiety and stress. One source of stress can be found in the scary stories transitioning pupils hear about their new schools, particularly those about physical education and sport. The purpose of this study was to examine the scary stories young African American adults living in the Deep South recalled hearing about physical education as they made the transition from elementary to secondary school. Folklore and the concept of role reversal were the theoretical perspectives that guided data collection and analysis. Participants were 51 African American students. They wrote down scary stories they recalled hearing prior to transferring to secondary school within a two-item open-ended story record. Stories were coded and categorized and reduced to key themes using analytic induction and constant comparison. The key finding was the scary stories the African Americans in this study recalled were similar to the stories American Caucasians recalled in previous research. The stories collected in this study were also reminiscent of those described in the studies carried out with young adults in Britain during the 1970s and 1980s. Results of this study also indicate physical education plays only a peripheral role in the African American folklore surrounding school transition.

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Research indicates transferring from elementary to secondary school can be a difficult experience for many children because of the academic and social changes they encounter and because they are moving from the familiar to the unknown (Cauley & Jovanovich, 2006; Pietarinen, 2000). Not surprisingly, students making this transition can suffer from anxiety and stress (Akos, 2002; Grills-Taquechel, Norton, & Ollendick, 2010). Stressors may include the larger school buildings, school enrollment, and class sizes than those to which they are accustomed (Crockett, Petersen, Graber, Schulenberg, & Ebata, 1989; Pratt & George, 2005).

Moreover, the myriad of social changes new students face as they start secondary school can be problematic. These include interacting with other students who are physically and socially more advanced (Cauley & Jovanovich, 2006; Eccles & Wigfield, 1997) and being bullied by older students aiming to gain social acceptance with their peer group (Chedzoy & Burden, 2005; Pellegrini & Long, 2002). In addition, differences in the racial composition of the student body and the teachers at the new school can be disconcerting (French, Seidman, Allen, & Aber, 2000; Tonkin & Watt, 2003; Wampler, Munsch, & Adams, 2002). Finally, because this transition occurs at an age when children are also going through physiological and psychological changes, the lack of stability it causes can amplify feelings of distress (Gentle-Genitty, 2009). Not surprisingly, the changes encountered during school transition can also have a negative effect on academic performance (Benner & Graham, 2009; Roderick, 2003; Weiss & Baker-Smith, 2010).

Few researchers have examined the role physical education (PE) plays in school transition. However, some British research indicates this process may be less traumatic for students when their elementary PE teachers pass on data about them to their counterparts at the secondary school to which they are moving. Specifically, sharing data helps academically in terms of curriculum continuity and skill development and socially in terms of facilitating integration into the new school (Capel, Zwozdiak-Myers, & Lawrence, 2004, 2007). Furthermore, Dismore and Bailey (2010) noted students' attitudes toward PE may change for better or worse once they transition to secondary school. This is because they perceive the main goal of PE as shifting from enjoyment at the elementary school level to perfor-

mance at the secondary school level. Students who like this shift are positive about secondary school PE; however, those who do not approve of this shift are relatively negative about the subject. Dismore and Bailey argued these findings highlight the need for secondary school PE teachers to provide positive experiences and a supporting environment for all newly transitioned students.

In addition, researchers have noted PE and school sport feature prominently in the scary stories transitioning pupils hear from siblings, peers, parents, and other adults about their new schools (Delamont, 1991; Murdoch, 1986; Pugsley, Coffey, & Delamont, 1996a, 1996b; Woodruff & Curtner-Smith, 2007). Specifically, in six British studies (Delamont, 1989, 1991; Delamont & Galton, 1986, 1987; Pugsley et al., 1996a, 1996b), children reported hearing stories about long-distance running, taking showers, underwear checks, and sexual harassment by gay and lesbian PE teachers. These stories reveal students are concerned about threats to their person and self-esteem and potentially sexualized situations (Delamont, 1991; Pugsley et al., 1996a). Moreover, many of the stories connect pupils' bodies and schooling (Pugsley et al., 1996a). For example, stories boys hear target their sense of masculinity by emphasizing their need to have skilled, strong, and tough bodies. Stories girls hear are concerned with their physical appearance and issues surrounding the exposure of their bodies in public. As a result of these findings, Pugsley et al. (1996a) suggested those intent on making the process of transition less traumatic would do well to pay attention to these scary stories as they provide clues about specific concerns children and adolescents have about secondary schooling.

Heeding the sentiment of this advice, Woodruff and Curtner-Smith (2007) examined the scary stories American children had heard just prior to transitioning to secondary school. The goal of this research was to see if the scary stories American children heard were similar to those British children heard and if PE and school sport featured as prominently in these stories as they had in the British stories. American secondary schools were depicted as being particularly violent and inhospitable, and the stories were focused on bullying; the intimidatory size of schools; imaginary places within schools; impossibly high academic standards and harsh discipline; and sex, drugs, and violence. Furthermore, although not as promi-

ment as those in Britain, there were a relatively large number of scary stories about PE and school sport. These were concerned with team initiations, communal showers and locker rooms, long-distance running, coaches and PE teachers, homosexual advances and sexual molestation, personal fears and insecurities, and supernatural incidents.

The participants in Woodruff and Curtner-Smith's (2007) study were predominantly Caucasian and were located in the "Deep South" of the United States. Woodruff and Curtner-Smith theorized the relatively recent history and lingering aftereffects of institutionalized racism in this region (Cazers & Curtner-Smith, 2013) may lead to African American children hearing different and perhaps more formidable scary stories than Caucasians. Other researchers supported this theory, suggesting children of color in general and African American children in particular may have different and more difficult transitions from elementary to secondary school compared with Caucasian children. Specifically, some multiethnic youth have had extreme difficulties with academic work following transition and have suffered badly with anxiety and loneliness. These problems can lead to students of color dropping out of school at alarming rates (Benner & Graham, 2009; Newman, Lohman, Newman, Myers, & Smith, 2000; Roderick, 2003; Wampler et al., 2002). Other research has shown that African American children are at greater risk of transitioning poorly to secondary schools when they come from poverty and because of the reduced expectations society has for minorities in general (Ford, 1993; Gentle-Genitty, 2009; Simmons, Black, & Zhou, 1991). In addition, evidence indicates African American students who do not gain a sense of belonging within their new secondary schools may be particularly susceptible to academic failure (French et al., 2000; Gutman & Midgley, 2000). The purpose of this study, therefore, was to examine the scary stories young African American adults living in the Deep South recalled hearing about PE as they made the transition from elementary to secondary school.

Theoretical Perspectives

The two theoretical perspectives primarily employed in previous research of scary stories (Delamont, 1989, 1991; Pugsley et al., 1996a, 1996b; Woodruff & Curtner-Smith, 2007) were also used to guide data collection and analysis in this study. These were folklore

and the concept of role reversal described by structural anthropologists.

Folklore

Folklore consists of scary stories, tales, and urban legends designed to warn and teach the young and inexperienced about the dangers that may exist in the world (Brunvand, 2000; Fox Tree & Weldon, 2007; Inglis, 2007). These scary stories and legends are the “unofficial culture of a group, the means by which information and attitudes are transmitted and interpreted within the group” (Whatley & Henken, 2000, p. 5). Although these stories may be believable, they are usually “too odd, too coincidental, and too neatly plotted to be accepted as literal truth” (Brunvand, 2001, p. xxviii). The tellers of these stories (e.g., older siblings and peers) will claim they are factually accurate, but they often embellish them for dramatic effect (Brunvand, 1999; Whatley & Henken, 2000). For this reason, several variations of the same story may be in circulation at one time (Brunvand, 2001). Moreover, when stories are more detailed (e.g., they include specific times and places), and storytellers are regarded as credible, those listening are more likely to believe them (Whatley & Henken, 2000). In addition, folklore changes and develops over time (Brunvand, 1999). Stories that remain relevant (i.e., warn about possible dangers) and continue to entertain and frighten their recipients survive, and those that do not die out (Brunvand, 1981). This study was focused on the scary stories that comprise folklore about secondary schooling in general and PE and sport in particular and that African American children consume immediately prior to transitioning to secondary school.

Role Reversal

The transition from one level of schooling to another is a rite of passage (Murdoch, 1986) for children that results in a reversal of their status and role (Zhang, 2012). Specifically, students shift from being on top of the social hierarchy in the elementary school to being at the bottom of the hierarchy in the secondary school (Lucey & Reay, 2000). Structural anthropologists have found it useful to analyze urban legends, myths, and stories by searching for opposing constructs or “binary discriminations” that fully or partially describe this role reversal (Delamont, 1991; Douglas, 1975; Levi-Strauss,

1963; Pugsley et al., 1996a). Examples of binary discriminations in the school transition context include before/after, older/younger, stronger/weaker, knowing/unknowing, insider/outsider, old hand/newcomer, us/them, and aggressor/victim (Delamont, 1989; Pugsley et al., 1996a). Specifically, before transition the oldest elementary students are invariably the strongest children in their school and know its culture extremely well. This makes them insiders or old hands, so others consider them of the same status as “one of us.” It also means they are more likely to be the aggressor in bullying situations and throw students to make them dirty. Conversely, after transition, the youngest secondary students are generally the weakest children in the school, who know little about the school’s culture. This makes them outsiders and newcomers, so more established students regard them as “one of them.” Moreover, they are more likely to be the victims of bullying and to end up dirty after having been thrown. During this study, these and other binary discriminations were searched for within the scary stories the participants heard that described and helped explain the role reversal pupils encounter during the transition process.

Method

Participants and Setting

Participants were 51 students enrolled in several sections of an introductory course taught within the Department of Health and Physical Education at one historically Black college situated in the Deep South of the United States. Participants were African American. Twenty-seven were female and 24 were male. Fifty of the participants were traditional students between 19 and 22 years of age. One participant was a nontraditional student aged 49 years. Prior to taking part in the study, participants signed an informed consent form in congruence with the requirements of the university’s institutional review board policy regarding human participants in research.

In previous research in this line (Delamont 1989, 1991; Delamont & Galton, 1986, 1987; Pugsley et al., 1996a, 1996b; Woodruff & Curtner-Smith, 2007), researchers have also asked young adults to recall the scary stories they had heard when transitioning to secondary school. This was because this kind of folklore was thought to be

a “private” matter, as far as children were concerned, and not for the consumption of adults (Best, 1983; Fine, 1987). In short, the suggestion is that young adults are more likely to produce a “rich” source of data than children. The downside of working with young adults, however, is that there is more potential for inaccurate recall of stories heard or embellishment and fabrication of stories (Woodruff & Curtner-Smith, 2007).

Data Collection

The protocol and technique employed to collect data during this study were the same as Woodruff and Curtner-Smith (2007) used with their largely Caucasian sample and similar to that used by Delamont (1991) in one of the first studies of scary stories. Participants were asked to complete a two-item open-ended story record during a 1-hr session in their classrooms. To enhance credibility, story records were anonymous. Participants were, however, asked to note their gender and confirm their race as being African American.

In the first item in the story record, participants were asked to “write down any scary stories you can recall being told when you were about to move from your elementary school to your junior high/middle/high school.” At this stage, PE was not mentioned. In the second item, participants were requested to “write down any scary stories you can recall being told about PE when you were about to move from your elementary school to your junior high/middle/high school” provided they had not recorded these stories within Item 1.

Participants were required to respond to Item 1 before they turned their attention to Item 2 so the degree to which PE was foregrounded in the participants’ scary stories could be determined. In line with Delamont (1991), the participants were asked to preface the scary stories they recollected with the following statement: “Before I went to ... school, I was told by ... that” (p. 239).

Data Analysis

Data were worked with by employing similar methods to Woodruff and Curtner-Smith (2007). General scary stories from Item 1 of the story records and stories centered on PE from Item 2

were analyzed separately. Because some students recalled multiple general and PE-oriented scary stories, initially stories for each participant were identified and separated. Analytic induction and constant comparison (Goetz & LeCompte, 1984) were then employed to code and categorize the general and PE scary stories. This process resulted in the identification of story themes, that is, collections of scary stories that were common across participants. Trustworthiness in and credibility of the analysis process were enhanced by a search for stories that contained elements that contradicted story theme descriptors. Once all the stories had been coded and categorized, the number and percentage of stories within each theme, and for both general schooling and PE, were computed across the whole sample and for men and women.

Findings

Scary Stories About Secondary School in General

Fifty-nine general scary stories were collected from Item 1 of the story records. These stories were recalled by 34 of the participants (see Table 1). Seventeen of the participants could not recall hearing any scary stories about secondary schooling in general. As shown in Table 1, the general scary stories the participants recalled fell into one of three story themes. These were (a) bullying and deviant behavior, (b) high academic standards, and (c) supernatural incidents and mythical rooms. In congruence with the largely Caucasian sample in Woodruff and Curtner-Smith (2007), none of the participants recorded a story about PE or sport within Item 1 of their story records. Table 1 indicates the majority of general scary stories the participants recalled were concerned with bullying and deviant behavior. Few stories were about high academic standards or supernatural incidents and mythical rooms. Table 1 also shows the stories men and women heard when they were children were mainly on the topic of bullying and deviant behavior. Only women, however, recalled stories about high academic standards. Women also recalled stories about supernatural incidents and mythical rooms more often than men did.

Table 1

Frequency and Percentage of General Scary Stories Heard by African American Men and Women

Scary story theme	Men (<i>n</i> = 14)		Women (<i>n</i> = 20)		Total (<i>n</i> = 34)	
	<i>F</i>	%	<i>F</i>	%	<i>F</i>	%
Bullying and Deviant Behavior	20	95.24	28	73.68	48	81.36
High Academic Standards	0	0	6	15.79	6	10.17
Supernatural	1	4.76	4	10.53	5	8.47
Incidents and Mythical Rooms						
Total	21	100.00	38	100.00	59	100.00

Note. Ten males and seven females did not recall hearing any general scary stories.

Bullying and deviant behavior. Stories about bullying and deviant behavior were focused on how incoming secondary school students would be abused by older children. Abuse featured within the stories included “name-calling,” “teasing,” being targeted with “water balloons,” “thrown into lockers,” “stuffed in trash cans,” “pushed and punched in the hallways,” and being attacked on “Fresh Meat Fridays”—the day of the week on which older students made a deliberate attempt to increase this behavior. The following extracts are typical of stories about bullying and deviant behavior: “I was told that the high schoolers would pick on you, call you names, and try to put you in the garbage can upside down” (Male).

Before I went to...high school, I was told by my cousins that the first Friday...there was something called “Fresh Meat Friday.” “Fresh Meat Friday” is when [older students] would stuff people in the trash cans, lockers, and maybe hit them. (Female)

Women tended to recall stories with psychological bullying such as “teasing” and “name-calling,” whereas men were more likely to recall stories with descriptions of physical bullying and that were more violent in nature. Men, for example, frequently recalled stories that included boys new to the secondary school being “beat up in

the hallway,” “beat up after school and on the bus,” and attacked by “seniors [who] would take turns punching [new students]”: “Before I went to...high school I was told by some older kids in the neighborhood that the first week of school was going to be freshmen ‘beat down week.’” (Male)

Before I went to high school, I was told by a friend that it was inevitable that I would get into some fights and get seriously hurt. I was told that students would bully and tease you just because you were different. (Male)

Though stories recalled by women about incoming girls being bullied physically by older students were much less prevalent, they were still recorded:

Before I went to my middle school, I was told by other students that you would get involved in at least one fight the first year. I also heard that they cut girls’ hair if it was longer than other girls’. (Female)

In addition, men and women reported hearing stories of older students “trying to take our lunch money and other valuables”: “I was told not to go to the bathrooms alone because students would gang up on you and steal valuable items from you” (Male). “Before I went to middle school, I was told by my older brothers that the students would be bigger, meaner, and would always beat me up and take my lunch money” (Female). Finally, the lone nontraditional student in the sample remembered “stories” from the time when racial tensions were high in the Deep South and integration was still in its infancy:

Not long after the schools were integrated, I can remember my sister telling stories of kids fighting, stabbings, and was even told of one girl’s hair being set on fire. This was all so scary to me...transferring from elementary school to Jr. High. (Female)

High academic standards. The scary stories the female participants in the study recalled about high academic standards were

concerned with “mean, uncaring teachers” and “hard classes” and included the advice “that it was time to buckle down” in the classroom: “Before I went to middle school, I was told that the teachers were mean to the 6th graders because they had to break us in to the middle school way” (Female). “I was told by my teachers that high school would be a lot harder, which it was but in a good way. They also told me that this was when we had to begin preparing for college” (Female). In addition, these stories included the warning that academic grades might suffer if new students were “late for class.” This might be a major issue because students only had “a short time between each class.” Moreover, this issue could be negated if new students could “learn how to use a locker” efficiently.

Supernatural incidents and mythical rooms. Three of the five stories participants recalled hearing within this theme were focused on fairly far-fetched ghost stories connected to the secondary schools to which they eventually moved: “Before I went to high school, my friends and I were told that this girl was hung in the auditorium, and when I got to high school all I could picture was the girl hanging in the auditorium” (Female). “Before I went to high school, I was told by an upperclassman that the school was built on a graveyard and at night you could see ghosts in the halls and the lockers would open and close” (Female).

Furthermore, two stories in this category were concerned with fictitious or mythical rooms and buildings in the school that older students invented with the aim of confusing, scaring, and misdirecting newcomers: “Before I went to high school I was told there was a swimming pool on the roof” (Male).

Scary Stories About Physical Education

Sixteen scary stories about PE and school sport were collected from Item 2 of the story records. These stories were recalled by 11 of the participants (see Table 2). Conversely, 40 of the participants could not recall hearing scary stories on the subject of PE. As shown in Table 2, scary stories with a focus on PE and school sport were categorized as being illustrative of one of four story themes: (a) hard physical exercise, (b) communal showers and homosexual advances, (c) bullying in PE, and (d) team initiations. Data in Table 2 also indicate participants most frequently recalled stories about long-distance running and communal showers and homosexual advances,

whereas they recalled those about bullying in PE and team initiation less often. Table 2 also indicates the women heard more scary stories about PE before transitioning to secondary school than did the men.

Table 2

Frequency and Percentage of Physical Education Scary Stories Heard by African American Men and Women

Scary story theme	Men (n = 4)		Women (n = 7)		Total (n = 11)	
	F	%	F	%	F	%
Hard Physical Exercise	1	25.00	6	50.00	7	43.75
Communal Showers and Homosexual Advances	0	0	5	41.67	5	31.25
Bullying in Physical Education	2	50.00	1	8.33	3	18.75
Team Initiations	1	25.00	0	0	1	6.25
Total	4	100.00	12	100.00	16	100.00

Note. Twenty males and 20 females did not hear any physical education scary stories.

Hard physical exercise. Stories in this thematic category were concerned with being required to run long distances and to perform other rigorous and potentially uncomfortable exercise in PE classes. As illustrated in the following extracts, they also included feelings of inadequacy: “Before I went to high school, I was told that we would have to run 8 miles to pass the class, and that was scary to me because I was fat and out of shape” (Male). “Before I went to middle school, I was told by my brother that in PE class we would have to bear crawl and rope climb” (Female).

Communal showers and homosexual advances. Three of the female participants recalled hearing scary stories centered on showering and homosexual advances within the PE setting. These stories included references to girls having to “change into gym clothes in front of each other” and “shower with other females”: “Before I went to high school, I heard some of the girls were lesbians. At that time, I was not comfortable with my body, and I did not want anyone fantasizing and contemplating on taking my innocence” (Female).

Before I went to high school, I was told by a lot of my older peers that the girls were going to get me—especially during physical education when we dressed out. There was a lot of homosexuality in that high school. (Female)

Bullying in PE. The three scary stories recorded specifically about bullying in PE indicated that such action may be taken against incoming students by older pupils and PE teachers. Collectively, they portrayed PE classes as anything but warm and welcoming: “Dodgeball vs. eighth graders! I was told they would kill us younger kids with the ball” (Male). “Before I went to high school, I was told by random people that people used to jump on new freshmen in PE class” (Male). “Before I went to middle school, I was told by my friends that the PE coach would yell really loud” (Female).

Team initiations. Only one scary story was recalled about the initiation of incoming students who made the various sports teams at the new secondary school. It was, however, particularly brutal:

Before I went to high school, I was told by friends that as freshmen athletes you would get stripped and beat with wood. Without a care, they (i.e., older established players on the team) would trap you while in school and take off all your clothes in front of whoever was around. If necessary, they would use their wooden paddle to set you straight. (Male)

Conclusions

This was the second study in which the folklore surrounding PE and the transition from elementary to secondary school in the United States was investigated in which young adults were asked to recall scary stories. Many of the general scary stories, and those specifically about PE and sport, the African American sample recalled were the same as or similar to those a largely Caucasian sample relayed in a previous study by Woodruff and Curtner-Smith (2007). Participants in that earlier study recollected general scary stories about bullying, high academic standards, supernatural incidents, and mythical or imaginary rooms as well as stories on the subject of PE and sport concerned with hard physical exercise, showering and homosexual advances, bullying, and team initiations. In short, noth-

ing indicates the scary stories young African Americans residing in the Deep South hear are different in nature to those Caucasians from the same region of the country hear. The recollections of the one older nontraditional student in this study, however, indicate that during the civil rights era in the 1960s, African American children living in the Deep South and transferring to newly integrated secondary schools were bombarded with infinitely more scary stories than are the youth of today. Further research of the transitional folklore that existed in that era may be helpful as it could illustrate the extent to which the southeastern region has shifted in terms of racial equality.

The scary story themes unearthed in this study were also reminiscent of those described in the studies carried out with young adults in Britain during the 1970s and 1980s (Delamont, 1989, 1991; Delamont & Galton, 1986, 1987; Pugsley et al., 1996a, 1996b). Like those in the Woodruff and Curtner-Smith (2007) study, however, they portrayed American schools as being significantly more violent than the British schools in the earlier studies. In addition, many of them indicate a link between the body and schooling. For example, within this study, girls were concerned about exposing their bodies and unwanted sexual advances. Furthermore, both genders were concerned about their bodies being physically attacked or lacking the strength to tackle hard physical exercise. The majority of the binary discriminations illustrating the role reversal students undergo when they transition from elementary to secondary school that had been described in previous studies (Delamont, 1989; Pugsley et al., 1996a, 1996b) were also apparent within the stories collected in this study. For example, these stories portrayed students who were newcomers to the secondary school as weak outsiders likely to be the victims of bullying, whereas the inference was students at the top of the social hierarchy in their elementary schools were relatively strong insiders. In congruence with Woodruff and Curtner-Smith (2007), then, the stories in this study indicate transitioning students went from being all powerful to powerless.

The British studies of scary stories (Delamont, 1989, 1991; Delamont & Galton, 1986, 1987; Pugsley et al., 1996a, 1996b) indicate PE and sport were a key part of children's folklore surrounding the transitional process in the 1970s and 1980s. In contrast, the only American study conducted to date (Woodruff & Curtner-Smith,

2007) indicates that, although prominent, stories about PE and sport are not as central to the folklore American children constructed. The findings of this research indicate PE and sport play an even smaller and more peripheral role in the folklore of the African American sample studied. The first piece of evidence supporting this conclusion is that none of the participants mentioned PE or sport until prompted to do so. The second is that following the prompt, a large proportion of the participants still could not recall hearing scary stories about PE and sport. This indicates scary stories specifically about PE and sport may be dying out as the folklore surrounding school transition changes and develops. In line with Brunvand (1981), this might be because stories on these topics are no longer relevant, scary, or entertaining. If correct, a positive explanation for this development is that modern American PE and school sport has improved to the extent that incoming secondary school students no longer need to be warned to the same extent as they once were. A more negative explanation is that the status of PE at the secondary school level has slipped significantly and to a point where children do not consider it much.

At this juncture, it should also be noted that 17 participants in this study could not recall hearing scary stories about any aspect of secondary schooling immediately prior to transition. In the Woodruff and Curtner-Smith (2007) study of Caucasian students, only three of 70 participants had no recollection of hearing these stories. If this finding transfers to other groups over time, it would also indicate the folklore surrounding transition in general is weakening.

Following Pugsley et al. (1996a), the main practical implication of this study was that it provides signposts as to where administrators, teachers, and parents might focus their efforts to improve the transitional process for children moving to secondary school. Specifically, we suggest these efforts be directed at eradicating bullying (e.g., see Kneisler, 2001), honing new academic skills children need for success at secondary school (e.g., see Akos, 2002), and familiarizing incoming students with their new school building (e.g., see Cauley & Jovanovich, 2006; Mizelle & Irvin, 2000). More generally, the study indicates the importance of training teachers who have primary contact with students as they leave the elementary school and join the secondary school (Akos & Galassi, 2004; Gentle-Genitty, 2009).

Studying the scary stories and folklore surrounding transition should be part of that training. In terms of PE, the results indicate the focus should be on quieting fears about showering, changing clothes, and lesson content. In congruence with Dismore and Bailey (2010), transitional programs would be useful in which secondary school PE teachers visit the elementary children soon to be joining them and discuss these topics and any others within scary stories about the subject these students may have heard. Reciprocal visits would also be useful during which elementary students visit the secondary schools they are soon to attend and participate in a preview of the PE they will receive. Such previews would be particularly helpful if they were designed to counter fears about the subject featured in the students' scary stories. Furthermore, more general causes of stress for transitioning students, including the racial makeup of the student body (Wampler et al., 2002), larger class sizes (Pratt & George, 2005), and interactions with older students (Eccles & Wigfield, 1997), could also be targeted within such PE previews.

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METHODOLOGY

Frequency and Type of Reinstruction Strategies Used by Paraprofessionals and Licensed Teachers in Elementary Physical Education Settings

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Abstract

Unqualified paraprofessionals are teaching many elementary physical education (PE) programs around the United States. These teachers have neither the experience nor the education to provide quality instruction to students. Few researchers have identified the essential nature of teacher feedback in teaching motor skills, and it has been hypothesized teachers with little training may be less likely to give effective feedback to students. The purpose of this study was to examine the frequency and type of reinstruction strategies used by paraprofessionals and licensed teachers in elementary PE settings using a modified self-assessment feedback instrument (SAFI). Two licensed PE teachers and two paraprofessionals from the same school district in the western United States were observed four times using the SAFI tool. All 20 lessons were analyzed to understand the differences in the type and fre-

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quency of feedback between licensed PE teachers and paraprofessionals. ANOVA results indicate a significant difference between the type and frequency of feedback given by the groups. Overall, licensed teachers most commonly employed a constructive criticism strategy for providing feedback (43.6%), and paraprofessionals primarily engaged in behavior modification (75.1%). Additionally, licensed PE teachers gave more than twice as much feedback as paraprofessionals. These findings make clear the crucial nature of undergraduate PETE programs in providing licensed teachers with the skills and experience necessary to deliver appropriate feedback in elementary PE settings. Policy makers must be aware of the discrepancies between unqualified individuals and specialists to make the best policy decisions for students.

According to the *Shape of the Nation Report* (National Association for Sport and Physical Education & American Heart Association, 2012), in 11 states, certification is not required to teach elementary physical education (PE). This translates to thousands of students who may not be receiving quality PE from trained, licensed teachers. In a study of students' physical activity levels in PE classes taught by paraprofessionals (adults contracted to teach PE, but do not have a teaching license to do so), it was conclusively determined students were not participating in the recommended 50% physical activity during PE (Hannon, Destani, McGladrey, Williams, & Hill, 2013). To date, however, nothing is known about differences between paraprofessionals and certified teachers' ability to provide information to students.

The ability of physical educators to provide information to students about errors and accomplishments made in a PE class is an essential competency for PE professionals (Lee, Keh, & Magill, 1993). In fact, in the first *National Standard & Grade-Level Outcome for K-12 Physical Education*, the SHAPE America (2013) stated, "The physically literate individual demonstrates competency in a variety of motor skills and movement patterns" (p. 1). For teachers to observe, evaluate, and interpret students' performance, they need to be knowledgeable about the critical elements and common errors in sport skills and games (Hoffman, 1977). Teacher feedback is an essential element in motor skill learning and is a way for PE teachers to interact with students (Lee, Keh, & Magill, 1993). Research

has shown that it is common for PE teachers to give feedback as often as 30 to 60 times during a 30-min lesson (Siedentop, 1991). It is strongly believed that a higher rate of teacher feedback will result in greater student learning.

Teacher feedback can have many effects on student performance. These outcomes may vary according to a teacher's knowledge about certain skills or games. Studies have shown that feedback combined with instructional strategy can enhance skill and game performance (Boyce, 1991). Verbal, nonspecific, and positive feedback is widely used among PE teachers.

Faucette and Patterson (1990) found PE specialists placed a high value on providing feedback compared with paraprofessionals (non-specialists in PE). Nonspecialist teachers spent more time monitoring, attending, and silently observing and less time on feedback. Teachers with limited PE teaching backgrounds may be less likely to produce effective feedback (Siedentop, 1991). Oftentimes, non-specialist teachers focus more on disruptive behavior, instructional materials, and equipment rather than giving students' positive cues and feedback (Tan, 1996).

In terms of getting students active, physical education teacher education (PETE) cannot be replaced (Hannon et al., 2013). Similarly, the lack of knowledge and skills of nonlicensed PE teachers to provide effective content-specific feedback (Siedentop, 1991) may make clear the essential nature of PETE undergraduate training programs. Therefore, the purpose of this study was to examine the frequency and type of reinstruction strategies used by paraprofessionals and licensed teachers in elementary PE settings using a modified self-assessment feedback instrument (SAFI). Specifically, we addressed three questions:

- What is the difference between the amount of instructive feedback provided in an elementary PE class between paraprofessionals and licensed PE teachers?
- What is the difference between the amount of positive and negative feedback provided in an elementary PE class between paraprofessionals and licensed PE teachers?
- What are the most commonly used types of instructive feedback used by paraprofessionals and licensed PE teachers in an elementary PE setting?

Method

Participants

Participants for this study included two female paraprofessionals and two female licensed PE teachers from the same school district in the southwestern United States. Participants were chosen as a convenience sample of teachers and chosen on a volunteer basis. The paraprofessionals in this study were not licensed in PE, but have varying degrees of collegiate training as well as district and statewide convention attendance. The two licensed PE teachers in this study, however, completed a bachelor's degree from an accredited university in the field of PETE. All participants in this study had more than 5 years, and less than 10 years of teaching experience. For further information about the participants in this study, see Table 1.

Table 1

Participant Experience and Mean Frequencies Per 30-Min Lesson

Participants	Feedback categories	Mean frequencies
Paraprofessional #1	Total Reinstruction	18.4
Female Elementary Education Major with an expired teaching license and 7 years of elementary PE teaching experience.	Total Positive	6.2
	Total Negative	12.2
	Praise/Reinstruct	2.0
	CC/Reinstruct	9.0
	Questions/Reinstruct	22.0
	Criticism/Reinstruct	0.0
	Behavior/Reinstruct	66.4
Paraprofessional #2	Total Reinstruction	23.2
Female Alternate Route to Licensure (ARL) training through another state, and 5 years of elementary PE and k-12 teaching experience in a rehabilitation facility.	Total Positive	3.0
	Total Negative	20.2
	Praise/Reinstruct	0.0
	CC/Reinstruct	5.2
	Questions/Reinstruct	10.2
	Criticism/Reinstruct	0.0
	Behavior/Reinstruct	83.8

Table 1 (cont.)

Participants	Feedback categories	Mean frequencies
Licensed Teacher #1 Female PETE bachelor degree, and 7 years of k-12 PE teaching experience.	Total Reinstruction	44.4
	Total Positive	38.6
	Total Negative	5.8
	Praise/Reinstruct	15.4
	CC/Reinstruct	40.4
	Questions/Reinstruct	31.4
	Criticism/Reinstruct	0.0
	Behavior/Reinstruct	11.8
Licensed Teacher #2 Female PETE bachelor degree and Coaching Administration master's degree. 5 years of elementary PE teaching experience.	Total Reinstruction	42.0
	Total Positive	37.0
	Total Negative	5.0
	Praise/Reinstruct	18.8
	CC/Reinstruct	46.8
	Questions/Reinstruct	18.6
	Criticism/Reinstruct	0.0
	Behavior/Reinstruct	14.8

Instrument

SAFI allows teachers to analyze their own verbal and nonverbal feedback. It allows teachers to view their interactions with their students. The analysis of verbal and nonverbal feedback allows teachers to generate information and use it to determine areas of improvement, set personal goals, and monitor their own progress toward their attainment. SAFI in particular is used to identify the manner in which teachers/coaches give feedback during instruction (Darst, Zakrajsek, & Mancini, 1989).

The SAFI instrument has multiple strengths including allowing and challenging teachers and coaches to reflect on their current practices and encouraging growth. SAFI has effectively allowed teachers and coaches to monitor their own habits; it has been used in studies in PE (Behets, 1997; Faucette & Patterson, 1990; Ha, 1998), preservice training programs (Byra & Coulon, 1994; Mancini, Wuest, & van der Mars, 1985; Petray-Rowcliffe, Williams, Lavay, & Hakim-Butt, 2002), and extracurricular athletics (Gallo & De Marco, 2008; Mancini & Wuest, 1987; De Marco, Mancini, & Wuest, 1997; Millard, 1996).

Observer Training and SAFI Modification

We received extensive training on the SAFI instrument. The training on the observational instrument included information on the history of the tool and practice using the tool on video examples of teaching. For the purposes of this study, we used a modified version of SAFI (Figure 1). First, the SAFI instrument was modified as a device used by an external observer. The purpose for this modification was to provide teachers with quick, easy-to-understand feedback on their lesson with the hope they would choose to use the self-evaluation tool after we left. Ultimately, we hoped for teacher improvement. None of these teachers had ever used a complex instrument, so the introduction to the simplicity of the modified SAFI may have increased their desire for improvement. Second, categories were designed according to the types of reinstruction feedback. Generally, paraprofessionals lack the ability to provide effective feedback (Siedentop, 1991) and focus more on correcting disruptive behavior than providing quality cues and feedback to students (Tan, 1996). The feedback categories chosen had been previously identified as paraprofessionals' weaknesses.

Observer Name: _____ Date: _____

Teacher/Grade: _____ Length: _____

Category	0-10	11-20	21-30	31-40	41-50	Total	Percent or rate
Praise/Reinstruct							
Constructive Criticism/Reinstruct							
Questions/Reinstruct							
Criticism/Reinstruct							
Behavior Modification/Reinstruct							

Figure 1. Modified SAFI. After occurrences of feedback were tallied in the corresponding boxes, tallies within each category were combined and placed in the total. We used this information for two purposes. (1) The category totals were combined, indicating the amount of total feedback given in each lesson. Individual category totals were then divided by the total feedback, indicating the percentage of total feedback coming from each category. (2) The length of the lesson (minutes) was divided by each category total to determine the rate per minute of feedback.

Reinstruction categories in this study were taken from the original SAFI instrument and modified to include (Darst, Zakrajsek & Mancini, 1989) the following:

- **Praise/reinstruct:** Teacher encourages behavior and skills prior to reinforcing information or providing new information to the student (e.g., “That was a great throw. Remember to follow through.”).
- **Constructive criticism/reinstruct:** Criticism intended to aid students in improving behavior or skills prior to reinforcing information or providing new information to the student (e.g., “You almost got it that time! Focus on stepping with your left foot.”).
- **Question/reinstruction:** A question requiring a response from the students is asked for comprehension followed by information (e.g., “Where do we throw if the ball is hit to us? You’re right! We throw to first base.”).
- **Criticism/reinstruct:** Sarcasm or frustration followed by information (e.g., “Really? Do I have to tell you again? You’re supposed to kick with the inside of your foot.”).
- **Behavior modification/reinstruct:** Teacher reminds student of appropriate behavior or rules followed by information (e.g., “We are not throwing the ball. I want to see you kick with the inside of your foot.”).

Categories were defined as either positive or negative modes of feedback (Siedentop, 1991; Tan, 1996). Praise/reinstruction, constructive criticism/reinstruction, and questions/reinstruction were defined as positive feedback strategies, and criticism/reinstruction and behavior modification/reinstruction were defined as negative feedback strategies.

Procedures

Prior to conducting the study, approval was obtained from the university institutional review board and the school district. Classes varied between 30 and 45 min; therefore, only the first 30 min were used to ensure consistency. Teachers were observed during five classes. Classes were divided into 10-min segments as defined in SAFI. During observations, we placed a tally in the appropriate feedback category each time the behavior occurred. Tally sheets were collect-

ed on all four teachers for five lessons each, for a total of 20 lessons observed. An example of the record sheet is shown in Figure 1.

Observer Interrater Reliability

Observers were trained in the usage of SAFI prior to beginning the study. Observers in this study used a direct observation strategy. Two researchers directly observed and coded four of the 20 lessons (20%) taught by paraprofessionals and licensed PE teachers to obtain interrater reliability. This process resulted in 90% reliability between observers.

Design and Analysis

Analyses were conducted using IBM Statistics SPSS 21.0 software. Frequencies, means, and standards deviations were calculated for each feedback category. A one-way ANOVA and effect size were conducted to determine if differences existed between paraprofessionals and licensed PE teachers.

Results

To standardize the results, data were reduced to only those which were collected during the first 30 min of each class. The means for each category for paraprofessional and certified teachers are provided in Figure 2. Means include feedback given in the first 30 min of each lesson. Results indicate that licensed PE teachers gave more total reinstruction and positive reinstruction feedback than non-licensed paraprofessionals. Paraprofessionals gave more negative feedback than did licensed PE teachers. Paraprofessionals, however, spent the majority of time engaging in behavior modification with reinstruction.

Furthermore, comparisons between groups indicated significant differences in the categories of total reinstruction, $F(1, 2) = 69.69$, $p = .014$, $\eta^2 = .98$; total positive reinstruction, $F(1, 2) = 344.45$, $p = .003$, $\eta^2 < .001$; praise with reinstruction, $F(1, 2) = 66.64$, $p = .015$, $\eta^2 = .98$; constructive criticism with reinstruction, $F(1, 2) = 96.19$, $p = .010$; $\eta^2 = .98$; behavior modification with reinstruction, $F(1, 2) = 49.00$, $p = .020$, $\eta^2 = .96$. In contrast, comparison between groups indicates no significant differences in the categories of total negative reinstruction, $F(1, 2) = 7.22$, $p = .115$, $\eta^2 = .79$, and questions with reinstruction, $F(1, 2) = 1.05$, $p = .414$, $\eta^2 = .35$.

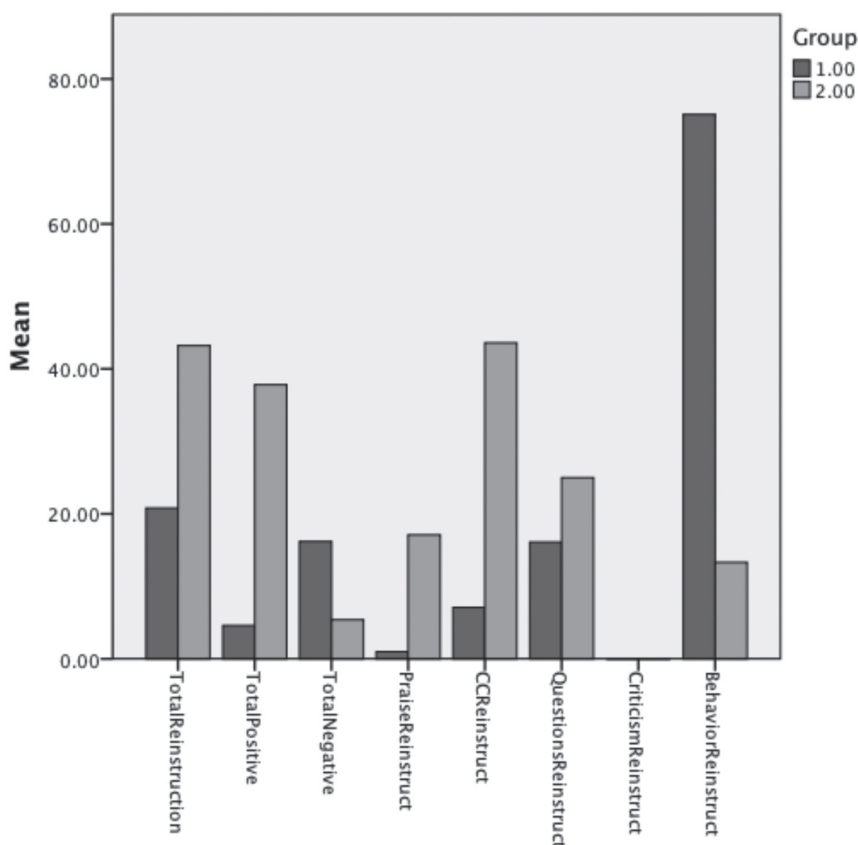


Figure 2. Mean feedback per 30-min class. Group 1 is paraprofessionals and Group 2 is licensed teachers.

Discussion

The purpose of this study was to examine the frequency and type of reinstruction strategies used by paraprofessionals and licensed teachers in elementary PE settings using a modified SAFI. The results of this study clearly indicate paraprofessionals are not providing the recommended teaching behavior for learning. Although paraprofessionals participated in training through their school districts, these trainings do not replace PETE programs in terms of preparing teachers to provide students with the information to perform a variety of skills and movements competently. Policy makers must be aware of the discrepancies between unqualified individuals and specialists to make the best policy decisions for students.

Based on the results of this study, licensed PE teachers use appropriate instructional skills more often than do paraprofessionals. Content taught by licensed PE teachers allows for opportunities to reinstruct students. However, paraprofessionals tend to play games for activity rather than skill development. Such games may not allow the opportunity to reinstruct.

In terms of answering research questions, we conclude that licensed PE teachers provide more than twice as much instructive feedback to students than do paraprofessionals. Congruent with previous studies (Hoffman, 1977; Siedentop, 1991), licensed PE teachers also provide students with about 9 times as much positive feedback and 3 times less negative feedback than do paraprofessionals. Finally, licensed PE teachers use more constructive criticism with reinstruction than any other strategy for feedback and paraprofessionals use mostly behavior modification with reinstruction (Tan, 1996). These findings make clear the crucial nature of undergraduate PETE programs in providing licensed teachers with the skills and experience necessary to deliver appropriate feedback in elementary PE settings (Hannon et al., 2013).

Although SAFI was originally designed as a self-assessment tool for teachers, the use of this instrument as a tool for outside observers produced quick, easily interpreted results to teachers. When analyzing and discussing the results of any given lesson with participants, we identified common themes. Participants appreciated the snapshot view of their lessons in terms of feedback and reinstruction. This overview of their teaching behaviors made them more aware of how they taught and where they had room to improve. Additionally, participants identified the convenience of the usage of the tool. Because of a demanding teaching schedule, participants concluded they would likely not use the tool to self-assess, but appreciated the feedback from an external observer.

A limitation of this study is the results may not be generalizable to paraprofessionals or licensed PE teachers in other settings. Although with this information, implications for practitioners would include professional development strategies for paraprofessionals. According to these results, nontrained teachers need education on how to teach skill development and how to reinstruct based on student behavior. Further research is required to generalize the results

produced in this study to other settings and to understand the effect of training on the reinstruction strategies of paraprofessionals and licensed PE teachers.

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METHODOLOGY

Parents' and Children's Perceptions of the Keep It Moving! After-School Physical Activity Program

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Abstract

After-school PA programs have been used as an outlet to help children increase PA levels. To attract children and their parents, it is important to understand perceptions about programs. With child and parent input, researchers and practitioners will better be able to increase PA with activities the children enjoy and encourage increased PA. A cross-sectional design was used to survey children and parents involved in Keep It Moving! (KIM), an after-school PA program geared toward low SES families in Southern Colorado. Responses to the surveys were coded into categories and descriptive statistics were calculated. Most parents (91.1%) reported their children in KIM increased their PA levels. The majority of children (76.5%) preferred competitive activities, but simultaneously reported competitive activities as least favorite. Parents' and children's perceptions provide insight into enjoyment and necessary changes

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for this after-school program. Of most interest, practitioners must thoughtfully consider choice of activities for after-school programs. Although children in this evaluation preferred competitive activities, these activities must be tempered to ensure that time in PA is not compromised.

The U.S. Department of Health and Human Services (USDHHS, 2008) recommends that children participate in at least 60 min of moderate to vigorous physical activity (PA) daily. Children not meeting the PA recommendation are at a greater risk of developing obesity, heart disease, diabetes, and other chronic illnesses later in life (USDHHS, 2008). In *The Weight of the State: 2009 Report on Overweight and Obesity in Colorado*, only 55.7% of children met the recommended 7 or more hours of PA per week (Colorado Physical Activity and Nutrition Program [CPAN], 2009). Correspondingly, of children aged 6–11, 29.6% were considered overweight or obese in Colorado (CPAN, 2009). In addition to the generally high rate of childhood obesity, race and socioeconomic status (SES) may have a serious effect on children's level of PA and consequently their body mass index (BMI). Low SES and minority groups have a higher prevalence of obesity than their peers and are more prone to sedentary behavior (Brophy et al., 2009; Drenowatz et al., 2010; Wang & Zhang, 2006). In fact, Drenowatz et al. (2010) discovered that low SES children were accumulating roughly 1,500 fewer steps per day than higher SES children. This is an alarming difference that could lead to an increasingly sedentary lifestyle in adulthood. The current literature base provides an overwhelming case for low SES and minority groups in the aim to reduce childhood obesity (Brophy et al., 2009; Drenowatz et al., 2010; Li & Hooker, 2010; Wang & Zhang, 2006). Those in public health field need to make an effort to target these populations when developing opportunities for PA.

Many studies support the idea that an after-school PA program can effectively improve children's BMI, body fat percentage, and other aspects of health (Colchico, Zybert, & Basch, 2000; Fernandes & Sturm, 2011; Matvienko & Ahrabi-Fard, 2010; Yin et al., 2005). Matvienko and Ahrabi-Fard (2010) found a 4-week intervention with kindergarteners and first graders to be significantly associated with increases in children's motor skills and fitness levels. The intervention consisted of a daily morning walk, and the after-school

lesson was focused on PA and nutrition and nonstructured active play. Fernandes and Sturm (2011) found that meeting PA recommendations was generally effective at maintaining children's BMI. Furthermore, Colchico et al. (2000) found that a 12-week after-school PA program geared toward low-income African American and Hispanic girls was effective at decreasing BMI and body fat percentage as well as increasing positive self-perception. These programs, among others, demonstrate that providing after-school opportunities for PA can greatly improve children's health.

Given that after-school PA programs have the potential to positively affect childhood obesity in low SES and minority groups, these programs are needed. However, involving the target population is a vital step in making these programs effective; thus, it is important to look into the perceptions of those affected by the program. Parents' perceptions about after-school programs are important considering children are unable to make their own decisions about participation. Children may express interest, but ultimately the parent has the final say in enrollment. Understanding how to attract parents is a key strategy in involving children. Similarly, children's perceptions can provide insight to which aspects of the program are keeping them interested in being active. Understanding this point of view could help refine after-school PA programs and greatly improve their quality and participation rates. Thus, the purpose of this study was to gain insight about parents' and children's thoughts and decisions related to an after-school PA program.

Method

Overview of the Keep It Moving (KIM) Program

Keep It Moving (KIM) is an after-school PA program developed in 2008 as a collaborative effort among various partners in Colorado Springs, Colorado, including a low SES school district and a local nonprofit organization with a focus on healthy eating and active living. Third, fourth, and fifth graders at three elementary schools were involved in the KIM program during the 2009–2010 school year. The majority of students at the schools were on a free and reduced-price lunch program, ranging from 87% to 93% per school.

KIM was run twice a week at each school for 1 hr after the completion of the school day, which included 45 min of PA and 15 min

of snack time. The activity sessions were run by physical education teachers employed by the schools in which the KIM session took place and volunteer assistants, most of whom were associated with the school in which they volunteered. Lead facilitators (e.g., physical education teachers) were made aware of the KIM opportunity through the school district officials and were compensated with a small stipend for their participation. The predominant goal of KIM was to increase opportunities for PA by offering an additional 90 min of activity per week. There was no set curriculum, and the students were offered structured and/or unstructured play determined by each facilitator. Schuna, Lauersdorf, Behrens, Liguori, and Liebert (2013) analyzed the results of the KIM after-school program. They found participants acquired more than 20 min of moderate to vigorous PA during KIM. Most of KIM time was spent standing or walking. These findings are in accordance with similar research.

Participants

As previously mentioned, KIM families were from a low SES area of Colorado Springs, Colorado, and 19% were mono-lingual Spanish-speaking families. In 2009–2010, the three schools that participated in the KIM program and KIM survey consisted of (School 1, 67%; School 2, 67%; School 3, 74%) Hispanic, African American, or two or more races, respectively. Approximately 40 students participated in the KIM program at each school ($N \sim 120$). After the completion of the KIM program in 2010, 116 participants (approximately 96.7% response rate) and their parents ($n = 112$) were surveyed to obtain perceptions, preferences, and benefits of the KIM program.

Measures

Using examples from other validated preference questionnaires in closely related fields (Bacardi-Gascon, Reveles-Rojas, Woodward-Lopez, Crawford, & Jimenez-Cruz, 2012; Sekine et al., 2002), the organization coordinating KIM developed two surveys: one for the parents and one for the children. These brief surveys (six questions for the child survey, nine questions for the parent survey) were a mixture of multiple-choice and open-ended questions. The survey questions were designed to assess the perceptions of children in the KIM program and the perceptions of their parents regarding the program. Specifically, inquiries on the child survey (offered only in

English) were about which school they attended, their favorite and least favorite KIM activities, what other activities the student would like to see in KIM, and what the child would be doing if not in KIM. The parent survey was offered in English and Spanish and included questions exploring why parents enrolled their child in KIM, who in their family has increased PA because of KIM, and specific feedback about the program. Specifically, queries in the parent survey were about the school attended, age and gender of the child, reason for enrolling in KIM, if anyone in the family has become more active because of KIM, the most valuable part of the program, and recommendations on making the program better.

Method

At the end of the school year (late April and early May 2010), the parent surveys were sent home with children along with permission slips for an end-of-the-year recognition event for KIM participants. Parents completed the survey and returned it with their child's permission slip.

The child surveys were distributed during the end-of-the-year recognition event (May 2010). During this event, children were recognized for participation and attendance, and prizes were awarded for high attendance. The event consisted of the awards ceremony, a PA segment, and a snack segment. After the activity and before the snack, the children completed the survey. Staff from the KIM schools helped to distribute and collect the survey.

Analysis

Descriptive statistics (i.e., frequencies) were calculated for applicable variables (e.g., school attended, grade in school, gender). Qualitative responses from the open-ended questions were separated into question category by survey types (i.e., parent or child survey). Following this step, common themes were identified for each qualitative question in each of the two surveys. Themes were then merged into coded categories, presented as the response headings for Table 1 for the parent survey and Table 2 for the child survey. Children's responses regarding favorite and least favorite activities were coded into competitive or noncompetitive as well as type of activity (e.g., team sports, free play, structured exercise). Activities reported for the question asking what the child would be doing if he

or she was not in KIM were classified as either active (e.g., riding a bike, playing outside) or nonactive (e.g., watching TV, playing video games). Descriptive statistics for variables of interest were calculated using IBM SPSS 19.

Results

Parent Survey

When asked the main reason for enrolling their child in KIM, 87.5% of the parents responded with physical activity and 17.9% responded with a safe place to play. The majority (91.1%) reported their child in KIM had an increased PA level because of the program. Seventeen percent of parents admitted they had increased their own PA because of KIM, 12% said it positively affected their other children, and 5.4% agreed their spouse had increased PA because of KIM. Many parents (52.7%) said the most valuable part of KIM was the opportunity for PA, and 22.3% said the best way to improve the program would be to offer it more days, more times, and/or to more children. More than two thirds of parents with eligible children (68.8%) agreed they would enroll their child in the KIM program the following year, and of those who would not, three said they were switching schools. See Table 1 for detailed information on the parent survey.

Table 1
Parent Survey Results

Survey question	<i>n</i>	%
What is the main reason for enrolling your child in the KIM program?		
Physical Activity	98	87.5
Safe Place to Play	20	17.9
Healthy Snack	6	5.4
Fun	5	4.5
Interaction With Other Kids	1	0.9
No Answer	2	1.8

Table 1 (cont.)

Survey question	<i>n</i>	%
Who in your family has become more physically active because of this program?		
Child in KIM	102	91.1
Me	19	17.0
Other Child	14	12.5
Spouse	6	5.4
Everyone	3	2.7
No One	1	0.9
Friends	1	0.9
Grandparents	1	0.9
What do you feel is the most valuable part of the KIM program?		
Physical Activity	59	52.7
Fun	11	9.8
Interaction With Other Kids	10	8.9
Teaches Kids How to Be Healthy	10	8.9
Safe Place to Play	7	6.3
Keeps Them Away From TV	3	2.7
Feel Better/Better Attitude	3	2.7
No Answer	29	25.9
How can we make this program better?		
More Times/Days/Grades/Kids/Etc.	25	22.3
Include Parents	3	2.7
Discipline/Control Bullies/Respect	3	2.7
Offer Sports/School to School Challenges	2	1.8
No Answer	79	70.5
Are you planning to enroll your child in KIM next year? (3rd and 4th grade students only)		
Yes	77	68.8
No	6	5.4
Maybe	3	2.7
No Answer	26	23.2
If no, please explain why not.		
Changing Schools	3	75
Leaving Available Grade	1	25

Note. Some questions allowed for multiple answers and totals will not equal 100%.

Child Survey

The majority (76.5%) of children preferred competitive over noncompetitive activities. Many (59.1%) favored team sports, followed by 15.7% with games/structured play, and 9.6% with free play. Seemingly incongruent with their favorite activities, when asked about least favorite activities, 54.8% reported competitive over noncompetitive, with 40.9% saying team sports, followed by 23.5% with structured exercise, and 15.7% with games/structured play. Children were also asked to report what they would be doing if not in KIM, and 40.9% reported sedentary activities. Table 2 contains detailed information on the Child Survey.

Table 2
Child Survey Results

Survey question	<i>n</i>	%
What is your most favorite KIM activity at your school?		
Team Sports	68	59.1
Games/Structured Play	18	15.7
Free Play	11	9.6
Structured Exercise	10	8.7
Individual Sports	5	4.3
No Answer	3	2.6
Competitive	88	76.5
Noncompetitive	24	20.9
No Answer	3	2.6
What is your least favorite KIM activity at your school?		
Team Sports	47	40.9
Structured Exercise	27	23.5
Games/Structured Play	18	15.7
Individual Sports	4	3.5
Free Play	1	0.9
No Answer	18	15.7
Competitive	63	54.8
Noncompetitive	34	29.6
No Answer	18	15.7

Table 2 (cont.)

Survey question	<i>n</i>	%
If you weren't at KIM, what would you be doing at home after school?		
Active	52	45.2
Nonactive	47	40.9
Both	13	13.0
No Answer	1	0.9

Note. Some questions allowed for multiple answers and totals will not equal 100%.

Discussion

The purpose of this study was to use parents' and children's perceptions of the KIM program to gain insight about parental decisions and children's activity preferences. Our findings indicate that child PA was a priority for parents as they were seeking an after-school program for their children with a focus on PA, but parents also valued their child's interaction with other children and providing them with a safe place to play. The results also indicate a controversy in children's activity preferences in regard to competitive versus noncompetitive, but also show that a large proportion of children would have been sedentary if not for KIM. Based on these findings, practitioners should promote the most valued aspects of an after-school program to the parents to encourage child enrollment. Practitioners should consider the activities that children enjoy; however, they need to pay attention to how much activity the children will accumulate during the chosen activities. The responses from the KIM surveys raise important questions to consider when planning or implementing after-school PA programs for children, and understanding these perceptions will help more children become involved and make programs more effective.

Considering such a large percentage of parents enrolled their child in KIM for the purpose of PA, it is obvious this is a priority for families. Many after-school programs are available to children that parents may use for socialization purposes or for day care. But nearly 88% of parents enrolled their child in KIM to expose the child to PA. This suggests that parents are seeking available outlets for their child's PA, and therefore, as a community, we should be doing more to provide PA opportunities.

Approximately 53% of parents felt the most valuable aspect of KIM was PA. This may seem like an obvious answer, but KIM also provides a safe place for kids to play after school, a free healthy snack, socialization for children, and free supervision during the after-school hours when many parents are still at work. Parents realized the effect of offering PA during those hours, and that provides a significant insight into promoting after-school PA programs.

The majority of parents (91.1%) felt their child had an increased PA level because of the KIM program. Furthermore, 17% of parents admitted they had increased their own PA because of KIM, 12% said it positively affected their other children, and 5.4% agreed their spouse had increased PA because of KIM. Thus, there seems to be a ripple effect concerning the entire family of a KIM child. This result indicates that an after-school PA program not only has the potential to positively affect the child directly involved, but also may improve the lifestyles of the child's friends and family. Beyond the benefits of increasing PA, 22.3% of parents thought the program should be offered more days and times and to more grades to allow more kids to join. This meant parents liked the program and wanted it to be more accessible to their families. Also, nearly 70% of parents with an eligible child planned on enrolling their child in KIM the following year, with 75% of those who answered no reasoning their child was switching schools and therefore unable to attend, and this is possibly the most telling result. For someone to simply admit liking or disliking a program is valuable information, but when the person agrees to continue participating, it becomes obvious the program is meaningful. These results indicate that parents view the KIM program as beneficial.

Perhaps the most interesting result from the child survey stems from similarities between favorite and least favorite activities. Competitive activities and team sports won out for favorites, but they also held the majority of responses for least favorite. This could be a result of gender differences; unfortunately, the KIM surveys did not account for gender, and this limitation prevents determining a relationship there. Grossbard, Smith, Smoll, and Cumming (2009) performed a study on anxiety in competitive sports and found girls experienced significantly higher amounts of anxiety related to performance in competitive sports than boys. This anxiety could have

an effect on their activity preferences as well as their activity levels during sports. Dwyer et al. (2006) set out to determine barriers to PA in adolescent females, and one of their findings was females tended to see the competition of sports as a barrier. Females saw the competition as stressful because they felt pressure to perform well. Some talked about the possibility of not trying out for a sport because they were afraid they would not make the team, or if they did try out and did not make the team, they were discouraged to continue playing that sport. This finding is an imperative consideration when determining activities to include in a PA program. It is important to identify which activities children are enjoying as well as which activities encourage more activity.

Another hypothesis to the phenomenon of competitive activities and team sports being the favorite and least favorite is children's perceived ability in a sport tends to determine their enjoyment and/or participation level (Boyd & Yin, 1996; Scanlan & Lewthwaite, 1986). In a study to determine predictors of youth sport enjoyment, Scanlan and Lewthwaite (1986) found a correlation between perceived ability and sport enjoyment in young male wrestlers, indicating whether children and adolescents like sports is affected by how skilled they consider themselves. Similarly, Boyd and Yin (1996) found a correlation between perceived competence and sport enjoyment in adolescents as well as between years of participation and enjoyment. In today's culture, it seems children are expected to have started training in their sport at a young age. Then they are required to be put on the spot and try out for a sports team at school. If they do not have the skills or have not been playing since they were a toddler, they will likely not make the team and end up discouraged. This consequence could spawn negative feelings toward competitive sports and could explain the high result for least favorite activity in KIM, but many children who are skilled at sports chose it as a favorite activity. This notion is important to consider for after-school PA programs.

It is possible more children would like team sports if the sports were not presented in a competitive manner. If PA programs were focused on inclusive participation and did not include the hierarchy of starters versus bench players, it could be a more positive experience. The National Alliance for Youth Sport (2008) developed universal standards for implementing youth sport programs. The

organization encourages focus on skill development, participation, and fairness and de-emphasizes competition and encourages incorporating a no-cut policy for children. These standards emphasize the importance of getting children to enjoy sports so they will be more likely to participate.

In regard to competitive activities, team sports are not the only culprit. Recreational games or other fun activities may also have an aspect of competition. In comparing elimination games and non-elimination games, Foster, Behrens, Jager, and Dzewaltowski (2010) found that although children may prefer elimination games, they accumulated less PA than during nonelimination games. Not all competitive activities are elimination based, but those that are may be affecting the amount of PA children accrue.

In this study, an astonishing 40.9% of children stated they would not be active during the same after-school time slot if not for the KIM program. Typical inactive options included watching TV, playing video games, and reading. This represents a large proportion of children that KIM has succeeded at engaging in PA. In analyzing the activity levels in KIM, Schuna et al. (2013) found that during KIM sessions, children were accumulating approximately 20 min of moderate to vigorous PA, in addition to other daily activity. This additional PA may represent a vital addition to their lifestyle that approximately 41% of those children would not have received otherwise.

Considering the positive effect after-school PA programs can have on low-income children, it is imperative to consider these perceptions to involve children in PA. Colchico et al. (2000) demonstrated that an after-school PA program geared toward low-income African American and Hispanic girls was effective at decreasing BMI and body fat percentage as well as increasing positive self-perception. Because programs like these have the potential to be effective, the goal needs to be focused on enhancing participation levels and what it takes to interest children and their parents.

Limitations

The parent and child surveys provide valuable insight to after-school PA programs, but they are not without limitations. The survey tools did not have a section for demographic information, which limited the ability to examine for differences such as in race and

gender. Also, children may have misunderstood the survey, which may have resulted in similar unusual responses. The cross-sectional design did not allow analyses between control and experimental groups, and the convenience sample limits generalizability of the findings. Still, these findings are unique in that this report is one of few in which the rationale and perceptions of engaging in after-school PA programs are examined and thus adds to the empirical literature base.

Conclusion

The KIM survey provides perceptions of parents and children that have not been previously explored. The results raise interesting considerations for researchers and practitioners attempting to develop effective PA programs for children. The most important consideration for practitioners lies in choosing activities. The implications of competition in youth PA need to be considered when deciding on curriculum. Some children may enjoy competition, but it tends to generate stress and fear and thus results in fewer children willing to participate (Dwyer et al., 2006; Foster et al., 2010; Grossbard et al., 2009; National Alliance for Youth Sport, 2008). Team sports are enjoyable for some children, but are normally delivered in a competitive manner, discouraging a large proportion of the other children. If practitioners want to incorporate team sports into their curriculum, they need to de-emphasize the competitive aspect by decreasing the focus on winning and rather pay attention to individual skill or technique accomplishments (National Alliance for Youth Sport, 2008). Including multiple activities during the after-school PA program may increase the probability of participation in activity. The ultimate goal should be to explore the activity preferences of the children involved and keep competition to a minimum.

Parents' perceptions are equally important as they ultimately decide whether to enroll their child. Putting an emphasis on opportunities for PA, providing a safe place to play, and fostering positive peer interaction have been identified as the key themes to promote to low income and low SES parents to encourage their children's participation. Considering these decisions when developing a youth after-school program will ensure that children are continuing to participate and developing long-term, enjoyable, healthy habits.

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PEDAGOGY

Attitudes Toward Physical Education of Female High School Students

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Abstract

*The purpose of this study was to determine the attitudes of female high school students toward PE in selected North Carolina schools. The high schools were conveniently selected to include the Northeast Piedmont urban region of North Carolina. Participants consisted of 102 female students aged 14 to 18 years old who were enrolled in ninth to 12th grade PE classes. The instrument used in the study (High School Students' Attitudes Towards Physical Education) was a 19-item questionnaire developed by Bibik, Goodwin, and Omega-Smith (2007). Data were analyzed with the independent samples *t* test ($p < .05$) level of significance. The results of this study show the attitudes toward PE, the grade averages in PE, the importance of PE in their lives, and the preference for single-gender versus coeducational among female students were significantly different ($p < .05$). Additionally, within the coeducational PE class, 14.5% of the female students preferred being taught in a single-gender PE class, and approximately 24.4% of the female students enrolled in the single-gender PE class preferred a coeducational PE class. This study indicates the importance of creating positive learning environments at the high school level for female students, developing informed teacher strategies, and understanding female students' attitudes toward PE.*

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Physical education (PE) is an important factor in the lives of youth. Through it, they have the opportunity to participate in physical activity (PA), acquire the developmental skills to participate in sports and daily activities of living, and develop a wealth of knowledge about healthy choices. According to the Roslow Research Group (RRG, 2009), most PE programs throughout a child's life are focused on elements such as health-related fitness, motor skills and movement forms, personal and social responsibility/character development, and preparation for sport participation. Once these children reach high school, the primary focus of these programs shifts to just health-related fitness, leading less than half of high school students to exercise 60 min per day (Centers for Disease Control and Prevention [CDC], 2014). In fact, researchers have found only 27% of high school females and 43% of high school males exercise for at least 60 min per day once they reach high school (Healthy People 2020, 2014; Wilkinson & Bretzing, 2011).

The CDC (2012) recently reported 16.9% of adolescents in the United States are obese, and Davy, Harrell, Stewart, and King (2004) found "obesity and cardiovascular diseases are more prevalent in the Southeast as compared with other geographic regions of the United States" (p. 571). Specific to this study, 15.4% of children are obese in North Carolina ("F as in Fat," 2014), yet the CDC (2012) reports 15.4% (boys and girls) in this state do not participate in PA on any day. With the amount of adolescents who are overweight and obese reaching epidemic proportions (Eisenberg, Radunovich, & Brennan, 2012; Ogden et al., 2006), female students' attitudes toward PE must be considered to make PA a major part of their everyday lives when it comes to curriculum choices (Rikard & Banville, 2006). Therefore, the purpose of this study was to examine the attitudes of female high school students toward PE in selected North Carolina schools. Furthermore, the differences between the attitudes of female high school students enrolled in a coeducational setting toward PE and those enrolled in a single-gender setting were examined to help understand the settings, programs, and instruction that adolescent females prefer.

Background

The purpose of "Physical Education is to develop physically literate individuals who have the knowledge, skills, and confidence to

enjoy a lifetime of helpful physical activity” (National Association for Sport and Physical Education, 2014, para.1). Coeducational PE classes began to appear in public schools with the passage of Title IX, a federal statute created to prohibit gender discrimination in educational programs that receive federal financial assistance (Lipka & Wolverton, 2007). Under provisions of Title IX, schools are required to provide an environment conducive to males and females receiving the same opportunities to participate in PE activities (Carpenter & Acosta, 2005). Consequently, this provision has led researchers to explore students’ perceptions of coeducational and single-gender PE in greater depth (Constantinou, Manson, & Silverman, 2009). Specific to this study, we focused on which PE environment, single-gender or coeducational, is more conducive to adolescent females’ learning (Derry & Phillip, 2004).

Coeducational Settings

Since the application of Title IX to PE classes, data have indicated most students believe the benefits of participating in a gender-mixed (coeducational) environment outweigh those derived from a gender-separate (single-gender) format (Carpenter & Acosta, 2005; Hill & Cleven, 2005). This is because students in coeducational classes feel their experiences are more successful when socialization of genders occurs.

However, coeducational PE classes may not be as educationally productive for students as having homogeneous groupings of PE opportunities (Bibik, Goodwin, & Omega-Smith, 2007). When surveyed, females often report being more uncomfortable in this setting (Constantinou et al., 2009). In coeducational PE settings, males dominate and often intimidate females in terms of organizational, spatial, verbal, and pedagogical aspects of lessons (Cockburn, 2001). As a result, females may be at a disadvantage in terms of their potential and attainment.

Chepyator, Russell, and Culp (2007) found females’ participation in PA drops drastically by the time they reach high school. For instance, though females participate in several activities in elementary school (indicated by the number of activities engaged in), by the time they reach middle school, participation often drops by half, and by high school, participation in PE drops even further.

Furthermore, lack of participation in PE or less than optimal experiences in classes limits females' learning and their PA levels across their life span (Azzarito, Solomon, & Harrison, 2006). For coeducational versus single-gender PE classes, females dislike the experience of coeducation more than males, and this increases with age (Cockburn, 2001). Stereotypical gender role expectations seem to be more intense in coeducational classes, causing females to feel more uncomfortable when forced to participate with males (Constantinou et al., 2009). Females then become less active and less successful within PE classes and when engaged in PA outside of PE.

In coeducational PE classes, the number of students is typically higher with a variety of skill levels. The higher the number of students in coeducational classes and the increased variance in skill development, the more difficult it becomes to separate the groups of skills to teach the skills necessary for game play. Females become more reserved about actively participating. Research indicates females spend fewer minutes and a smaller proportion of lesson time in PA than males do (McKenize, Prochaska, Sallis, & LaMaster, 2004). McKenzie et al. (2004) found female-only classes have more time for skill drills and less time for game play than do coeducational classes, and these factors reduce the effect of class gender composition on students' moderate to vigorous PA (MVPA). However, the trade-off is that more time in skill drills reduces PA during lessons. In addition, in large coeducational classes, some instructors find it easier to include substantial time for game play rather than design appropriate skill drills when faced with many skill levels. This leads to the hope that more time participating in game play will increase PA; however, the females' participation levels and skill development still remain low (McKenize et al., 2004), leading to the question of whether coeducational settings versus noncoeducational settings are the determining factor or whether society plays a more influential role in how students perceive the sports they play (Osborne, Bauer, & Sutliff, 2002) than does the PE setting in which they engage.

Most coeducational PE settings typically have a low level of female student participation. However, researchers have found that if an instructor who relates well and understands females' attitudes toward PE provides instruction, participation may increase. Flintoff and Scraton (2001) explored young women's perceptions of and atti-

tudes toward involvement in PA and PE in a coeducational PE class. The results indicate many of the young women enjoyed and were involved in PA, both in and out of school, because they were making active choices about their PA. Also, the data demonstrate teachers who can provide safe and supportive environments, who recognize the often different aspirations and motivations among their pupils, and who listen to their pupils are more likely to be successful than those who subscribe to hierarchical, discipline-based relationships and traditional curricula and pedagogies. In conclusion, even though the settings were coeducational, the females reported their activity level increased with a positive and supportive environment. The females felt comfortable while participating in PE, which is imperative for establishing a foundation of healthy behaviors later in life.

Single-Gender Settings

The ideology that single-gender PE settings result in higher numbers of interactions with teachers, and therefore increased participation opportunities for female students, has gained considerable attention in recent years (Hannon & Ratliffe, 2007). One reason is single-gender settings have higher percentages of academic learning time. According to Derry and Phillip (2004), female students in single-gender PE classes receive more positive learning experiences than their counterparts. They found that engaged skill learning time is significantly higher in single-gender classes than in coeducational classes (Hannon & Ratliffe, 2007). The interactions between teacher and student are also much greater, creating a more positive learning experience for females.

Based on another study, female students have reported teachers expect more from them in single-gender classes than in coeducational classes (Couturier, Chepko, & Coughlin, 2007). In addition, females have stated they have the chance to participate and feel challenged athletically when participating in a single-gender class (Derry, 2002). Adolescent females do not have to contend with the males adolescents' increased developmental abilities or aggressive and dominating play style. As a result, researchers have found single-gender PE classes may be a better learning environment for adolescent females. Females may prefer coeducational PE, but they gain more teacher feedback and have more engaged skill learning time in a gender-separate PE class (Derry & Phillip, 2004).

In conclusion, the importance of PE in the lives of young females has become a major concern, especially regarding coeducational or single-gender settings. Current studies on coeducational and single-gender PE classes have been presented. The outcomes of the studies show that although coeducational PE classes are preferred, males and females also prefer noncoeducational PE in other situations based on the instructional unit being taught. Furthermore, data indicate adolescent females often resist PE. This may be in response to the official curriculum and instruction of PE, intolerable peer relations, and/or dominant cultural messages about femininity. Therefore, gender-segregated classes are seen as an intervention that may increase females' attendance and enjoyment of PE (Olafson, 2002).

Health Factors

The U.S. Department of Health and Human Services (2014) reported decreases in PA among ninth to 12th grade adolescents. This is creating a plethora of issues because a lack of participation in physical activities during adolescence may increase the risk of obesity. Obesity is a growing epidemic in adolescent females (Groth & Morrison-Beedy, 2011). When studied, 32% of adolescent females have been found to be obese or overweight (Ogden et al., 2006) and “this problem is even more pronounced for Black girls, 42% of whom are obese or overweight and 25% obese” (Groth & Morrison-Beedy, 2011, p. 15). This is particularly alarming because data indicate “at least three in four obese teens grow up to become obese adults, which predispose them to serious ailments such as degenerative arthritis, heart disease, stroke and several forms of cancer” (American Academy of Pediatrics, 2003). Furthermore, the CDC (2014) found adolescents who are overweight or obese are more apt to remain so in adulthood than preadolescents aged 10 to 14 years old.

Why is obesity increasing in adolescent females? One theory is “that our children are leading more inactive life styles than in the past” (Eisenberg et al., 2012). Other research supports the supposition that

adolescent girls are at risk for obesity because of factors that include both life circumstances, which are difficult to modify, and lifestyle factors such as poor patterns of sleep, high-fat

diets, and low levels of PA that offer potential for intervention. (Groth & Morrison-Beedy, 2011, p. 16)

Researchers have argued that because of the large amount of time students spend in school during the day, school teachers have a huge influence on addressing this health epidemic, especially in schools with a strong PE program. Story, Kaphingst, and French (2006) noted the quality of PE classes is “crucial to their effect on child and adolescent overweight” (p. 119) because schools can promote good nutrition, PA, and healthy weight among children through healthful school meals and foods, PE programs and recess, classroom health education, and school health.

Hence, female students in high school who are enrolled in PE courses need positive experiences to have successful outcomes. Most of these positive experiences that females are experiencing are determined by the nature of the class, whether it is coeducational or single gender, or if the units taught are conducive to the students’ participation. With obesity and sedentary lifestyles increasing, there needs to be more focus on PE programs to have an inclusive environment (Rikard & Banville, 2006) so students of all ability levels have the opportunity to participate in a PE setting that is comfortable. This would lead to an increased amount of engaged learning time and an increase in PA among adolescent females.

Therefore, the purpose of this study was to determine the attitudes of female high school students toward PE in selected North Carolina schools. We surveyed female high school students enrolled in a coeducational setting and female high school students enrolled in a single-gender setting to determine if there were significant differences in their attitudes toward PE.

Method

Participants

Data collection occurred at two high schools in the Northeast Piedmont urban region of North Carolina. Participants consisted of 102 female students aged 14 to 18 years old who were enrolled in ninth to 12th grade PE classes. Male students were not included in this study. Therefore, the focus of this research was on female students. Females from nine PE classes were surveyed from two PE

class settings and school settings. Six of the PE classes were coeducational ($n = 55$) in a public school and three were single gender ($n = 47$) in a private school.

Instrumentation

The instrument used in the study was the High School Students' Attitudes Towards Physical Education questionnaire (Bibik et al., 2007). The questionnaire was modified from the original within the demographic section by adding race and classification level. Additionally, some questions from the content area were removed because they were irrelevant to this study.

The questionnaire consisted of 19 items (five open-ended questions, 14 Likert-type questions). The questionnaire was organized into the following sections: (a) demographics and personal information; (b) likes, dislikes, and perceived importance of PE; (c) importance of other subject areas; and (d) most and least important activities in the PE curriculum. Validity of the instrument was established through the original questionnaire (Bibik et al., 2007), and the design has been recognized in supporting literature (Fowler, 2002; Thomas, Thomas, & Silverman, 2011). The Cronbach's alpha coefficient of reliability was 0.962.

Procedures

A request to use the questionnaire instrument was granted prior to data collection, and then modifications were made to the questionnaire prior to the pilot test. The modified questionnaire was pilot-tested in a local high school in North Carolina near our location with students in a PE class who were not part of the study. A letter was sent to the school principals and the PE teachers of each school explaining the purpose of the study and asking permission to have the female students enrolled in their PE classes complete the questionnaire. In addition, parental/guardian consent forms were sent home with students who volunteered to participate in the study. The consent forms explained the purpose and procedures of the study.

Fifty-five questionnaires were administered to female students enrolled in a coeducational PE class, and 47 questionnaires were administered to female students in a single-gender PE class with 100% response rate ($N = 102$). Only female students were given the questionnaire because of the national and state data of the high per-

centage of inactivity among female students. PE classes are required for all female high school students according to the Department of Public Instruction in North Carolina (2013).

A number and letter were preassigned on the questionnaires for each of the two settings. Female students who were enrolled in a single-gender PE class retrieved a questionnaire with the letter *A* located in the upper right-hand corner. Female students enrolled in a coeducational PE class received a questionnaire with the letter *B* located in the upper right-hand corner. In addition, the questionnaires were preassigned and created in a booklet form.

Data Analysis

Data were analyzed from the High School Students' Attitudes Towards Physical Education questionnaire using descriptive statistics and an independent samples *t* test ($p < .05$) with the Statistical Package for Social Science (SPSS) 18.0. Means and standard deviations were calculated for the variables in the public school coeducational PE classes and in the private school single-gender classes. Descriptive statistics were used to summarize the numbers and percentages of (a) the ethnicity of female students enrolled in the PE classes; (b) the classifications and overall grade averages of the female students enrolled in the PE classes; (c) the class preferences of the female students; (d) the female students' attitudes toward likes, dislikes, and perceptions of enjoyment in the PE classes; and (e) the independent samples *t* test and means of female students enrolled in the PE classes. Additionally, an independent *t* test was used to determine if there was a significant difference in females' attitudes toward PE in coeducational PE in a public school versus single-gender PE in a private school.

Results

Six ethnic groups were represented in the single-gender and coeducational PE classes (see Table 1). Approximately 83% of the students in the single-gender PE class were Caucasian ($n = 39$) compared with 25.5% in the coeducational PE class. Additionally, 52.7% ($n = 29$) of the female students in the coeducational PE class were African American, 9.1% ($n = 5$) were Multiracial, and 12.7% ($n = 7$) were Hispanic. In the single-gender PE class, 8.5% ($n = 4$) of the female students were African American, 2.1% ($n = 1$) were American

Indian, 2.1% ($n = 1$) were Multiracial, 2.1% ($n = 1$) were Hispanic, and 2.1% ($n = 1$) were Asian (Table 1).

Approximately 100% ($n = 47$) of female students in the single-gender PE class reported having an A grade average in PE. However, 64.2% ($n = 34$) of the female students in the coeducational PE class reported having an A grade average, 20.8% ($n = 11$) reported having a B grade average, and 15% ($n = 8$) reported having a C grade average in PE. Two of the female students in the coeducational PE class did not respond to this question (see Table 1).

Table 1

Ethnicity of Female High School Students in Single-Gender and Coeducational Physical Education Classes

Race	Private school single gender		Public school coeducational	
	N	%	N	%
American Indian	1	2.1	0	0.0
Multiracial	1	2.1	5	9.1
Hispanic	1	2.1	7	12.7
Asian	1	2.1	0	0.0
Caucasian	39	83.1	14	25.5
African American	4	8.5	29	52.7
Total	47	100.0	55	100.0

Of female high school students in single-gender PE classes, 97.9% were ninth graders ($n = 46$) and one (2.1%) was a 12th grader. No female high school students were in the 10th and 11th grades in the single-gender PE group (see Table 2). Approximately 70.9% of the students in the coeducational PE classes were ninth graders ($n = 39$), 16.4% were 10th graders ($n = 9$), 3.6% were 11th graders ($n = 2$), and 9.1% ($n = 4$) were 12th graders (see Table 2). Approximately 66.7% of the female students in the single-gender PE class and 70.3% of the female students in the coeducational PE class responded that physical educators should teach more games. Approximately 11.1% of females in the single-gender PE class and 16.2% of females in the coeducational PE class indicated physical educators should allow more time in PE classes. Female students in the single-gender PE

class (16.7%) and 2.7% of the female students in the coeducational PE class stated they should be allowed to assist in choosing the health units to be taught (see Table 2). Eleven students in the single-gender PE classes and 18 students from the coeducational PE classes did not respond to this question.

Table 2

Percentages of Classification and Grade Averages of Female High School Students in Single-Gender and Coeducational Physical Education Classes

Group	Classification	Number of participants	
		Number of participants	%
Single-gender	9th	46	97.9
Single-gender	12th	1	2.1
Total		47	100.0
Coeducational	9th	39	70.9
Coeducational	10th	9	16.4
Coeducational	11th	2	3.6
Coeducational	12th	5	9.1
Total		55	100.0

Grade average	Single gender		Coeducational	
	N	%	N	%
A	47	100.0	34	64.2
B	0	0.0	11	20.8
C	0	0.0	8	15.0
Total	47	100.0	53	100.0

Descriptive statistics are shown in Table 3, and 75.6% of the female students ($n = 34$) enrolled in the single-gender PE class preferred a single-gender PE class. Approximately 24.4% ($n = 11$) of the female students in the single-gender PE class preferred a coeducational PE class. Two of the students did not respond. Furthermore, approximately 85.5% ($n = 47$) of the female students enrolled in coeducational PE preferred a coeducational PE class. However, 14.5%

($n = 8$) of the female students in the coeducational PE class preferred a single-gender PE class. Two students in the single-gender PE class did not respond.

Table 3
Class Preference

Characteristic	Single-gender preference		Coeducational preference	
	<i>N</i>	%	<i>N</i>	%
Single-gender	34	75.6	8	14.5
Coeducational	11	24.4	47	85.5
Total	45	100.0	55	100.0

Several of the female students believe playing games and having fun in PE classes is important (37.8% of the female students in the single-gender class and 26.9% of the female students in the coeducational PE class; see Table 4). Also, 33.3% of female students in the single-gender PE class and 7.7% from the coeducational PE class also enjoy PE because it is a way of taking a break from other classes. In addition, 8.9% of students in the single-gender PE class and 26.9% in the coeducational PE class mentioned daily exercise as a characteristic of PE. Additionally, the majority of the female students (46.5%) reported they would like to have PE for the entire school year. Only 3% of the female students indicated they would like to never have PE or to only have it one period (16.2%) of the school year. Two students in the single-gender PE class and three students from the coeducational PE class did not respond.

Over 52 (52.5%) of the female students in the single-gender PE class and 36.4% in the coeducational PE class indicated how becoming sweaty was the least liked concept of PE. In addition, 22.5% of the female students in single-gender and 43.2% of the female students in the coeducational PE classes reported they disliked the conditioning aspects and health units of PE. Approximately 17.5% of the students in the single-gender and 15.9% of the female students in the coeducational PE classes least liked the competitiveness among the students during PE. In addition, 7.5% of the students in

the single-gender class and 4.5% of the students in the coeducational PE class disliked performing physical activities in front of classmates (see Table 4). Seven students from the single-gender and 11 students from the coeducational PE classes did not respond.

Table 4

Likes, Dislikes, and Perceptions of Enjoyment of Female High School Students While Participating in Single-Gender and Coeducational Physical Education Classes

Characteristic	Single gender		Coeducational	
	N	%	N	%
Likes				
Play games/have fun	17	37.8	14	26.9
Take a break from class	15	33.3	4	7.7
Being with friends	4	8.9	11	21.2
Fitness maintained	5	11.1	9	17.3
Daily exercise	4	8.9	14	26.9
Total	45	100.0	52	100.0
Dislikes				
Conditioning and health units	9	22.5	19	43.2
Getting Sweaty	21	52.5	16	36.4
Competitiveness among students	7	17.5	7	15.9
Performing physical activities in front of classmates	3	7.5	2	4.5
Total	40	100.0	44	100.0
Perceptions of Physical Education and Enjoyment				
More games	24	66.7	26	70.3
Choice of health units	6	16.7	1	2.7
More time in PE	4	11.1	6	16.2
Change nothing	2	5.6	4	10.8
Total	36	100.0	37	100.0

Results of the independent samples *t* test are shown in Table 5. Results indicate a significant difference in six areas at the .05 level. The female students who participated were ninth graders. Results indicate a significant difference in classification in PE among the students in the single-gender classes, $M = 1.06$, $SD = .000$, $t(101) = -3.14$, $p < .002$, and the coeducational classes, $M = 1.55$, $SD = .940$, $t(101) = -3.14$, $p < .001$; the grade average in PE among students in the single-gender classes, $M = 1.00$, $SD = .000$, $t(100) = -4.90$, $p < .000$, and the coeducational classes, $M = 1.56$, $SD = .750$, $t(100) = -4.90$, $p < .000$; perceived importance of PE among students in the single-gender classes, $M = 3.17$, $SD = 1.070$, $t(98) = -2.38$, $p < .020$, and the coeducational classes, $M = 3.72$, $SD = 1.215$, $t(98) = -2.38$, $p < .019$; the characteristics the students liked about PE classes among students in the the single-gender classes, $M = 2.20$, $SD = 1.307$, $t(95) = -3.04$, $p < .003$, and the coeducational classes, $M = 3.10$, $SD = 1.563$, $t(95) = -3.04$, $p < .003$; PE preference of students in the single-gender classes, $M = 1.78$, $SD = .435$, $t(100) = 7.50$, $p < .000$, and the coeducational classes, $M = 1.16$, $SD = .356$, $t(100) = 7.50$, $p < .000$; and how often PE should be offered in the single-gender, $M = 1.49$, $SD = .787$, $t(97) = -3.05$, $p < .003$, and the coeducational, $M = 1.98$, $SD = .812$, $t(97) = -3.05$, $p < .003$, PE settings in this study.

Additionally, within the coeducational PE class, 14.5% of the female students preferred being taught in a single-gender PE class. And approximately 24.4% of the female students enrolled in the single-gender PE class preferred a coeducational PE class.

Discussion

The female students enrolled in the coeducational PE class (70.9%) and single-gender PE class were largely ninth graders (97.9%), which could have had a significant effect on the overall attitude toward PE of the students in this study. Therefore, it is critical that adjustments to teaching strategies continue in PE, whether classes are coeducational or single gender. A significant difference was found in the perceived importance of PE among students in the coeducational PE classes, $t(98) = -2.38$, $p < .019$, and single-gender PE classes, $t(98) = -2.38$, $p < .020$, and this indicates teaching strategies at these two schools may not be working and should be adjusted.

Table 5

Independent Samples t Test and Mean of Female High School Students in Single-Gender and Coeducational Physical Education Classes

Variable	Single-gender (<i>n</i> = 47)			Coeducational (<i>n</i> = 55)		
	<i>M</i> (<i>SD</i>)	<i>t</i>	<i>p</i>	<i>M</i> (<i>SD</i>)	<i>t</i>	<i>p</i>
Classification	1.06 (.438)	-3.14	.002*	1.55 (.94)	-3.14	.001*
Race	4.85 (.850)	-0.74	.457	5.05 (1.37)	-0.74	.440
Grade Average in PE	1.00 (.000)	-4.90	.000*	1.56 (.75)	-4.90	.000*
Importance of PE	3.17 (1.07)	-2.38	.020*	3.72 (1.21)	-2.38	.019*
Like About PE	2.20 (1.30)	-3.04	.003*	3.10 (1.56)	-3.04	.003*
Dislike About PE	2.10 (1.10)	1.50	.137	1.82 (.870)	1.50	.137
Consider Helpful in PE	1.83 (1.06)	1.16	.251	1.55 (.978)	1.16	.253
Make PE Fun	1.72 (.909)	-1.39	.167	2.09 (1.10)	-1.39	.160
Single-Gender or Coed Preference	1.78 (.435)	7.50	.000*	1.16 (.356)	7.50	.000*
Benefits From PE After High School	3.57 (.695)	.63	.531	3.44 (1.05)	0.63	.548
How Often PE Should Be Offered	1.49 (.787)	-3.05	.003*	1.98 (.812)	-3.05	.003*

Note. PE = physical education.

**p* < 0.05.

Another important variable in PE is for administrators and/or teachers to allow female students to choose whether they would prefer a coeducational or single-gender PE class. Prior to the 1970s, most PE classes were single gender; however, with Title IX and other social changes, coeducational PE classes have become more common (Bibik et al., 2007; Carpenter & Acosta, 2005). In most public schools, the PE classes are coeducational, whereas the PE classes in the majority of private schools are single gender. When the female students were asked which PE class they preferred, some students responded toward a coeducational PE class when playing games such as capture the flag or ultimate Frisbee and toward a single-gender PE class when units such as swimming or yoga are being taught. These PE units are similar to the results found in Hill and Cleven (2005) that indicate the activities female students prefer include swimming, volleyball, contemporary dance, aerobics, and gymnastics, among others. Therefore, it is recommended that when feasible, female students be given a choice in regard to the type of PE class they prefer.

Another concept that should be considered is increasing the number of elective PE offerings for juniors and seniors because 97.9% of students in the single-gender PE class and 70.9% in the coeducational PE class were ninth graders. Allowing more PA options for junior and senior female students will provide a gateway for an active, healthy lifestyle into adulthood. Based on this research, many of these students may choose sports or games and others may choose fitness options (Bibik et al., 2007). Through this option, teachers have more opportunities to help female students remain physically active. To continue improving PE programs, administrators and teachers should include students' perceptions and attitudes toward curriculum choices. Pedagogically, PE classes should be grouped by skill rather than gender. This would allow students to learn more efficiently and to improve developmental skills necessary to participate in several sporting activities. Furthermore, it would lead to an increase in PA, which is imperative for good health and for creating a foundation of healthy behavior.

Conclusions

This research was limited specifically to female students in an urban setting. Although much emphasis has been placed on students' attitudes toward PE, there needs to be focus on the relationship

among attitudes, outcomes, and fitness levels. Statistical data indicate there is a decrease in PA and an increase in obesity in female adolescents (CDC, 2012). Therefore, the demands for PE need to increase specifically for students in Grades 9 to 12. Another recommendation to future researchers is to administer the High School Students' Attitudes Towards Physical Education questionnaire (Bibik et al., 2007) to (a) various ethnic groups in the female student populations in public schools in Grades 9 to 12, (b) students in Grades 9 to 12 who participate in an extracurricular sport and those who do not participate in an extracurricular sport, (c) males and females enrolled in Grades 9 to 12 in single-gender and coeducational PE settings, and (d) female students in Grades 9 to 12 enrolled in PE classes in rural high schools.

In conclusion, with obesity on the rise, it is imperative to continue to push for PA and PE within school systems. This study shows the importance of positive learning environments, teacher strategies, and the role of students' attitudes toward actively participating in PE. By obtaining students' feedback and incorporating their ideas in the PE curriculum, administrators and teachers may have the opportunity to continue helping female students become healthy and physically active. Building a healthy view of PA at this age through a more inclusive curriculum will provide an imperative foundation for females to continue being healthy and physically active as adults. Female students must continue to be educated regarding the benefits of PA and achieving a healthy and physically active adult lifestyle.

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PEDAGOGY

Effects of Classroom-Based Energizers on Primary Grade Students' Physical Activity Levels

Catherine Goffreda Bailey and James Clyde DiPerna

Abstract

The primary aim of this study was to determine the effects of classroom-based exercise breaks (Energizers; Mahar, Kenny, Shields, Scales, & Collins, 2006) on students' physical activity levels during the school day. A multiple baseline design across first grade (N = 3) and second grade (N = 3) classrooms was used to examine the effects of the Energizers program. Approximately 15 students per classroom had parental consent to participate. D-index effect sizes were calculated between baseline and intervention phases for each classroom. Classroom activity levels were graphed over time, and percentage of nonoverlapping data (PND) values were calculated between baseline and intervention phases for each classroom. Implementation of the Energizers program significantly increased participants' school-based steps, which were measured using accelerometer activity monitors. In addition, participating teachers indicated that Energizers did not adversely affect academic instructional time and planned to continue using Energizers activities in their classrooms beyond the study.

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Children in today's society face unique challenges in maintaining a healthful, well-balanced lifestyle. Among other barriers, changes in the food market have inundated children and adolescents with advertisements for prepackaged, empty calorie foods and sugar sweetened beverages (Berkey, Rockett, Field, Gillman, & Colditz, 2004; Welsh et al., 2005). Furthermore, fewer children engage in daily physical activity (PA), and more engage in sedentary entertainment, such as watching television or playing video games (Certain & Kahn, 2002). Such sedentary lifestyles, coupled with an overly high intake of caloric content, result in an excessive energy balance for children and weight gain over time (Agras, Hammer, McNicholas, & Kraemer, 2004).

Schools are a practical site for identifying child health-related concerns and implementing interventions to promote increased PA. Without daily school-based PA (i.e., opportunities for PA during the normal school hours, including physical education [PE]), approximately 50% of children do not have much of a chance of achieving the minimum recommended PA level (Trudeau & Shephard, 2005). Unfortunately, such opportunities have not been provided in many schools because of concerns about taking time away from academic instruction (Sibley & Etnier, 2003).

Although various school-based health promotion frameworks exist, behavioral interventions, environmental changes, and tenets of social cognitive theory are incorporated into the most successful. Given that few students use leisure time for engaging in PA, policy and environmental changes are imperative, particularly for female students (McKenzie, Marshall, Sallis, & Conway, 2000). Although increasing students' nutritional eating choices and engagement in PA have positive effects, the same approaches have been less successful in preventing obesity or reducing body weight (i.e., BMI) and adiposity (see Goran & Sothorn, 2006). Harris, Kuramoto, Schulzer, and Retallack (2009) completed a meta-analysis of 18 empirical studies on the outcomes of elementary school-based PA interventions. Not only did BMI rates not improve across studies, but also high rates of consistency were reported between intervention and control conditions ($r = 0.97$).

Sports, Play, and Active Recreation for Kids (SPARK; Sallis et al., 1997) is one of the most effective school-based PE programs in terms of implementation and outcomes to date. In a controlled trial,

two approaches to implementation (i.e., teacher led or specialist led) were used to investigate the effects of a class-management program to increase the percentage of moderate to vigorous physical activity in elementary school PE classes. Results of both conditions were compared to control schools' PE classes (i.e., all occurred during noninstructional time). Each PE class included a health-fitness (e.g., aerobic dancing, jogging) or skill-fitness (e.g., organized sports) component. The treatment group students also learned skills for behavioral change, such as goal setting, self-management, and principles of self-reinforcement in weekly 30-min classes.

According to Sallis et al. (1997), PE classes with SPARK incorporated yielded greater student moderate to vigorous physical activity engagement time when taught either by classroom teachers (33 min) or by PE specialists (40 min) relative to control classes (18 min). Furthermore, girls in the specialist-led group showed significant improvements in fitness levels after 2 years, which was measured using timed cardiovascular and abdominal exercises. Across both treatment groups, no significant effects were observed in out-of-school PA, however. As a result of the SPARK program's success, the program has been adopted in approximately 270 schools across seven states to improve the PE curricula. Of these schools, nearly 80% continued the SPARK program after 4 years of implementation, with no significant implementation differences observed between school districts of high and low socioeconomic status (Dowda, Sallis, McKenzie, Rosengard, & Kohl, 2005).

Mahar, Murphy, et al. (2006) implemented the Energizers program, which involves brief (10–20 min) classroom-based PA sessions, in kindergarten through fourth grade classrooms. Students in the Energizers implementation group completed more daily pedometer steps than control group students (Cohen's $d = 0.49$). Furthermore, systematic increases in on-task classroom behaviors were observed after students engaged in Energizers activities ($d = 0.60$). The least on-task students during baseline experienced the greatest increase in on-task behaviors at postintervention ($d = 2.20$). Although Mahar, Murphy, et al. did not directly measure academic outcomes, similar on-task behaviors (e.g., engagement and motivation) have been shown to be predictive of enhanced levels of academic achievement (DiPerna, Volpe, & Elliott, 2002).

The primary aim of this study was to determine the effect of classroom-based exercise breaks (Energizers; Mahar, Kenny, Shields, Scales, & Collins, 2006) on young students' PA levels. We expanded upon the work of Mahar, Kenny, et al. (2006), and the primary hypothesis for this study was that implementation of the Energizers program would increase students' school-based PA levels. Given that the Energizers program was designed as a low-cost method of incorporating effective PA sessions into the classroom with relative ease and minimal disruption, an additional hypothesis was that teachers and students would view Energizers as acceptable. Previous studies support the effectiveness of school-based PA interventions (Luepker et al., 1996; Sallis et al., 1997; Sallis et al., 2003) and classroom-based Energizers (Mahar, Murphy, et al., 2006) to promote greater levels of student PA throughout the school day.

Method

Participants

Data were collected in a rural elementary school in the Northeast. Students in three first grade classrooms and three second grade classrooms participated in the study. A mean of 16 first grade and 14 second grade students participated per classroom. Approximately 50.3% of students were female. Ninety-seven percent of the students were Caucasian, 2% were African American, and 1% were Hispanic/Latino. Within the school, 37% of students received free or reduced-price lunch. All of the six participating teachers were female and identified their ethnicity as Caucasian.

Instrumentation

Physical activity. To measure PA levels, students wore New-Lifestyles Accelerometer Activity Monitors (Model NL-800) throughout the school day. Each NL-800 accelerometer retained a 7-day memory of steps taken. In contrast to pedometers, accelerometers show higher levels of overall measurement accuracy, including reliability and validity of steps measured (Tryon, Pinto, & Morrison, 1991; Tudor-Locke & Myers, 2001). Furthermore, computer chips measuring the amplitude and frequency of movement deduct inconsistent activities (e.g., shaking the model) from the accumulated "steps."

Treatment fidelity. Implementation of classroom-based Energizers was observed once per week in each classroom. The lead author completed a structured checklist of intervention implementation for each observation. In addition, classroom teachers completed a weekly self-report on integrity of Energizers activity implementation.

Teachers reported implementing an Energizers activity twice per day during the intervention phase. They also reported completing activities immediately prior to or following academic instruction and at least 30 min before or after scheduled breaks (e.g., lunch, recess, PE). Students' recess and PE times were not altered, but rather Energizers activities were implemented within the daily classroom schedule. Teacher reports were corroborated via formal observations completed by trained research assistants. Energizers activities were scheduled to last 10–20 min per session. Based on the observation data, the average length of an Energizers session was 11.42 min ($SD = 3.54$ min). During observation sessions, a mean of 91.48% of students were engaged in the activity (i.e., head and eyes oriented toward the teacher, performing movements as directed). Overall, systematic observations and teacher reports of integrity were consistently very high (i.e., > 90%) across fidelity indicators. Planned booster training sessions (e.g., structured practice sessions) for teachers were unnecessary because of high implementation integrity.

Intervention acceptability. Teachers and students completed brief, anonymous intervention acceptability ratings on their perceptions of the Energizers program and classroom-based PA. Teachers rated statements regarding ease of Energizers implementation and incorporation of classroom-based PA on a scale from 1 (*strongly agree*) to 5 (*strongly disagree*). Students also completed a brief intervention acceptability questionnaire regarding Energizers that included five questions using a 3-point response format (*a lot*, *some*, *a little*, or *not at all*). Students completed the questionnaire individually; however, if they experienced difficulty with unfamiliar words, teachers provided assistance.

Procedures

The K–5 Energizers program (Mahar, Kenny, et al., 2006) consists of a series of 10- to 20-min activities that can be incorporated twice daily into the regular classroom routine. Participating teachers com-

pleted a 2-hr training session before implementing the Energizers program. As in the procedures described by Mahar, Kenny, et al. (2006), a brief overview of the childhood obesity epidemic and importance of school-based PA was provided at the outset of the training session. The Energizers program rationale and implementation process then were reviewed, and each teacher had the opportunity to lead a PA session and receive constructive feedback from the facilitator. Following the training, each teacher was provided with a packet of Energizers classroom-based physical activities. Each teacher participated in weekly consultation sessions with the lead researcher throughout the implementation phase of the study.

During intervention implementation, teachers led two daily Energizers activities following a detailed script verbatim. Every participating student wore an accelerometer throughout each school day, including during the baseline period. At the end of each week, researchers recorded the total daily steps tracked on each student accelerometer. Classroom teachers assisted students with attaching accelerometers before the opening bell each morning and removing accelerometers prior to the ending bell each afternoon. (Students wore the accelerometers for 2–3 school days prior to the beginning of the study to reduce reactivity effects.)

Research Design

A multiple baseline design (Watson & Workman, 1981) was used to determine the effects of the Energizers program on PA. This design has been used in previous studies (Katz & Singh, 1986; Mahar, Murphy, et al., 2006; Shimabukuro, Prater, Jenkins, & Edelen-Smith, 1999) to allow systematic manipulation of intervention conditions to infer causal relationships with outcome variables. Based on this design, one classroom from each grade level was randomly assigned to one of three conditions. Conditions varied by the length of baseline observation (2, 4, or 6 weeks). Teachers continued the Energizers program throughout the end of the 11-week study. Thus, classrooms implemented the program for 5, 7, or 9 weeks.

Results

Physical Activity Outcomes

Descriptive statistics for PA are reported by grade level, classroom, and condition in Table 1. Two metrics were used to test the

Table 1
Mean (Standard Deviation) of Daily Steps per Week of Study

Classroom	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
Grade 1											
1A	6782.83 (689.53)	6891.29 (969.01)	7159.15 (999.93)	6544.00 (831.44)	6631.57 (852.75)	7139.29 (1032.36)	6947.36 (696.18)	6866.86 (718.13)	6792.21 (1016.54)	9206.46 (1008.83)	6722.71 (1077.03)
1B	5785.00 (1074.12)	6131.64 (915.78)	5933.91 (998.13)	6874.82 (1278.76)	6879.36 (1334.43)	6809.91 (1558.56)	7989.45 (3325.39)	7158.60 (1166.42)	6422.55 (1254.65)	8808.45 (1732.09)	6501.82 (1803.71)
1C	5269.70 (894.73)	5683.73 (1024.47)	5444.09 (1243.97)	5983.36 (1298.67)	6362.45 (1313.52)	6293.56 (1284.48)	7507.09 (1455.03)	6632.82 (1295.34)	7049.82 (968.17)	6493.70 (1099.02)	7679.36 (1239.17)
Grade 2											
2A	5580.37 (609.22)	6363.86 (633.24)	5426.71 (666.60)	5728.88 (751.20)	5256.76 (738.50)	6029.07 (561.98)	5901.47 (662.08)	5787.88 (664.84)	6926.07 (949.06)	6102.24 (729.93)	7289.35 (1070.04)
2B	6764.18 (1126.74)	6207.00 (1230.47)	6074.33 (1317.64)	7517.75 (2130.84)	7301.17 (1740.01)	7057.17 (1263.86)	7094.08 (1443.80)	7625.17 (1665.42)	7301.00 (1866.00)	8815.45 (2466.76)	8020.91 (1452.54)
2C	4795.69 (758.29)	5133.94 (667.99)	4141.63 (585.07)	5591.50 (862.60)	4454.38 (888.24)	5046.00 (819.13)	5701.00 (1206.44)	5440.63 (823.30)	5736.31 (2605.12)	5751.13 (1054.40)	6139.56 (948.00)

Note. Shading indicates intervention implementation phase for Group A (Weeks 3–11), Group B (Weeks 5–11), and Group C (Week 7–11).

primary hypothesis that the Energizers program would increase students' school-based PA levels. First, *d*-index effect sizes were calculated between baseline and intervention phases for each classroom. Based on the recommendations of Cohen (1988), *d*-index effect sizes span to infinity (i.e., may exceed 1.0) and can be interpreted as follows: ≥ 0.8 (large), ≥ 0.5 (medium), and ≥ 0.3 (small). Based on these criteria, the effects of Energizers on students' daily school-based accelerometer steps were large in two of the first grade classrooms (1B, 1C) and medium in the other classroom (1A). In the second grade classrooms, effect sizes for students' daily school-based accelerometer steps were large in all three classrooms (Table 2).

Table 2
Cohen's d Effect Sizes and Percentage of Nonoverlapping Data (PND) for Average Daily Accelerometer Steps by Classroom

Classroom	<i>d</i>	PND %
Grade 1		
1A	0.71	44.44
1B	1.18	57.14
1C	1.17	100
Grade 2		
2A	1.26	88.89
2B	0.80	42.86
2C	1.05	80

Second, classroom activity levels were graphed over time (Figures 1 and 2), and percentage of nonoverlapping data (PND) values were calculated between baseline and intervention phases for each classroom (Table 2). Based on the guidelines established by Scruggs, Mastropieri, and Castro (1987), PND values may be categorized as very effective ($> 90\%$), effective (70% to 90%), questionable (50% to $< 70\%$), and ineffective ($< 50\%$). Based on these criteria, PND values in the first grade classrooms fell within the very effective range (1C), the questionable range (1B), and the ineffective range (1A; Table 2). In the second grade classrooms, PND values fell within the effective range in two classrooms (2A, 2C) and the ineffective range in one classroom (2B).

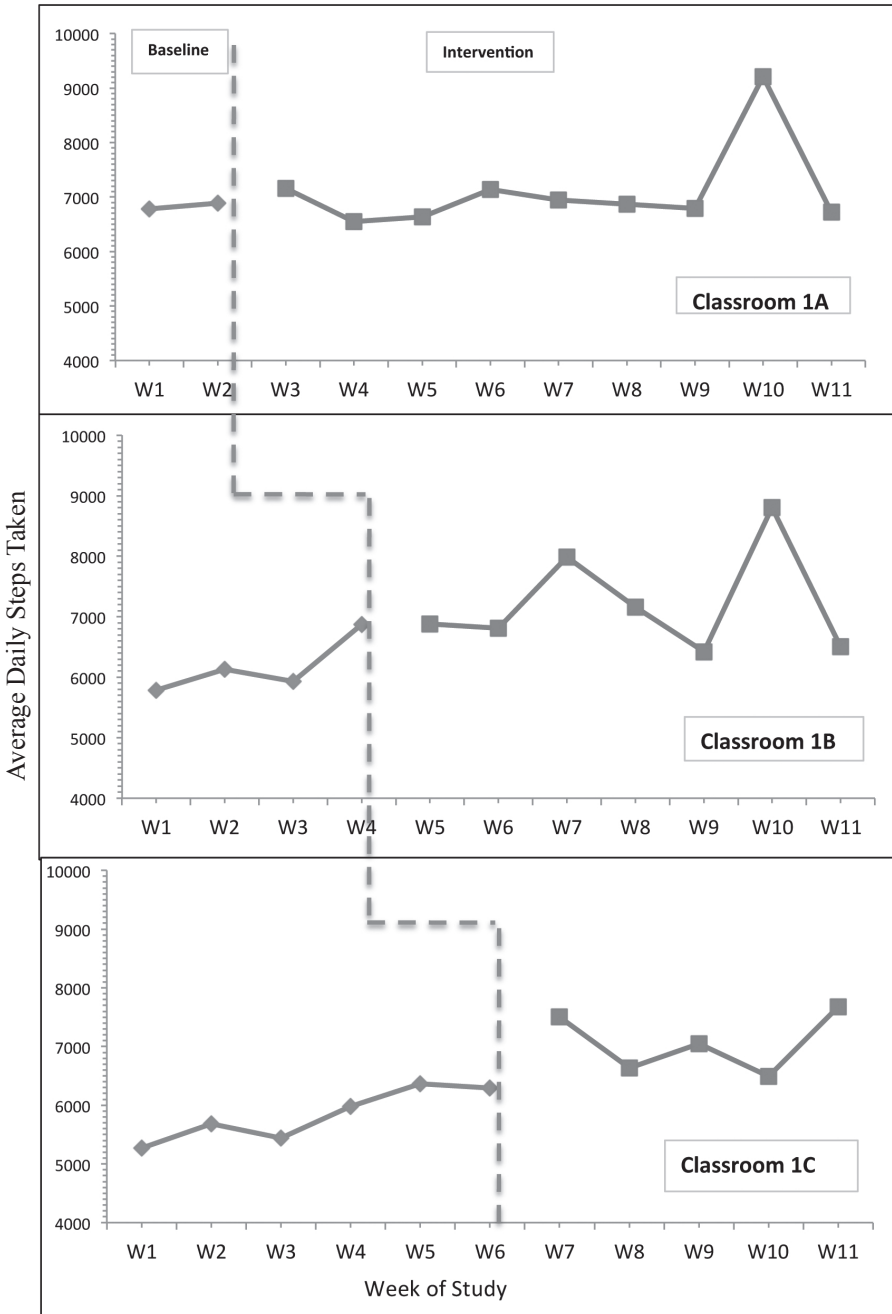


Figure 1. Average daily accelerometer steps by first grade classroom and week of study.

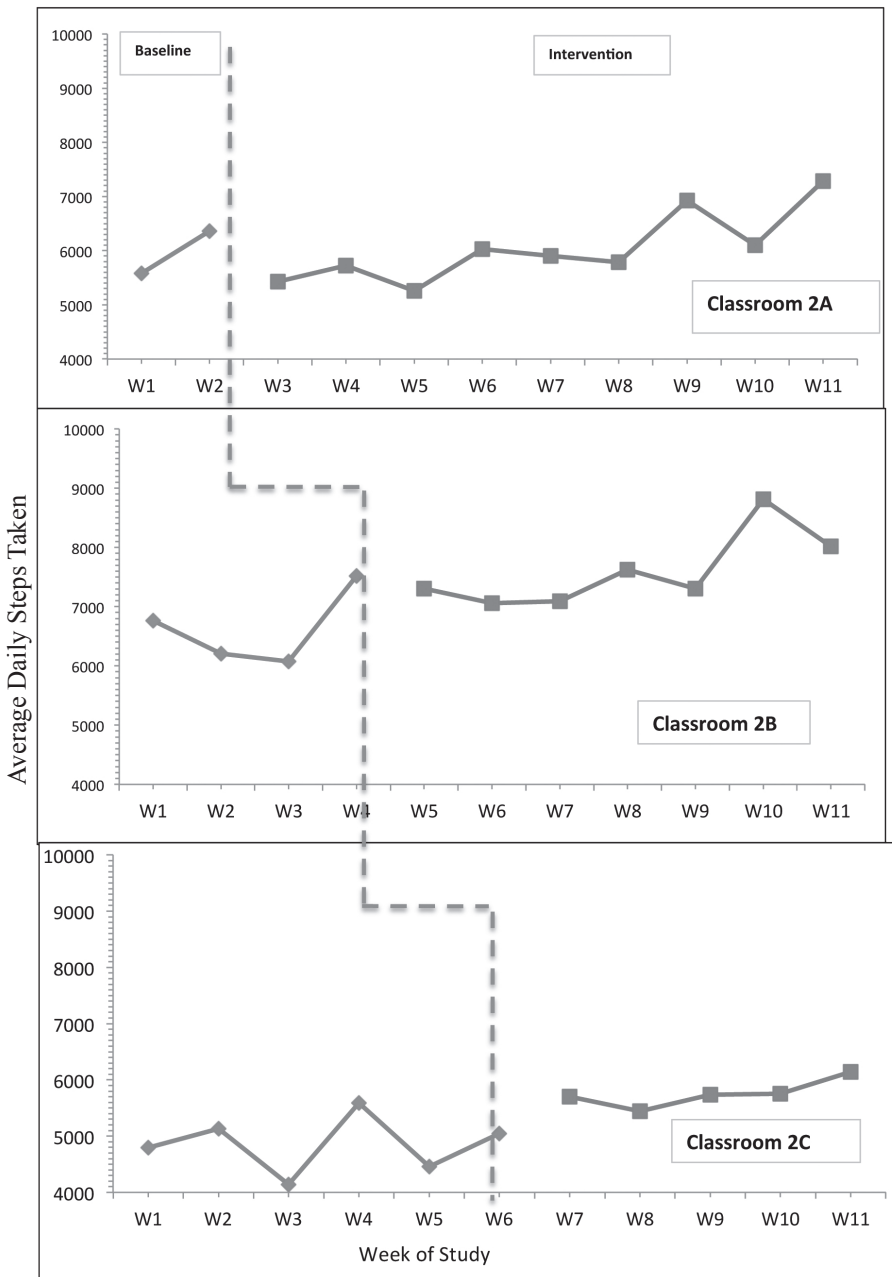


Figure 2. Average daily accelerometer steps by second grade classroom and week of study.

Intervention Acceptability

All six participating teachers indicated strong agreement (56%) or agreement (44%) regarding their enjoyment of leading Energizers activities. In addition, all teachers strongly agreed (11%) or agreed (89%) that Energizers did not adversely affect academic learning in the classroom. Teacher perceptions of students' ability to pay attention following Energizers activities varied, ranging from strongly agree (11%), agree (67%), and somewhat agree (22%). Finally, all teachers strongly agreed (67%) or agreed (33%) that they planned to continue incorporating PA in the classroom, via Energizers or another school-based program.

Eighty-two percent of participating students reported having a lot of fun participating in the Energizers activities. When asked if Energizers activities made students feel more physically fit, 63% indicated a lot. Only 33% of students indicated they felt tired after Energizers activities, and 76% reported being able to pay better attention in class after engaging in an Energizers activity. Finally, 63% of students indicated that Energizers made them significantly more excited about school.

Discussion

The purpose of this study was to determine the immediate effects of brief teacher-led exercise breaks (Energizers; Mahar, Kenny, et al., 2006) on students' PA throughout the school day. Implementation of the Energizers program significantly increased participants' activity levels (school-based) steps in five of the six participating classrooms, with questionable effects in the remaining classroom. Teachers reported that the Energizers program was implemented with relative ease and minimal disruption, and all teachers disagreed or strongly disagreed the exercise breaks negatively affected classroom instructional time.

Throughout participation in the Energizers program, students' daily school-based accelerometer steps increased following phase changes in a majority of the participating classrooms. All but one first grade classroom (1A) had effect sizes within the large range. One first grade classroom and two second grade classrooms had PND values within the very effective or effective ranges. Overall,

systematic observations and teacher reports of integrity were consistently very high (i.e., > 90%) across fidelity indicators. Finally, all teachers agreed that Energizers did not adversely affect instructional time and planned to continue incorporating PA in the classroom following completion of the Energizers study.

Mahar, Murphy, et al. (2006) reported similar effects for Energizers, with experimental group participants completing more daily pedometer steps than control group students. Several large-scale studies have indicated mixed effectiveness of school-based interventions for increasing childhood PA, such as the Childhood and Adolescent Trial for Cardiovascular Health (CATCH; Luepker et al., 1996), Middle School Physical Activity and Nutrition (MSPAN; Sallis et al., 2003), and SPARK (Sallis et al., 1997).

In other studies, researchers have reported nonsignificant results between intervention and control students in daily accelerometer steps (e.g., Lohman, Thompson, & Going, 2003; Webber et al., 2008). Furthermore, whether these effects translate to improvements in students' overall physical health and body mass index (BMI) or adiposity rates continues to be questioned (see Goran & Sothorn, 2006).

Given that the classroom was the unit of analysis, conducting a true randomized controlled trial was not feasible with the resources available to conduct the study. Students were nested within an intact classroom within a school, which did not allow for considering effects at the participant level due to random assignment violations. Conversely, not enough classrooms were available ($N = 6$) to truly test classroom effects within a between-group design.

In addition, single-case effect sizes violate several assumptions for parametric analyses (Riley-Tillman & Burns, 2009). For example, data within baseline and intervention phases must be free from autocorrelation, that is, independently and normally distributed (Van den Noortgate & Onghena, 2003). Cohen's d criteria were developed to interpret comparisons between groups (i.e., in contrast to within subjects; Baron & Derenne, 2000), whereas single-case effect sizes often exceed 2.00 (Burns & Wagner, 2008). As such, single-case effect sizes should be interpreted with caution. Finally, as Mahar, Murphy, et al. (2006) noted in a previous investigation of Energizers that classroom teacher characteristics beyond treatment fidelity (e.g., enthusi-

asm, social modeling of healthful behaviors, motivation) could play a significant role in the effectiveness of classroom-based activity.

Researchers should continue to investigate PA in the school environment from a broader ecological standpoint, such as the differential effects and acceptability of school-based PA across ethnic groups and socioeconomic status. This is important given parental influences in the home environment for young students. In addition, a few researchers have suggested school-based PA is associated with improved levels of academic achievement, even when instructional time is decreased (see Mahar, Murphy, et al. (2006); Shephard, 1997; Sibley & Etnier, 2003). As such, researchers should examine the effects of implementing classroom-based PA programs like Energizers on instructional time, student engagement, and academic achievement. Researchers investigating the relationship between student activity levels and academic performance also should consider the effects of healthful nutrition in the school environment. For example, a pilot study on the EatFit program (Shilts, Lamp, Horowitz, & Townsend, 2009) showed increases in academic outcomes, in addition to promotion of healthful nutritional choices and PA engagement. Researchers should also examine how quickly changes in engagement result in corresponding increases in academic performance.

Schools offer a prime environment for providing opportunities to increase students' health and wellness knowledge, nutritional choices, and engagement in PA. Despite that classroom-based activity has been proposed as a key facet of schoolwide health and wellness promotion, limited research has been conducted in this area (Cale, 2000; Fox, 2004). Results of the current study indicate that teachers can incorporate structured, low-cost, effective PA sessions into the classroom with relative ease and minimal disruption. Energizers significantly increased students' daily steps taken in a majority of classrooms, with questionable effects in the remaining classrooms. The teachers and students also viewed the activities favorably. As such, teachers and administrators should consider incorporating classroom-based PA when possible, particularly in conjunction with schoolwide health and wellness programming and PE.

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PEDAGOGY

Understanding Motivators and Barriers to Physical Activity

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Abstract

The purpose of this study was to understand the factors that influence physical activity among year-round residents in an isolated summer resort community. Specifically, we explored the personal, environmental, social, and culture-specific perceived motivators and barriers to physical activity. Participants were formally interviewed about their knowledge of physical activity participation as well as observed throughout the research period. Results indicate participants' knowledge of physical activity is not as accurate as originally assumed. Most associated physical activity with sport, and therefore physical activity participation was underreported because residents did not acknowledge their work and transportation as physical activity. With regard to men and women, motivators for physical activity were different. Men indicated a need for competition as well as a sense of commitment to others. Women, on the other hand, were motivated by the social factor that goes along with being physically active with others.

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Information and research on the positive benefits of physical activity (PA) has been available since the 1970s. This information could provide preventative measures for healthy individuals as well as therapeutic measures to help reduce complications that arise from chronic disease (Centers for Disease Control and Prevention [CDC], n.d.-b; Chief Medical Officer [CMO], Department of Health, Physical Activity, Health Improvement, and Prevention, 2004). Adults who participate in PA may experience a 20% to 30% reduction in the risk of premature death and may realize up to a 50% reduction in risk for developing a major chronic disease such as coronary heart disease, stroke, diabetes, or cancer (CDC, n.d.-b). With such information available, it is still interesting to learn that many people are not physically active. Many popular media outlets offer information on PA and its positive benefits. Local newspapers and television channels try to bring this information home to its viewers. These are indications that physical inactivity and obesity issues are entering the home on a daily basis in a way that most would be able to comprehend (Hellmich, 2006).

Physical inactivity has been recognized as a serious health problem. Persons who are inactive, regardless of body weight, are at higher risk of cardiovascular disease and its complications. The Cooper Institute conducted long-term studies on PA and obesity and the effects that both have on the human body. The results indicate that even an obese person can receive positive health benefits from PA (Wei et al., 1999). Even in relatively small doses, PA can mitigate the effects of low cardiorespiratory fitness levels. Strong cardiorespiratory fitness levels can help lessen all-cause mortality and cardiovascular disease in men and women who show signs or symptoms of a metabolic syndrome but are otherwise healthy (Katzmarzyk, Church, & Blair, 2004).

Researchers and practitioners alike are exploring ways to increase PA. During this process, strategies have been developed in an effort to increase PA. At times, interventions and programs have been modeled after successful research in other fields. Research on several intervention programs involving only adults and PA shows mixed results. The majority of these interventions occurred in a community setting. In one program, Burke, Giangulio, Gillam, Beilin, and Houghton (2003) attempted to increase the PA of co-habitating

adults by using the mail as an intervention tool. Couples were inundated with information on physical fitness and nutrition. Couples who received the most information became healthier. Activity levels increased on a short-term basis, but no follow-up study was conducted to determine if the behavior change was permanent.

The reasons people do and do not participate in PA are as vast and different as each individual, although individuals tend to have common ground about what they see as motivators and barriers to PA. When PA habits and participation were discussed with adults, 10 categories emerged as barriers to PA: (a) lack of time, (b) social influence, (c) lack of energy, (d) lack of motivation, (e) fear of injury, (f) lack of skill, (g) lack of resources, (h) weather conditions, (i) travel, and (j) family obligations. The number one barrier appears to be lack of time (CDC, n.d.-a). When adults were asked about what motivates them to exercise, three categories emerged: (a) concern for their own health, (b) desire for greater strength throughout daily life, and (c) information about the benefits and dangers of inactivity (President's Council of Physical Fitness and Sports, n.d.). With more public awareness of preventative medicine and the positive effects of PA on a healthy lifestyle, it is understandable that a person's concern for their own health comes as a major motivator for PA.

When PA habits and participation were discussed with children, four categories emerged as barriers to PA: (a) environmental issues, (b) budget cuts in schools and the community, (c) choices made by the child, and (d) parental influence (CDC, 2005).

PA has been shown to help improve quality of life, yet physical inactivity is on the rise and physical, emotional, and economic consequences of this type of lifestyle are also on the rise. Knowledge about positive health benefits of PA has become mainstream in the media, yet many people have turned in the opposite direction and PA on the whole has decreased. Studies have shown some intervention programs work and increase PA and the positive benefits associated with it, but on the other hand, the participants in these programs are rarely able to sustain such activity. Therefore, even though general barriers and motivators to PA are known, how and why members of a community do or do not participate in PA is still relatively unknown. The purpose of this study was to understand the factors that influence PA among year-round residents in an isolated summer re-

sort community. Specifically, we explored personal, environmental, social, and culture-specific motivators and barriers to PA.

Method

We examined daily life activities of year-round residents during the summer and winter months. Because the entire community transforms from a hectic summer resort to a quiet, slow-paced environment in the winter, we gave close attention to the physical activities and factors that either prevent or encourage inhabitants from being physically active. Data collection consisted of formal and informal interviews as well as observations, descriptive field notes of daily PA, and a record of the weather conditions.

Participants

Sixteen adults and eight children, all year-round residents from the island, participated in this study. The participants represented the core of the island's population, including people employed in the service business (tourism) as well as in government positions. Their jobs often require them to work 70 plus hours a week from May through October. Unemployment rates for the summer for the county are approximately 5%. In the winter, many are unemployed (about 29%). Marital and parental status varied among the participants. Many of the adults (nine women, nine men) approached the researchers and asked to participate. Possible participants were narrowed down to include a variety of ages and occupations as well as time constraints that may have prevented some from participating. The children were aged 12 to 17, male (six) and female (three), from the local middle school and high school. A note went home with all of the high school students (28) at the local school, and eight children, with their parents' consent, agreed to participate in the study.

Setting

Data were collected during the spring and the fall following a very mild winter. Because of the mild weather and high winds, the lake did not freeze. Average temperatures for this area range from 43 degrees in November down to 26 degrees in January. That summer was warmer than normal (about 5–10 degrees above average), which contributed to warmer lake temperatures. Warmer water temperatures and warmer air temperatures (3–5 degrees warmer) led

to no ice forming on the lake. This meant no ice bridge existed and consequently no easy access to and from the island. The sole way to come and go was by airplane, which was expensive, especially for the unemployed. On average, poor weather conditions would ground all flights approximately one day per week. Because of these weather conditions, many residents stayed island bound, which helped keep class participation in the adult education classes at a high and constant rate that winter. At the beginning of the school year, a 4-week activity program was offered to the families. It was designed to allow parents and their children to participate together. Approximately three fourths of the parents who attended parent's night expressed interest in the program. In the first week of the program, one family attended. The second and third weeks showed increased participation with three families. However, in the final week, attendance returned to only one family. This led to the question, why was there a high rate of interest, yet a lack of participation? Thus, this is the foundation for this study.

Procedure

The adults and children signed a letter of informed consent describing the purpose, possible risks, and rights of those who participated in this study. Parents of participating children were also asked to sign a consent form. Participants understood they would maintain their anonymity and pseudonyms would be used for each individual.

Data Collection

Data were collected by three means for this study: (a) formal interviews with the year-round population, (b) informal interviews with the year-round population, and (c) descriptive field notes of observations of PA participation and weather conditions.

Formal interviews. The main data source for this study was in-depth interviews with the participants. Each adult and five of the children had one formal interview, which lasted from 15 min to 1 hr. One child received a formal follow-up interview to ask more specific questions about PA. These interviews provided information on PA participation during the summer and winter months among the local population.

The interviews were semistructured and included five main questions. Each interview was audiotaped and transcribed verbatim. Follow-up questions were used to encourage participants to provide more detail and clarify initial responses. Interview questions were focused on each participant's PA participation and PA opportunities he or she would like to see and would be willing to benefit from. Immediately after each interview, the researcher recorded in a journal the details of the first impression of the participant and the activities in which he or she was involved.

Informal interviews. Informal interviews were used to (a) corroborate or refute formal interview questions and then (b) help provide correct information to the participant about PA. Informal interviews also provided additional insight on the participant's familiarity with PA and whether the participant had decided to change his or her PA habits as a result of our discussion about PA.

Descriptive field notes. Descriptive field notes were taken about PA participation from observations to determine if the information supplied during the interviews was supported. Observations about PA participation, as well as the current weather conditions, were recorded for each day during the time it took to commence and complete the interviews. Information on PA consisted of type and intensity of PA.

Data Analysis

Data collection and analysis were performed simultaneously and analyzed using constant comparison and were used to answer the main research question: understanding factors that influence a person's PA habits. Two subquestions included (a) what motivates you to be physically active? and (b) what prevents you from being physically active? Participant interviews were analyzed comparing the data from the interviews in an attempt to paint a picture of the community as a whole instead of an island of individuals. Four main categories emerged: (a) PA, (b) environmental factors, (c) cultural aspects, and (d) social. A fifth category, personal, melted into the other four categories. Field notes were used to accept or reject the information participants had given in the interviews. Weather conditions were recorded to help understand possible PA patterns of the participants.

Trustworthiness of Data

Trustworthiness of data was established through (a) prolonged engagement, (b) data triangulation, (c) researcher journal, (d) audit trail, and (e) peer debriefing and dependability.

Results

Four themes, each with several subcomponents, relating to barriers and motivators to PA were identified, specifically (a) acknowledgment and knowledge of PA, (b) unique cultural environment, (c) factors influencing the environment, and (d) social aspects of PA.

Acknowledgment and Knowledge of Physical Activity

Participants recognized and acknowledged the need for and the value of PA. This was consistent with mental and physical health promotion agendas. Although participants recognized the need for PA as important, their knowledge and perceived choices of activity tended to be limiting factors. Major subcomponents to this theme included health benefits, types of activity, and knowledge.

Health benefits. Participants often mentioned health benefits of PA. They clearly understood the need to be physically active. Almost without exception, when they mentioned PA, they referenced their health and the subsequent benefits of PA. Bob, a maintenance worker who could be seen walking all over town even during the winter months, described being physically active this way:

Motivated to work out and be healthier. I had a couple of kinks in my body, in my elbow and my shoulder and my knee that I've slacked on. I definitely wanted to work those kinks out... I feel better when I work out this winter.

Discussions of health benefits were most often focused on physical health, weight management, and emotional health.

Physical health. Physical health and how PA could contribute to a better quality of life was acknowledged as the first benefit. Participants acknowledged PA was a means to continue to reap the positive benefits of having a healthy body or trying to reverse what time and abuse had done to their bodies. Health was stated as one of the main motivators for participants to be physically active, regardless of PA participation.

Ann, a shop owner, often seen running with her child or skiing, explained her motivation for PA:

I've run since I was probably 8 years old and competed... in college...running is a sport that you have to be very self-motivated to do, so I am very self-motivated, because I enjoy doing it and I like the benefits and feeling in shape, and that's really the only reason.

Getting into shape and keeping the body healthy and fit were popular comments for participants. The younger the participant, the more likely the comments would center on staying healthy and fit. Joe, a 13-year-old student, indicated, "I want to be healthy, fit. When I do just sit around, it doesn't feel good." On the other hand, participants who were adults strived to get back to where they were before life intervened. Sue, a mother and former marathon runner, said "getting into better shape" was the reason that she was physically active. Sam spoke more clearly about the toil age had taken:

My age. I just want to get healthier. I've abused my poor body over the years with smoking and a lot of caffeine and eating totally wrong. It's time and I've seen a lot of people on the island changing. I just woke up one day and decided that it was time. I quit smoking and drinking, caffeine that is, not alcohol.

True to his word, Sam could be seen taking walks during the early evenings around the downtown area.

Often with age, health issues become more apparent. PA has been shown to help prevent and diminish health concerns that arise from physical inactivity. Some residents already realize the positive health benefits of PA, yet they struggle to stay active. Heidi, a health care professional, discussed,

What I find that motivates me is health risk. I had chest pain a few years ago... I was so good for a good year at least. I was so good... It's not a beauty thing for me. It's a fitness level can I breathe, can I walk kind of thing.

Yet for several years the motivation did not result in action as Heidi did not make much effort to be physically active. In the last couple of years, however, one researcher has seen Heidi riding her bike as well as going on walks with her husband, and now Heidi consistently runs in 5K races.

The need to get back in shape was a motivator for some, but for others it was a barrier. Age and past injuries were noted as barriers, and this was a common response from several participants. These participants felt they could no longer participate in PA because they had grown too old. Angela said,

I have to get to town, that's the only thing. I feel at this point in life, who cares. I'm 58, don't care. This is one reason we moved to this island: so we would have to be a little physical. It's good for people our age.

This statement still holds true for Angela.

Weight management. A second PA benefit was the idea of weight management and appearance. Participants recognized that PA assists with weight loss and weight management. Most discussed how PA would help them lose the extra weight they had put on over the years. Joan stated straightforward when asked about PA, "I want to lose weight."

However, a few discussed that PA had more than one positive affect on the body. Missy realized that PA is a combination of weight management and health benefits: "Losing weight, being able to fit in clothes better, feeling not out of breath when I walk up the hill." Joan and Missy were observed participating in PA throughout the year.

Emotional health. Emotional well-being and how PA can contribute to a positive mental self was the third benefit identified. Participants noted that when they were physically active, they had a more positive mood; in addition, they liked how PA generally made them feel. Joan simply stated, "I like the way it [physical activity] makes me feel."

The notion of relaxation, sleep, and general mood stability are obvious aspects of emotional health. Participants indicated they were able to sleep better when active as well as more calm in general. When Heather is physically active, she "notices a difference in my moods if I'm more active and I sleep better and I just feel better."

For others, PA provides mood stability. Bob indicated it “gives me a calming effect.” Chris took it one step further and said, “I would say that the will that you have a life,” which motivates him to be physically active.

Brent, a service industry manager, added a new perspective for being physically active. The idea that he has a child who is now becoming more aware of the health risks of being overweight and underfit encourages him even more to become physically active. He said, “I want to be around for my kid. I want to be around and I notice that I used to be in shape and I let myself go and my daughters getting to be of age and I want to be around.” Brent continued and explained his motivation for PA: “I was always motivated to go, but I think that I just needed a push. And the push was seeing my baby girl grow up, and I want to be around for her.”

From an emotional health perspective, the idea of being physically active had a different effect for the younger crowd. PA was not seen as a chore or a task that needed to be done to be healthy. It was more a factor of what was fun to do during the day. Hanging out with friends at the park, swimming in the lake after work, and playing soccer were observations made of the island’s youth. The young participate in PA with the sole purpose of hanging out with their friends as opposed to working out. “Its fun” is all the younger participants need to stay physically active.

For some, PA is used to combat other social/emotional issues that arise, especially during the winter on an isolated island. Few activity choices exist for the locals; the youth of the island have even fewer choices because of limited resources. No movie theaters or malls exist on the island during the winter. Michelle, a 16-year-old student, summed up her participation in sport: “I enjoy my friends in volleyball, and I think it’s a really good outlet and something to do for boredom.”

Types of activity. Another subcomponent identified from the data analysis was type of activity. Participants’ knowledge of PA and their subsequent choices of PA were limited to their prior experience with sport and physical education. Many realized the benefits of PA, but few took advantage of offered programs. Participants identified two aspects to the types of activity: structured sport and unstructured activity.

Structured sport. For school-aged children, structured sport is the predominant form of PA. Most school-aged children are involved in structured sport, whether during school in a physical education class or during extracurricular activities such as varsity sport. High school students receive 250 hr of physical education a week. This is considered an elective course. Elementary students receive physical education 50 to 100 min a week. Unfortunately, this is under the recommendation of 150 min of physical education per week (CDC, 2005).

In the summer, several softball games are held in which many members of the community participate. A common complaint was there is no longer a summer softball league along with other adult activities, but there is a well-attended golf league.

Unstructured activity. A lot of opportunities exist to participate in unstructured activity in this community. During the winter, over 30 miles of cross-country ski trails are groomed, and during the summer, more than double that exist for biking, hiking, and horseback riding. Younger participants use the parks as a place to meet friends, hang out, and pass the time. Community members have many opportunities throughout the year to use the trails for biking, running, skiing, and horseback riding.

Accuracy of knowledge. Understanding what people know about PA participation is important to comprehending why people may or may not be physically active. The most common response regarding the amount of PA needed to stay healthy was 2 hr of PA per day, but the data indicate a general split between accurate and inaccurate knowledge of appropriate PA.

Accurate. Some respondents displayed a generic indication of appropriate PA with vague responses such as a “need to move around” and a “need for movement of some sort, going out for a walk, going out for a bike ride.” Others provided more information, indicating they may have understood the term as it applies to their own bodies’ physiology and health. For example, Tom defined PA as

any type of activity which involves physical exertion on my part that will raise my blood pressure and cause me to experience muscular fatigue and will result in a feeling for me of accomplishment at the end of the prescribed time.

Another good example came from Ann, who said, “For me physical activity would be increasing my heart rate for at least 20 minutes.”

Inaccurate. On the other hand, many participants were unsure of how much PA is needed for a healthy lifestyle. They indicated a person needs more activity than the body warrants, some to the point of a person needing to be active for the majority of the day. Carl, a teenager and one of the researchers’ students, indicated one should be active “at least eight hours a day of running, moving, and weight lifting.” Most participants felt a person needs at least 2 hr of cardiovascular activity each day.

Many participants expressed they had no time to participate in PA because of their work schedules. Even though Ann manages to stay active, she still finds it difficult:

A little sporadic because a lot of it depends on what type of activity I do, and the time of year, and the time that I have. Sometimes I’ll work 12 or 14 hours, so I’ll ride up and down the hill and maybe take the dog for a walk, so it varies a little bit. It’s easier and I exercise more in the fall, spring, and winter than I do in the summer.

What they failed to realize was their job and transportation are PA. Standing 10 to 12 hr a day behind a counter, bartending, and waiting tables as well as cooking for 10 to 12 hr a day and performing maintenance on company property are PA.

Cultural

The second major theme for this community was cultural in nature. This could be classified unlike many other isolated cultures. The island is remote and removed from mainstream society. Additionally, there is a clear distinction between the seasons in the community, which in turn defines the culture of the year-round population. During the summer months, the island is easily accessible and the residents have welcomed millions over the years. Once winter comes, those who stay can handle the bitter winters, isolation from the mainland, and a tight-knit community. The distinct summer and winter cultures could be divided into work, time, and transportation.

Summer. Living in a tourist destination is a unique experience. The work season is bounded by Memorial Day in May and the last weekend in October. Employees try to earn a year's salary within this limited amount of time. This means longer hours each week for the employees. In addition to the longer work days, many employees either walk or ride their bikes to work. Therefore, the aspects of work, time, and transportation in summer are exaggerated.

Work. Work hours range from as little as 50 hr to as many as 72 hr a week. As budgets decrease and prices rise, fewer employees are expected to do more work. The typical age for those to begin work on the island is 12. It is not uncommon to see children working in the stables 3 to 4 hr a day. When children reach the legal age for work, more hours and demands are placed on them.

Family and work obligations were common barriers to PA. The idea of more activity after a long day of work was not appealing. The nature of work and the lack of employees were mentioned as barriers. Tom explained that "scheduling problems" because of lack of employees tend to conflict with offered classes during the winter. Sue has family obligations along with long hours for her and her husband that prevent her from being physically active.

Adult work in the summer is intense. Exhaustion, as a result of the intensity and PA, was an aspect discussed during the interviews. Participants appeared to be unaware of how much PA they received throughout the day through work and transportation. Those interviewed discussed that although they are spending 8 to 12 hr a day on their feet at work and walking or biking to and from work, they are in general not receiving enough PA. PA for them needs to be above and beyond transportation and work.

Work does not simply entail long hours, but physical demand on the body as well because of the nature of the island and the ban on motorized vehicles. Sam described some of his work: "It's a lot of old fashioned push and pull power." Sue chooses to walk to work because of her insecurity about riding a bicycle during the crowded summer months: "I walk to work, approximately a half mile each way. I'm on my feet all day at work. I don't get to sit during the 12 hours I'm at work."

Time. The second aspect mentioned as a part of the culture was lack of time, or perceived lack of time, for PA. Because of the short

season, many residents must earn a year's salary within 6 months. Chris indicated, "I don't have time to do what I want to do, like I'm totally exhausted at the end of the day, I don't feel like working out" as one of his largest barriers to being physically active during the season.

Transportation. Transportation is a unique aspect of PA in this community. The easiest and quickest mode of transportation around the island is bicycle because of the 115-year-old ban on motorized vehicles. Few choose to walk; by the time children enter kindergarten, they are already riding their bicycles (without training wheels) to school. Essentially, because of the nature of island life, the need to be physically active is essential.

Winter. During the winter months, work habits change and the environment becomes more relaxed. Perceived time for PA improves, and the main mode of transportation dramatically changes. The community switches from riding bicycles daily to driving snowmobiles.

Work. Work hours are reduced, if not completely eliminated, and children are back to their other job, school. Most locals are laid off and find they spend their time a little differently. Relaxing and recovering from an intense 6 months usually means spending time with family and at home. Heather described her day: "I get up and eat something, take a shower, and then I would stay home and do nothing."

Students, on the other hand, still have busy schedules, especially if they are participating in sport. Cindy, a student, voiced her schedule during the volleyball season: "Get up, go to school, practice, go home, do homework, maybe go to Michelle's for a while, go home, shower, go to bed."

Time. Time is used differently in the winter. Participants have more discretionary time in the winter, but the use of it does not appear to accommodate the excuses of the summer. Days during the winter are spent catching up on sleep, taking long vacations to warmer climates, spending time with friends and family at the local pub, and relaxing from a busy summer.

Participation in organized PA, adult fitness class, and a weekly volleyball night tell a different story. For some, extra time is used for organized physical activities. Two adults consistently attend the

adult fitness class twice a week, and on average, eight people attend the intramural volleyball night. However, for the majority of other adults, winter allows them to be more sedentary than in the summer season.

Downtime was also apparent in the younger participants. Students spend most of their day at school, and with school starting at 8:20 a.m. and dismissing at 3:10 p.m. and another 2 hr for practice, not much time is left for extra activity. So during school breaks, students tend to take advantage of the downtime and relax. Jake, a high school junior, described his recent Christmas break: “Wake up, sit around the house, and then go to bed. Normally I’d go out in the snowmobile, but since there is no snow, I don’t.”

Transportation. The method of transportation changes dramatically during the winter months. Residents passed a law allowing the use of snowmobiles on the island. As soon as the first snowfall leaves enough snow on the ground, snowmobiles become the preferred method of transportation. Snowmobiles are quicker and sometimes a safer mode of transportation during the winter months. Temperatures can drop below 0 for several weeks at a time, so spending time outside, if not properly attired, can be dangerous. Once the boats to the mainland stop running and temperatures are right, it can take less than a week for people to start crossing the lake by snowmobile. Locals then have 24-hr access to the mainland that only comes during the winter. With ferry rides at \$25 and flights at \$48 for a round-trip, snowmobiles on the ice bridge give residents a cheaper and more convenient access to the mainland.

However, the use of snowmobiles often leads to a decrease in PA. Three members of the varsity basketball team live within three blocks of the school, and all of them drive to school. When it snows a lot, attendance at the volleyball and basketball games is low because it is much easier to ride a machine than to bike down and back up the hill. Snowmobiles are also entertainment for the youth on the island. Freedom begins at the age of 12, when by state law a child can use a snowmobile without parental supervision. Students frequently travel to one of the golf courses for fun: “We ride out to Wawashkamo and sit there and have snowball fights and sit there some more.”

Cross-country skiing is another popular method of transportation. A program was started at the school approximately 10 years ago

giving second through fifth graders skis for the winter along with a weekly lesson. Students are encouraged to take home the skis for the winter, and weekend outings are planned for the students. This leads to parents purchasing skis for their children to continue with the sport once they enter the sixth grade. Skiing is not limited to school children. Adults have been known to ski down to the local bars as well as ski across the ice bridge to the mainland.

Environmental

The third theme identified from the data was environment. Given the uniqueness of this community, many barriers were simply not present. The island is set up for pedestrians and bicycles, and over 70% of the island is a designated state park. Water and air pollution are not a concern. Although nothing can be considered completely safe, crime is not a high concern. However, on the island the environmental aspects include not only the weather but also the facilities to which people have access to remain physically active. The local children are lucky when it comes to community support for the school. When the local school board members decided it was time for a new gym, they went to the voters; in the fall of 2000, a new facility was opened and also made available to the public. When budget cuts are discussed, sport is never an issue. The community feels strongly about sport and the opportunities it affords its children. The main theme for environmental factors that evolved from the interviews was the buildings. Three environmental subcomponents were identified: indoor facilities, outdoor facilities, and weather.

Indoor facilities. Two year-round facilities are available for use by the community. One location has a workout facility with free and circuit weights available in one room. Another adjoining room contains treadmills and other cardio equipment. Television with cable and a VCR/DVD are also available in the cardio room for exercise videos.

The school has two gyms. The Little Gym is several feet larger than a regulation volleyball court. Yoga, an after-school PA program, archery, and dartball are done in this area. The Big Gym has a regulation-size basketball court as well as enough area to provide two regulation-size volleyball courts and bleachers. There is also a mezzanine with free weights, three elliptical machines, one treadmill, a universal weight system, and medicine balls.

These facilities are available during the week while school is in session, from 7:00 a.m. to 7:00 p.m., unless a class is occurring during that time. Yet it does not meet the needs of all community members. Sam indicated he wanted a social place. Others thought the hours were not conducive to their schedules. Chris indicated the facility hours were not favorable to the typical summer worker: "Certain facilities, having different times (hours) for people who don't live the normal life." However, the majority thought a lap pool would help, which is not available on the island.

Outdoor facilities. The major outdoor facility on the island is the state park, with over 30 miles of groomed ski trails on the east side of the island state park. Skiers may use other trails located throughout the island, but they must share with snowmobiles and snowshoers.

Throughout the summer, the trail size doubles for outdoor activities. The school and two parks have playground facilities that have been updated in the last few years. One city park also hosts a sand volleyball court, softball field, soccer field, basketball court, skateboarding facility, disc golf course, and a horse riding rink, which is flooded in the winter and turned into an ice rink.

These facilities are free for anyone to use. Yet when interviewed, no one commented about the use of these facilities, even though in some cases they were used every day. What is accepted as everyday life for these participants is not considered exercise, in terms of intensity of their work and the use of the facilities.

Weather. The third environmental aspect was weather, which came through during observations. Community members who are active outside during fair weather in activities such as running and biking continue their outdoor pursuits during the winter months. Several continue with both biking and running, but the majority switch to cross-country skiing. Community members who tend to be inactive outside during the summer months continue that pattern during the winter months.

Social

The social aspect of PA is the fourth major theme identified from the data. PA can be social when it lends itself to team sport and workout classes. Many people engage in PA for social reasons. On the other hand, it can be of some solitude when a person participates in an activity alone. The social theme was clearly subdivided by gen-

der. Men and women expressed different social viewpoints regarding PA participation and, at times, appeared to approach PA in different ways.

Men. Men indicated responsibility to you and your group if you did not show up for a workout session: “The whole motivation of ‘hey where were you?’” was enough to encourage Chris to be physically active. The sense of obligation to others to show up is important. It is acceptable for men to miss a workout session for solid reasons such as work. However, missing a session for nonserious reasons, such as taking a nap or watching a movie, is simply unacceptable. Tom indicated, “If I belonged to a group of people, nothing like peers to motivate you people.” Not only did men feel, in this study, an obligation to their peers to show up for workout sessions, but one participant also felt the need to stay physically active for the community and his partner on the job.

Another motivator discussed was the competitiveness of sport. The act of competing with others encourages men to be more active. Jake, a 16-year-old student athlete, expressed he “enjoys the competitiveness of sport.” A good competitor needs to have skill, and several participants indicated a main motivator of sport for them is improving their skills. Todd indicated “being on the team and being good at something” is his main motivator for staying physically active.

Women. On the other hand, women, although they enjoyed being with a group to exercise, did not view the responsibility of showing up as the motivator, but the structure of it.

Joan indicated, “Just something to increase my activity like an aerobic class, just anything that gets a group of people together is fun.” Sally supported this same notion of formal structure: “A class of some sort, because otherwise I won’t do it on my own.” However, for some, the structure did not have to be formal: “If there was even a group of girls that got together and did a walk at night or something like that” was enough to support the activity.

Location was also a factor in women’s PA participation. Not only did they want structure, but they also wanted structure in specific locales. Participants wanted classes closer to home. They did not want to make the extra effort to go “back down the hill.”

Women expressed enjoyment in being a part of a team or a group. This is a way for them to be with friends in a healthy mode. Joan said,

“It doesn’t really matter, just something to increase my activity like an aerobics class, just anything that gets a group of people together is fun.”

As for sport, in contrast to the competitiveness of men, women indicated the social side is more their focus. Michelle said, “I just enjoy my friends in volleyball.”

Women tended to enjoy participation in sport more for camaraderie. Cindy described her experience with volleyball, “when people get along,” as a motivator for participating in sport and continued with, “when you do something that really helps the team.”

Conclusions

Limitations to this study include not having collected data on basic health-related fitness measures and a measure of participant’s PA level (i.e., pedometers). With that being said, participants narrowly defined PA in the context of sport. On the island, children may receive physical education credit by participating in a varsity sport. They must participate in four seasons, and it does not need to be the same sport. There is a high school physical education class, but that, too, caters to sport because it is a conditioning class.

The same is true for adults. Participants were comfortable and confident in defining PA participation by their past experience with sport. A few activities are now being offered in the community as an alternative to organized sport. Participants still defined PA in the context of sport. In addition to their narrow definition of PA, participants’ knowledge base was not accurate. The lack of accurate knowledge is interesting considering how much media time PA receives throughout the day through various sources. In general, participants did not see PA in certain activities if it did not make them sweat and breathe hard, regardless of how much public information has been made available to the masses about the types and duration of PA participation.

Even the students who participate in a regular physical education class could not seem to grasp how much PA a body needs to stay healthy. Even more, it came as a surprise that physical education students and athletes answered the question about the need for PA participation inaccurately. When students were posed this question during a class, all students were able to respond correctly, but during

interviews, this was not the case. Their responses corresponded to the length of their daily sport practice.

Work has been found to be a barrier to PA (CDC, n.d.-a). This was the case here, but with an added twist. Participants did not recognize their work or transportation as PA. Participants in the Zunft et al. (1999) study made the same assumption. Most of the participants felt they were not receiving enough PA during the day, especially during the season. What participants failed to realize was their work could be considered as PA. Narrowly defining PA has led to the misconception that work does not equal PA.

In this study, social factors were consistently reported as positive motivators for PA. The notion of social support has been widely reported as a motivator for PA as well as a barrier (CDC, n.d.-a). This study supports social influence and how that affects participants and with whom participants choose to be physically active.

The social factors influencing PA identified in the study included different factors for men and women. Men and women viewed the social motivation of PA differently. Men felt an obligation to others, and that obligation kept them physically active. This obligation varied from their workout partner to the community for which they worked. Competition was also a main motivator for men to keep physically active. Sport is all most men know for PA; therefore, competition being a main motivator is logical.

Women, on the other hand, use PA to be more social. Many enjoy the structure of the activity, but the structure does not have to be formal. The structure can be as informal as a group of women meeting to walk together. Cash, Novy, and Grant (1994) supported the idea that women participate in PA for social reasons as well as for appearance/weight management, fitness/health management, and stress/mental management. Keenan (2006) found women participate in PA for health and weight reasons, but social reasons are not a factor, which is inconsistent with this research.

Because of the nature of how and where the participants live, environmental and cultural factors were intertwined. The environment of living on an isolated island with no motorized transportation has led to living in a 19th, early 20th century culture for approximately 8 months out of the year. Residents work in an industrialized world in which most of that technology is not available to them, so they,

therefore, possess a manual labor mentality that continues regardless of the seasons.

Lack of time and energy were two reasons participants mentioned as barriers to PA. This is supported by the CDC (n.d.-a). The difference is the participants live and work in a physical environment; work and transportation are PA. Many indicated a limited amount of leisure time for PA because of lack of time and energy. Most of the work performed on the island is manual labor (bartending, dray drivers, and building maintenance). With this in mind, those who have manual labor jobs do not tend to participate in extra PA programs outside their jobs. According to Miller and Brown (2004), those who work in a manual labor climate tend to be more physically active because of their job as opposed to those who have office jobs.

A second observation in this study was community members were not physically active when the time allowed them to be active. A combination of factors may influence this behavior. The world has moved into the 21st century and has become more modern, but the island has maintained its ways in which it operates and promotes itself as a 19th, early 20th century resort along with all the trappings of that culture.

Most of the year-round residents live in a 19th century world, but during the winter months they make a leap into the 21st century with the use of snowmobiles. In addition to poor climate and snowmobile use, fewer hours on the job reduce activity even more. All three of these factors reduce PA in the off-season.

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SPORT MANAGEMENT

Black Coaches and Their Perspectives on the Black Coaches and Administrators: A Qualitative Analysis

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Abstract

The purpose of this study was to analyze Black male collegiate coaches' understandings and perspectives about building a coaching career in NCAA Division I athletics and the function of the Black Coaches and Administrators (BCA) as a mechanism to help facilitate more coaching opportunities. The participants were seven Black male assistant coaches from a flagship doctorate-granting university in the Midwest region of the United States. The research method was descriptive–qualitative. The primary data sources were face-to-face semistructured taped interviews and e-mail follow-ups. The data were analyzed using a descriptive coding strategy, which exposed the dominant theme of networking mechanism. The major findings in this study indicate that because they lack social capital resources, minority candidates are at a disadvantage compared to their White counterparts for attaining jobs and career advancement in NCAA Division I athletics. Implications from the findings of this

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study are that networking is critical to career advancement in athletics and that Black coaches should better understand the function of the BCA and how the association might support their career and advancement.

Statistically speaking, for the 2009–2010 academic year, the percentage of Black male head coaches at the Division I level was 6.6% and for assistant coaches 17.4% (Lapchick, 2012). This is important to recognize because Division I coaching represents the highest level of intercollegiate athletics in the United States (National Collegiate Athletic Association [NCAA], 2013). Moreover, the student-athlete population in Division I athletics contains an abundance of Black males who could continue their respective careers in athletics as coaches.

The most recent “Racial and Gender Report Card” by the Institute for Diversity and Ethics in Sport indicates a decline in the percentage of Black males compared to the 2007–2008 season when Black males accounted for 7.2% of the head coaches at the Division I level (Lapchick, 2012). During the 2008–2009 academic year, Black males also accounted for 16.7% of the assistant coaches at the Division I level. Yet unlike head coaching trends, the percentages remained consistent compared to 2007–2008 as Black males accounted for 16.5% of the percentage of assistant coaches at the Division I level. The sports of basketball and football have shown the highest participation of Black males as assistant coaches compared to other sports. For basketball during the 2008–2009 academic year, Black males accounted for 39.5% of the assistant coaches (Lapchick, 2012). In comparison, 39.3% of assistant coaches during the 2007–2008 academic year were Black. For football at the Division I Football Bowl Subdivision (FBS) level, Black males accounted for 17.6% of the assistant coaches during the 2008–2009 academic year. However, this percentage declined compared to 2007–2008, when 23.8% of the assistant football coaches at the Division I FBS level were Black males. Finally, the statistics show that of the 414 head coaching openings at the Division I FBS level (football) since 1982, only 4.8% have been filled by a Black coach (Lapchick, 2012). Furthermore, Black coaches of basketball represent only one quarter of the coaches in Division I (Lapchick, 2012).

NCAA Ethnicity and Gender Demographics

The NCAA (2010) research compiled in the “NCAA Race and Gender Demographics” report excludes HBCUs (historically black colleges and universities) and portrays a similar interpretation of the percentages concerning Black coaches in Division I athletics. Lapchick (2012) focused on 2-year intervals in the reporting of percentages, whereas the NCAA report was focused on a 10-year interval for comparison of percentages.

Within the statistics compiled in the “NCAA Race and Gender Demographics” report, the percentage of Black male head coaches at the Division I level in 2009–2010 was 6.7% (NCAA, 2010). In the NCAA research statistics, the percentage of Black head coaches in the 2009–2010 season was 9.1% of the head coaches at the Division I level. These figures are similar in Lapchick’s (2012) study and showcase a decrease in Black head coaches over 10 years. During the 2009–2010 academic year, Blacks accounted for 19.2% of the assistant coaches at the Division I level (NCAA, 2010). Unlike the percentages presented by Lapchick (2012), the percentages presented by the NCAA (2010) are on the rise compared to past years, such as in 2009–2010, when Blacks accounted for 17.2% of the assistant coaches at the Division I level.

However, within the Lapchick (2012) study, the following figures are on the decline in comparison, but the NCAA study shows these percentages are in favor of an increase in the percentage of Black male and female coaches in Division I athletics. During the 2009–2010 season, Black head coaches accounted for 25.2% of the coaches in Division I basketball (NCAA, 2010). In comparison to the 2009–2010 season, the percentage of Black head coaches increased to 22.2%. During the 2009–2010 academic year, Blacks accounted for 19.2% of the assistant coaches. The percentage was up in comparison with the 1995–1996 academic year, when 17.2% of the assistant coaches were Black. For Division IA football, Blacks accounted for 26.6% of the assistant coaches. Once again, the percentage increased compared to 2009–2010, when 21.7% of the assistant football coaches at the Division IA level were Black.

Collectively, this information indicates additional research is needed to ascertain and interpret the perspectives of Black males seeking to become head coaches at the Division I level. Thus, the

purpose of this study was to analyze Black male collegiate coaches' understandings and perspectives about building a coaching career in Division I athletics and the function of the Black Coaches and Administrators (BCA) as a mechanism to help facilitate more coaching opportunities. In this study, we sought to ascertain and analyze the perspectives of Black male coaches about the BCA, particularly in regard to their career aspirations, through semistructured interviews of seven Black assistant coaches in what should be described as a descriptive–qualitative approach.

Black Coaches and Administrators

The BCA (2013) was created in 1987 as an organization “committed to creating a positive enlightened environment where issues can be examined closely, debated sincerely and resolved honestly” (para. 1). The current BCA mission statement is

to address significant issues pertaining to the participation and employment of ethnic minorities in sport in general and intercollegiate athletics in particular. To assist ethnic minorities aspiring to have a career in athletics through educational and professional development programming and scholarships. To provide youth and diverse communities the opportunity to interact positively with the BCA as a corporate citizen and community builder through a variety of alliances. (BCA, 2013, para. 1)

The organization has been at “the forefront of the effort to enhance the employment opportunities and professional development of the ethnic minority professional” (BCA, 2013, para. 2). The BCA was created to serve as a nationwide networking entity for Blacks to increase the opportunities for coaching at all levels of athletics. The BCA also serves as a professional training and preparation resource for Blacks interested in the coaching profession. The BCA operates as a private nonprofit organization operating for the benefit of enhancing the opportunities for qualified Black coaches in athletics (BCA, 2013).

The BCA has pledged within its mission to serve as a social capital alternative to the current system for minority coaches seeking to increase and improve their opportunities for finding jobs and career

advancement. *Social capital* is the term used to describe the value of networking relationships toward finding jobs and advancing careers (Fernandez & Weinberg, 1997; Granovetter, 1973; Lin, 2001). The effect of progressively enhancing social capital has a direct correlation toward pre- and posthiring outcomes (Burt, 1992; Castilla, 2005; Kanter, 1977; Kmec, 2007; Lin, 2001; Marsden & Gorman, 2001). Overall, minority candidates have a distinct disadvantage in regard to securing jobs and career advancement, although their performance has been higher rated than their White counterparts (Ibarra, 1995; S. Smith, 2000).

The process of inequity toward minorities uses a multipronged approach. For example, the established network initially serves as a database of available opportunities in the marketplace. Next, the network positively influences decision makers in the marketplace to influence hiring. Last, the network invokes confidence on behalf of their members toward attaining the end goal, which is job attainment (Lin, 2001). Overall, a lack of social capital has been linked to the disadvantage Black males experience, for they are outside of the in-group. Members of the out-group (e.g., Black male coaches) have been unable to compete with the in-group because of a general lack of access to social capital resources (Lin, 2001). The BCA as an organization seeks to serve as a social capital network for minority coaching candidates as they seek to advance their careers in athletics. The influence of the BCA toward establishing a network for jobs and career advancement is a fundamental premise of the organization and a means of leveling the playing field for minority candidates as they seek to compete for job opportunities (BCA, 2013).

The BCA's charge is to serve as a social capital mechanism for minority candidates as researchers have examined the dearth of Black coaches retaining and matriculating in collegiate athletics compared to their White counterparts (Anderson, 1993; Sagas & Cunningham, 2005). Social capital has been regarded as a factor in many aspects of collegiate athletics, most notably football (R. Smith, 1983; R. Smith & Abbott, 1983). Researchers have linked a positive correlation of access to social capital to job attainment and career advancement because of the value of relationships (Cunningham & Sagas, 2004a, 2004b, 2004c, 2005; Sagas & Cunningham, 2004, 2005). The existence of social capital serves as a major effect on the hiring of col-

legiate coaches, but the true ability of the network to be resourceful affects the effectiveness of the in-groups (Lin, 2001).

Prominent scholar George Sage (2007) stated,

The higher the levels in an organization of all kinds, where the greatest power, prestige, and material rewards reside, are more insulated from direct scrutiny, so those who control access to higher levels tend to employ subtle strategies of maintaining discriminatory practices. (p. 1)

Racial and ethnic minorities who choose to access executive positions are left out of the in-group because they lack the social capital necessary to compete on a level playing field (Sage, 2007). Chelladurai (2006) believes in a similar phenomenon of social capital, arguing the in-group to the out-group comparison is relevant because the cost of hiring new employees is expensive and the importance of personal connections toward the crucial role within the hiring process. This in-group has also been noted by scholars as the “old boys’ network,” which is a community of social capitalism in which racial minorities are kept out of positions that have been held by White males (Chelladurai, 2006; Shropshire, 1996).

Method

Sampling and Participants

Criterion sampling was used for this study (Patton, 1990). The criteria used for selecting participants were those who were (a) male, (b) Black, and (c) employed by a Division I athletic program as an assistant coach at a doctorate-granting university (Carnegie Foundation for the Advancement of Teaching, 2008). The participants were seven Black assistant coaches purposefully selected from a nationally recognized Division I men’s athletic program. The athletic department’s official Internet site was used to gather contact information about the Black male coaches at this institution. A university located in a large metropolitan area was chosen and for purposes of this study was referred to as Champion University. At the time of this study, the athletic department employed seven Black coaches in the head or assistant coach capacity (one head coach, seven assistant coaches). This athletic department was chosen because of the signifi-

cant number of Black assistant coaches employed in it. A decision was made to include assistant coaches only in the study because they represent the largest number of Black coaches ($n = 7$) compared to head coaches ($n = 1$) at this institution.

In the sample, the representation of assistant coaches from revenue- ($n = 4$) and nonrevenue-producing ($n = 3$) sports was fairly equal. The demographic information of the participants is detailed in Table 1, including whether a participant coached a revenue- (football or basketball) or nonrevenue-producing sport (men's track, women's track, or fencing), age, and number of years coaching. Pseudonyms were used for participants (i.e., Williams, Smith, Green, Brown, Jones, Harris, and Thomas) as well as for all colleges and universities mentioned in the study. The lead researcher obtained approval from the Office of Responsible Research Practices of the university under study to conduct this study, and before the data collection process was initiated, each participant signed an informed consent form.

Table 1
Participant Demographic Information

Name	Age	Years	Sport (Revenue/Nonrevenue)
Coach Williams	29	9	Fencing (Nonrevenue-producing sport)
Coach Smith	52	30	Track/Field (Nonrevenue-producing sport)
Coach Green	38	16	Track/Field (Nonrevenue-producing sport)
Coach Brown	36	14	Football (Revenue-producing sport)
Coach Jones	38	16	Basketball (Revenue-producing sport)
Coach Harris	39	17	Football (Revenue-producing sport)
Coach Thomas	36	14	Football (Revenue-producing sport)

Note. Years = number of years coaching sports.

Descriptive Qualitative Research

We followed a descriptive–qualitative methodology (Denzin & Lincoln, 2000) with an interviewing approach (Bogdan & Biklen, 1992; Gay, 1996). According to Gay (1996), “Interview studies have a unique purpose, that is, to ascertain data not obtainable in any other way” (p. 223). Certain things simply cannot be observed, including past events (e.g., a coach’s previous experiences working with collegiate athletes), events that occur outside of the researcher’s sphere of observation (e.g., a coach’s reflection on and recall of past events), and mental processes (e.g., a coach’s perspectives about his or her career aspirations). Typically in descriptive–qualitative studies open-ended interviews are used (Bogdan & Biklen, 1992; Gay, 1996). We used open-ended interviews that involved individual, face-to-face verbal interchange with the coaches. Interviewing was an excellent medium for the coaches to reflect on and speak about specific situations and to share their perspectives about the BCA.

Data Collection

Prior to the taping of the initial interviews, we collected demographic information from the participants. From this point, the one-on-one semistructured interviews were completed by the lead researcher, audiotaped, and transcribed in depth with each participant. During the study, each participant participated in an information session and two interview sessions. In this phase of the study, demographic data were collected from each participant during an informal information session. The information session entailed dialogue with each participant about the purpose of the study and the exchange of the interview guide and instructions about the first interview session.

A funnel approach was chosen as the format for the face-to-face semistructured interview sessions. These interviews were audiotaped and conducted in the coaches’ office or a reserved conference room within the athletic department at Champion University. The funnel approach is a format for greeting the participant and gaining comfort and resolve within the interview session (Denzin & Lincoln, 2000). The funnel approach was chosen because it allows the researcher flexibility in the interview. The approach also allowed for the researcher to find the root of the topic without interrupting the

flow of the dialogue. Furthermore, the funnel approach served this study well because it allowed the participants and lead researcher to commence dialogue unique to the study and flow of the conversation. These interviews lasted approximately 45 min to 1 hr depending on the fullness of the coaches' responses to the interview questions. Each interview had a different and dynamic dialogue, which went a long way to obtaining data from the participants.

To avoid narrowing the viewpoint of the participants, open-ended questions were used to allow the participants a broad foundation during the dialogue. From this perspective, the interview questions allowed the lead researcher the autonomy to choose which topics or areas may have needed increased information (Denzin & Lincoln, 2000). To properly format the interview guide, the lead researcher focused more on the questions he felt were of major importance than the other questions, which were used to build comfort between the participants and the lead researcher. This process occurred prior to each interview in an attempt to prepare for the session properly as well as review and update the lead researcher's personal reflective journal.

For this study, a digital recorder was used. The digital recorder was a valuable tool for interview conversations and played a pivotal role in the documentation of the real-time dialogue of the interview (Denzin & Lincoln, 2000). The lead researcher made sure his taking of notes did not interrupt the flow of the dialogue. In an effort to comply with the trustworthiness provisions in the research study, careful documentation of notes was chronicled along with the interview transcriptions. The follow-up was conducted via e-mail (McCoyd & Kerson, 2006). For the follow-up, the participants were sent additional questions based on their responses from the first interview and asked to respond. The participants were given 2 weeks to respond to the questions from the e-mail follow-up.

Data Analysis

Data analysis involved coding and synthesizing of the data to look for exposed or reoccurring themes (Denzin & Lincoln, 2000). Specifically, after the interviews were transcribed, the coding aspect of the study commenced as we sought to use a generative coding approach to identify themes from the data. Descriptive coding was the format of organizing the data into groups or segments for clas-

sification (Denzin & Lincoln, 2000). Using the descriptive coding strategy, we analyzed each transcription first for groups of common trends. First, each interview transcription was uploaded into a software program called N6 (formerly known as NU*DIST) and properly formatted and analyzed electronically from codes generated through the preexisting data (Denzin & Lincoln, 2000). As the codes were created, recurrent trends were also uncovered and reintroduced as codes to be included (Denzin & Lincoln, 2000; Lincoln & Guba, 1985). Moreover, the lead researcher used the reflective journaling notes to refine the trends before proceeding to the final step of synthesizing the trends, which generated a major recurrent theme.

Results

Description of Coaches

Each coach came from a unique and different background. Coach Williams was a member of the International Olympic fencing program and an alternate for the 2000 games in Sydney, Australia. Coach Williams started out as a fencing instructor at the high school level in Missouri for 2 years prior to beginning his career for the past 7 years at Champion University. Coach Williams' experience is with the saber weapon in fencing. Coach Williams recently left the collegiate coaching ranks and currently works as a fencing instructor within a large urban school district in the southeastern United States.

Coach Smith is a former student assistant coach with the St. Jordan University track and field team, from which many of his male athletes competed in the 1968 Mexico City Olympic Games. Coach Smith has worked as the men's national track and field coach for many nations such as Tanzania, Kenya, and Ghana. Coach Smith is a 30-year veteran of "distance" track and field programs. Coach Smith is the former men's head coach of the University of Bryant, the Kennedy Institute of Tech, and the University of Southern Garnett. Currently, Coach Smith is employed as the assistant coach for women's track and field, specializing in distance events, for Champion University.

Coach Green started his career as a graduate assistant coach with the men's track and field program at Allen State University. Coach Green's specialty is sprints and hurdles. Coach Green spent the past

10 years with Pierce University working with their men's track and field program. Currently, Coach Green is the associate head coach for the men's track and field program at Champion University.

Coach Brown is a former Division III football all-American linebacker for Duncan University. Coach Brown started his career at Duncan as the defensive line coach. Coach Brown spent 6 years with Parker University as the defensive coordinator. Currently, Coach Brown is the assistant coach, specializing in cornerbacks, at Champion University.

Coach Jones started his coaching career as an assistant basketball coach for Division III Jackson University. Afterwards, Coach Brown spent 5 years at the University of Popovich and 3 years at Tomjanovich University working as an assistant coach. Currently, Coach Jones is the assistant men's basketball coach at Champion University.

Coach Harris began his career as the offensive coordinator for Division III Phippen College. Coach Harris has worked for the University of Grant (3 years), Western Rodman University (2 years), Laurence O'Brien University (2 years), West Unsel University (2 years), and Chamberlain University (3 years). Coach Harris has extensive experience coaching football on the offensive side of the ball, as he has worked with running backs, receivers, and tight ends. Coach Harris is currently the assistant head coach and wide receivers coach at Champion University.

Coach Thomas began his coaching career as a graduate assistant for football with Ewing University. Since then, Coach Thomas has coached with Starks-Oakley College as their quality control coach as well as Riley University and the University of Shaquille as their secondary coach. Currently, Coach Thomas is the safeties coach for Champion University.

Emergent Theme: Networking Mechanisms

The coaches in this study have different opinions on the effectiveness of networking and the proper means of developing and sustaining professional relationships. The theme that emerged from the results was labeled networking mechanisms, which describes how the management or mismanagement of networking in sports is personal and plays a role in the success of those who choose to participate. This theme exposes how networking and potential strategies

and resources available to Black coaches in Division I athletics have become necessary networking mechanisms.

A reoccurring conversation among the coaches revolved around the effectiveness of the Black Coaches and Administrators (BCA). The BCA is at the forefront of networking for Black professionals within collegiate athletics as a bonding and bridging tool and serves as the epicenter for communication and resources pertaining to Black and other ethnic minority coaches in intercollegiate athletics (BCA, 2013). Many coaches had opinions pertaining to the ideal of networking and the effect the BCA has on the career trajectory of Black coaches in Division I athletics.

Coach Williams “believes the BCA [is] about encouragement and networking opportunities.” However, he wishes the BCA “was more about paying your dues and [understanding] the importance of patience” (Initial Interview). Coach Williams would like the BCA to be a teaching mechanism for how to succeed in Division I coaching. When prompted for more details on his viewpoint during the e-mail follow-up, Coach Williams stated, “I am more interested in training strategies than networking; social events are not really what I care about” (E-Mail Follow-Up). Coach Thomas had similar sentiments as Coach Williams on the current purpose of the BCA. Coach Thomas believes the BCA serves as an arena to “meet the right people by allowing Black coaches [the avenue] to increase their networks and contacts with ADs [athletic directors]” (Initial Interview). Coach Thomas continued and said, “The BCA does not have enough influence to secure jobs for its constituents” (E-Mail Follow-Up).

Coach Jones believes the BCA has the potential to be the instrument for networking in college athletics. Coach Jones would like for the BCA to “gather information about the hiring practices and priorities of each institution and their respective job searches, this information would be invaluable for Black coaches competing in the national market” (Initial Interview). Coach Jones added, “It would be nice if the BCA could build in-roads and relationships with the institutions in order to aid in the placement of minority coaches, because currently we are lacking” (E-Mail Follow-Up).

Coach Harris had similar sentiments as Coach Jones and believes “the BCA is a bank of resources for Black coaches by storing résumés and contact information for potential jobs” (Initial Interview).

However, Coach Harris continued, “The BCA has not done enough to bridge the gap between what the White networks are doing and what we are doing” (E-Mail Follow-Up). Coaches Williams, Thomas, Jones, and Harris appear to have a basic understanding of the purpose of the BCA. Although each coach has a concrete understanding, they wish the organization would operate differently as a means of being more efficient and effective.

Coach Smith believes the BCA is not a true instrument for networking because the system is flawed. According to Coach Smith, “The BCA needs to reach out more to nonrevenue coaches [because] until I read the website, I had no idea they were for all coaches and not just football” (Initial Interview). Coach Smith asserted, “The BCA needs to do a better job of advertising to the nonrevenue sports” (Initial Interview). Coach Smith would like the BCA to market itself better and take on the role of a true Black network for all sports, not just revenue sports.

Coach Smith was prompted to expand upon his insights for networking during the e-mail follow-up interview. He stated he “wanted the BCA to become a true instrument for not only Black coaches in America but also bridge the gap between coaches in America and their counterparts in the many nations of Africa” (E-Mail Follow-Up). Coach Smith wants the BCA to be a true Black network and embody the ideals of all coaches, whether they are revenue or non-revenue, domestic or international. Coach Smith believes the only way to combat White hegemony and institutional racism is through the solidarity of Black coaches.

Coach Green and Coach Smith had concerns about the perceived deficiencies of the BCA and networking. Coach Green believes the BCA needs to “be the foundation of nationwide networking for Black coaches in America, to be the [Black equivalent] to the ‘good old boys club’” (Initial Interview). Coach Green added during the e-mail follow-up interview, “Blacks do not have a strong network for jobs nationwide.” He exclaimed, “BCA has tried unsuccessfully to be that network.” “Networking is the key to success in this field,” insisted Coach Green (E-Mail Follow-Up). Coach Green’s point of emphasis was that by establishing a Black counterpart to the White “good old boys” network, Black coaches could combat White hegemony and institutional racism. Last, Coach Brown represented another improvement for the BCA.

During the initial interview, Coach Brown claimed he had “no intimate knowledge of the BCA, but knows of their efforts.” Nonetheless, Coach Brown offered suggestions for improvements to the effectiveness of networking mechanisms and the BCA by stating, “They could work toward creating a Rooney rule for the NCAA. It helped pro football and could do the same for the nondiverse programs in the NCAA” (Initial Interview). When probed during the e-mail follow-up interview about the “Rooney rule” for the NCAA, Coach Brown stated, “If the Rooney rule is good for the goose [NFL], then it should be good for the gander [NCAA].”

Discussion

In the history of Division I FBS football, there have been 33 Black head coaches (Lapchick, 2012). The statistical percentages show that since 1996, Black coaches have represented 6.3% of coaches in Division I FBS (Harrison & Lawrence, 2003). The numbers indicate a Black coach has been employed as the leader of a Division I FBS football program only on 39 occasions. The major findings in this study likely indicate a reaffirmation of those statistics will continue and networking is critical to the potential career advancement in collegiate athletics for Black coaches. Next, Black coaches should acquire useful understanding of the function of the BCA and how the association may support their career advancement. Within this investigation, networking mechanisms emerged as the dominant theme. The participants had varying viewpoints about the mission statement of the BCA. The inconsistency in their understandings may have led to missed opportunities for networking that may have affected their career trajectory. Coaches Williams, Jones, Harris, and Thomas viewed the BCA as ineffective and inefficient for networking in the field of Division I coaching; however, none of them were members of the BCA. Specifically, Coaches Jones and Harris believe the BCA is meant to be a Black network of resources for potential job searches; however, neither coach has committed to the organization to take full advantage of the resources or opportunities available. Coaches Williams and Thomas have attended events, but similar to Jones and Harris, they have not joined the BCA. Arguably, they have squandered opportunities to enhance their career trajectory by not committing to resources that could have aided them.

Coach Smith spoke about adding an international function to the BCA, whereas Coach Green asserted the BCA is not a successful organization because it has not been the Black equivalent to the White “good old boys” club. Coaches Smith and Green focused their perspectives on aspects of the BCA that were not in line with the mission of the organization. Some of the coaches appear to have expectations of the BCA to be the answer to all issues and concerns for Black coaches in athletics. In that vein, although both Coaches Smith and Green are not members of the BCA, they have expectations of the organization when they do not have vested interests as members likely would. Last, Coach Brown spoke about the limitations of the current national networking system and wanted to switch the entire focus of the BCA in an effort to improve the opportunities for Black coaches. As with the other participants in the study, Coach Brown was not a member of the BCA. Nonetheless, he had a negative opinion about the organization.

Conclusion

Each coach had a slightly different understanding of the purpose of the BCA. This inconsistency is likely due to none of the coaches having intimate knowledge of the BCA via membership. The coaches’ perspectives in the study were merely opinions articulated from an outsider’s viewpoint and thus uninformed at best because of limited access to the organization. Again, the BCA seeks to serve as a mechanism for breaking down the barriers of power, prestige, and material rewards and aid minorities in accessing jobs and career advancement (BCA, 2013). Notably, Putnam (2000) described two forms of social capital (i.e., bonding and bridging). Bonding emerges when a strong homogeneous group is successful at promoting their social exclusion (Clopton & Finch, 2011). Bonding assists group members and their ability to maintain their membership with a group through difficult times/realities by reinforcing a collective group identity of supporting figures (Clopton & Finch, 2011). Bridging, on the other hand, provides opportunities for community members to establish and maintain strong relationships through the creation of connecting branches (Putnam, 2000).

Examples of bridging and bonding occur within the BCA as that association aims to add greatly to the establishment of a shared social capital through interconnectedness. The BCA seeks to serve as

an instrument of social capital networking for minority coaches as they seek employment in NCAA athletics. The effect of social capital networking on the hiring and career advancement of coaches has had a profound effect on the coaching landscape in NCAA athletics as “many football programs are continuing to pitch a shutout when it comes to hiring black coaches, therefore nullifying any semblance of colorblindness” (Forde, 2003, para. 1). The need for social capital resources to compete makes the value of the BCA more important when it comes to the future prospects for minority hiring and career advancement.

Social capital is a resource that could greatly benefit the participants in the study as they seek to build their coaching careers in NCAA Division I athletics. The BCA offers many opportunities for the bridging and bonding of social capital, which was identified as the main inefficiency between the White networks and the networks available to minorities. Proactive action on behalf of the participants toward using available networks such as the BCA could inherently improve the social capital of minority coaches.

Implications

The implication of the emergent theme, networking mechanisms, is Black coaches in Division I athletics need to learn and understand the true nature of the BCA and of other strategies (e.g., networking) available to them for career advancement. Black coaches owe it to themselves to seek out networking opportunities with the BCA and to research the current resources and strategies available to them as professionals in college athletics. Many programs and training sessions are offered at the BCA’s annual convention to ethnic minorities seeking access to coaching jobs and career advancement (BCA, 2013). In the end, it is up to the coaches to use the resources proactively to benefit the advancement of their respective careers.

All of the coaches had either incorrect or incomplete understandings of the BCA and through the interview process learned of the opportunities and strategies available to them. The implication of this finding is most likely more Black coaches around the nation are misinformed about the BCA networking strategies available to them. Knowledge of these strategies and the effect of properly using the BCA as a tool for success could aid in career advancement. The BCA is an instrument of networking, and all Black coaches should

be aware of its purpose and existence so they can make a choice if they want to use the organization for their respective careers.

Limitations

The two major limitations of this study are (a) the participants in the study were from the same institution and (b) none of the participants were active members of the BCA. In regard to the participants being from the same institution, Champion University has one of the largest athletic departments in the nation for Division I athletics and possesses the most diverse athletics staff. The opportunity to conduct a qualitative analysis with seven participants who meet the criteria of the study was seen as risk worth taking. The coaches were not members of the BCA, and as such, they had no connection to the association and therefore no direct knowledge of its functions. Therefore, at best, they could offer only opinions as outsiders to the association, which appeared to be largely uninformed.

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