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PEDAGOGY

Adapting a Community-Based Physical Activity Promotion Program for Rural, Diverse Youth

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Abstract

With school-aged youth spending less time in physical education, school–community–university partnerships offer potential to promote physical activity among school-aged youth. The VERB™ Summer Scorecard (VSS) program was designed in Lexington, Kentucky, to promote physical activity among "tweens" (8- to 13-year-olds). VSS since has been implemented in over 22 communities in suburban, urban, and rural areas, with disproportionate levels of white participants. A community-based prevention marketing (CBPM) approach was taken to adapt the VSS to meet the needs of a rural, diverse population in the southeastern United States. Formative research was conducted with the target audience. Focus group interviews were conducted with parents and their children. Content analysis showed significant changes were needed for the program. Previous versions of the Scorecard did not test well with the target audience, who suggested the use of smaller Scorecards and fobs as a secondary reinforcer. These changes offer many potential benefits to participation reinforcement and physical activity participation tracking.

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Obesity is a disease facing many school-aged children in the United States (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010; Robert Wood Johnson Foundation, 2010). Recent evidence has indicated that childhood obesity, glucose intolerance, and hypertension increase the likelihood of death before age 55 (Franks et al., 2010). Obesity trends in part are due to low levels of physical activity. Although the benefits of physical activity are numerous and have long been established (Bouchar, Blair, & Haskell, 2012), the risks of physical inactivity are still being discovered. A lack of physical activity not only is associated with increased rates of obesity, body fat composition, and mortality among young people (Koezuka et al., 2006), but also is a contributing factor to increases in certain cancers (Eheman et al., 2012).

In the past, public schools have been the desired context to implement interventions to address the obesity epidemic, in part due to the presence of physical education teachers (McGinnis, Kanner, & DeGraw, 1991). The physical educator should be the primary promoter of physical activity in the school, as the overarching goal of the profession is to promote lifelong physical activity (National Association for Sport and Physical Education, 2004). Today, physical education teachers face many challenges in achieving this goal. Rather than increasing opportunities for physical activity in the public school system by increasing physical education, school administrators have decreased time spent in physical education. Although the Centers for Disease Control and Prevention (CDC, 2010) recommends 60 min or more of physical activity per day, only 18.4% of public school students reach this goal.

Due to the current trend of decreasing time spent in physical education, some investigators have developed physical activity interventions outside the traditional school day. The Healthy Opportunities for Physical Activity and Nutrition (HOP'N) obesity prevention project provided targeted interventions through an after-school program to increase physical activity and improve the dietary habits of third and fourth grade students (Dzewaltowski et al., 2010). Over a 3-year period, overweight/obese students significantly increased overall physical activity and active recreation time. De Meij et al. (2011) developed a similar community-based intervention delivered through schools, which resulted in increased sport participation and aerobic capacity among children aged 6 to 12. School–community partnerships may be successful, but they face the obstacle of sustainability. A 3-year after-school program delivered in the southeastern United States resulted in decreased body fat percentage and aerobic

capacity among elementary school students (Yin, Moore, Johnson, Vernon, & Gutin, 2012). However, the positive effects of these were lost over the summer. Clearly, school–community–university partnerships offer potential to promote physical activity among school-aged youth. Many schools fail to implement physical activity promotion programs due to a lack of parental and student involvement (Cardon et al., 2012). Even with the added resources of university, physical activity promotion efforts still face many challenges (McDermott et al., 2009).

The challenges of promoting physical activity among school-aged youth are exacerbated as students become older. Nader, Bradley, Houts, McRitchie, and O'Brien (2008) tracked youth aged 9 to 15 and found that moderate to vigorous physical activity significantly declined each year. Existing research supports the notion of a strong association between increasingly negative attitudes toward physical education and the decline in physical activity and fitness levels that occurs as students become older (Stelzer, Ernest, Fenster, & Langford, 2004). Physical educators who work with students face challenges in addition to age. Minority youth are significantly less active and demonstrate sharper declines in physical activity (CDC, 2010).

Minority and underserved adolescents experience worse health outcomes in areas such as obesity (Robert Wood Johnson Foundation, 2010). Research has supported associations between poverty levels and low levels of physical activity (Gordon-Larsen, Nelson, Page, & Popkin, 2006). Minority youth face multiple barriers to meeting physical activity goals (Chomitz, Aske, McDonald, Cabral, & Hacker, 2011). Rural areas possess unique challenges, as environmental factors such as county sprawl may be significant mediating factors of obesity (Feng, Glass, Curriero, Stewart, & Schwartz, 2010). School-aged youth in rural areas suffer from poor health outcomes due to disparities in resources such as access to community and recreational facilities (Cornwell, Hawley, & St. Romain, 2007). African Americans and other minority subgroups also have fewer community-level physical activity–related settings (Powell, Slater, & Chaloupka, 2004). This is consistent with national data, which shows that obesity prevalence decreases as income increases (Ogden et al., 2010). Disparities among race/ethnic groups are more pronounced in certain regions of the United States. For example, black middle school–aged youth in Georgia are 13% less likely to participate in the sufficient vigorous physical activity than white youth (Shanklin, Brener, McManus, Kinchen, & Kann, 2007).

Effective physical activity promotion programs for minority, rural youth to prevent childhood obesity clearly are needed. Due to national trends that indicate that school-aged youth are spending less time in physical education, community-based programs that promote physical activity outside of the school day are needed. Programs that involve parents and students as stakeholders may be more successful (Cardon et al., 2012).

VERB™ Summer Scorecard Program

The VERB™ It's What You Do! campaign was a nationwide physical activity promotion program that used social media to increase physical activity among "tweens" (9- to 13-year-olds; Asbury, Wong, & Price, 2008; Banspach, 2008). The campaign resulted in increased physical activity among tweens from 2002 to 2006 (Huhman et al., 2010; Huhman et al., 2005). The VERB™ Summer Scorecard (VSS) program is the community arm of the national VERB™ It's What You Do! campaign (Bryant et al., 2008). A coalition of key community partners in Lexington, Kentucky, first developed and implemented the Scorecard in 2004 (Bryant et al., 2007; Bryant et al., 2008). The development was guided by the community-based prevention marketing (CBPM) process (Bryant et al., 2009). The process is a community-directed social change process that applies marketing theories and techniques to design, translate, implement, and evaluate health promotion and disease prevention programs. CBPM integrates community capacity–building principles and practices, behavioral theories, and marketing concepts and methods into a synergistic framework for directing positive change among selected audience segments. Facilitators of the process bring the community into the picture, a necessary component of tailoring evidence-based interventions to work in new settings (Bryant et al., 2009). The first four steps (i.e., mobilize the community; develop community profile; select target behaviors, audiences, and interventions; and build community capacity) actively engage community members in the tailoring process, putting them in the driver's seat (see Table 1). The vehicle for Steps 1 to 4 is creating the Community Advisory Board (CAB). This is a board comprising key stakeholders in the community who hold positions and connections that will promote mobilization and build community partnerships. Steps 5 to 7 (i.e., formative research, strategy development, and program development) stem from the previous steps, thus increasing the odds that the tailoring process will result in a program that is culturally competent and likely to be adopted and sustained. The community

members began with the broad goal of addressing childhood obesity. In Step 3, the CAB selected tweens as the target audience and 60 min of physical activity as the target behavior based on the objectives of Health People 2010 (U.S. Department of Health and Human Services, 2000).

Table 1
Steps to Community-Based Prevention Marketing

Steps	Tasks
Step 1: Mobilize the community	• Build committee structure to guide community-based prevention marketing process • Build community members in marketing mind-set
Step 2: Develop community profile	• Assemble local data on community problems and assets • Summarize existing data on health foci and target population affected by problem
Step 3: Select target behaviors, audiences, and interventions	• Develop criteria for selecting the priority behaviors and the audiences • Change priorities based on health problems and risk factors of the school and community • Select target behavior and audience segments • Review evidence-based interventions • Decide whether interventions may be tailored or a new one must be designed
Step 4: Build community capacity	• Teach community members to apply a marketing orientation to problem identification, program planning, and implementation
Step 5: Formative research	• Train interested community members in data collection techniques • Conduct participatory consumer research using primary and secondary sources
Step 6: Strategy development for designing or tailoring the intervention	• Develop a comprehensive, strategic plan organized around the social marketing framework • Develop detailed implementation plan • Develop logical model and evaluation plan
Step 7: Program development	• Develop or adapt/tailor program materials • Use participatory research to pilot test tactics and materials • Mobilize community resources needed to implement and sustain program activities
Step 8: Program implementation	• Implement program on limited scale

Table 1 (cont.)

Steps	Tasks
Step 9: Tracking and evaluation	• Monitor program processes and impact • Use results to make mid-course revisions • For new interventions, determine whether intervention is worthy of further evaluation • For tailored interventions, determine whether success warrants dissemination

Note. Table reproduced from "Community-Based Prevention Marketing: A New Planning Framework for Designing and Tailoring Health Promotion Interventions," by C. A. Bryant, K. McCormack-Brown, R. J. McDermott, R. D. DeBate, M. L. Alfonso, J. A. Baldwin, P. Monaghan, and L. M. Phillips, 2009, in R. J. DiClemente, R. A. Crosby, and M. C. Kegler (Eds.), *Emerging Theories in Health Promotion Practice and Research: Strategies for Improving Public Health* (2nd ed., p. 334), San Francisco, CA: John Wiley & Sons.

During the summer of 2004, the first VSS program was implemented in Kentucky. The Scorecard served as a ticket for entrée to fun physical activities, such as free swimming at public pools, Muscle Mania classes, two-for-one skating, and other action-oriented games and events. Tweens used the card to track their physical activity. When they were active for 1 hr at a Scorecard site or at home, an adult signed one of 24 squares on the card. When all squares were filled, the card was redeemed for physical activity–themed prizes, such as Frisbees, beach towels, and water bottles. Scorecards also made youth eligible for a grand prize drawing that included larger prizes such as bicycles, tae kwon do lessons, health club memberships, and running shoes. Tracking and evaluation of the program focused on mid-course corrections and program effects (Step 9). VSS increased parents' and community partners' commitment to provide physical activity opportunities for youth. The Scorecard and accompanying promotional materials served as reminders and offered promotional appeals to make it easier for parents to keep their children active and help businesses attract tweens to their facilities to try new physical activities (Bryant et al., 2007; Bryant et al., 2008).

The program was implemented each summer in Lexington between 2004 and 2010 and in 22 other communities with eight sites implementing for the first time in 2008 (Bretthauer-Mueller et al., 2008; MACRO International, 2008). Multiple studies have demonstrated the effectiveness of VSS (Alfonso et al., 2011; McDermott et al., 2009). The program has been linked to a majority of tweens exposed to VSS trying new physical activities, thereby increasing their

options (McDermott et al., 2009). A trend analysis of the effects of VSS on physical activity among tweens in Lexington, Kentucky, found changes in physical activity from 2004 to 2007 (Alfonso et al., 2011). Results demonstrated that VSS increased vigorous physical activity among tweens, with stronger effects found among female participants (Alfonso et al., 2011). More specifically, the percentage of youth who reported frequent vigorous physical activity increased from 32% in 2004 to 42% in 2007. Furthermore, VSS participants increased their moderate to vigorous physical activity from 2004 to 2007 by more than 17% higher than nonparticipants.

A unique aspect of the VSS program is the Scorecard, which serves multiple purposes. The Scorecard primarily serves as a behavioral reinforcer for physical activity. The Scorecard also tracks physical activity for each participant, and integrating it into the CBPM process is essential to implementing the VSS program. Self-reported measures may serve as valid, reliable instruments for measuring physical activity (Biddle, Gorely, Pearson, & Bull, 2011). Similar to the VSS, single-item physical activity measures have been developed and tested (Milton, Bull, & Bauman, 2011). Using the Scorecard to track physical activity throughout the intervention allows program developers to make key decisions and possible changes during the implementation, a key component of the CBPM process. Additionally, the design and adaption of the Scorecard by the target audience increases the likelihood of program adoption.

Due to the strong empirical support for the VSS program, the investigators began formative research to adapt the Scorecard to serve a rural, diverse population in southeastern Georgia. Most documented implementations of VSS have attracted nondiverse audiences that may not face the barriers found in rural, high minority communities, with results showing that VSS is particularly attractive to white youth in middle class areas with high self-efficacy and parental support (Nickelson et al., 2011). The purpose of this study was to detail the results of formative research to adapt the Scorecard to meet the needs of rural, diverse youth and the potential of the adaption to improve the tracking and evaluation of the program.

Methods

In the fall of 2011, investigators engaged in Steps 1 to 4 of the CBPM process. In the spring of 2012, formative research was conducted with the target audience. Researchers conducted focus groups with parents and children.

Sample and Data Collection

Two parent focus groups ($N = 14$) and two child focus groups ($N = 12$) were conducted by trained focus group facilitators in April 2012. The parent and child focus groups included a diverse sample of participants. Parent focus group participants consisted of 14 parents from 14 families, one from each household. Twelve African American parents and two Caucasian parents participated in the parent focus groups, and 10 African American and two Caucasian children participated in the child focus groups. The number and size of focus groups allowed the researchers to reach theoretical saturation within the CBPM framework (Bryant et al., 2009; Vaughn, Schumm, Sinagub, 1996). Both groups of participants were recruited through the local Boys & Girls Club, the lead community partner in the VSS program development. A VSS representative handed recruitment materials to parents and told parents about the focus group meetings to discuss the upcoming VSS program. Parents also were informed about the $20 cash incentive that focus group participants would receive in exchange for their time and participation. At the parent focus group meetings, the facilitator distributed informed consent documents. Parents willing to participate signed and returned the forms to the facilitator before the focus group session began. The facilitator at each parent focus group also promoted the child focus groups. Parents were given the opportunity to provide consent for their child's participation. A VSS representative also handed out recruitment flyers to parents and children at the local Boys & Girls Club to promote participation in the child focus groups. Child participants were given a $10 cash incentive for participation. For children to participate, the parent had to provide consent and the child had to provide assent. Parent focus group interviews lasted approximately 2 hr, and child focus group interviews lasted approximately 1 hr. Both focus groups were conducted at the Boys & Girls Club. Study materials and study procedures were approved by the university's institutional review board.

Each focus group facilitator used a focus group guide to conduct the focus groups with parents and children. The guides covered aspects of VSS that may need adapting to work for the target population. The guides also included items specific to social marketing constructs, including price, product, place, and promotion. In addition, the focus group guide included questions to gain feedback about existing Scorecards from Kentucky and Sarasota County, Florida (see Figure 1). The focus groups guides had been used dur-

ing previous VSS formative research data collection. Focus groups were audio recorded.

Figure 1. Scorecard from Sarasota County, Florida.

Data Analysis

One of the VSS representatives listened to the audio recorded focus groups and transcribed each recording verbatim. The transcriptions then were sent to other VSS representatives and focus group facilitators to check for accuracy. Content analysis was used to analyze the data. The lead VSS researcher (third author) analyzed and coded the transcripts. The transcripts were analyzed using the social marketing framework constructs. The four constructs of social marketing include the four *P*s of marketing: price, product, place, and promotion. The transcripts were coded specifically to reflect the constructs. The lead researcher then sent the coded transcripts and the code book to the other VSS representatives for further review. Each VSS representative analyzed the focus group transcriptions using the social marketing framework constructs provided by the lead researcher. After the VSS representatives were allowed to review the coded transcripts and send feedback to the lead researcher, a final report of the formative research was prepared and presented to the community partners. The community partners and the VSS planning representatives discussed the findings and planned for the upcoming VSS program.

Results

Based on the common themes identified in the formative research portion of this study, major adaptations were needed to implement VSS in rural community. Historically, VSS has been implemented in primarily suburban or urban areas, and the program has reported great success. Iowa has implemented VSS in rural communities suc-

cessfully, but a key difference in the Iowa rural communities and the southeastern Georgia county are demographics. Because of these differences, the VSS planning committee faced several challenges. The formative research highlighted many needed changes for using the Scorecard within the community. The significant changes made to the Scorecard are discussed in the following section.

Scorecard Changes

Two versions of Scorecards that other states had used were tested with youth and parents. Neither version tested well. Parents believed that youth would not be able to read or understand them and would ultimately lose them. Youth participants also discussed the difficulty of reading and understanding the previously used Scorecards. One option parents discussed for the Scorecard was a chain with fobs ("dog tags"). This option tested well with parents and youth. Using fobs is a familiar practice within this community. One of the local elementary schools uses dog tags as a child incentive, and according to the focus group responses, dog tags are popular among the local youth:

- "Yea, they used to do the tags at [a local school] as well,… for everything you did they would add a tag to the chain and they were proud of that thing [dog tag]" (Parent 3).

- "Yea my kids were about [*sic*] to fight over a bear tag, 'I (got to) [*sic*] do such and such so I can get my bear tag'" (Parent 4).

Parents recommended that youth who registered for the program receive a chain with a VERB™ logo on it. In exchange for 5 hr of physical activity, a dog tag would be added. Both groups suggested the chain would be "easier to keep up with" and would attract attention from other youth who then may be inspired to register for the program. Parents stated that the child needs something to elicit a sense of pride over: "… a regular card wouldn't impress them, (it is just) something that they got to keep. It's got to be something that they can show (off)" (Parent 3).

Parents also expressed concerns about the complexity of the tested Scorecards. Figure 1 provides an example of a traditional Scorecard similar to the Scorecards tested with parents and tweens. Most of the concerns parents identified pertained to the amount of information on each Scorecard. The parents felt both Scorecards contained too much information. Another parent described the tested Scorecards as difficult to read for children: "….Nine times out of

10 the reading [of the Scorecard], they're not going be able to read it. So you want something that they can actually read and actually relate with" (Parent 4). Parent participants also agreed that if a paper Scorecard were to be used, the Scorecard needed to be smaller and something tweens could carry with them, that is, “wallet size” or a “pocket guide.”

During the children’s focus groups, the participants were asked about the dog tag tracking system. All child participants supported the idea. When asked why the dog tag was preferred, the child participants agreed it was because “you get to wear it.”

The results were presented to the Community Advisory Board (CAB) in early May 2012 at a VSS strategy planning session. The CAB supported the idea of the dog tag tracking system. Two CAB members worked in the local schools and were familiar with elementary schools that have used a dog tag system. They agreed it was successful. The VSS representatives raised concerns about using dog tags to track physical activity. The CAB members were asked, (a) how many dog tags do youth need to earn before they can earn a prize, (b) how will youth turn in their dog tags or document their physical activity for a prize, and (c) how will dog tags be labeled in order to enter them into the grand finale major prize drawing?

The CAB decided that using a paper Scorecard to document the physical activity hours was necessary. Based on the recommendations of the parent focus groups, the Scorecard design was simple and small (see Figure 2 for a sample of the Bulloch County Scorecard). The card included five squares to track physical activity. Each square represented 1 hr of physical activity. The CAB agreed that parents would be allowed to sign off on two of the five squares. On the back of the Scorecard, a bulleted list of "cool deals" was printed and space was provided for tweens to their write names and contact information. After five squares were filled, tweens turned in the card for a dog tag to place on their chain. VSS representatives kept the completed Scorecards to place in the grand finale prize raffle.

Based on the results, major adaptations were needed to the traditional VSS programs to be implemented for rural, diverse youth. The largest recommended change to the VSS program was to the Scorecard itself. Traditional and well-tested Scorecards did not test well in this study. Using a chain and dog tag system was highly recommended. This change is innovative and may increase popularity. The use of a two-part Scorecard system also may improve the ability of program planners to track participation and may promote the program through word of mouth among participants.

Front of Card

Back of Card

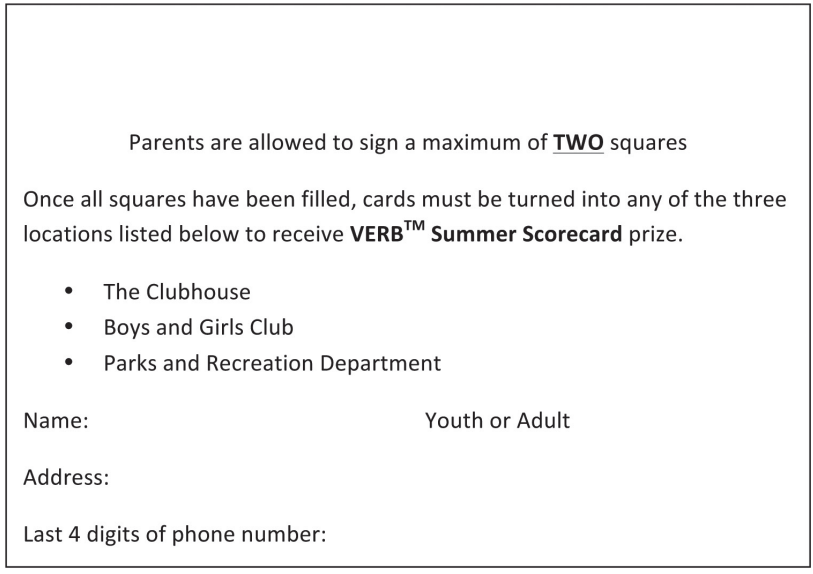

Figure 2. Scorecard from southeastern Georgia.

Discussion

The VSS program has been shown to increase physical activity participation effectively among tweens in urban and suburban settings (Alfonso et al., 2011; McDermott et al., 2009). The CBPM framework was used to develop a VSS program for a rural, predominantly African American population. Low levels of physical activity among rural, minority youth are influenced by multiple barriers (Chomitz et al., 2011). Results of formative research from the CBPM process suggested that significant modifications were needed. The most significant modification suggested for the VSS program was modifying the Scorecard. Results suggested the previously used Scorecards would not work with African American youth and families in rural Georgia. Families suggested the card would be easy to lose, had too much information on it that many youth would not be able to read, and would not garner attention from other youth (i.e., program promotion). Overall, parents suggested a visual Scorecard consisting of a chain and a series of dog tags. Dog tags would be worth 5 hr of physical activity. To receive a dog tag to hang on their chain, youth would need to obtain five signatures or hole punches on an index-sized Scorecard from local physical activity partners (e.g., Boys & Girls Club) upon completion of 1 hr of physical activity. Youth agreed that the chain and dog tag Scorecard would be the best approach as it would be easier to keep track of, would make them feel proud, and give them something to "show off" to their peers.

Results of the formative research posed benefits and challenges that were not evident in previous implementations of VSS. Using dog tags and index-sized Scorecards offered the immediate benefit of reduced cost. Previous versions of the VSS have been large, pamphlet-style Scorecards. These Scorecards contained locations of physical activity outlets as well as a calendar for the program. The new, simple version of the Scorecard costs less to implement, making it easier for smaller communities to implement a VSS program. Using physical activity outlet sites as places to disseminate dog tags to youth for tracking their physical activity will require additional support from community partners. The added step of collecting and disseminating Scorecards, dog tags, and prizes will require more work from the research team. However, this step will allow for additional tracking during program implementation. The four tasks in Step 9 in the CBPM process require programmers testing new, tailored interventions to (a) monitor program processes and

impacts, (b) use results to make mid-course revisions, (c) determine whether intervention is worthy of further evaluation, and (d) determine whether success warrants dissemination (see Table 1). Collecting Scorecards from local outlets will allow the programmers to examine the frequency of participation at each outlet and determine whether additional opportunities and/or outlets for physical activity participation need to be added to the program. Offering opportunities to redeem Scorecards for dog tags also will serve as a secondary reinforcer for youth to go to local outlets and engage in physical activity.

The CBPM process and its use to locally tailor a successful physical activity promotion program offers potential value for the field of physical education. With school-aged youth spending less time in physical education (CDC, 2010), physical educators must seek out new, innovative methods to achieve the overarching goal of the profession: promoting lifelong physical activity (National Association for Sport and Physical Education, 2004). School- and community-based approaches are promising, but those that lack parental and student involvement and input are less likely to achieve sustainable success (Cardon et al., 2012). The VSS program may be tailored by local communities through the CBPM process. The process includes marketing techniques that address potential barriers to success and implementation. Because the process is based in and driven by the community, the program may be sustained. Additionally, the program targets the key demographic of tweens, a critical time when youth are shaping physical activity behavior (Nader et al., 2008).

In the current study, investigators used the CBPM process to adapt the program for a diverse population of youth in a rural area. The need was clear, as such youth experience worse health outcomes (Ogden et al., 2010) and see sharper declines in physical activity (CDC, 2010). Formative research allowed investigators to make changes to the program to overcome barriers to physical activity that rural youth face (Chomitz et al., 2011). The findings of this study provide a framework for tailoring an effective VSS program. These results may help physical educators in other communities create programs similar to VSS to involve youth in physical activity and tailor these programs to meet the needs of their communities. Physical educators are encouraged to consider VSS for their communities. Additionally, teacher education faculty, local school districts,

and physical education teachers should consider forming community partnerships and seeking funding to support VSS in their area.

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