

## ABSTRACT

Title of Document: FACTORS INFLUENCING THE  
IMPLEMENTATION AND RECEPTIVITY OF  
A PHYSICAL ACTIVITY INTERVENTION IN  
THREE MIDDLE SCHOOLS

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**Introduction:** Recent trials with adolescents have intervened to increase physical activity levels. Primary results report on the outcome (change in physical activity) with less focus on the evaluation of the intervention strategies and activities. This dissertation project presents an in-depth analysis of the extent to which Trial of Activity of Adolescent Girls (TAAG), a physical activity intervention targeting middle school girls, was implemented and received in three Maryland schools. Individual, social, and environmental factors were explored.

**Methods:** Responses from select quantitative process evaluation data were used to assess dose, fidelity, and reach for each TAAG component. Information was integrated with data from nine focus groups with girls and 24 in-depth interviews with school staff, community partners, and TAAG university staff, who were key participants of the intervention activities. The focus group and interview data were

analyzed using thematic methodology to identify key concepts, categories, and themes.

**Results:** Implementation of the intervention varied by school and by intervention component. Qualitative interviews suggested that school differences could be attributed to school staff buy-in, administrative and faculty/staff support, and student behavior. Study staff implemented the intervention to teachers with higher levels of dose, fidelity, and reach than what teachers delivered to students. Notably, fidelity for physical education (PE) concepts and health education with activity challenges (HEAC) lessons was lower. Class observations indicated that PE objectives were observed 6% to 93% of the time, and 38% to 82% of HEAC lesson components were fully completed. Reasons reported by teachers for low fidelity were lack of time, administrative barriers, and limited space for activities. Reach for most components were high. Participation in after school programs ranged from approximately 9-22 girls. Girls reported lack of transportation, cost of programs, lack of interest, and time conflict as reasons for not joining programs.

**Conclusion:** To maximize intervention efforts, it is important for researchers to decrease factors that negatively influence how well physical activity initiatives are executed as planned. Different data sources can provide information to better understand factors influencing program implementation.

FACTORS INFLUENCING THE IMPLEMENTATION AND RECEPTIVITY OF A  
PHYSICAL ACTIVITY INTERVENTION IN THREE MIDDLE SCHOOLS

By

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## DEDICATION

*From everyone who has been given much, much will be demanded; and from the one who has been entrusted with much, much more will be asked.*

*(Luke 12:48)*

God has blessed me and entrusted me with all that I am and all that I have accomplished. I know that I could not have succeeded without Him.

To my husband, Rodney  
You have been with me since day one.  
I thank you for your unconditional love and undying support.

To my Mama  
Your baby has made it!  
Your constant love and sacrifices have fueled my fire to succeed.  
Witnessing you silently battle your tribulations has given me the strength to overcome all obstacles that crossed my path.

To my family and dear friends  
Thank you for giving when you did not have much to give.  
Thank you for always loving me - that has given me the strength to endure.

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JoAnn, Jennie, and Sarah: This road has been long but VERY INTERESTING with our share of ups and downs. We have served as each other's leaning posts and sounding boards. I thank them for their ongoing friendship and camaraderie.

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My KNES family and friends: I have had a ball over the last four years! I have met some amazing people and learned some phenomenal things. Thanks for making this chapter of my life even more enjoyable.

A special acknowledgement to the hundreds of middle school girls and the faculty/staff at each TAAG school. Without their participation and funding provided by a NIH Minority Research Supplement Grant, this project would not have been possible.

As I embark on the next journey of my life, I shall keep these now famous words of Dr. Dana Phares close to my heart – words that provided me with hope while completing this project:

*I know a lot,  
But I don't know everything,  
And that's okay....  
Because what I do know  
Is undoubtedly good enough!*

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## **Chapter 1: INTRODUCTION**

Overweight prevalence has steadily increased in American youth over the past four decades (US Department of Health and Human Services, 2000) with the rate tripling in the last thirty years (Ogden et al., 2002). In 2003-2004, 16% of 12-19 year olds were overweight with an equal percentage at risk of overweight (Ogden et al., 2006). This condition tracks into adulthood risk, with 83% of overweight adolescents being obese by the age of 25 (Whitaker et al., 1997). The preventable conditions of overweight and obesity substantially raise the risk of diseases that typically manifest in adulthood, namely, hypertension, hypercholesterolemia, type II diabetes, heart disease, stroke, gallbladder disease, arthritis, sleep disturbances, breathing problems, and certain types of cancer (Pi-Sunyer, 1991).

Regular physical activity in adolescents has favorable effects on weight maintenance and/or loss, improved psychological well-being, improved cardiovascular fitness (US Department of Health and Human Services, 2000), and reduction of cardiovascular disease risk factors (Albright et al., 2000; Durstine et al., 2002; Hagberg et al., 2000). Recent recommendations propose that school-age youth participate in 60 minutes or more of moderate-to-vigorous physical activity per day (Strong et al., 2005). However, most adolescents are not meeting these recommendations (Pate et al., 2006), and physical activity participation tends to decline with age (Kimm et al., 2000).

With the multitude of health benefits possible, it is a goal in the United States to improve the nation's health by increasing physical activity in all age groups (US Department of Health and Human Services, 2000). In trying to achieve this goal, a

national task force has recommended the use of select interventions to increase physical activity (Centers for Disease Control and Prevention, 2001). These guidelines include “school-based physical education,” “individually adapted health behavior change,” and “creation of and enhanced access to places for physical activity combined with informational outreach activities” (Centers for Disease Control and Prevention, 2001). Adolescence, in particular, is a critical time for such interventions to take place, because childhood activity habits appear to persist into adulthood (Kelder et al., 1994). During this period of growth, many future health behaviors begin and thus encourages the opportunity for behavioral interventions focusing on positive health behaviors, such as physical activity (Clemmens & Hayman, 2004).

In accordance with recommendations for school-based interventions (Centers for Disease Control and Prevention, 2001) to begin during adolescence (Clemmens & Hayman, 2004), the Trial of Activity for Adolescent Girls (TAAG) was a six center group-randomized trial designed to test school and community interventions to reduce the decline in moderate to vigorous physical activity among middle-school girls.

### **Framework of TAAG**

This dissertation research is an ancillary study to TAAG conducted at the University of Maryland, College Park. (For a full description of TAAG, see Appendix A.) The TAAG intervention was based on a social-ecological model. This approach emphasized etiological explanations and behavioral theories that focused on considering physical activity from three domains: (1) individual or intrapersonal (biological, psychological, and behavioral influences), (2) social (family or peer

support), and (3) environmental (facilities, communities, accessibility) (Sallis & Owen, 1999).

Social-ecological models directly address the social and physical contexts for physical activity in order to optimize change. In TAAG, there was an emphasis on affecting not only individual behavior change, but also change in the broader environmental context (TAAG Steering Committee, 2004a). The establishment and degree of existence of certain environmental factors can heavily affect the level of physical activity in adolescent girls. The intervention at each of the six field centers was implemented in three different schools, thus potentially having different environmental responses due to the uniqueness of each intervention school.

### **Statement of Purpose**

For any intervention, it is important to conduct an extensive and sound process evaluation to determine if the intervention was implemented as planned. Public health interventions cover various strategies that address a range of topics that aim to change environmental or behavioral factors related to the outcome (Bartholomew et al., 1998). Evaluating an intervention is essential because researchers can gain information on determining why certain results occurred.

The present project entailed a process evaluation of the TAAG intervention at the Maryland field center. The purpose of the study was to explore how a physical activity intervention targeting girls was delivered and received in three disparate, middle schools in the Washington, DC and Baltimore metropolitan areas. Because each intervention school has a unique environment, factors that influence implementation and receptivity of TAAG may have varied by school. This study

explores the facilitating and inhibiting factors within each school setting, as well as examines differences between the schools.

Because TAAG is a multi-level, multi-site trial, an in-depth evaluation of the intervention at each of the three Maryland intervention schools can help to detangle how specific intervention strategies and activities were delivered and received in each setting. Previous process evaluations of physical activity interventions focused on how the intervention activities impacted the outcome variables (Clemmens & Hayman, 2004; Flores, 1995; Frenn et al., 2003; Gortmaker et al., 1999; Sallis et al., 2003). The current study concentrated on how the dynamics of the school environment and the behavior of the intervention participants impacted the implementation and receptivity of the intervention, which could influence the outcome results. The significance of the present research lies in identifying and understanding intrapersonal, interpersonal, and environmental factors that could help to explain the outcome results of TAAG. Additionally, the factors identified could be considered and used in the future by investigators when designing a school-based intervention for adolescent girls.

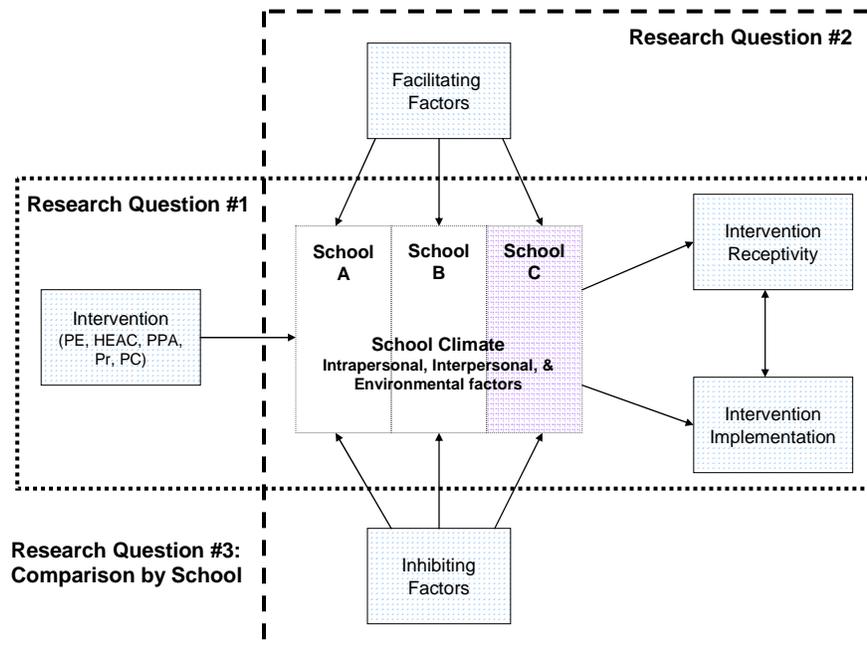
### **Theoretical Framework and Research Questions**

Using the social-ecological model as the underlying philosophy for the theoretical framework depicted below, this dissertation project aimed to answer the following research questions:

- 1) How were intervention activities implemented and received by the three intervention schools?

- 2) What factors facilitated or inhibited how the TAAG intervention was implemented and received in each intervention school?
- 3) How did the intervention activities pertaining to research question #1 and the factors discussed in research question #2 differ by school?

**Figure 1.1. Theoretical Framework of Dissertation Project**



### **Operational Definitions**

The following statements define process evaluation variables that are essential to answering the proposed research questions. These terms are further explained in Chapter 2.

**Dose:** The number or amount of intended units of intervention delivered.

Example: Number of TAAG lessons taught relative to how many were intended to be taught.

**Fidelity:** The extent to which the intervention was delivered as intended.

Example: Percent of TAAG lesson components that were completed.

**Implementation:** Refers to the amount and to the extent the intervention was delivered; represents dose and fidelity combined.

**Reach:** The extent to which the program was received by the targeted groups.

Example: Percent of girls who were taught TAAG physical education concepts or health education with activity challenges lessons.

**Receptivity:** Also referred to as “intervention received”; How the intervention was received; measured by reach.

### **Frequently Used Terms / Acronyms**

**HEAC:** Health Education with Activity Challenges

**PC:** Program Champion

**PE:** Physical Education

**PPA:** Programs of Physical Activity

**TAAG:** Trial of Activity for Adolescent Girls

## **Chapter 2: REVIEW OF LITERATURE**

### **Overview**

As stated briefly in Chapter 1, most school-age youth are not meeting the recommended guidelines of participating in 60 minutes or more of moderate-to-vigorous physical activity per day (Pate et al., 2006) and physical activity participation tends to decline with age, especially in adolescent girls (Kimm et al., 2000). This poses a unique opportunity for researchers to explore the factors that contribute to adolescent physical activity and to engage girls in behavioral interventions to reverse this trend.

Over recent years, many studies have examined this population with success of influencing physical activity levels. Although evaluation of the outcome, change in physical activity, has received a lot of attention, researchers have not been evaluating the strategies and methods of intervention implementation to the same extent. The following chapter details the overall public health issue of physical activity in adolescent girls and the importance of utilizing process evaluation research when evaluating interventions to unmask and explore factors that affect outcome results.

### **Background on Female Adolescent Physical Inactivity**

*The importance of physical activity.* Regular physical activity provides multiple health benefits (US Department of Health and Human Services, 2000). These benefits include reduction of CVD risk factors (Albright et al., 2000; Durstine et al., 2002; Hagberg et al., 2000) increased lean body and bone mass, reduced sleep disorders, and improved psychological well-being (US Department of Health and Human Services, 2000). Although most of these benefits have been documented in adult

populations, research suggests that habitual physical activity may also benefit children (Hagberg et al., 1983; Hager et al., 1995; Tolfrey et al., 2000).

***The importance of engaging adolescents in regular physical activity.*** Physical activity during youth is associated with multiple favorable health outcomes. Physical activity may positively affect adolescents in many areas, including increasing aerobic fitness, bone mass and HDL cholesterol (McKenzie et al., 1995); and reductions in CVD-related risks such as obesity (Bar-Or & Baranowski, 1994), low HDL cholesterol (Armstrong & Simons-Morton, 1994; Craig et al., 1996a), elevated blood pressure (Craig et al., 1996a), and components of the metabolic syndrome (Kahle et al., 1996). In addition, physical activity can improve mental health variables such as depression, anxiety, and self-esteem (Calfas & Taylor, 1994; Multrie et al., 1998). Although the results are not entirely consistent (Riddoch, 1998) and tracking of physical activity from youth to adulthood is often found to be limited (Riddoch, 1998), many of the health effects may also prove important for quality of life during youth itself.

***Physical activity trends in adolescents.*** Despite the benefits of regular physical activity, participation in physical activity has declined dramatically among U.S. youth (Centers for Disease Control and Prevention, 1997). The transition from childhood to adolescence is associated with a 34% decline in physical activity in girls (Kimm et al., 2000). Research consistently demonstrates that youth activity levels fail to meet recommended guidelines for physical activity participation (Pate et al., 2006) with a disparity between boys and girls. Data from the 2003 Youth Behavioral Risk Factor Survey indicated that female students (55%) were less likely than male students

(70%) to report vigorous physical activity (Centers for Disease Control and Prevention, 2004). Female students (75%) were also less likely than male students (85%) to exercise more than 20 minutes during PE classes (Centers for Disease Control and Prevention, 2004).

***Need to focus on middle school aged girls.*** Regardless of gender and age, physical activity is important for all individuals. However, girls are at higher risk for inactivity than boys (Centers for Disease Control and Prevention, 2004). Understanding the differences in physical activity behavior between gender groups requires an understanding of factors that predict those behaviors (Baranowski et al., 1998). It is known that some girls feel less competent to participate in physical activities, believe they have less behavioral control over their participation, perceive more barriers to participation in physical activity, and have different preferences in the types of physical activities they select than boys (Allison et al., 1999; Craig et al., 1996b). Additionally, there is a need to emphasize children, particularly girls, as “active social agents” (Morrow, 2001). Their relationships are worthy of being researched and studied because children play a tremendous role in shaping social and community structures and processes in which they are a part. “Research about children’s lives is...essential if policies and programs are to become more responsive and relevant to their concerns and needs” (Bogdan & Biklen, 1998).

The period of adolescence is a time of physical, psychological, cognitive, and emotional change within a variety of socio-cultural settings (Clemmens & Haymman, 2004), which can influence adolescent participation in physical activity (Sallis et al., 2000). Given that information, it is important not only to have interventions that

focus on girls, but to create sound plans to evaluate these interventions. When planning interventions, it is important to understand factors associated with physical activity in order to affect change.

### **Correlates of Adolescent Physical Activity**

As research on physical activity correlates has progressed, our knowledge of the contributing factors to adolescent physical activity have become more complex (Sallis et al., 2000). Youth physical activity is a perplexing behavior that is reliant on numerous factors (Sallis et al., 2000). Identifying influencing factors is essential in creating effective, physical activity intervention strategies (Craig et al., 1996b).

Consistent results indicate that several intrapersonal biological factors are related to adolescent physical activity. Boys are more active than girls (Ferguson et al., 1989; Pate et al., 1996; Perusse et al., 1989). Younger adolescents are more active than older adolescents (Bungum & Vincent, 1997; Butcher, 1983; Pate et al., 1996; Terre et al., 1990; Zakarian et al., 1994). Non-Hispanic whites are more active than other ethnic groups (Bungum & Vincent, 1997; Pate et al., 1996; Trost et al., 1997). However, socioeconomic status is unrelated to adolescent physical activity (Bungum & Vincent, 1997; Fuchs et al., 1988).

The intrapersonal psychological variables consistently and positively related to adolescent physical activity are achievement orientation (Pate et al., 1996; Terre et al., 1990), perceived competence (Biddle & Armstrong, 1992; Ferguson et al., 1989), and intention to be active (Reynolds et al., 1990). The findings for self-efficacy and enjoyment of PE are not as congruous. Barr-Anderson et al. (forthcoming) and Zakarian et al. (1994) found both self-efficacy and enjoyment of PE to be associated

with physical activity in adolescents. Trost et al. (1997) found these two factors not associated with adolescent physical activity.

Previous physical activity (DiLorenzo et al., 1998; Reynolds et al., 1990) and participation in community sports (Bungum & Vincent, 1997; Trost et al., 1997) are intrapersonal behavioral variables positively associated with adolescent physical activity. Sedentary behavior after school and on weekends is negatively associated (Terre et al., 1990).

Interpersonal social factors, parental support (Butcher, 1983; Perusse et al., 1989) and sibling physical activity (Aarnio et al., 1997; Perusse et al., 1988; Perusse et al., 1989) are positively associated with adolescent physical activity. Parent modeling, teacher support or modeling, and peer modeling are not associated with the outcome (DiLorenzo et al., 1998; Trost et al., 1997; Zakarian et al., 1994).

The physical environmental factor, opportunities to be physically active, is positively associated with adolescent physical activity (Gentle et al., 1994), but availability of equipment is unrelated (DiLorenzo et al., 1998; Zakarian et al., 1994). The intrapersonal, interpersonal, and environmental correlates outlined above were examined in diverse populations of adolescent boys and girls in longitudinal and intervention studies and are of particular interest because they were investigated in the present study.

Although most of the relationships of the correlates to adolescent physical activity are well-grounded in literature, detangling how these factors interact with each other to influence physical activity is complex. As the science of physical activity correlates in adolescents continues to emerge, the need to complete thorough

process evaluation research is pertinent – to shed light on what factors are influencing adolescent physical activity and what actions and behaviors during an intervention can influence the correlates.

In recent years, the emergence of interventions and programs to increase physical activity in adolescent girls has made it crucial for substantial evaluation of the implementation strategies and methods to be established. Working with this emerging population introduces situations and issues not previously encountered. It is pertinent for current investigators of this research arena to document and transmit useful information to other investigators to increase success of future physical activity programs.

### **Interventions for Adolescents that Included Physical Activity**

For many years, the need to increase physical activity in adolescents has been a public health priority in the United States (US Department of Health and Human Services, 2000). In the 1980s and early 1990s, several school-focused physical activity interventions emerged examining this special population. Various strategies were utilized to affect change. At that time, outcome evaluation gained significant attention compared to process evaluation. The studies outlined below highlight their outcome results with little, if any, information available on process evaluation. Despite the lack of process evaluation, these studies lend important information for future studies. Using lessons learned on the design and outcomes of the interventions can help to better create future projects.

From 1980-1993, the Minnesota Heart Health Program (MHHP) was a multi-component, school and community-based physical activity program. Within this

program, the Class of 1989 study emerged focusing on 1342 boys and girls in grades 8-12 (Kelder et al., 1993). Strategies included risk screening for cardiovascular disease, health education from experts and the mass media, and nutrition labeling on food in restaurants and grocery stores that students received indirectly as part of the community. Outcome evaluation revealed that females in the intervention group had significantly greater physical activity scores in 8<sup>th</sup>, 9<sup>th</sup>, and 11<sup>th</sup> grades. By 12<sup>th</sup> grade, they were exercising 48 minutes longer than the control group. Results also suggested that among female adolescents, behavioral education in schools and community-wide strategies could create improvement in physical activity.

Dance for Health, a randomized controlled physical activity intervention with a culturally appropriate and sensitive health curriculum, targeted 110 low-income African American and Hispanic adolescents aged 10-13 years from 1990-1993 (Flores, 1995). The thrice weekly, 50 minute per session, 12-week program resulted in a significant decrease in body mass index and improved fitness levels of the girls in the intervention group. Girls also experienced favorable changes in attitudes toward physical activity.

In the mid- to late 1990s, Planet Health was a school-based randomized controlled trial of 1295 ethnically diverse boys and girls in grades 6-8 in Massachusetts (Gortmaker et al., 1999). Major outcomes focused on decreasing obesity by increasing consumption of fruits and vegetables and moderate and vigorous physical activity and decreasing television time consumption of high-fat foods. This intervention successfully reduced television viewing time in girls

(especially African American girls), which predicted the reduction of obesity in all girls. However, physical activity level was not affected.

From 1997-1999, Sallis et. al (2003) completed a randomized controlled nutrition and physical activity intervention with 24 middle schools in California. The intervention was based on an ecological model designed to change school policies and environment. Context, structure, and teacher's behavior in PE class and increasing physical activity choices were targeted. Results found that changing school policies produced a significant increase in physical activity in boys but not girls. Researchers noted that an improved understanding of adolescent girls' physical activity barriers and preferences is needed to better tailor interventions to girls' specific needs.

These studies utilized a mixed gender population and made great strides in trying to reverse the physical inactivity in adolescent populations. The literature is rich with interventions that involve physical activity. Similar to the studies outlined above, some influenced physical activity levels and some did not. Reasons for these inconsistencies are unclear; however, the lack of evaluation has made it difficult to determine the specific aspects of the program responsible for success or failure (Tones, 1996). With the increasing level of complexity in behavior modification interventions, it is becoming more pertinent for researchers to disentangle and identify factors that influence the effectiveness of the intervention through process evaluation (Linnan & Steckler, 2002).

## **Process Evaluation of Public Health Interventions**

“Improving and sustaining successful public health interventions relies increasingly on the ability to identify key components of an intervention that are effective, to identify for whom the intervention is effective, and to identify under what conditions the intervention is effective” (Linnan & Steckler, 2002). Process evaluation is the method utilized to document how well an intervention is implemented as intended, which is paramount to evaluating trial goals (TAAG Steering Committee, 2004a). This form of evaluation offers the potential to monitor and assure quality of intervention implementation, and provides information on the depth and breadth of program implementation, contamination of the control group, and secular trends. If primary outcomes are not achieved, process evaluation data can provide information on the extent to which the intervention was implemented as intended, whether the target group actually participated in the intervention, and whether there were other similar programmatic efforts occurring in the environment that lessened the intervention impact (McGraw et al., 1994; TAAG Steering Committee, 2004).

The need for stringent process evaluation methods has increased over recent years (Linnan & Steckler, 2002). Many projects are often implemented at multiple locations, on multiple levels, and to multiple audiences. Because of this complexity, it is important to document if the planned interventions are carried out equally at each level of influence (Linnan & Steckler, 2002). Determining what factors might be responsible for variability in success of the intervention in different environments is contingent on the collection of good process evaluation data (Ammerman, 2002).

Process evaluation can also provide important insights into understanding and improving theory-based interventions. More and more, interventions are rooted in theory; understanding how the various theoretical constructs do or do not produce successful change is key to refining theory and improving intervention effectiveness (Linnan & Steckler, 2002). Additionally, process evaluation helps researchers understand the relationships between selected intervention or program components (Linnan & Steckler, 2002) and coupling this information with analysis of outcome data can further provide information for the program's management and extended development (Marcoux et al., 1999).

Process evaluation is not a new concept and can be documented back to the 1960s (Linnan & Steckler, 2002). Despite this, there has been lack of consistency in defining key process evaluation components and outlining the systematic process for planning and developing a process evaluation effort. To address this issue, Baranowski and Stables (2000) created a list of components that is currently highly utilized by public health researchers when conducting process evaluation research. The key components outlined are recruitment, maintenance, context, resources, implementation, reach, exposure, initial use, continued use and contamination.

- *Recruitment:* Attracting agencies, implementers, or potential participants to participate in corresponding parts of a program
- *Maintenance:* Keeping participants involved in the programmatic and data collection aspects of a program
- *Context:* Aspects of the environment of an intervention

- *Resources:* The materials or characteristics of agencies, implementers, or participants necessary to attain project goals
- *Implementation of program:* Extent to which the program was implemented as designed
- *Reach:* Extent to which the program contacted or was received by the targeted group
- *Exposure:* The extent to which participants viewed or read the materials that reached them
- *Initial use:* Extent to which a participant conducted activities specified in the materials
- *Continued use:* Extent to which a participant continued to do any of the activities
- *Contamination:* Extent to which participants received interventions from outside the program; extent to which the control group received the treatment

Linnan & Steckler (2000) added dose delivered, dose received, and fidelity to the above list for an even more comprehensive list of process evaluation components.

- *Dose delivered:* The number or amount of intended units of each intervention or each component delivered or provided
- *Dose received:* The extent to which participants actively engage with, interact with, are receptive to, and/or use materials or recommended resources; assesses the extent of engagement of participants with the interaction

- *Fidelity*: The extent to which the intervention was delivered as planned; it represents the quality and integrity of the intervention as conceived by the developers

Process evaluation is an important component of evaluating interventions (Baranowski & Stables, 2000) and copious information can be gained from its completion. These data can be used to answer important questions that enhance the understanding of how and why public health interventions work (Linnan & Steckler, 2002). This results in positive implications for both research and practice.

### **Process Evaluation of Adolescent Physical Activity Interventions**

The level of process evaluation that is planned and implemented varies from project to project. Basic process evaluation strategies evaluate whether the program is being carried out as intended and reaching the expected audience. This level of evaluation can help investigators start to explain intervention effects and provide valuable information for the design of future interventions. As process evaluation science and methods become more advanced, researchers can use additional data collection to understand what may have occurred throughout the intervention to explain the outcome results. However, currently, there are gaps in type and depth of process evaluation data that physical activity interventions utilize. Reasons for this include budget restrictions (Young et al., forthcoming), resource limitations (Pate et al., 2003), and research priorities (Linnan & Steckler, 2002). Because of these limitations, programs that do engage in process evaluation research vary in methods and approaches. The following section outlines multiple process evaluation strategies

incorporated by school-based interventions with a physical activity component in youth. These particular studies helped to inform the current investigation.

One of the first randomized controlled nutrition and physical activity trials for children and adolescents to include an extensive process evaluation component was Child and Adolescent Trial for Cardiovascular Health (CATCH) (Edmundson et al., 1994; Elder et al., 1994; Johnson et al., 1994; Lytle et al., 1994; McGraw et al., 1994; McKenzie et al., 1994; Raizman et al., 1994). CATCH was a multi-site, 3-year effort with four major components including classroom curriculum, physical education (PE), food service program, and family program. Using a combination of 23 quantitative questionnaires, participation tracking forms, observations, and checklists, the process evaluation for each of the components was designed to assess dose, fidelity, program context, and factors mediating the impact on study outcomes.

Dose and fidelity assessments were high for CATCH PE. Over 90% of PE specialists participated in the training sessions. However, the classroom teacher participation substantially decreased from 73.9% in year one to 53.2% in year two. PE dose assessed that intervention school students received over 100 minutes of PE per week (not significantly different from control schools). Measured as fidelity, the mean percentage of minutes of PE spent in moderate to vigorous physical activity (MVPA) in the intervention schools increased from 37.4% to 51.8% over the three years (compared to 44.3% in the control schools in year three). Classroom teachers taught more than 86% of the lessons without modification, exceeding CATCH activity goal of 80%. Program implementation was also high for dose and fidelity for the other program components (Edmundson et al., 1994; Elder et al., 1994; Johnson et

al., 1994; Lytle et al., 1994; McGraw et al., 1994; McKenzie et al., 1994; Raizman et al., 1994).

Despite the high levels of program implementation, namely dose and fidelity, the intervention did not significantly change the students' physical activity level. Vigorous physical activity in PE class was significantly higher in the intervention schools (intervention mean=58.6 minutes compared to control mean=46.5 minutes,  $p<0.003$ ), but the intervention did not significantly increase a secondary outcome, the total number of reported minutes of daily physical activity (intervention mean=145.5 minutes compared to control mean=154.8 minutes) (Luepker et al., 1996). Authors speculated that the dose, although high, and the fidelity, which was consistent with what was intended, may not have been great enough to affect overall change in physical activity. The intervention may have needed more activities, such as classroom lessons, parental involvement opportunities, or PE time, to influence the physical activity outcome (Perry et al., 1997). Even with the extensive process evaluation, the question of how much intervention was needed to affect change in the outcomes of interest was left unanswered.

Pathways was a multi-site, 3-year school-based intervention designed to lower percent body fat in American Indian children grades 3-5 (Davis et al., 1999). With four major components to address behavioral and environmental factors related to students' dietary and physical activity behaviors, Pathways included an extensive process evaluation component (Steckler et al., 2003). Addressing reach, extent, and fidelity, 18 process evaluation instruments were collected regarding classroom curriculum, physical activity, food service, family, and student exposure. Mostly

quantitative, survey data were collected from teachers, students, food service staff, and family members. To supplement the survey data, qualitative interviews were conducted with teachers and food service staff. These interviews focused on problems teachers and/or food service staff encountered that interfered with the implementation of the intervention program.

The process evaluation findings for Pathways were overwhelmingly positive (Steckler et al., 2003). There was high extent and fidelity of implementation of the classroom curriculum; over 90% of lessons were taught over the three-year intervention. The high reach, extent, and fidelity of the classroom teacher training (over 90% for all measures) indicated the effectiveness to equip teachers to implement the curriculum to students. Pathways schools were able to increase the minimum requirement of PE for at least 30 minutes three times a week, a measure of high extent and fidelity for that PE goal. However, only moderate extent and fidelity were reached in the suggested goal of teaching PE five times per week; this goal was only achieved half of the time. With high implementation, all planned family events were held, however less than 50% of adults participated.

The process evaluation findings for Pathways corroborated the attitudinal outcome results in girls. By year three of Pathways, girls in the intervention reported more positive food choices (0.27 vs 0.12,  $p=0.001$ ), physical activity self-efficacy (0.13 vs. 0.06,  $p=0.014$ ), and weight-related knowledge (0.36 vs. 0.21,  $p=0.001$ ) than students at the control schools (Stevens et al., 2003). Data are represented as knowledge, attitude, and behavior scale scores ranging from 0 (least healthy) to 1 (most healthy) for intervention girls versus control girls. However, no significant

difference was found for overall physical activity measured using Tritrac accelerometers. With a trend for greater physical activity in PE class, intervention students were 7-10% more active than control students (Going et al., 2003).

Similar to CATCH, Pathways significantly influenced some factors in the intervention group, but not the physical activity outcomes. High implementation of the program components did not shed much insight on which events or experiences may have contributed to the lack of effect on physical activity levels. More intervention strategies may have needed to be implemented. Input from students could have been beneficial to help detangle this issue. Students completed short, process evaluation questionnaires regarding attendance at a family physical activity or nutrition event and their knowledge, attitudes, and practices in nutrition and physical activity. No in-depth data were collected. Focus groups or interviews with the students inquiring about their response to the intervention and strategies could have yielded useful information to address why the intervention did not significantly increase physical activity in this population.

Sport, Play, and Active Recreation for Kids (SPARK) was a 2-year school-based physical activity promotion intervention for elementary school students in grades 4-5 (Marcoux et al., 1999; Sallis et al., 1997). The intervention was divided into physical activity and self-management curricula components. The experimental conditions were PE specialist-led, classroom teacher-led, or control. The self-management curriculum component was designed to “promote maintenance and generalization of physical activity through the teaching of skills such as self-monitoring, goal-setting, self-reward, self-talk, activity planning, and problem

solving”. Process evaluation of the self-management curriculum was conducted as a five-part assessment that involved teachers, parents, and students. Using a mixture of quantitative and qualitative data collection methods (i.e., direct observation, participation records, subjective ratings, surveys, and behavioral outcomes), the process evaluation revealed strengths and weaknesses in the self-management component that helped to explain the ineffectiveness of the program to increase out-of-school physical activity in this population (Sallis et al., 1997).

Only 63% and 67% of the self-management curriculum was implemented by classroom teachers and PE specialists, respectively. Parental involvement in the program was low, resulting in low reach to parents. Less than 70% of parents signed their child’s goal sheet and only 26.3% reported having read the weekly newsletters. Additionally, the level of parental support for child activity (approximately 25%) did not differ from baseline to the end of the intervention.

Teachers reported being generally pleased with the physical education component of the intervention, but also expressed several concerns about the self-management component – the skill training approach, repetitive curriculum, philosophical disagreements on the reward system for being physically active, and promotion of outside of school physical activity because so many students are already active. These concerns potentially decreased the teachers’ willingness to teach the curriculum thus decreasing the level of implementation by lowering dose and fidelity.

The primary physical activity outcome for SPARK was the accelerometer. There were no significant group differences in girls (PE specialist-led mean=6.94 counts/hour, classroom teacher-led mean=7.56 counts/hour, and control mean=7.86

counts/hour,  $p=0.09$ ). These results were not surprising considering the self-management component of SPARK was not highly implemented.

As previously described, the Middle School Physical Activity and Nutrition (M-SPAN) study utilized environmental, policy, and social marketing intervention strategies over a two-year period to increase physical activity and decrease fat intake (McKenzie et al., 2004). Each year, approximately 25,000 ethnically and socio-demographically diverse boys and girls in 24 California public middle schools were involved in the intervention. Limited, quantitative process evaluation data (four measures) were collected throughout the study to assess quality of the intervention and acceptability. At baseline and at year two, students anonymously completed a short questionnaire inquiring about enjoyment of PE class and attendance to PE class. Teachers anonymously completed a survey evaluating the quality of PE staff development session and the usefulness of the content covered. At the end of year two, teachers also completed a questionnaire designed to assess teacher satisfaction with each M-SPAN PE component.

The process evaluation data suggested that students and teachers had a positive response to the intervention (McKenzie et al., 2004). Students reported high levels of enjoyment (data not given) and attendance in PE class (mean=4.7 days/week), which influenced reach. Teachers reported high levels of usefulness for the content of the group staff development sessions (4.8 on a 5-point scale) and positive feelings about the overall intervention (5.9 on a 7-point scale). Both potentially affected the teachers' level of intervention implementation (dose and fidelity). However, the process evaluation data were very limited, and did not explain

study outcomes. M-SPAN increased physical activity during PE class by 18% for boys but not girls (Sallis et al., 2003). As discussed previously, increasing activity in adolescent girls is of public health significance. A more in-depth process evaluation of M-SPAN could have focused on girls' perceptions of the intervention. Intervention strategies specific to girls (i.e., activities preferred by girls, single-sex activities, and different motivational and instructional techniques) could have been explored to inform future girl-focus interventions.

Active Winners was a community-based physical activity intervention for students in grades 5-7. Over an 18-month period, it included after-school and summer physical activity programs, as well as home, school, and community components to increase physical activity (Pate et al., 2003). A large component of Active Winners was its in-depth process evaluation, which documented planning, developing, and implementing the intervention. Methods used in this process evaluation included student participant records, student surveys, staff surveys, staff focus groups, and staff interviews. The intervention did not result in significant differences in the number of 30-minute blocks of moderate to vigorous physical activity (MVPA) or vigorous physical activity (VPA) between the intervention and comparison groups. Baseline, mid-intervention, and post-intervention number of blocks for MVPA were 2.4, 2.4, and 2.1, respectively, for control and 2.0, 2.1, and 1.8, respectively, for intervention (group\*time p-value=0.74) and number of blocks for VPA were 1.4, 1.4, and 1.1, respectively, for control and 1.1, 1.4, and 1.1, respectively, for intervention (group\*time p-value=0.43)

Through the extensive process evaluation, the Active Winners staff identified key issues that interfered and contributed with their outcome results (Pate et al., 2003). The process evaluation revealed infrastructural issues that affected dose, fidelity, and reach: intervention staff hiring, transportation for student participants, the use of peer leaders, implementation of the intervention, and lack of ownership of the program by community persons. Strengths and limitations related to program procedures and implementation of the intervention were also exposed. All of this information would have been unknown without the thorough process evaluation. Issues and topics were identified related to the extent the intervention was implemented as planned, the extent the participants were exposed to the intervention, whether the program adhered to the theoretical model and underlying philosophy, and to the extent the program components were implemented.

The investigators received practical tips and strategies from the process evaluation that could be applied and considered by future research studies. The process evaluation identified specific issues that resulted in non-significant outcome results (Pate et al., 2003). The intervention was not implemented as designed and did not reach the intended target audience. The process evaluation revealed that the after-school component was implemented as planned, but not the remaining school, home, and community components. Active Winners failed to consider and deal with social and cultural context of the intervention. This was uncovered by social barrier related to lack of friend participation as the primary reason for the lack of continued participation in the program. The process evaluation also recognized the lack of

resources and short time span of the intervention as hindering factors to the success of the intervention.

The thorough process evaluation for Active Winners disclosed extensive data on the successes and fallacies in the actual process of the intervention implementation, but did not address in-depth perceptions of the student participants that could have even further informed future research.

### **Conclusion**

Process evaluation is an essential component of any reputable research project. The information gained can prompt investigators to answer important questions that affect the outcome of the intervention (Pate et al., 2003) or shed light on factors affecting the participants, which in turn affect the outcome.

The process evaluation methodologies described in the previous section varied in strategies and approaches. Lessons learned, as well as research disparities, have been identified to inform future process evaluation endeavors. As a way to begin streamlining process evaluation strategies and bringing congruity to this field, Baranowski and Stables (2000) have outlined a plan for future process evaluation research. This plan includes (1) determining which process evaluation components are the most important to address; (2) developing consistent definitions of process evaluation concepts to allow for comparability of results across studies; (3) assessing both quantity and quality of implementation; (4) conducting more methodologically-oriented research to identify valid and reliable methods; and (5) relating process evaluation components to intervention mediators and study outcomes.

The comprehensive process evaluation approach used for TAAG parallels Baranowski and Stables' (2000) research agenda. Using portions of the TAAG process evaluation methodology established by some of the top experts in process evaluation research, the present study extends previous quantitative methods with in-depth qualitative methods to explore the perceptions of not only adults, but student participants of a large scale intervention trial.

## Chapter 3: METHODS

### Overview of Study Design

The present study used a mixed methodological approach to comprehensively examine social-ecological factors that influenced implementation and receptivity to the TAAG intervention in each of the three school settings in Maryland. Utilization of qualitative data can help to interpret the quantitative findings and evaluate an intervention (Ulin et al., 2005). Quantitative, process evaluation data collected throughout the intervention phase of TAAG were combined with focus group and in-depth interviews collected at the end of the active intervention phase. At each of the three participating Maryland TAAG intervention schools, three focus groups with 6<sup>th</sup> or 8<sup>th</sup> grade girls and a various number of in-depth interviews with adult school staff, community partners, and TAAG university staff, all of whom were key implementers of the TAAG intervention, were conducted.

The process evaluation data gave a surface level understanding of the dose, fidelity, and reach of the TAAG intervention at each of the participating schools. Focus group and in-depth interview questions were framed within the social-ecological model and designed based on issues/topics covered in the process evaluation data. These questions probed the thoughts and perceptions of students and adults to gain a more global view and deeper understanding of how or why the intervention impacted their environment. These questions were oriented to probe the participants on individual, social, and environmental level variables to parallel with a social-ecological model, the underpinning philosophy of TAAG. These data directly addressed the outlined research questions for this study.

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### **Description of Sample**

Public middle schools with grades 6-8 in Montgomery and Baltimore Counties, Maryland with the majority of the students enrolled living in the community served by the school were eligible to become a TAAG school. Exclusion criteria for the schools were 1) unwilling or unable to respond to and report medical emergencies that may occur on school grounds or during student participation in school-sponsored activities; 2) plans to close or merge with another school within three years; 3) fewer than 90 girls in the 8<sup>th</sup> grade; 4) expected transience rate  $\geq 28\%$  in any given year or  $\geq 35\%$  over two years; 5) does not offer physical education each semester for all grades; 6) fewer than two (year-round schools) or three (semester-based schools) physical education classes per week; and 7) participation in pilot testing of TAAG study materials (Stevens et al., 2005).

***Intervention Schools.*** All participants for the present study were affiliated with one of the three intervention schools involved with TAAG at the Maryland field center. These three schools exhibit social and racial diversity, as well as unique instructional practices key to the TAAG intervention.

**School A.** School A is located in a suburban area of Baltimore County. The school's population was majority White with an average of 25% of students who received subsidized lunch over the two years of the TAAG intervention. For the first year of

the intervention, School A had co-educational PE and health education classes. At the beginning of intervention year two, this school transitioned to gender-specific PE classes for 8<sup>th</sup> grade students only.

School B. Located in Montgomery County, School B had a racial make-up of approximately 30% non-Hispanic White, 30% African American, 30% Hispanic, and 10% Asian. A little over 40% of the students received subsidized meals. School B is also a magnet school, in which some of the students (mostly non-Hispanic White and Asian) chose to attend this school because of a special media technology program. The African American and Hispanic students were more likely to live in close proximity of the school. School B had co-educational PE and health education classes during the two years of the intervention.

School C. School C is located just outside the Baltimore City limits in Baltimore County with a student population of approximately 60% African American. Fifty percent of this school's population received free or reduced lunch. School C offered a single sex PE and HEAC environment for their students during the two years of the intervention.

***Participants.*** Since the study was seeking to explore specific factors that influenced the TAAG intervention, a purposeful sampling technique was used to recruit participants (Bogdan & Biklen, 1998). Participant selection included randomly chosen 6<sup>th</sup> and 8<sup>th</sup> grade girls who attended one of the intervention schools and adults who were trained to implement the intervention. The adult participants consisted of intervention school PE and health education staff, PPA committee members, and TAAG Program Champions, in addition to TAAG university staff who

were involved with PE, HEAC, PPA, or Program Champions intervention components. Gaining access to the participants via the school gatekeepers was facilitated by the extensive and continuous work completed by the researcher in the intervention schools.

*Selection of student participants.* Focus groups at the intervention schools were conducted with 6<sup>th</sup> and 8<sup>th</sup> grade girls. Participants were selected with the goal of recruiting girls with diverse opinions of TAAG. Eighth grade girls were chosen to participate in the focus groups because the TAAG intervention targeted this cohort of girls and followed them from the beginning to end of middle school. Sixth grade girls were chosen based on preliminary findings of TAAG process evaluation results (TAAG Steering Committee, 2004b). Data collected during intervention year one suggested grade level differences in participation of TAAG programs. During the 2003-2004 school year, of the 34 total programs offered at the three intervention schools at the Maryland field center, there was an average of four 6<sup>th</sup> grade girl participants for every one 8<sup>th</sup> grade girl participant per program. From PPA activity log sheets, 6<sup>th</sup> graders were most likely to participate and 8<sup>th</sup> graders were least likely to participate in PPA programs. Participation trends were similar for the 2004-2005 school year. To investigate these grade differences, focus groups with younger girls (6<sup>th</sup> graders) were conducted.

A total of nine focus groups were held; three at each of the three intervention schools. Because 8<sup>th</sup> grade girls had been exposed to TAAG PE and HEAC in classroom settings, criteria for inclusion of focus group participation were based on the girl's level of voluntary participation in TAAG PPA activities. Using attendance

log sheets collected from each PPA after-school activity, 15 8<sup>th</sup> grade girls with the highest attendance to PPA programs (attended more than five activity sessions) were randomly selected to participate in a focus group from each intervention school (labeled as ‘8<sup>th</sup> grade active in PPA’ group). To gain insight on the reason for lack of involvement in PPA activities, an equal number of 8<sup>th</sup> grade girls who did not participate in any PPA programs were randomly selected to participate in a separate focus group (labeled as ‘8<sup>th</sup> grade not active in PPA’ group’).

Similar guidelines were used to select the 6<sup>th</sup> grade focus group participants. Because no intervention activities specifically targeted this cohort of girls, only one focus group was conducted per intervention school. To have a mixture of active and non-active 6<sup>th</sup> grade girls, eight girls who attended more than five PPA sessions and eight girls who did not attend any PPA sessions were randomly selected to participate in the focus group. The following table displays additional details on the involvement of girls in the focus groups.

**Table 3.1 Focus Group Attendance by Intervention School**

	# of invited girls	# of girls who turned in consent form	# of girls in attendance	% participation
<b>School A<sup>1</sup></b>				
8 <sup>th</sup> grade active <sup>2</sup>	15	10	5	33%
8 <sup>th</sup> grade non-active	15	7	5	33%
6 <sup>th</sup> grade <sup>3</sup>	16	5	3	19%
<b>School B<sup>4</sup></b>				
8 <sup>th</sup> grade active	15	11	9	60%
8 <sup>th</sup> grade non-active <sup>5</sup>	15	6	4	27%
6 <sup>th</sup> grade	16	9	8	50%
<b>School C<sup>4</sup></b>				
8 <sup>th</sup> grade active	15	11	10	67%
8 <sup>th</sup> grade non-active	15	12	12	80%
6 <sup>th</sup> grade	16	12	11	69%

<sup>1</sup> At School A, the administration would not allow for the focus groups to be held during school hours. Overall attendance was low compared to other schools, because many of the invited girls could not stay after school (due to lack of transportation home).

<sup>2</sup> This focus group was initially scheduled after school from 3-4pm but school was dismissed an hour early due to high heat index. The focus group was then rescheduled from 2-3pm. Ten girls had turned in consent forms, but due to the early dismissal, only five girls attended.

<sup>3</sup> Attendance for 6<sup>th</sup> grade focus group at School A was extremely low because this focus group had to be rescheduled. On the original date set for the focus group, school was dismissed early (due to high heat index) and all after-school activities were cancelled. The researcher was able to arrange with the administration for the make-up session to be held during school hours, but girls were notified with little notice. Many of the girls could not participate due to lack of signed parental consent forms.

<sup>4</sup> Focus groups at School B and School C took place during school hours resulting in fewer barriers for the girls to attend and a higher participation rate compared to School A.

<sup>5</sup> Attendance for 8<sup>th</sup> grade non-active focus group was lower than intended because half of the girls were on an end-of-the-year field trip. Due to scheduling difficulties, it was not possible to reschedule to a day when the absent girls would have been present.

*Selection of school staff and community partners.* School staff and community partners participated in one-on-one interviews and were personally invited based on their role in the TAAG intervention. All PE, HEAC, and Program Champions were interviewed specifically on the component in which they participated. At least one adult from each school involved in PPA (who was not a Program Champion) was selected based on his/her attendance at PPA committee meetings. Some were interviewed on more than one TAAG component due to

multiple TAAG responsibilities. Of the twenty adults invited to participate in the interviews (7 from School A, 8 from School B, and 5 from School C), only one was not interviewed. A community person involved with PPA at School C was unable to be reached. This person played a limited role in the implementation of TAAG at School C and after several weeks, the researcher felt it was acceptable to discontinue efforts to make contact.

*TAAG university staff.* In-depth interviews were conducted with TAAG intervention staff whose main responsibilities focused on any of the four components of TAAG (PE, HEAC, PPA, or promotions). Four TAAG university staff members were invited for an interview and all accepted.

### **Data Collection**

Sources of data for the present study included quantitative process evaluation data, student focus groups, and interviews with school staff, community partners, and TAAG university staff. The process evaluation data provided empirical information on the extent mandatory components of the intervention were delivered and received from and by TAAG staff to adult school staff to students. The qualitative data collection focused on gathering information on factors that affected the delivery and receptivity of the mandatory components that otherwise could not be fully explored using close-ended inquiries.

### **Qualitative Data Collection**

The overarching goal of the focus groups and one-on-one interviews was to explore the girls' and adults' perception of TAAG to uncover individual, social, and environmental factors that influence how the intervention was implemented and

received. This method of data collection is essential for answering research question #2 (*What factors facilitated and inhibited how the TAAG intervention was implemented and received in each intervention school?*). The quantitative, process evaluation data identified the factors that affected the implementation and reach of the TAAG intervention at each of the intervention schools. However, the information gained from the qualitative data collection allowed the researcher to probe the thoughts and perceptions of adults and students to gain a deeper understanding of how and/or why their environment impacted the implementation of the intervention. This deeper level of information helped to paint a complete picture/story of the intervention and its interaction(s) within each unique school environment.

***Focus groups.*** These sessions were held in a neutral, but private location in the school. All focus groups were audio taped and transcribed. In order to participate in the focus groups, a signed informed consent form from a parent or guardian and a signed assent form from the student were required. Prior to the start of the focus group, each girl completed a demographic profile sheet (Appendix E). Each focus group lasted approximately 1 hour (de Leeuw et al., 2002). The girls were compensated for their time with \$10 worth of movie theater vouchers.

***Facilitator.*** The facilitator for all nine focus groups was a female TAAG university staff member with experience in moderating focus groups. Being project coordinator of TAAG, the facilitator was knowledgeable about the intervention but had limited contact with the students at the intervention schools. She and the researcher met prior to the first focus group to discuss the questions and review the format of the sessions.

**Notetaker.** Four University of Maryland students served as notetakers for this study. Two served as primary recorders and the other two were alternates. Each notetaker completed a thorough training detailing the key principles of a focus group, rules/regulations, and the focus group questions. A training guide based on recommendations from Neutens & Rubinson (2002) and McDermott & Sarvela (1999) was created and distributed to the notetakers. See Appendix E for complete training guide. Only one notetaker participated in each focus group. In addition to taking notes on the dialogue during the focus group, the notetaker also completed a data management sheet detailing the conditions during the focus group (Appendix E).

**Researcher.** The researcher played a passive role during the focus groups. She was present for all focus groups to assist with taking notes, but otherwise, did not participate in the discussions.

**Focus group questions.** The structure of all interview questions was open-ended to help stimulate conversation (Creswell, 2003). They were constructed to be simple in language and used terms consistently to decrease ambiguity (Fowler, 1995). Questions were worded from a neutral perspective to avoid influencing the participant's responses (Converse & Presser, 1986).

To assist in the flow of the focus groups, a guide was developed based on recommendations from Ramirez and Sheppard (1988) and TAAG formative assessment focus group guides. The guide outlined the procedures for conducting the focus groups, as well as main and probing questions. The introduction contained important information about the purpose of the group discussion and ground rules to

share with the participants. A warm-up activity was included to help create a comfortable environment that promoted discussion.

Questions were structured to inquire about the girl's general perspective on TAAG followed by specific questions about PPA, PE, HEAC, and Promotional activities. Sixth grade girls were not asked about HEAC and Promotional activities since they were not the targeted audience for those TAAG components.

On the notetaker's version of the focus group guide, there was space after each question to take notes in case the recording device failed. The facilitator was not encouraged to take notes, but to focus on the flow and content of the discussion. A summary was included to remind the facilitator to thank the participants and distribute gifts. At the end of each focus group, the facilitator, notetaker, and researcher debriefed and recorded any outstanding events and other information that occurred during the discussion they felt was important and relevant to the information collected.

*School staff and community partners interviews.* One-on-one interviews were conducted in a private location. A few weeks prior to the interview, the adult participants were sent an overview of the purpose of the interview via email and were asked to start thinking about possible topics/issues they would like to discuss with the researcher during the interview.

Prior to the start of the interview, each participant reviewed and signed the informed consent and was asked whether or not he or she felt comfortable having the interview audio taped, because sensitive questions regarding their feelings towards TAAG were asked during the interview. No participant declined for the interview to

be recorded. The interviews lasted from 25-75 minutes and participants received \$20 as a compensatory gift for their time.

**Researcher.** The researcher conducted all interviews, which ran smoothly. Due to her close relationship with the interviewees, objectivity may have suffered resulting in bias. Further details about the role of the researcher are discussed in Chapter 7.

**Interview questions.** The construction of the interview questions followed the same guidelines outlined for the focus group questions – open-ended, simple consistent language, and neutral point-of-view (Converse & Presser, 1986; Creswell, 2003; Fowler, 1995). To assist in the flow of the interview, an interview guide was created based on recommendations from Creswell (1998) and was structured similarly to the focus group guide with an introduction, review of rules, general and probing questions, and conclusion. Questions were structured to inquire about each adult's general perception of TAAG followed by specific questions about PE, HEAC, PPA, and Program Champion. Interviewees were only asked questions relevant to their involvement with TAAG. See Appendix F for complete adult participant interview guide.

**TAAG staff interviews.** Each interview was held in a private room at the TAAG office in Baltimore or College Park. Four TAAG staff members were asked questions specific to the TAAG component(s) in which she was involved. TAAG staff members did not receive a gift for participating in the interview. The interview questions and guide were constructed similarly to the questions and guide for the

school staff and community partners. See Appendix G for complete TAAG staff interview guide.

After each focus group and interview, the researcher noted any nonverbal behavior of the participants that could affect the data content. She also reflected on her experience, examining her role that could potentially affect the content of the data and findings (i.e., leading questions, level of familiarity with the participants, interpreting the data that are present and not what the researcher assumed should be present, remaining open to new themes and concepts emerging).

### **Quantitative Data Collection**

Process evaluation research for TAAG was scientifically based and designed to take a broad approach. It was planned to be consistent with the purposes outlined by Baranowski and Stables (2000) and Linnan and Steckler (2002) while remaining in the scope of available resources. The objectives for the process evaluation research were:

1. To evaluate the implementation, or delivery, of the TAAG intervention (i.e., dose, fidelity).
2. To evaluate the extent to which the intervention reached the intended targets and the degree to which the targets were exposed to the TAAG intervention components (i.e., reach, exposure).
3. To document environmental factors that may have an influence on program (intervention) effectiveness (i.e., context, contamination, secular trends).
4. To provide periodic quality control information to intervention planners to refine the intervention and training for the purpose of optimizing their

implementation and effectiveness (e.g., enhance dose, fidelity, reach, exposure).

5. To provide information to explain TAAG primary and secondary outcome results.

In the present study, the key process evaluation measures used to assess implementation were dose and fidelity. Receptivity was measured by reach. Dose is the amount of intended units of intervention delivered. Fidelity is the extent to which the intervention was delivered as intended. Reach is the extent to which the intervention was received by the targeted groups (Baranowski & Stables, 2000). For example, HEAC lessons had multiple components (e.g., introduction, one or more activities, discussion, and closure). If several components were omitted, fidelity would be reduced. If entire lessons were not taught, dose would be reduced. If lessons were taught only to a subset of targeted students, reach would be reduced.

TAAG process evaluation research included additional variables (exposure, context, and contamination) (Young et al., forthcoming). These measures were not included in the present study because they did not address the delivery of the intervention by school staff and TAAG university staff or the receipt of the intervention by the girls, who were the main focus of this project.

The instruments and methods used to collect the quantitative process evaluation data were based on recommendations and plans of experts at each of the six TAAG field centers and were field-tested and revised prior to use. These data are assumed to be valid as they have been collected by trained TAAG staff members

using rigorous data collection methods. Additionally, the data were cleaned and checked by staff at TAAG's coordinating center prior to data analysis.

The process evaluation data included in this study focused on achievement of TAAG intervention objectives, teacher evaluations of intervention materials and strategies, program attendance and promotional event participation, and girls' enjoyment in programs. Additionally, quantitative baseline measurement data pertaining to body composition, ethnicity, and socioeconomic status were used to make descriptive comparisons between intervention schools. During the spring of 2002-2003, 6<sup>th</sup> grade girls at the TAAG schools completed several baseline measurements, including anthropometrics and a student questionnaire. Trained TAAG staff collected triceps skinfold, height, and weight measurements in consecutive order using standard methods. Body mass index was calculated using the height and weight measurements ( $BMI = \text{weight}[\text{kg}] / \text{height}[\text{m}^2]$ ). Estimated body fat percent was calculated using an algorithm that accounted for the girl's BMI, triceps skinfold measurement, age, and race ( $-11.57 + 1.096 * BMI + 2.012 * \text{Triceps} - 0.037 * (\text{Triceps} * \text{Triceps}) - 0.374 * \text{age}_6 - 2.970 * \text{black\_race}$ ).

From the self-administered questionnaire monitored by trained TAAG staff, data about race/ethnicity and a proxy for socioeconomic status (subsidized lunch) were used in the present study. The following table outlines and describes the quantitative data utilized in this study. Forms and questions are in Appendix I.

**Table 3.2. Quantitative Data Utilized**

<b>Variable/Topic</b>	<b>Data Source</b>	<b>Description of Data</b>
<b>PROCESS EVALUATION DATA</b>		
<b>PE</b>	PE Department Head Interview	PE class sizes, participation issues
	PE Observation Form	Activities completed in PE class
	PE Teacher Questionnaire	Teacher's opinion of TAAG PE
	PE Teacher Workshop Observation Checklist	Activities covered during each PE workshop and booster
<b>HEAC</b>	HEAC Workshop Observation Form	Activities covered during each HEAC workshop
	HE Department Head Interview	Content of HE lessons
	HEAC Lesson Observation	Activities completed in HEAC class
	HEAC Student Participation Log	Student participation of HEAC in 7 <sup>th</sup> and 8 <sup>th</sup> grades
	HEAC Teacher Interview	Teacher's opinion of 7 <sup>th</sup> and 8 <sup>th</sup> grade HEAC lessons
<b>PPA</b>	Program/Activity/Event Information Form	Description of PPA programs
	Weekly Program Summary Attendance Log	Weekly student participation in PPA programs
	PPA Planning Committee Survey	Members' opinions and perceptions of PPA committee
<b>Promotions</b>	Pedometer Summary Form	Student and teacher participation; challenges faced
<b>Program Champion</b>	TAAG Program Champion Form	Characteristics of PC; TAAG trainings completed by PC
	Program Champion Workshop Evaluation Form	PC's evaluation of workshop

**Table 3.2. Quantitative Data Utilized, cont.**

<b>BASELINE MEASUREMENTS</b>		
Body Composition: <ul style="list-style-type: none"> <li>• Percent body fat</li> <li>• Body Mass Index</li> </ul>	Body Composition Form	Height, weight, triceps skinfold
Ethnicity	Student Questionnaire	White, African American, Hispanic, Asian/Pacific Islander, American Indian/Alaskan Native, Other
Socioeconomic Status	Student Questionnaire	Reduced/free lunch

**Data Analysis**

**Quantitative Data**

All quantitative data were analyzed using Statistical Analysis System (SAS Version 9.1, SAS Institute, Cary, NC). The majority of these data were used to describe measures of dose, fidelity, and reach at the school level. Because of the limited sample size (n=3), statistically tested comparisons were not possible – only descriptive comparisons were made.

**Qualitative Data**

Because data analysis for qualitative research is “not off-the-shelf; rather it is custom-built, revised, and choreographed” (Miles & Huberman, 1994), the analytical framework for this project’s qualitative research was based on those from several experts and continuously evolved throughout the analytic phase. With an emphasis on thematic analysis and using modified grounded theory methodology (Strauss & Corbin, 1998), the researcher utilized conceptual ordering to discover concepts and

relationships in the raw data related to the factors of implementation and receptivity of the TAAG intervention. These concepts and relationships were then organized into a thematic explanatory scheme (Strauss & Corbin, 1998) with the aim of extending from social-ecological model.

***Organized and read through data.*** Upon the completion of each focus group and interview, the researcher listened to the audiotape to begin organizing the data, as well as make adjustments to her interviewing style for subsequent interviews. To increase accuracy and decrease bias (Grbach, 1999), each tape was professionally transcribed by someone who had prior experience of transcribing TAAG formative assessment focus group data. Once the data had been transcribed, the researcher listened to each audiotape again while reading through the corresponding transcript to gain an even better sense of the overall data and to correct any text that may have been incorrectly transcribed. There were few corrections; most were due to the transcriptionist's inexperience with unique TAAG terms. During this step, the researcher began to identify general ideas and concepts and examined the credibility of the data, based on the contextual frame of the participants' words (i.e., tone of voice) and the researcher's prior knowledge and experience to events discussed (Creswell, 2003).

To assist in organizing and managing the data throughout the analytic phase (Creswell, 1998), the transcribed data were imported to a qualitative data analysis software package, Qualitative Solutions and Research (QSR) N6 Student (Qualitative Solutions and Research Pty Ltd, 2002). This is consistent with previous work completed by TAAG formative assessment (Vu et al., 2006). The researcher primarily

used QSR N6 to manage searching and sorting through over 1000 pages of transcripts.

*Coded.* With the assistance of a peer debriefer, the researcher created and refined a codebook that outlined the major themes and categories discussed in the focus groups and interviews. The peer debriefer was a TAAG staff member with knowledge and previous experience working with qualitative research methods. She was not heavily involved in the intervention components of TAAG, but served as process evaluation and measurement coordinator. Using hard copies of the transcripts, the researcher and peer debriefer open-coded (Strauss & Corbin, 1998) six transcripts (two related to each intervention school and two transcripts of each type, i.e., focus group, school staff and community partner interview, and TAAG university staff interview).

With open-coding, the text of the focus groups and interviews was broken down into paragraphs or chunks of text and labeled with concepts and ideas represented in each passage (Strauss & Corbin, 1998). The researcher and TAAG staff member individually open-coded a transcript and then thoroughly reviewed and discussed the codes until arriving at consensus. This procedure continued for four weeks until the researcher and peer debriefer had reviewed the six transcripts. Concurrently, the researcher was coding the other transcripts. This process aided in the improvement of the researcher's coding skills and techniques and the refinement of the codebook. Initially, the inter-coder reliability between the two coders was approximately 50%, but with continued review and discussion, the reliability increased to approximately 75%. Because the researcher's coding skills improved throughout the refining process, she recoded the first 11 transcripts to ensure

consistency of the use of codes. See Appendix H for the complete codebook with eight major themes and over 250 concepts. With the numerous concepts being used, it was possible to have overlapping codes; these are detailed in Appendix H. The researcher then transferred and applied the codes to the transcripts using the computer software.

***Developed themes.*** To “reassemble the data” (Strauss & Corbin, 1998) into connecting categories (Dey, 1999) and themes, the researcher began axial coding the data. During this phase of the analysis, the data were closely examined and categorized into main and subcategories by content. The data were grouped and relevant themes began to emerge, mainly regarding the four major components of TAAG and perceptions of the influence of the intervention.

As part of the final stage of analysis (selective coding; Strauss & Corbin, 1998), themes were organized to create a conceptual schema that began to tell the narrative about the impact of TAAG in each intervention school. Results were described in the context of each school environment. This helped in the logical sequencing of the data, which allowed the researcher to begin to see how the data were intertwined to answer the research questions (Creswell, 1998). The resulting schema outlined how the factors within each school interacted with factors associated with the intervention to affect implementation of TAAG.

***Presentation of the data.*** The descriptions of each school environment from a phenomenological perspective of the researcher and the participants were the basis of the interpretation of the data. Using the themes that arose from the data in the context of the social-ecological theory, the researcher “stepped back” and formed larger

meanings of what was occurring in each school (Creswell, 1998). In the following three chapters, the research questions for this project are answered, including lessons learned from conducting a complex intervention in a school environment and unexpected factors that affected the implementation of the intervention.

### **Trustworthiness of Data**

With any type of data collection, the validity and high quality of the methodology are essential. For qualitative research, the trustworthiness of the data is based on the data collection, analysis, and interpretation of methods used (Creswell, 1998). It is important that the data collected capture the true perceptions of the participants and that the findings are methodologically and scholarly replicable by other researchers (Mewborn, 2005). To ensure high credibility of the qualitative data collected for this study, several standard criteria for judging qualitative data were utilized: triangulation, member checking, and peer debriefing.

***Triangulation.*** Triangulation is defined as “a combination of multiple methods, empirical materials, perspectives and observers in a single study...that adds rigor, breadth, and depth to any investigation” (Denzin & Lincoln, 2003). For this study, the data were derived from various sources (process evaluation data, focus groups, and in-depth interviews) from different perspectives (students, school staff, community partners, TAAG university staff, and the researcher). This allowed for a comparison of similarities and differences in the experiences and perceptions of multiple participants. The “picture drawn” of intervention activities in each school was not based on the account of an individual, but on a collection of individuals allowing for a more well-rounded depiction of each school environment. Additionally, the

convergence of the data from the various sources allowed for the researcher to assess the fidelity of the data sources. Due to the overlap in data content, information from one source could be verified or explained using another source of data. For example, process evaluation data indicated that some activity challenges were completed by a higher percentage of students than other activity challenges. This could be explained by both HEAC teachers and 8<sup>th</sup> grade girls stating that girls enjoyed some lessons more than others, which could have manifested in girls completing the activity challenges for lessons that they liked.

**Member checking.** In qualitative research, it is important that the data represent the true perceptions and ideas of the participants (Creswell, 1998). Member checking, a form of soliciting feedback from the participants, has been defined as “the single most important way of ruling out possibility of misinterpretation of the meaning of what [participants] say and the perspective they have on what is going on” (Maxwell, 1996). For this study, all interviewees were contacted and offered the opportunity to meet with the researcher to review the transcript and a list of main ideas interpreted by the researcher. Three participants from each intervention school accepted; nominal or no changes were made to the transcripts or researcher’s interpretation.

**Peer debriefing.** Peer debriefing is a useful method for “identifying validity threats, your own biases and assumptions, and flaws in your logic and methods” (Maxwell, 1996). Two peer debriefers, who aided in the data collection, analysis, and interpretation stages of study, were used. One peer debriefer was the facilitator of the focus groups and assisted throughout the data collection phase. The researcher and this peer debriefer discussed the content of the focus groups; she provided feedback

on interpretation and served as a sounding board to help detangle the information. The second peer debriefer researcher played an integral role in providing guidance in coding qualitative data. As outlined earlier in this chapter, this peer debriefer assisted in creating the codebook, coding the data, honing the researcher's coding skills and techniques, as well as provided feedback on interpretation and helped detangle the information. Both peer debriefers were given chapters of this dissertation to review.

## **Chapter 4: FACTORS THAT AFFECT IMPLEMENTATION AND RECEPTIVITY OF A PHYSICAL ACTIVITY INTERVENTION FOR ADOLESCENT GIRLS**

*To be submitted to Health Education Research*

### **Abstract**

Recent trials with adolescents have intervened to increase physical activity levels. Primary results report on the outcome (change in physical activity) with less focus on strategies and methods of intervention implementation. Evaluating how an intervention is executed lends insight into understanding and improving theory-based research. This study examines the extent to which intervention activities and strategies were implemented at the Maryland field center for the Trial of Activity for Adolescent Girls (TAAG), a two-year intervention aimed to decrease the decline of physical activity in girls. Quantitative, process evaluation data were integrated with responses from girl focus groups and in-depth interviews with intervention school staff, community partners, and TAAG university staff. Results indicated that implementation of activities varied by implementer, intervention component, and school. Physical education (PE) and Health Education with Activity Challenges (HEAC) workshops were highly implemented by TAAG university staff, but intervention activities and strategies were moderately implemented by school staff. Dose and reach for PE concepts and HEAC lessons varied by intervention school. Fidelity was approximately 50% for both components during year one, but at year two, increased by 16% for HEAC lessons and decreased by 10% for PE concepts. At all schools, opportunities for outside of school physical activity increased and a promotional event during year two was generally well received by girls. Qualitative

interviews revealed that individual, social, and environmental factors, such as school staff buy-in, administrative and faculty/staff support, and student behavior influenced school differences in implementation and receptivity of the various intervention components.

### **Introduction**

With the rising prevalence of overweight adolescents in the United States (Ogden et al., 2006) and the favorable effects of habitual physical activity on weight maintenance and/or loss in adolescents (US Department of Health and Human Services, 2000), recent recommendations propose that school-age youth participate in 60 minutes or more of moderate-to-vigorous physical activity per day (Strong et al., 2005). However, most adolescents are not meeting these recommendations (Pate et al., 2006 76), and physical activity participation tends to decline with age, especially in girls (Kimm et al., 2000).

For years, increasing physical activity in adolescents has been a public health priority in the United States (US Department of Health and Human Services, 2000). In the 1980s and early 1990s, several school-focused physical activity interventions emerged examining this population. Some significantly increased physical activity levels in girls (Kelder et al., 1993); others did not (Flores, 1995; Gortmaker et al., 1999; Sallis et al., 2003). Reasons for inconsistencies in outcomes are unclear; however, inadequate evaluation of the interventions has made it difficult to determine specific aspects of the intervention that may contribute to trial outcomes (Tones, 1996). With the increasing importance of designing effective behavior modification

interventions, it is imperative that researchers evaluate the extent intervention activities and strategies are executed as planned (Linnan & Steckler, 2002).

Process evaluation uses systematic methodology to assess intervention implementation. A variety of quantitative and qualitative techniques may be included in this type of evaluation research. Several, large intervention trials focusing on adolescents have assessed dose, fidelity, and other process evaluation measures using mainly quantitative methodology (Marcoux et al., 1999; McKenzie et al., 2004; Pate et al., 2003; Perry et al., 1997; Steckler et al., 2003). However, to enrich the quality of the data, a few of these studies have supplemented quantitative measures with qualitative assessments (Pate et al., 2003; Steckler et al., 2003). Using mixed methodology allows researchers to gain a better perspective of the intervention implementation from multiple sources. Information gained can reveal successes and fallacies in the process of the intervention implementation which can be used to design more effective interventions.

Using data collected from the Trial of Activity for Adolescent Girls (TAAG), a multi-center physical activity trial targeting adolescent girls, the present study assesses dose, fidelity, and reach to describe the extent TAAG intervention was implemented and received by three middle schools located at the Maryland field center. Differences by intervention school are also examined. By using a combination of quantitative and qualitative methods to describe the extent intervention activities and strategies were executed as planned, more information can be learned to advise future work.

## **Methods**

### **TAAG Overview**

TAAG was funded by the National Heart, Lung, and Blood Institute (NHLBI) as a multi-center group-randomized trial designed to test school and community interventions to reduce the decline in moderate to vigorous physical activity among middle school girls. This trial was a collaborative study involving six field centers in the vicinities of Washington, D.C. and Baltimore, Maryland (University of Maryland); Columbia, South Carolina (University of South Carolina); Minneapolis, Minnesota (University of Minnesota); New Orleans, Louisiana (Tulane University); Tucson, Arizona (University of Arizona); and San Diego, California (San Diego State University). The University of North Carolina Chapel Hill served as the Coordinating Center and the National Heart, Lung, and Blood Institute was the Project Office. The primary specific aim was to determine if an intervention that provided physical activity opportunities through linking schools to community organizations reduced the age-related decline in moderate to vigorous physical activity in middle school girls. The active intervention phase of this trial spanned the 2003-2004 and 2004-2005 school years. A complete description of the study design for TAAG is reported elsewhere (Stevens, 2005).

The theoretical framework of TAAG was based on a social-ecological model that focused on schools' physical and social environments and individual characteristics of middle school girls. This approach emphasized etiological explanations and behavioral theories attentive to considering physical activity from three domains: (1) individual or intrapersonal (biological, psychological, and

behavioral influences), (2) social (family or peer support), and (3) environmental (facilities, communities, accessibility) (Sallis & Owen, 1999).

To achieve the goals of TAAG, five intervention components were used to address increasing physical activity in adolescent girls.

***Physical Education (PE)***. Because school is a primary place that adolescent physical activity can be promoted and lifetime activity habits can be developed, PE class was a major target for the TAAG intervention. The vision of TAAG PE was to promote daily PE that provided girls with opportunities to participate in enjoyable, moderate to vigorous physical activity (MVPA) and to learn movement and behavioral skills.

***Health Education with Activity Challenges (HEAC)***. HEAC lessons were taught by health education or PE teachers to promote behavioral skills associated with physical activity. This component of the intervention presented youth with the knowledge and skills needed to be more active both inside and outside of school. Activity Challenges, a type of active homework, enhanced each lesson and offered opportunities for students to be active and have fun while learning. Only the 8<sup>th</sup> graders described in this study were exposed to TAAG HEAC.

***Programs for Physical Activity (PPA)***. Collaborations among schools, community agencies, and the TAAG universities were constructed to provide physical activity programs for girls after school and during non-school hours (e.g., weekends, summers). These jointly developed after-school programs were called Programs for Physical Activity, or PPA. The purpose of TAAG PPA was to increase all middle school girls' opportunities for, and participation in, accessible and appealing physical

activity programs during non-school hours (before school, after school, on weekends, during summer).

**Promotions.** Promotional activities were launched to encourage overall physical activity and promote TAAG-specific programs. One such promotional event was the Pedometer Challenge. This activity utilized a fun and innovative way to use pedometers to reward girls for being physically active. The Challenge was launched during year two of the TAAG intervention and targeted the 8<sup>th</sup> grade girls described in this study.

**Program Champion (PC).** A Program Champion model was adopted to enhance the sustainability of the intervention in the maintenance year. During the second year of the intervention, two PCs from each school/community catchment area worked closely with TAAG university staff on intervention activities and strategies. For the following year, the program champions took full responsibility implementing TAAG.

To address the need to adequately evaluate an intervention, extensive process evaluation strategy was planned for TAAG. This research was scientifically based and designed to take a broad approach with the objectives of (1) to evaluate the implementation, or delivery, of the TAAG intervention (i.e., dose, fidelity); (2) to evaluate the extent to which the intervention reached the intended targets and the degree to which the targets were exposed to the TAAG intervention components (i.e., reach, exposure); (3) to document environmental factors that may have an influence on program (intervention) effectiveness (i.e., context, contamination, secular trends); (4) to provide periodic quality control information to intervention planners to refine the intervention and training for the purpose of optimizing their implementation and

effectiveness (e.g., enhance dose, fidelity, reach, exposure); and (5) to provide information to explain TAAG primary and secondary outcome results. These objectives are consistent with purposes outlined by Baranowski and Stables (2000) and Linnan and Steckler (2002).

### **Study Design**

The present study used a mixed methods approach to examine implementation and receptivity of the TAAG intervention in three Maryland school settings. Quantitative, process evaluation data collected throughout the intervention phase of TAAG were combined with data from focus groups and interviews collected at the end of intervention year two.

***Process Evaluation Measures.*** Key process evaluation measures used to assess intervention implementation were dose of the intervention and fidelity to the TAAG protocol. Receptivity of the intervention was measured by reach to targeted groups. Dose is the amount of intended units of intervention delivered. Fidelity is the extent to which the intervention was delivered as intended. Reach is the extent to which the intervention was received by the targeted groups (Baranowski & Stables, 2000). These three measures were assessed using two methods for TAAG PE and HEAC – intervention implementation by TAAG university staff to school staff (based on PE and HEAC workshops) and intervention implementation by school staff to middle school girls (based on PE concepts or HEAC lessons). Table 4.1 outlines how all process evaluation variables used in this study were derived.

Twelve process evaluation forms were used to calculate the measures (Table 4.2). These data were collected at specific times throughout the intervention

implementation period. School staff completed questionnaires and checklists. TAAG process evaluation staff observed PE and health classes and trainings. The instruments and methods used to collect these data were developed by TAAG investigators and field-tested and revised prior to use. Collected by trained TAAG staff members using rigorous data collection methods, these data were assumed to be valid. The data were cleaned and checked by staff at the TAAG coordinating center prior to data analysis.

***Qualitative Data.*** Focus group and in-depth interview questions were designed based on topics included in the process evaluation data. These questions probed perceptions of middle school girls, school staff, community partners, and TAAG university staff to gain a more global view and deeper understanding of the intervention implementation and receptivity. Questions were oriented to probe the participants on individual, social, and environmental level variables, consistent with the TAAG theoretical framework.

***Participants.*** Nine focus groups (three at each school) were conducted with randomly selected 6<sup>th</sup> and 8<sup>th</sup> grade girls. Eighth grade girls were chosen to participate because the TAAG intervention targeted this cohort of girls and followed them from the beginning to end of middle school. Sixth grade girls were chosen based on preliminary TAAG process evaluation results that indicated that 6<sup>th</sup> graders were most likely to participate in PPA programs than girls in other grade levels. Sample sizes for the focus groups ranged from 3 to 11 girls.

Twenty in-depth interviews were conducted with school staff and community partners involved with PE, HEAC, PPA, or Program Champion intervention

components. The school and community adults were invited because of their role in the TAAG intervention, and were interviewed specifically on the component in which they participated. At least one adult from each school involved in PPA (who was not a Program Champion) was selected based on his/her attendance to PPA committee meetings. Some adults were interviewed on more than one TAAG component due to multiple TAAG responsibilities. Of the twenty adults invited to participate in the interviews (7 from School A, 8 from School B, and 5 from School C), only one was not interviewed. A community person involved with PPA at School C was unable to be reached. This person played a limited role in the implementation of TAAG at School C and after several weeks, the researcher felt it was acceptable to discontinue trying to make contact.

In-depth interviews were also conducted with TAAG intervention staff whose main responsibilities focused on any of the five components of TAAG. Four TAAG staff members were invited for an interview and all accepted. University of Maryland Institutional Review Board approval, informed consent of parents and adult interviewees, and informed assent from girls were obtained prior to any data collection.

### **Study Setting**

***Intervention Schools.*** All participants for the present study were affiliated with one of the three intervention schools involved with TAAG at the Maryland field center. These three schools exhibit social and racial diversity, as well as unique instructional practices key to the TAAG intervention.

School A. School A is located in a suburban area of Baltimore County. The school's population was majority White with an average of 25% of students who received subsidized lunch over the two years of the TAAG intervention. For the first year of the intervention, School A had co-educational PE and health education classes, but at the beginning of Year 2, transitioned to single sex PE classes for 8<sup>th</sup> grade students only.

School B. Located in Montgomery County, School B had a racial make-up of approximately 30% non-Hispanic White, 30% African American, 30% Hispanic, and 10% Asian. Approximately 40% of the students received subsidized meals. School B is also a magnet school, in which some of the students (mostly non-Hispanic White and Asian) chose to attend this school because of a special media technology program. The African American and Hispanic students were more likely to live in close proximity of the school. School B had co-educational PE and health education classes during the two years of the intervention.

School C. School C is located just outside the Baltimore City limits in Baltimore County with a student population of approximately 60% African American. Fifty percent of this school's population received free or reduced lunch. School C offered a single sex environment for their students during the two years of the intervention.

### **Data Analysis**

Quantitative data from the process evaluation forms were analyzed using the Statistical Analysis System (SAS version 9.1, SAS Institute, Cary, NC). The qualitative data from the focus groups and interviews were analyzed using Qualitative Solutions and Research (QSR) N6 Student, a software program for analyzing text-

based data (Qualitative Solutions and Research Pty Ltd, 2002). A codebook with 48 major codes was developed to analyze the qualitative data. These data were organized by themes in matrices. Using a mixed methodology approach, responses from select quantitative process evaluation data were integrated with the qualitative data from focus groups and interviews. This strategy allowed for a more complete understanding of the data.

## **Results**

### **Results for PE – Implementation by TAAG university staff to school staff**

PE workshops and boosters were highly implemented over the two intervention years. TAAG university staff fully completed 92% of the mandatory training items. Ninety-one percent of expected teachers attended workshops with 82% of them attending the entire full-day and half-day trainings. All schools had teachers who missed the scheduled workshops or boosters, which affected dose. However, while teachers from School A and School C attended shorter make-up sessions, two teachers from School B failed to attend several PE boosters (dose=78% for School B versus 87% and 83% for Schools A and C, respectively; reach=85% for School B versus 100% for other two schools).

From end of the year surveys, teachers at all schools reported that the materials covered during the trainings were helpful in implementing the concepts. They rated the effectiveness of implementing TAAG PE as 3.8 out of 5, over the two intervention years. From interviews, as stated by a health teacher who was a former PE teacher and attended the majority of the PE boosters and workshops,

I think they [PE workshops] were good in terms of conveying what the, for lack of a better term, what the recipe is for TAAG. (Health Teacher, School B)

Out of all the schools, School A had the least positive ratings for the effectiveness of the workshops (3.2 and 3.5 out of 5, for each intervention year). In-depth opinions obtained during the interviews revealed that initially, teachers from School A felt that the workshops were useful. Nevertheless, over time, the trainings became repetitive, lasted too long, and occurred too frequently. Specifically, two teachers stated,

I felt like initially they were useful. It got us looking into the [activity] box. Got us adjusted to the program and what you were looking for. You know, gave us the resources and a chance to go through the resources. (PE teacher, School A)

I feel that a lot of them [PE trainings and boosters] weren't needed. They were repetitive and maybe could have even been, if they were needed, not that long of a whole afternoon or a couple hours, I think. (PE teacher, School A)

A teacher from School B who missed two boosters reported similar opinions.

### **Results for PE – Implementation by school staff to girls**

*Dose.* Teachers at School C reported *frequently* using the TAAG materials, which was greater than the other schools (3.0 out of 4; Table 4.3). During the interviews, all teachers commented that the TAAG materials had good ideas and served as quality resources. However, based on surveys, teachers at School A and School B only used these resources *rarely* or *sometimes* (1.75-2.2 out of 4 over the two years). Reasons such as possession of similar materials, contentment with present class structure and activities, lack of desire to make many changes, and impracticality of some activities for their PE settings were described during the interviews.

I used a few of the task card files, I'd say less than a handful, a handful, a couple. I never opened my Guidebook, and the box, the activity box, I liked because I already started a box, so it gave me some more ideas. I already had some of the ideas that were in there. I feel some of the ideas were a little maybe unrealistic and repetitive. But overall, I think the box idea is great [but] I've seen it before. (PE teacher, School B)

**Fidelity.** Table 4.4 displays the extent the PE component of the intervention was delivered by school staff to girls. Over all schools for year one, the portions of PE class devoted to TAAG concepts varied greatly by the concept (fidelity ranged from 13% to 76%) with the average fidelity for School B lower (almost 40% versus almost 50% for the other two schools). Class observations indicated that teachers encouraged students to be active during class or rewarded for out-of-class physical activity the least (overall average=13% and 17%, respectively). However, three-fourths of the time, most girls appeared to enjoy PE class and over 60% of the time, students were provided choice, given adequate equipment according to class size, and were in appropriate sized groups.

During Year 2, overall fidelity for PE class decreased (ranged from 13% to 60%) and differed by PE objective. Most notably, choice in class decreased by almost 40%. Girls appearing to enjoy PE class decreased by 22%, but remained almost or above 60% of the time for School A and School B. During the focus group discussions, girls from all three school reported having limited choice in PE. Girls at School C reported not enjoying PE class (as described elsewhere in this dissertation; Barr-Anderson, Chapter 6).

Overall, teachers reported positive reactions and feelings about the TAAG philosophy (4.6 and 4.4 out of 5, respectively for each intervention year), but only made moderate changes to their PE classes based on TAAG (2.9 and 3.2 out of 5, respectively for each intervention year).

**Reach.** The TAAG PE intervention took place during PE class. Girls eligible for TAAG measurements (absent of a physical disability that limits physical activity) were enrolled in PE, therefore the assumed reach for PE was 100%.

### **Results for HEAC – Implementation by TAAG university staff to school staff**

Implementation and reach for HEAC workshops were high. One hundred percent of the expected health teachers attended the trainings with 83% of them attending the entire full-day workshops. TAAG intervention staff fully completed 93% of the mandatory workshop items.

The 7<sup>th</sup> grade HEAC training was structured as an instructive review of the lessons, but the 8<sup>th</sup> grade training was more interactive. Teachers were assigned lessons and worked in small groups to teach each other. This second approach was more favorable and beneficial to teachers, as stated by a health teacher at School C,

With the [8<sup>th</sup> grade] lessons...we broke up into groups and somebody had the beginning, the middle, and the end. And I think that was more beneficial because, in doing that, you're actually, you have to get familiar with the lesson instead of somebody teaching you a lesson. [This way]...made you active in the lesson.

The teachers reported an increase in the effectiveness of the HEAC workshops and materials to teach lessons from intervention year one to year two (7.0 and 8.6 out of 10, respectively), which may have been due to the change in training format. However, teachers at School B encountered difficulties when translating the lessons into the classroom for students, best illustrated by:

Those lessons were presented to us and we actually went through them as adults, not [with a] kid mentality. You know, when you get in a classroom with a bunch of kids who think differently about the importance of exercise, you're gonna come up with a whole slew of problems that you hadn't expected when you were with adults. You know, so it's easier to present to a bunch of adults, that lesson, because you don't have to brainstorm any problems, 'cause the adults behave and understand the importance of it. But

we should have been maybe brainstorming ideas of, or things that could happen and ways to resolve them. (PE/Health teacher, School B)

### **Results for HEAC – Implementation by school staff to girls**

Across all schools, health teachers taught most of the 7<sup>th</sup> and 8<sup>th</sup> grade HEAC lessons to most girls enrolled in that grade (average dose=93%; average reach=96%). Fidelity for the extent the lessons were completed was lower for 7<sup>th</sup> grade lessons than 8<sup>th</sup> grade (Table 4.5). During the interviews, health teachers reported enjoying the 8<sup>th</sup> grade lessons better than 7<sup>th</sup> grade, which may have affected how they taught the lesson. Also, as noted earlier, teachers reported that the 8<sup>th</sup> grade HEAC training better prepared them for teaching the lessons than the 7<sup>th</sup> grade training.

When asked about the problems faced with implementing lessons, teachers most commonly responded with lack of time, administrative barriers, and limited or lack of space for activities. Lack of time and space were reported more often as a problem during year one than year two. Administrative barriers remained an issue for both intervention years for teachers at School A and School B.

[P]art of it wasn't so much the lessons as learning what pieces to, actually, just how to present it...I can remember not having enough time to Xerox off what I needed to Xerox off, getting the transparencies made...I felt like I didn't have the time I needed to really implement it the best that I could. (7<sup>th</sup> grade health teacher, School A)

An average of 92% of girls was taught the HEAC lessons. However, roughly 50% of girls completed activity challenges - less 7<sup>th</sup> graders than 8<sup>th</sup> (Table 4.6). Girls at School C with the lowest participation rate (average of 26%) expressed not liking the activity challenges because they did not like getting “homework” in PE class. However, participation in activity challenges were 30% higher for 8<sup>th</sup> grade lessons compared to 7<sup>th</sup> grade lessons at School A. Girls from School A stated that the

activity challenges were “fun” and “cool.” At this school, lesson delivery by the two different HEAC teachers may have impacted girls’ involvement in activity challenges. As stated in the previous quote, the 7<sup>th</sup> grade teacher did not feel fully prepared to teach the lessons. TAAG staff who observed HEAC lessons agreed with that teacher’s thoughts. In contrast, the 8<sup>th</sup> grade teacher was well prepared and the lessons seemed to be received positively by girls.

[The 8<sup>th</sup> grade HEAC teacher at School A] did a super [job], a lot of preparation. She understood the lessons. She didn’t have to read from the lessons themselves. The kids seemed to relate to what she was trying to get across with the objectives of the lessons...but seventh grade lessons were totally a joke...it [7<sup>th</sup> grade HEAC lesson] just was not done well. (TAAG university staff)

Regardless of the issues faced implementing HEAC lessons, all health teachers reported that TAAG staff provided a high level of support for both years (9.8 and 9.4 respectively, out 10).

## **Results for PPA**

### *Dose*

During the fall of 2003, an intervention objective for each school was to offer at least two PPA programs and increase by one each semester, culminating with at least five programs in spring 2005. The schools exceeded the minimal requirements with a cumulative average of approximately 4, 9, 8, and 9 programs each semester. School A and School B provided at least double the number of minimal PPA programs for their students each semester. Progress at School C was slower with only two programs the first semester, but 10, 6, and 7 programs in subsequent semesters (Table 4.7).

Table 4.8 presents resources available for PPA programs teachers reported from the questionnaires. At all schools, school staff and community partners involved

in PPA reported the delivery of the programs were not inhibited by availability of space, qualified instructors or coaches, equipment (e.g., balls, mats, goals, other sports or gym type equipment), and supervision of girls. These resources were available *all or most of the time* during both intervention years (reversed scores ranged from 1.0-1.8 out of 5). School C was undergoing renovations during the active intervention phase and partnerships with community agencies provided most of the available space for programs.

Adequate transportation for students was reported as a resource that all schools had only *some of the time* (average score=2.3 out of 5). For part of the school year, School A and School B had an activity bus to transport students home an hour after school ended, but this resource was not available at School C. Transportation did not improve from year one to year two at this school. School staff, community partners, and TAAG university staff reported that this needed to be addressed if programs were to continue:

[I]f the programs were to be sustainable, they [School C] need to solidify transportation...we were in such a tough position because these kids had to be picked up by 3:45, and so few had rides at 3:45. So none of 'em could go to these programs that I think it's that ride home, like an activity bus, yup, it's exactly what they didn't have, and so you had kids who couldn't, literally could not come to programs because they had no way of getting home. (TAAG university staff)

During year one, funds were a resource less available in all schools (score=2.2 out of 5). In year two, this barrier decreased by 0.9 and 0.3 in School A and School B, respectively, but increased by 0.95 in School C. During year two, the majority of School A's programs were free, while Program Champions brainstormed how they could lower the cost of programs at School B. Selection of programs were based on

potential cost to students. However, at School C, cost was reported as an increasing barrier by teachers and 8<sup>th</sup> grade girls.

Some people didn't have no money to join. (8<sup>th</sup> grade girl not active in PPA, School C)

During year one, staff time to coordinate services and resources amongst schools and community agencies was most reported as the least available resource, but decreased in year two (2.4 versus 1.9 out of 5). During year one, the PPA planning committee met monthly, which required a significant time commitment. In year two, the Program Champions were involved in scheduling the PPA meetings. Less school staff and community partners were involved (as presented elsewhere in this dissertation; Barr-Anderson, Chapter 5) and meetings were shorter in length. Teachers at School A and School B reported this less available resource less often. However, the resource of staff time did not decrease for school staff and community partners at School C, possibly due to the PE department head new supervisory and parental responsibilities (as discussed elsewhere in this dissertation; Barr-Anderson, Chapter 5).

### ***Reach***

Across all schools, approximately 14 girls attended each PPA program with the highest attendance among 6<sup>th</sup> graders and the lowest among 8<sup>th</sup> graders (Table 4.9). On average, 5 more girls participated in each fall program than each spring program (16 versus 11 girls). Despite the barrier of transportation at School C, more girls participated in physical activity programs compared to other schools (17 girls versus 11 from School A and 12 from School B) (Table 4.10). Girls active in PPA seemed to be very excited about the variety of new programs introduced to their school, which may have influenced their participation.

It's good 'cause, the stuff be fun...you have like a whole bunch of stuff [to choose from]. (8<sup>th</sup> grader, School C)

Girls at School A had the lowest enrollment per program. This may not have been due to lack of interest, but to the well-established recreational center where many girls participated in programs instead of at school.

I think that a lot of people do softball now like they are doing different activities like softball and soccer and after-school things, 'cause these aren't like different programs, 'cause people pay to maybe go to Big League and cross-country and everything...[at local] Recreational Center. (6<sup>th</sup> grader, School A)

During the focus group discussions, girls most reported lack of transportation, time conflict, family responsibility (i.e., babysitting), lack of interest in program, and friends not participating as reasons for not participating in the TAAG-sponsored physical activity programs. Reasons most reported for participating in programs were influence of friends and encouragement by PE teacher to join program.

School staff and community partners at each school had similar and positive responses for the effectiveness of TAAG PPA in providing opportunities for girls to be more active. This was related to the involvement of faculty and staff and community partners.

I think that definitely more programs were offered. As I said, there were more, you know, there were a few community agencies that offered programs that hadn't done so before. I think there were a few teachers who offered programs who hadn't before or had been thinking about it and hadn't done it. And I think that they did like include more information that went out at the beginning of each semester about activities, so there was more information about that. (TAAG university staff)

### **Results for Promotions**

Several promotional activities were introduced throughout the intervention phase, including the Pedometer Challenge. Seventy-two percent of 8<sup>th</sup> grade girls participated with the lowest participation from girls at School C (58% vs 75% and

82% at School A and School B, respectively). Most girls from all schools reported enjoying the Pedometer Challenge and would participate in it again. However, some girls from School C liked the challenge only “alright” displaying lackluster feelings towards the activity. In many instances, wearing the pedometer made the girls more aware of and positively influenced their activity level.

[Wearing the pedometer] makes you wanna walk more. (8<sup>th</sup> grader, School C)

Program Champions at each school helped to implement the Pedometer Challenge and cited logistics (i.e., checking/collecting forms) as the biggest issue faced.

### **Results for Program Champion**

Both Program Champions from each school attended the mandatory one-hour workshop. Ninety-one percent of training activities were fully completed by at least one of the Program Champions at each school.

### **Summary of Results – TAAG Implementation Goals**

During the developmental phase of TAAG, process evaluation goals were established for each component (Table 4.11). Overall, most of TAAG’s goals for intervention implementation were not met. Nonetheless, some components were highly implemented across the three schools – fidelity and reach for PE and HEAC workshops, dose of PPA programs provided, reach of girls who were taught HEAC lessons and participated in the Pedometer Challenge and dose of completed training activities by Program Champions. Adversely, fidelity for PE concepts and HEAC lessons and reach of girls who completed activity challenges were poor.

## **Discussion**

Most intervention implementation goals established by TAAG were not achieved. Partial implementation of the intervention may affect the outcomes of the program. Although TAAG study findings are not currently available, previous interventions with partial implementation were not successful in affecting change. Active Winners, a community-based intervention for youth did not influence significant changes in physical activity when three of the five intervention components were not implemented as planned (Pate et al., 2003). Marcoux and colleagues (1999) attributed the ineffectiveness of the Sport, Play, and Active Recreation for Kids (SPARK) program to increase out-of-school physical activity to the implementation of only two-thirds of program components. However, the components of Child and Adolescent Trial for Cardiovascular Health (CATCH) were highly implemented, but did not affect change in children physical activity levels (Perry et al., 1997).

Some components of intervention implementation were evaluated two ways: for TAAG university staff delivering the intervention to school staff and for school staff delivering the intervention to female students. Implementation by school staff was consistently lower than implementation by TAAG university staff. Level of commitment may have played a role in this difference. It was the job responsibility of TAAG university staff to invest the time and energy in successfully completing outlined intervention strategies and methods. Although each intervention school was given a \$1000 stipend each year for its participation in TAAG, participation by school staff (except for Program Champions) was voluntary with no financial compensation.

By the end of the active phase of the intervention, the teachers reported understanding and agreeing with the underlying premise of TAAG. However, that does not translate to teachers sharing the same level of dedication as TAAG university staff. The obesity prevention school-based study, Pathways, found that the lack of motivation on the teachers' part to teach intervention curriculum negatively affected school climate, thus negatively impacting implementation (Gittelsohn et al., 2003). Middle School Physical Activity and Nutrition (M-SPAN) researchers found that school personnel needed to undergo a process of change of understanding, accepting, and implementing intervention concepts and needed to become comfortable with the study staff prior to consistent implementation (McKenzie et al., 2004). Data do not document if or to what extent TAAG school staff experienced this step, which may have inadvertently influenced the dissemination of the intervention.

CATCH investigators attributed their study's high level of implementation to the intervention schools' amicable response to being recruited as a CATCH school (Perry et al., 1997). For TAAG, there were varying levels of acceptance of being recruited into the study which affected teacher buy-in and subsequently, the level of implementation of intervention activities by school staff. (This point is further discussed elsewhere in this dissertation; Barr-Anderson, Chapter 5).

Implementation of the intervention may have been further affected by the HEAC and PE trainings. During intervention year one, the HEAC workshop was didactic and led by TAAG university staff. It became more interactive in year two with health teachers leading each lesson. Teachers reported an increase in usefulness and effectiveness in the year two workshop, thus enabling them to better implement

the lessons to the students. PE teachers at all schools reported dissatisfaction with the number of TAAG PE trainings and the redundant material covered during the sessions, which may help to explain why the PE component was moderately implemented by teachers to students in these schools. Contrary to the less-than-favorable reporting by PE staff of the format of the trainings, TAAG formative assessment found that a tailored training was appropriate and ideal (Moe et al., 2006). Ensuring that the format and quality of the trainings are suitable for the targeted audience may increase the positive response of such trainings, thus increasing implementation.

PE concepts were only moderately implemented during the two years of the intervention, particularly fidelity of PE concepts. This may have been affected by format of the PE intervention and teachers' feelings that TAAG PE paralleled their current PE philosophy. Unlike HEAC which provided a set curriculum of six lessons for health teachers to deliver to students, TAAG PE had a more flexible, concept-centered approach. This component was structured on the philosophy of tailored school-based interventions so that school teachers and staff can modify the content to fit the context of their school environment. This approach is similar to the one used by a successful physical activity intervention, Lifestyle Education for Activity Program (LEAP) (Pate et al., 2005).

Results from TAAG formative assessment suggested that this structure would foster maximal implementation by accommodating the various formats in which PE was being provided in TAAG schools (Moe et al., 2006; Young et al., 2006). However, PE teachers were trained on the key objectives of TAAG PE and then

asked to engage students in activity by using a variety of strategies and methods covered during trainings. PE teachers voiced during the interviews that this methodology was not always possible or practical. It depended on the activity unit and the length of time teachers had been introducing students to this unit. Additionally, teachers felt that their curriculum paralleled TAAG philosophy, which may have affected making changes to curriculum based on the strategies and ideas provided by TAAG university staff. The teachers felt that they were already “doing TAAG” and may not have incorporated new strategies into their PE curriculum. Future interventions should provide a balance of sufficient instruction and direction to ensure that the teachers are equipped to properly implement the intervention.

### **Study Strengths and Limitations**

The present research is significant in that it provides insight on the extent that TAAG intervention strategies and methods were implemented in three Maryland middle schools. A large amount of quantitative and qualitative data were generated. These data served a two-fold purpose: 1) to provide an understanding of the level of implementation and receptivity of the intervention and 2) to understand how it was perceived by the implementers (TAAG university staff, school personnel, and community partners) and the recipients (school personnel, community partners, and middle school girls) of the intervention. Use of triangulation enriched the depth and breadth of the data, providing for rich accounts from various viewpoints. In this research, at times, the data sources supported each other; at other times, they did not. This emphasizes the importance of researchers to consider all perceptions of those

involved. These perceptions can be used to better inform how to increase implementation in future studies.

Despite the strengths of this study, limitations must be noted. With a sample size of three, the findings are not generalizable to all middle schools participating in a physical activity intervention. However, the challenges faced and the lessons learned from exploring how the intervention was implemented and received can be used to inform future research studies of a similar nature. Two of the twelve process evaluation forms (PE teacher questionnaire, HEAC teacher interview) were self-administered and retrospective, potentially introducing respondent or recall bias.

### **Conclusions**

A goal of this research was to explore the extent to which a large-scale, multi-level intervention was implemented at one of the participating field center. The quantitative and qualitative process evaluation data indicate that some components of the intervention were implemented better than others, namely those implemented by intervention university staff compared to intervention school staff. Factors within each school environment contributed to the extent strategies and methods were executed as planned. Researchers should consider issues revealed during this process evaluation to potentially increase the implementation and receptivity of their future endeavors.

**Table 4.1. Calculations of Dose, Fidelity, and Reach**

	<b>Dose</b>	<b>Fidelity</b>	<b>Reach</b>
<b>Physical Education (PE):</b> By TAAG staff to school staff	% of PE teachers who attended the entire training	% of mandatory PE workshop components fully covered	% of expected PE teachers who attended the training
<b>Physical Education (PE):</b> By school staff to girls	Amount of time TAAG PE resources were used	% of PE class time devoted to TAAG PE concepts	% of girls who attended PE class <sup>1</sup>
<b>Health Education with Activity Challenges (HEAC):</b> By TAAG staff to school staff	% of health teachers who attended the entire training	% of mandatory HEAC workshop components fully covered	% of expected health teachers who attended the training
<b>Health Education with Activity Challenges (HEAC)<sup>2</sup>:</b> By school staff to girls	% of HEAC lessons intended to be taught	% of HEAC lesson components fully covered	% of girls who were taught lessons % of girls who completed activity challenges
<b>Programs for Physical Activity (PPA)</b>	% of programs <sup>3</sup>	Not calculated	Average attendance by girls per program
<b>Promotions</b>	Not calculated	Not calculated	% of girls who participated in the promotional activity
<b>Program Champion</b>	% of training requirements fully completed <sup>4</sup>	Not calculated	Not calculated

<sup>1</sup> Reach for PE (intervention implementation by school staff to girls) was assumed to be 100% because girls eligible for TAAG (free of any physical disabilities that limited physical activity) were assumed to be enrolled in PE.

<sup>2</sup> Reach for HEAC (intervention implementation by school staff to girls) was calculated to assess two measures: girls who were taught lessons and girls who completed activity challenges.

<sup>3</sup> Dose for PPA was calculated as: (average # of programs per semester) / (expected # of program per semester). The expected number of programs was two for the first intervention semester and increased by one until the last intervention semester.

<sup>4</sup> Dose for Program Champion was calculated on the school-level.

**Table 4.2. Process Evaluation Measures**

<b>Intervention Component</b>	<b>Data Collection Form</b>	<b>When Collected</b>	<b>Process Evaluation Component</b>
<b>Physical Education</b>	1. PE Teacher Workshop Observation Checklist <sup>1</sup>	1. At each training session	1. Dose, Fidelity (workshops)
	2. PE Teacher Workshop Attendance Log <sup>1</sup>	2. At each training session	2. Reach (workshops)
	3. PE Teacher Questionnaire <sup>2</sup>	3. End of each year	3. Dose (class)
	4. PE Observation Form <sup>2</sup>	4. Thrice per semester	4. Fidelity (class)
<b>Health Education with Activity Challenges (HEAC)</b>	5. HEAC Teacher Workshop Attendance Log <sup>1</sup>	5. At each training session	5. Dose, Reach (workshops)
	6. HEAC Teacher Workshop Observation Form <sup>1</sup>	6. At each training session	6. Fidelity (workshops)
	7. HEAC Teacher Interview <sup>2</sup>	7. End of each teaching cycle	7. Dose, Reach (lessons)
	8. HEAC Lesson Observation <sup>2</sup>	8. When lessons were taught	8. Fidelity (lessons)
<b>Programs for Physical Activity (PPA)</b>	9. Weekly Program Summary Attendance Log	9. Weekly	9. Dose, Reach
	10. PPA Survey <sup>3</sup>	10. End of each year	
<b>Promotions</b>	11. Pedometer Summary Form	11. End of Pedometer Challenge	11. Reach
<b>Program Champion</b>	12. Program Champion Form	12. End of each semester (Year 2 only)	12. Dose

<sup>1</sup> Assessed dose, fidelity, and reach by TAAG university staff to school staff; in regards to PE or HEAC workshops.

<sup>2</sup> Assessed dose, fidelity, and reach by school staff to girls; in regards to PE class or HEAC lessons.

<sup>3</sup> PPA survey was not used to assess specific process evaluation measures, but used to provide supporting evidence for research findings.

**Table 4.3. PE: DOSE (class): Implementation of PE by teachers, amount of time resources were used**

	School A		School B		School C		OVERALL	
Mean score <sup>1</sup>	Yr 1 (n=5)	Yr 2 (n=4)	Yr 1 (n=4)	Yr 2 (n=5)	Yr 1 (n=2)	Yr 2 (n=2)	Yr 1 (n=11)	Yr 2 (n=11)
Guidebook	2	2	1.75	2.2	3	3	2.3	2.4
Task cards	3	2.5	2.5	2.4	4	3.5	3.2	2.8
Activity box	3.2	3.25	2.5	2.4	4	3.5	3.2	3.1
Handouts	2.6	1.5	2.0	2.0	4	3	2.9	2.2

<sup>1</sup> Teachers were asked “How often did you use the following TAAG PE Resources?” using a scale of 1=*never* to 4=*frequently*

**Table 4.4. PE: FIDELITY (class): Implementation of PE by teachers, portion of class time devoted to TAAG concepts**

Activity <sup>1</sup>	School A		School B		School C		OVERALL	
	Year 1	Year 2						
Students were prompted / rewarded for out-of-PE class PA <sup>2</sup>	6%	17%	17%	44%	28%	17%	17%	26%
Teacher used strategies to minimize management time <sup>3</sup>	50%	39%	28%	11%	11%	6%	30%	19%
Students were provided with choices <sup>3</sup>	56%	6%	67%	11%	61%	22%	61%	13%
Students were encouraged or reinforced to be physically active or demonstrate PA skills during class <sup>3</sup>	11%	17%	11%	28%	17%	6%	13%	17%
Most girls appeared to enjoy PE class <sup>3</sup>	72%	56%	78%	61%	78%	44%	76%	54%
Adequate equipment: student ratio existed during activities <sup>4</sup>	72%	56%	29%	40%	93%	72%	64%	57%
Group sizes were appropriate to activity <sup>4</sup>	67%	59%	38%	50%	91%	72%	62%	60%
<b>By School</b>	<b>48%</b>	<b>35%</b>	<b>38%</b>	<b>35%</b>	<b>50%</b>	<b>34%</b>	<b>45%</b>	<b>35%</b>

<sup>1</sup> Eighteen PE observation forms were completed by TAAG process evaluation staff for each school each intervention year. Depending on the class lesson topic, TAAG process evaluation staff could have reported any of these activities as non-applicable. If so, those activities were not used when calculating fidelity.

<sup>2</sup> FIDELITY for this activity was based on how much of the class time were devoted to PE concepts *some of the time*.

<sup>3</sup> FIDELITY for these activities was based on how much of the class time were devoted to PE concepts *most of the time*.

<sup>4</sup> FIDELITY for these activities was based on how much of the class time were devoted to PE concepts *most or all of the time*.

**Table 4.5. HEAC: FIDELITY (lessons): Implementation of HEAC by teachers, % of lesson completed**

	7 <sup>th</sup> Grade HEAC Lessons			8 <sup>th</sup> Grade HEAC Lessons			OVERALL BY SCHOOL & LESSON
	# Completed Activities	# Activities Observed <sup>1</sup>	Fidelity	# Completed Activities	# Activities Observed <sup>1</sup>	Fidelity	
<b>School A</b>	14	29	<b>48%</b>	23	28	<b>82%</b>	<b>School A = 65%</b>
Lesson 1	1	5	20%	5	6	83%	55%
Lesson 2	1	5	20%	4	5	80%	50%
Lesson 3	4	5	80%	4	4	100%	89%
Lesson 4	3	5	60%	4	6	67%	64%
Lesson 5	3	5	60%	5	6	83%	73%
Lesson 6	2	4	50%	1	1	100%	60%
<b>School B</b>	21	27	<b>78%</b>	21	30	<b>70%</b>	<b>School B = 74%</b>
Lesson 1	3	5	60%	5	6	83%	73%
Lesson 2	4	5	80%	3	5	60%	70%
Lesson 3	3	5	60%	3	4	75%	67%
Lesson 4	4	5	80%	3	6	50%	64%
Lesson 5	4	4	100%	4	6	67%	80%
Lesson 6	3	3	100%	3	3	100%	100%
<b>School C</b>	9	24	<b>38%</b>	18	29	<b>62%</b>	<b>School C = 51%</b>
Lesson 1	1	5	20%	4	6	67%	45%
Lesson 2	2	5	40%	4	5	80%	60%
Lesson 3	1	5	20%	3	5	60%	40%
Lesson 4	2	2	100%	2	4	50%	67%
Lesson 5	2	5	40%	3	5	60%	50%
Lesson 6	1	2	50%	2	4	50%	50%
<b>OVERALL By Grade</b>	44	80	<b>Year 1 = 55%</b>	62	87	<b>Year 2 = 71%</b>	<b>OVERALL = 63%</b>

<sup>1</sup> Because lessons were not taught during consecutive class periods, some lesson activities (including review of AC) were not observed by TAAG process evaluation staff. However, this does not mean the teacher did not cover that activity during another class period. For consistency, all lesson activities not observed by TAAG process evaluation staff were excluded from FIDELITY calculation.

**Table 4.6. HEAC: REACH (lessons): Implementation of HEAC by teachers, % of girls who were taught lessons**

	7 <sup>th</sup> Grade HEAC Lessons		8 <sup>th</sup> Grade HEAC Lessons		OVERALL BY SCHOOL & LESSON	
	% of girls taught lessons	% of girls who completed all activity challenges	% of girls taught lessons	% of girls who completed all activity challenges	% of girls taught lessons	% of girls who completed all activity challenges
<b>School A</b>	<b>79%</b>	<b>52%</b>	<b>90%</b>	<b>82%</b>	<b>84%</b>	<b>67%</b>
Lesson 1	94%	65%	96%	88%	95%	76%
Lesson 2	94%	61%	96%	86%	95%	74%
Lesson 3	94%	56%	96%	80%	95%	69%
Lesson 4	94%	42%	96%	77%	95%	59%
Lesson 5	63%	31%	96%	80%	79%	55%
Lesson 6 <sup>1</sup>	33%	N/A	62%	N/A	47%	N/A
<b>School B</b>	<b>93%</b>	<b>56%</b>	<b>83%</b>	<b>55%</b>	<b>88%</b>	<b>55%</b>
Lesson 1	100% <sup>2</sup>	63%	100% <sup>2</sup>	75%	100% <sup>2</sup>	69%
Lesson 2	100% <sup>2</sup>	64%	100% <sup>2</sup>	61%	100% <sup>2</sup>	62%
Lesson 3	100% <sup>2</sup>	70%	100% <sup>2</sup>	61%	100% <sup>2</sup>	65%
Lesson 4	100% <sup>2</sup>	47%	75%	44%	88%	46%
Lesson 5	90%	35%	75%	33%	83%	34%
Lesson 6 <sup>3</sup>	66%	N/A	49%	N/A	58%	N/A
<b>School C</b>	<b>100%<sup>2</sup></b>	<b>22%</b>	<b>98%</b>	<b>29%</b>	<b>99%</b>	<b>26%</b>
Lesson 1	100% <sup>2</sup>	22%	98%	49%	99%	36%
Lesson 2	100% <sup>2</sup>	22%	98%	7%	99%	14%
Lesson 3	100% <sup>2</sup>	22%	98%	0%	99%	10%
Lesson 4	100% <sup>2</sup>	22%	98%	43%	99%	33%
Lesson 5	100% <sup>2</sup>	22%	98%	48%	99%	35%
Lesson 6	100% <sup>2</sup>	N/A	98%	N/A	99%	N/A
<b>OVERALL</b>	<b>92%</b>	<b>45%</b>	<b>93%</b>	<b>58%</b>	<b>92%</b>	<b>50%</b>

<sup>1</sup> One-third of data regarding whether lesson 6 was taught were not available, which considerably affected reach.

<sup>2</sup> Because enrollment at the schools was fluent and students were taught HEAC lessons throughout the school year, it is possible for the records to indicate that the number of girls who were taught lessons to exceed the number of girls in that grade. In those situations, REACH ~ 100%.

<sup>3</sup> Three-eighths of data regarding whether lesson 6 were taught were not available, which considerably affected reach.

**Table 4.7. PPA: DOSE: Implementation of PPA Intervention Component**

	School A				School B				School C				OVERALL			
<b>Semester</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>												
Average # of programs	4	8	8	10	5	8	9	10	2	9	6	7	3.7	8.7	7.7	9.0
Expected # of programs	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5
<b>DOSE (%)</b>	200	267	200	200	250	267	225	200	100	300	150	140	183	289	192	180

**Table 4.8. PPA Resources Available for Programs<sup>1</sup>**

	School A		School B		School C		OVERALL	
	Year 1 n=15	Year 2 n=5	Year 1 n=10	Year 2 n=6	Year 1 n=15	Year 2 n=5	Year 1 n=40	Year 2 n=16
Space for PA (e.g. playing fields, gyms, etc.)	1.8	1.2	1.4	1.2	1.5	2.0	1.6	1.5
Funds (to pay instructors, etc.)	2.2	1.3	2.1	1.9	2.3	3.25	2.2	2.2
Qualified instructors or coaches to deliver PA programs	1.6	1.2	1.6	1.5	1.8	1.8	1.7	1.5
Equipment (e.g., balls, mats, goals, other sports or gym type equipment)	1.5	1.6	1.3	1.2	1.4	1.4	1.4	1.4
Adequate transportation for students	2.6	2.6	2.1	2.0	2.1	2.6	2.3	2.4
Staff time to coordinate services and resources amongst schools and agencies	2.6	2.0	2.4	1.5	2.1	2.3	2.4	1.9
Supervision of girls during TAAG PE	1.4	1.4	1.4	1.0	1.5	1.6	1.4	1.3

<sup>1</sup>The following question from the PPA Planning Committee form was asked to assess PPA Challenges: To what extent did you have the following resources in order to carry out new or existing PPA programs? Scale provided was (1) *all* to (5) *none* and (6) *don't know*. *Don't know* responses were imputed with school level mean.

**Table 4.9. PPA: REACH: Average Attendance per Program for All Schools by Grade**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Average attendance at programs	13.9	10.7	17.2	11.1
6 <sup>th</sup> Grade	6.9	6.3	6.8	3.7
7 <sup>th</sup> Grade	3.0	3.0	4.5	2.8
8 <sup>th</sup> Grade	2.1	1.0	3.5	3.0
Unknown Grade	1.2	0.4	2.2	1.7

**Table 4.10. PPA: REACH: Average Attendance per Program by School and Grade<sup>1</sup>**

	Semester 1			Semester 2			Semester 3			Semester 4		
	Mean (SD)	Min	Max									
<b>SCHOOL A</b>												
Average attendance	14.5 (10.40)	3	43	8.5 (3.87)	2	16	13.6 (11.57)	0	55	7.2 (6.11)	0	32
6 <sup>th</sup> Grade	7.8 (7.49)	0	29	5.7 (4.87)	0	16	5.7 (6.03)	0	17	3.1 (3.18)	0	12
7 <sup>th</sup> Grade	3.0 (3.37)	0	11	1.9 (2.42)	0	7	4.1 (4.28)	0	20	1.1 (1.72)	0	8
8 <sup>th</sup> Grade	0.1 (0.38)	0	1	0.8 (1.46)	0	6	2.6 (4.07)	0	20	2.8 (5.21)	0	32
Unknown Grade	1.1 (1.95)	0	6	0.0 (0.16)	0	1	1.0 (2.41)	0	12	0.3 (1.18)	0	6
<b>SCHOOL B</b>												
Average attendance	10.1 (9.08)	1	40	13.9 (10.43)	0	41	15.0 (8.99)	1	31	9.9 (7.04)	1	48
6 <sup>th</sup> Grade	5.3 (5.26)	0	21	8.5 (7.78)	0	28	6.2 (5.94)	0	22	3.3 (3.06)	0	17
7 <sup>th</sup> Grade	2.2 (2.64)	0	8	4.1 (3.97)	0	13	4.5 (3.76)	0	15	3.6 (3.21)	0	13
8 <sup>th</sup> Grade	1.9 (3.15)	0	13	0.6 (1.48)	0	5	3.1 (3.29)	0	13	2.1 (2.41)	0	14
Unknown Grade	0.7 (3.72)	0	22	0.6 (1.57)	0	9	1.2 (4.62)	0	26	1.0 (2.92)	0	20
<b>SCHOOL C</b>												
Average attendance	17.2 (12.67)	0	51	9.7 (7.35)	2	27	22.9 (20.22)	1	61	16.2 (12.12)	2	53
6 <sup>th</sup> Grade	7.5 (8.57)	0	29	4.8 (3.03)	0	16	8.5 (8.24)	0	31	4.6 (3.65)	0	15
7 <sup>th</sup> Grade	3.7 (2.98)	0	9	3.0 (3.03)	0	13	4.8 (5.07)	0	17	3.7 (3.91)	0	15
8 <sup>th</sup> Grade	4.2 (3.58)	0	15	1.5 (2.05)	0	6	4.9 (5.07)	0	15	4.1 (4.24)	0	15
Unknown Grade	1.8 (2.96)	0	11	0.6 (1.14)	0	4	4.5 (6.00)	0	22	3.8 (4.66)	0	13

**Table 4.11. Implementation and Receptivity of TAAG Intervention Components by Intervention Year**

	<b>TAAG GOAL</b>	<b>Year 1</b>	<b>Met Goal?<sup>1</sup></b>	<b>Year 2</b>	<b>Met Goal?<sup>1</sup></b>
<b>PE (workshops)<sup>2</sup></b>					
Dose <sup>3</sup>	100%	79%	no	86%	no
Fidelity <sup>4</sup>	100%	96%	no	89%	no
Reach <sup>5</sup>	100%	97%	no	92%	no
<b>PE (concepts)<sup>6</sup></b>					
Dose <sup>7</sup>	≥ 3	2.9	no	2.7	no
Fidelity <sup>8</sup> : Students prompted for out-of-class PA	≥ 50%	17%	no	26%	no
Fidelity <sup>8</sup> : Teachers used strategies to minimize management time	≥ 80%	30%	no	19%	no
Fidelity <sup>8</sup> : Students provided with choice	≥ 80%	61%	no	13%	no
Fidelity <sup>8</sup> : Students encouraged to be active in class	≥ 80%	13%	no	17%	no
Fidelity <sup>8</sup> : Most girls appeared to enjoy PE	≥ 80%	76%	no	54%	no
Fidelity <sup>8</sup> : Adequate equipment	≥ 80%	64%	no	57%	no
Fidelity <sup>8</sup> : Appropriate group sizes	≥ 80%	62%	no	60%	no
Reach <sup>9</sup>	100%	100%	YES	100%	YES
<b>HEAC<sup>2</sup> (workshops)</b>					
Dose <sup>10</sup>	100%	67%	no	100%	YES
Fidelity <sup>11</sup>	100%	97%	no	90%	no
Reach <sup>12</sup>	100%	100%	YES	100%	YES
<b>HEAC<sup>6</sup> (lessons)</b>					
Dose <sup>13</sup>	100%	93%	no	96%	no
Fidelity <sup>14</sup>	≥ 80%	55%	no	71%	no
Reach (lessons) <sup>15</sup>	100%	92%	no	93%	no
Reach (AC) <sup>16</sup>	≥ 80%	45%	no	58%	no
<b>PPA</b>					
Dose <sup>17</sup>	100%	248%	YES	186%	YES
Dose <sup>18</sup> (# programs)	↑ by 1	12.4	YES	16.7	YES
Reach <sup>19</sup> (# girls)	5% ↑ per semester	12.3	no	14.2	no
<b>Promotions</b>					
Reach <sup>20</sup>	≥ 70%	N/A	N/A	72%	YES
<b>Program Champion</b>					
Dose (training activities) <sup>21</sup>	100%	N/A	N/A	91%	no

- <sup>1</sup> Refers to whether TAAG implementation goal was achieved for a particular measure.
- <sup>2</sup> Assessed dose, fidelity, and reach by TAAG university staff to school staff; in regards to PE or HEAC workshops.
- <sup>3</sup> Dose for PE workshops is the % of PE teachers who attended the entire training.
- <sup>4</sup> Fidelity for PE workshops is the % of mandatory PE workshop components fully covered.
- <sup>5</sup> Reach for PE workshops is the % of expected PE teachers who attended the training.
- <sup>6</sup> Assessed dose, fidelity, and reach by school staff to girls; in regards to PE concepts or HEAC lessons.
- <sup>7</sup> Dose for PE concepts is the amount of time TAAG PE resources were used.
- <sup>8</sup> Fidelity for PE concepts is the % of PE class time devoted to TAAG PE concepts.
- <sup>9</sup> Reach for PE concepts is the % of girls who attended PE class.
- <sup>10</sup> Dose for HEAC workshops is the % of health teachers who attended the entire training.
- <sup>11</sup> Fidelity for HEAC workshops is the % of mandatory HEAC workshop components fully covered.
- <sup>12</sup> Reach for HEAC workshops is the % of expected health teachers who attended the training.
- <sup>13</sup> Dose for HEAC lessons is the % of HEAC lessons taught as intended.
- <sup>14</sup> Fidelity for HEAC lessons is the % of HEAC lesson components fully covered.
- <sup>15</sup> Reach for HEAC lessons is the % of girls who were taught lessons.
- <sup>16</sup> Reach for activity challenges is the % of girls who completed activity challenges.
- <sup>17</sup> Dose for PPA was calculated as: (average # of programs per semester) / (expected # of program per semester). The expected number of programs was two for the first intervention semester and increased by one until the last intervention semester.
- <sup>18</sup> Dose for PPA is average number of programs. TAAG goal was to increase # of programs by 1 per semester.
- <sup>19</sup> Reach for PPA is average attendance per program.
- <sup>20</sup> Reach for Promotions is the % of girls who participated in the Pedometer Challenge.
- <sup>21</sup> Dose for Program Champion training activities is the % of training requirements fully completed.

## **Chapter 5: CASE STUDY COMPARISON OF THREE TAAG INTERVENTION SCHOOLS IN MARYLAND**

*To be submitted to Journal of School Health*

### **Abstract**

Three middle schools that participated in a multi-level, school-based intervention to decrease the decline of physical activity in adolescent girls are profiled in this case study. Outlined are the events and experiences that transpired during the baseline year and active intervention phase that influenced implementation and receptivity of the trial. Using a mixed methodology approach, this in-depth exploration of the diverse school settings reveals differences in implementation and receptivity that could be attributable to staff buy-in, administrative and faculty/staff support, and student behavior, based on varying school climates. Pertinent information about intrapersonal, interpersonal, and environmental factors is gained from this research that future investigators can consider when initiating physical activity programs in school settings.

### **Background**

Despite the health benefits gained from regular physical activity in adolescents (US Department of Health and Human Services, 2000; Albright et al., 2000; Durstine et al., 2002; Hagberg et al., 2000), most adolescents are not meeting the recommendations (Pate et al., 2006) of 60 minutes or more of moderate-to-vigorous physical activity per day (Strong et al., 2005). To increase physical activity in adolescents, federal guidelines recommend intervening on physical education (PE), health education, and extracurricular physical activities (Centers for Disease Control and Prevention, 2001). School settings are ideal locations to utilize because of the

influence the physical and social environment can have on adolescents' behavior (US Department of Health and Human Services, 2000). Most adolescents regularly attend and spend the majority of their day at school, which increases opportunities for access (Parcel et al., 2000). Individual behaviors, social interactions, and environmental factors can influence the dynamics of a school setting (Parcel et al., 2000).

Several physical activity interventions focusing on adolescent girls have been school-based (Neumark-Sztainer et al., 2003; Story et al., 2003; Perry et al., 1997; Pate et al., 2005), but little research has explored the effect school environment can have on the implementation of the intervention. A school's climate is fluid (Gittelsohn et al., 2003) and school context, or aspects of the larger school environment, may influence intervention implementation (Linnan & Steckler, 2002).

The current research examines the environment of three middle schools that participated in Trial of Activity for Adolescent Girls (TAAG), a physical activity intervention that focused on decreasing the decline of physical activity in middle school girls. Notable experiences and events are chronicled for the two year active intervention phase to explore if environmental factors affected the implementation of the intervention.

### **Study Context**

The three case study schools (School A, School B, and School C) were part of the larger Trial of Activity for Adolescent Girls (TAAG). TAAG was a multi-center group-randomized trial designed to test school and community interventions to reduce the decline in moderate to vigorous physical activity (MVPA) among middle-school girls. This trial was a collaborative study involving six field centers in the vicinities of

Washington, D.C. and Baltimore, Maryland (University of Maryland); Columbia, South Carolina (University of South Carolina); Minneapolis, Minnesota (University of Minnesota); New Orleans, Louisiana (Tulane University); Tucson, Arizona (University of Arizona); and San Diego, California (San Diego State University). The University of North Carolina Chapel Hill served as the Coordinating Center and the National Heart, Lung, and Blood Institute was the Project Office. The primary specific aim was to determine if an intervention that provided physical activity opportunities through linking schools to community organizations reduces the age-related decline in MVPA in middle school girls. A complete description of the study design for TAAG is reported elsewhere (Stevens et al., 2005).

At each field center, six schools were recruited and paired by county, socioeconomic factors, and recruitment rate. Schools from each pair were randomly assigned as a control or intervention school. Only intervention schools are examined in this paper. Baseline year for the intervention was the 2002-2003 school term and the active intervention phase spanned the 2003-2004 and 2004-2005 school years.

### **Study Methods**

The case study methodology is a common research strategy used in many disciplines and explores the meaningful characteristics of real-life events (Yin, 2002). For this study, the case study approach was used to explore the actions and experiences of teachers, middle school girls, community persons, and TAAG university staff to gain understanding of the events and experiences regarding TAAG in each of the Maryland intervention schools. The trial was designed to be flexible to accommodate school and site differences - there was limited freedom as to how components of the

intervention protocol were implemented, but all components implementation was required.

The case study details the events that transpired throughout the baseline and intervention years that influenced the implementation and receptivity of the comprehensive, multi-level physical activity intervention. Both quantitative and qualitative data were used to describe the experiences of each intervention school.

### **Philosophy and Goals**

The TAAG intervention was based on social-ecological model, and targeted individual, social, and environmental factors that influenced physical activity behavior. This approach emphasized etiological explanations and behavioral theories that focused on considering the physical activity from three domains: (1) individual or intrapersonal (biological, psychological, and behavioral influences), (2) social (family or peer support), and (3) environmental (facilities, communities, accessibility) (Sallis & Owen, 1999). Five intervention components: Physical Education (PE), Health Education and Activity Challenge (HEAC), Programs of Physical Activity (PPA), Promotions, and Program Champion were used to address how to reduce the decline physical activity in middle school girls. Table 5.1 outlines the main objectives, activities, and materials of these components.

### **Data Collection**

#### ***Quantitative data***

Process evaluation and baseline measurement data were the sources of quantitative data for this paper. The instruments and methods used to collect the quantitative process evaluation data were developed by TAAG investigators and were field-tested

and revised prior to use. These data are assumed to be valid as they have been collected by trained TAAG staff members using rigorous data collection methods. Additionally, the data were checked and cleaned by the TAAG coordinating center prior to data analysis.

The process evaluation data included in this study focused on achievement of TAAG intervention objectives, teacher evaluations of intervention materials and strategies, program attendance and promotional event participation, and girls' enjoyment in programs. Collected at specific times throughout the intervention, 12 data forms were used to collect the process evaluation data. These forms included questionnaires and checklists completed by school staff and community partners, as well as observations of PE and health classes and trainings by TAAG process evaluation staff.

Anthropometrics and student questionnaires were collected from 6<sup>th</sup> grade girls during spring of 2003. Trained TAAG staff collected triceps skinfold, height, and weight measurements in consecutive order using standard methods. Body mass index (BMI) was calculated using the height and weight measurements ( $BMI = \text{weight}[\text{kg}] / \text{height}[\text{m}^2]$ ). Estimated body fat percent was calculated using an algorithm that accounted for the girl's BMI, triceps skinfold measurement, age, and race ( $-11.57 + 1.096 * BMI + 2.012 * \text{Triceps} - 0.037 * (\text{Triceps} * \text{Triceps}) - 0.374 * \text{age}_6 - 2.970 * \text{black\_race}$ ). From the self-administered questionnaire monitored by trained TAAG staff, data about race/ethnicity and a proxy for socioeconomic status (subsidized lunch) were collected.

All data outlined above were used to compare and contrast intervention implementation at the schools and identify factors that appeared key to intervention successes and challenges.

### *Qualitative data*

Focus groups and in-depth interviews were the sources of qualitative data for this paper. Three focus groups at each school were conducted with randomly chosen girls based on their participation in TAAG physical activity programs. Fifteen or sixteen girls were invited to participate in each focus group. Final sample sizes ranged from 3 to 11 girls with an acceptance rate of 19-69% (mean=46%).

Twenty in-depth interviews with school and community adults who were involved with PE, HEAC, PPA, or Program Champions intervention components of TAAG were conducted. The school and community adults were personally invited because of their role in the TAAG intervention. All PE, HEAC, and Program Champions were interviewed specifically on the component in which they participated. At least one adult from each school involved in PPA (who was not a Program Champion) was selected based on his/her attendance to PPA committee meetings. Some adults were interviewed on more than one TAAG component due to multiple TAAG responsibilities. Of the twenty adults invited to participate in the interviews (7 from School A, 8 from School B, and 5 from School C), only one was not interviewed, due to inability to contact.

In-depth interviews were also conducted with four TAAG intervention staff whose main responsibilities focused on any of the four components of TAAG. University of Maryland Institutional Review Board approval, informed consent of

parents and adult interviewees, and informed assent from girls were obtained prior to any qualitative data collection.

### **Data Analysis**

All quantitative data were analyzed using Statistical Analysis System (SAS Version 9.1, SAS Institute, Cary, NC). Qualitative data from the focus groups and interviews were analyzed using Qualitative Solutions and Research (QSR) N6 Student, software program for analyzing text-based data (Qualitative Solutions and Research Pty Ltd, 2002). The audio tapes were transcribed verbatim and the text files were transferred into QSR N6 Student. Using open, axial, and selective coding (Strauss & Corbin, 1998), a codebook with 48 major codes was developed to analyze the qualitative data. These data were systematically organized by themes in matrices. Using a mixed methodology approach, responses from select quantitative process evaluation data were integrated with qualitative analyses. This strategy allowed for a more complete understanding of the data.

### **School Settings**

The three schools that received the TAAG intervention at the Maryland field center exhibited social and racial diversity, as well as unique instructional practices key to the TAAG intervention. Table 5.2 and 5.3 provides characteristics of each intervention school at the beginning of baseline year.

**School A.** The racial composition of School A was approximately 75% non-Hispanic White, 20% Black or African American, and 5% Asian or Pacific Islander.

*Estimation of Socioeconomic Status.* The percent of students who received subsidized lunch steadily increased from 23.5% during baseline year to 25.8% at beginning of intervention year one to 28.6% at beginning of intervention year two.

*Physical and Health Education Staff.* During each of the two TAAG intervention years, School A had five physical education (PE) teachers and two health education (HE) teachers, who also taught PE. However, one PE teacher left School A at the end of intervention year one and was replaced by a first-year teacher.

*PE Class.* All PE class periods lasted 50 minutes with a frequency of 5 classes per two week period for 7<sup>th</sup> and 8<sup>th</sup> grade students. Sixth graders at School A attended PE class every day. PE classes for all grades were co-educational during baseline and intervention year one. PE classes for 8<sup>th</sup> graders became gender-specific during intervention year two.

*Health Class.* HE teachers taught three cycles of TAAG HEAC per school year.

**School B.** Non-Hispanic White, Black or African American, and Hispanic students each comprised approximately 30% of the student body. The remaining 10% was Asian or Pacific Islander.

*Estimation of Socioeconomic Status.* During the two years of intervention, the percent of students who received subsidized lunch steadily remained at 40%.

*Physical and Health Education Staff.* For each intervention year, School B had two HE teachers each year, but the number of PE teachers increased from four to five. A mathematics curriculum teacher with a coaching background was hired as an additional PE teacher during intervention year two. This teacher only taught 8<sup>th</sup> grade students.

*PE Class.* All PE class periods were co-educational and lasted 84 minutes with a frequency of 5 classes per two-week period.

*Health Class.* HE teachers taught four cycles of TAAG HEAC per school year.

***School C.*** As the percent of Black or African American students increased by 5% each intervention year from 55% to 65%, the percent of non-Hispanic White students decreased by 5% from 40% to 30%. The remaining 5% of the student body included approximately equal percentages of Hispanic and Asian/Pacific Islander students.

*Estimation of Socioeconomic Status.* Over half the students received subsidized lunch, with a steady increase from 49% to 55%.

*Physical and Health Education Staff.* During the two TAAG intervention years, School C had two female PE teachers each year, who also taught HE. One teacher left this school at the end of intervention year one and was replaced by a teacher who had not taught PE in seven years.

*PE Class.* All PE class periods lasted 50 minutes, with a frequency of 5 classes per two week period. All classes were gender-specific.

*Health Class.* HE teachers taught one cycle of TAAG HEAC per school year.

### **Three Schools – Three Experiences**

During baseline year and the two-year active intervention phase, many events occurred in the three middle schools (Table 5.3, 5.4, and 5.5). School participation was 100%; no school dropped out or refused to participate in the intervention activities. The context of each school setting varied to influence the intervention implementation strategies the project employed. As the schools implemented TAAG, three unparalleled scenarios developed.

- 1) School A: At the beginning, school PE staff was resistant to the TAAG philosophy and TAAG university staff, but the implementation of the Program Champion component during intervention year two enabled greater change in some components.
- 2) School B: Understanding the big picture of TAAG from the very beginning, the teachers from this school were perceived to have the most consistent response to the intervention. However, the university staff encountered “teachers set in their ways,” which affected intervention implementation.
- 3) School C: Welcoming TAAG and its relevant additional resources, this school ended intervention year one with high levels of intervention implementation for several activities. However, teacher turnover, change in administration, and student behavioral issues in intervention year two caused PE teachers to attend to school social issues, with less focus on TAAG.

The following narratives describe the notable events that evolved in each school that possibly influenced how the intervention was implemented and received.

*School A.* In spring 2002, TAAG university staff approached numerous schools in the Baltimore/Washington, D.C. metropolitan area to participate in the trial. Most principals considering this opportunity consulted their PE department staff for feedback. However, at School A, the department head was on maternity leave and the rest of the staff was not advised. In addition, the principal who agreed to participate in the trial left the school right after the school was randomized to intervention status. Commitments from the PE and HE staff (i.e., full day workshops and trainings, regularly scheduled visits from TAAG university staff, teaching of

TAAG PE concepts and HE curriculum) were required for the intervention to be implemented as planned.

When TAAG university staff started preliminary steps to implementing the intervention in fall 2002, they were faced with a new principal and a PE department who felt obligated to participate in a project in which they were not consulted. As reported by the PE department head:

I wasn't there initially when the decision was made. The Principal that made the decision to, I don't know how TAAG approached the Principal or how we even got initially involved, but that Principal isn't even here. [S]he's making a decision for a department and now she's gone. And she kind of left all the work for other people [I don't know how TAAG came in, but] here it is.

This caused for an uncomfortable environment, as the TAAG staff perceived that these teachers were not enthusiastic about their presence, as best expressed by:

So, anyway, so now we come in, the PE teacher comes back from maternity leave and finds out she has TAAG in her school and I think that kind of set us off on the wrong foot, that [is] kind of how we feel. (TAAG university staff)

However, the new principal was committed to being a TAAG school, so she was able to garner support from the PE staff.

The principal was very pro-TAAG. I don't know how much communication she had beyond, in the beginning she was really good with communicating with us and, "Whatever you need, I'll help you out." But she had...a good working relationship with the Department chair for PE so she may have encouraged them to take it on. (TAAG university staff)

During intervention year one, the teachers attended all trainings (100% reach for PE and HEAC workshops) (Table 5.6). However, overall implementation of PE concepts was moderate and the extent that HEAC lessons were implemented was mixed. PE teachers at School A used TAAG materials *sometimes* (average use=2.95 out of 4) and less than half of PE class (48%) observed was devoted to TAAG concepts.

Displaying high dose and reach for lessons, 88% of HEAC classes were taught as intended and 79% of girls received the lessons. However, the percent of the lessons completed was low – fidelity was less than 50%. Girls’ participation with the activity challenges was also low (reach=52%). This school exceeded their PPA minimal criteria with four and eight programs offered during fall 2003 and spring 2004, respectively. Average attendance was almost 12 girls per program. Faculty and staff demonstrated support for TAAG as half of PPA programs available to girls were sponsored by teachers.

Despite some successes during year one’s intervention component implementation, the relationship between TAAG university staff and teachers at School A continued to be awkward.

You know...many times you didn’t speak to them [PE teachers] in person...they didn’t wanna talk to you after the conclusion of their class.  
(TAAG university staff)

The Program Champion component was implemented during year two of the intervention. The principal nominated the PE department head and a resource teacher who had been involved with TAAG during the first year as Program Champions. With this appointment came a shift of power that brought a stronger sense of ownership to the PE department. The PE staff appeared to be more receptive to the university staff’s on-going training and technical assistance. The TAAG university staff perceived an improvement in intervention strategies and plans during year two.

[In year two], we saw a big turnaround in it...the fact that you got some teachers who, [during year one] you were lucky if they got their kids active just ten minutes of the class time, and that they kept the kids on task. If you got them to actually not only get the kids more activity but they were verbalizing that the kids need to be in a certain zone during class time and that they need to do more activity outside of class, that’s fabulous. (TAAG university staff)

With the improved relationships between TAAG university staff and the PE staff, it was perceived that the intervention implementation improved during year two. In actuality, there were varied results: PE and PPA implementation decreased with noticeable improvement in HEAC implementation (Table 5.6). Teachers' attendance to PE and HEAC trainings remained 100%. Use of TAAG materials in PE class was approximately the same, except use of handouts decreased from (2.6 to 1.5 out of 4). Fidelity for PE concepts decreased in year two to 35%, mostly due to the 50% reduction in students being provided choice.

Conversely, dose and reach of HEAC lessons increased by a little more than 10% to 100% and 90%, respectively. Fidelity and reach for activity challenges increased by approximately 30% to 82%, respectively. The average number of girls who participated in physical activity programs remained roughly the same.

**School B.** With two senior PE teachers each with almost 30 years of teaching experience, the PE department at this school was established in a magnet school environment. When approached by the TAAG university staff, the PE department stated:

Oh, we were happy to have 'em [TAAG]...We told her about the school and we were happy to have them in, a lot of good people working for TAAG and all of the right goals are there. I think it's honorable, honorable things that they're working on, and necessary, necessary.

Teachers understood and verbalized the purpose and goal of TAAG from the beginning, as demonstrated by their level of willingness to meet with and receive feedback from TAAG university staff about their involvement in the intervention components.

I think it was great to have [TAAG university staff] come in and observe us because I think it made me pay attention to, you know, how much sitting time is going on in my class and that's something that I could improve on, where I might not have paid attention to it before had I not had somebody scoping me down, making sure that I'm trying to maximize my activity time. And I think that's really important. (PE and health teacher, School B)

However, there was some resistance to TAAG philosophy by some teachers and students.

I think that the health teacher was, for the most part, very welcoming, yuh. The PE teachers, I felt, were split and actually were split by gender. I felt that the two female PE teachers were quite readily open to listening to the TAAG philosophy. I think the change is slow, so in terms of our initial expectations, those might have had to have been adjusted, but I do think that from both of the female teachers there was a real effort. (TAAG university staff)

There was some negative reaction on the part of the kids...there were some editorials written in the school paper. The kids were reporting that, for example, TAAG is actually limiting activity time...They also cited some issues where there was a lot of talk time in PE as opposed to activity time. I think if it were designed a little bit differently and to be more active all the time. (HE teacher, School B)

Despite the opposition, the intervention activities were completed with moderate but positive responses. During intervention year one, teacher attendance was 75% for the PE workshops. However, only 33% of teachers who ultimately taught HEAC lessons completed the full HEAC workshop. Initially, only one health teacher at School B was to teach 7<sup>th</sup> grade lessons. Damage from Hurricane Isabel caused prolonged school closings, and the health teacher was unable to teach any lessons during the first quarter. To ensure that all 7<sup>th</sup> grade girls received the HEAC lessons, two PE teachers were trained at a later date to teach the physically active version of the HEAC lessons in PE class. Both teachers willingly attended the make-up session.

Implementation of PE concepts was moderate (Table 5.6). Teachers at School B used TAAG PE materials *rarely* to *sometimes* (average use=2.2 out of 5). PE

fidelity for portion of class time devoted to TAAG PE concepts was 38%. However, HEAC was implemented as planned. Over 90% of classes were taught (dose) with 74% of lesson activities fully completed (fidelity). Ninety-three percent of girls were taught the lessons, but 56% of girls completed activity challenges.

Five and eight physical activity programs were offered the first two semesters of the intervention with an average attendance of 12 girls. The PE department head became involved in the PPA planning committee and the school's faculty and staff were supportive of the after school programs. Of the nine programs offered during the first intervention year, six were sponsored by school faculty and staff.

Contrary to how well the TAAG university staff felt the intervention was going in this school, during the second year, implementation of the components remained stable or decreased with few improvements. Implementation of PE concepts was consistent with year one. There were no changes in use of PE materials (dose=2.3 out of 4). The portion of class time devoted to PE concepts remained roughly the same at year two (fidelity=35%) (Table 5.6).

Overall, HEAC implementation was reduced in year two. Fidelity and reach of lessons decreased by 8% and 10%, respectively. Dose of HEAC lessons and reach of activity challenges roughly stayed the same (89% and 55%, respectively). The faculty and staff continued to be supportive of promoting an active environment for girls as ten of the 13 PPA programs were sponsored by school personnel. HEAC continued with high implementation (89% dose, 88% fidelity), and male teachers became less resistant to the TAAG concept.

But then afterwards, realizing that why you were here, you were here to help us and help the kids out, I thought it went very well. In fact, I'm sorry to see

it, I mean, it's not ending, but a phase of it is ending. (Male PE teacher, School B)

During year two, the PE department head who was involved in the other four components of TAAG and the after-school activities coordinator, were appointed Program Champions. They completed 94% of training activities. Playing different roles, they were effective in accomplishing their responsibilities, as described by a TAAG university staff:

[The PE department head] really understood the mission, was always constantly making links, and was really able to see the bigger picture. She [could] articulate the vision, to adapt it to [School B]...[the PE department head] was really able to make things happen because of who she was...that was hugely effective...[the other Program Champion was]...the after-school activity coordinator...it was almost like we needed him more than he needed us...he had access to the listserve. He was able to make the details happen. So, in a way...they worked well together...we needed [them]...for different reasons.

Although the implementation of the intervention did not improve much from year one to year two and several activities were only partially implemented as planned, the merit of TAAG was recognized by this school when the PPA committee was institutionalized as a standing working group. To continue to provide physical activity programs to middle school students, the PPA committee became a part of the Health and Safety Board, a service council that faculty and staff can choose to serve on each year.

*School C.* With gender-specific PE classes, PE teachers at this school were able to target all of their energy and resources only to girls. Intervention implementation varied during year one (Table 5.6). One hundred percent of PE teachers attended the trainings with 67% completing the full workshops and boosters. PE teachers *frequently* used materials (3.8 out of 4) and appreciated the support received from TAAG, as well as the materials and lessons provided.

Oh, it's been outstanding. I've thoroughly enjoyed everything they've done for us. Between the equipment, the help-outs with lessons, the lesson binders that were given to us, it's really really helped us with resources. (PE teacher, School C)

Half of class time was observed to be devoted to PE concepts. Although moderate, this fidelity was greater than the other schools. One hundred percent of HEAC lessons were taught as planned with 100% of girls receiving the lessons. Inversely, only 38% of the lesson activities were completed and less than 25% of the girls participated in activity challenges.

Two PPA programs were offered during the fall, but increased five-fold in the spring, with an average attendance of almost 14 girls over the two semesters. Although the support of the faculty and staff was scarce (a PE teacher commented about their lack of involvement), TAAG did have the support of the administration. The principal assigned an assistant principal to attend all PPA planning committee meetings. During year one, this committee was comprised of community partners, school personnel, and TAAG staff. The community was supportive and provided several programs. School B was undergoing renovations during the active intervention phase of TAAG and few after school programs were allowed to take place at the school. Many programs took place off-site at community agencies.

Implementation of the intervention continued to vary during intervention year two (Table 5.6). Although, teachers' attendance at PE and HEAC trainings remained 100%, PE implementation was lower in year two. Use of PE materials decreased, but still remained between *sometimes* to *frequently* (average use=3.25 out of 4). The portion of time devoted to PE concepts decreased from half of the time to a third. However, implementation of HEAC lessons increased. Dose and the percentages of

girls who were taught the lessons and completed activity challenges remained the same. Fidelity increased by 24%. The average number of girls per program who attended PPA programs increased by six.

Many transitions took place at School C during intervention year two that potentially inhibited the implementation of the intervention during year two. The principal who was supportive of the project left the school. He was replaced by someone who did not support TAAG to the same extent. TAAG university staff noticed how much more difficult it was to get TAAG activities approved during the second year. In addition, the PE department head transferred to another school and was replaced by a teacher who had not taught PE in 7 years.

[The teacher that left] the first year, [she] really was the lead on that. And [the teacher that stayed] sort of was following her lead, so the second year, when [the teacher that stayed] had to take the lead, and then [the new teacher] came on, I think you had a decided difference in the dynamics there, partly because, between you and I, [the new teacher] was just terrible. She was just awful. There's no other way to put that. I just can't imagine her in a classroom or in a gym. (Community person, School C)

Disruptive student behavior was an ongoing issue during year one. It became more problematic during year two with the transitioning of a new principal and new PE teacher. Additionally, the teacher whom the girls were familiar with during their 6<sup>th</sup> grade year went on maternity leave for almost three months.

I think it was very challenging. I think we, there were, I think it didn't go that well because I think there were, well, there was a number of issues that, I mean, the one being the principal changing. I think that was difficult, and then, you know, PE teachers changing, [new PE department head] being out on maternity. I think that made it really difficult. (TAAG university staff)

The implementation of Program Champions presented additional challenges. One PC was a community person with considerable experience in physical activity programming, but did not have connections within the school. The other PC was the

new PE department head with new supervisory assignments, along with new parental responsibilities. Best summarized by TAAG university staff, there were multiple challenges:

[I]n terms of the school, I think [the new PE department head] really liked [the community person], and I think she wants to continue some of what, she'd like to see more programs offered and wants to continue the [community] connection. But besides that, with the new principal, I mean, he, I don't think he was particularly onboard. I mean I think he wasn't very helpful.

Despite the many issues faced by teachers and students at School C during intervention year two, the implementation of the intervention components fared better than was expected by TAAG staff.

We started off really well in the beginning of Year 2, and then a few things happened, and it kind of petered off for the remainder of the year. (TAAG university staff)

## **Discussion**

Findings from this case study illustrate how an intervention unfolded in three school settings. Some contextual factors were consistent within all three schools: presence of administrative support for TAAG, limited space to implement HEAC lessons, lack of transportation and time conflict as barriers for girls' PPA involvement, and the time consuming logistics for implementing the Pedometer Challenge. Except for administrative support, these factors negatively influenced school climate and intervention implementation. For other aspects, the context of the larger school environment varied and individual, social, and environmental factors played a predominant role in each environment eliciting different situations. In School A, the delay in developing interpersonal relationships between the PE school staff and the intervention staff was thought to encumber the planned implementation strategies.

School B was positively viewed by TAAG university staff, however, this school did not implement the intervention as well as first perceived. Although plagued with school environmental issues exceeding the control boundaries of the PE staff, School C implemented the intervention better than was expected by TAAG university staff.

TAAG employed various strategies to establish a school-community-university relationship to address adolescent girls' physical activity (PE class modification, behavior-focused health education curriculum, community input and partnerships, regular trainings, technical support). However, one method not used that could have influenced each school's participation and implementation in the trial is community-based participatory research (CBPR). CBPR is an emerging methodology that emphasizes a collaborative and equal partnership between academic and community partners (Wallerstein & Duran, 2006). It involves using the knowledge, skills, and resources of community members (Kim et al., 2004) to integrate community participation and decision making into the research process (Wallerstein & Duran, 2006).

One of the initial issues that arose with School A was their lack of involvement with the decision-making process of being involved with TAAG. With the utilization of CBPR, this school would have been an integral partner in the study design with equal input in the methodology and strategies to implement the intervention. The strained relationship between the university and school staff could have been avoided. This type of research could have been beneficial in any of the school settings, not just School A, allowing the researchers to address the schools' individual environmental needs better. For School B, the middle school girls'

negative opinions of TAAG and lack of involvement by male PE staff during year one may have been addressed. Modifications in intervention strategies could have been made to address the environmental issues at School C, thus having an impact on the intervention implementation in year two.

CBPR has been utilized in several smaller-scale interventions with some success (Macaulay et al., 1997; Schulz et al., 2005). However, this type of research may not be feasible in a multi-site trial, such as TAAG. Establishing equal partnerships between the researchers and communities require long-term commitment. It may take years for the trust between community and academic entities to be established before any intervention work begins. This may have exceeded the six year time span of TAAG. With CBPR, objectives and outcomes are based on what the community feels is important. Nationally, the TAAG intervention involved 18 middle schools. Potentially each school community may have had different priorities, making it impossible to adhere to the aims of the trial.

School differences in the level of implementation of TAAG could be attributable to school staff buy-in, administrative and faculty/staff support, and student behavior – factors that influence the school social climate. Although many research projects have focused on identifying individual determinants of physical activity, it is important to understand the context of an individual's environment that influences activity behavior. Physical environment is important (Giles-Corti & Donovan, 2002) and having opportunities to be active is a significant correlate of adolescent girls' activity (Sallis et al., 2000). In each school setting, TAAG focused on providing various opportunities for girls to be active. However, it is also important

to consider the social environment, which has been shown to be more significant in influencing physical activity levels than the physical environment (Giles-Corti & Donovan, 2002). Each school had a different social environment that created dynamics that affected the implementation of the intervention.

Despite the high level of implementation of PE and HEAC trainings by TAAG university staff (overall fidelity was greater than 90%) and positive feedback from school staff regarding support TAAG university staff provided, the schools' PE and health staff partially implemented the intervention. Factors such as the extent the lack of interpersonal connections between TAAG university staff and School A's school personnel; the apprehensive feelings of School B's girls and male PE teachers; and the environmental turmoil at School C contributed to the social environment (breakdown of social support and/or social networks) within each school may have played a role. The school-based interventions, Pathways and CATCH, found that a positive school climate was associated with improvements in intervention implementation (Gittelsohn et al., 2003; Parcel et al., 2003), which further supports the importance of future research endeavors to examine the social environment and understand what factors can affect it thus influencing the intervention implementation.

Several strengths for this study exist. Experiences of three intervention school environments, instead of just one, were explored. This allowed for a wider range of events to be researched, thus increasing the implications of this research. Another strength is that methodological triangulation of data sources and interviewees was employed. Both qualitative and quantitative data from key implementers were used to

assess intervention implementation and explain the events that occurred within each school. Although the data did not converge flawlessly and did not always tell the same story, having subjective viewpoints and the objective data allowed for a more complete story to be told. Limitations of this study are the lack of statistical power to detect differences between measures because of the small number of participating schools and a rigorous measure of school environment or climate was not calculated.

### **Conclusions**

The decline in regular physical activity in adolescent girls is a growing public health problem that requires attention from interventions and similar physical activity initiatives to understand effective strategies to decrease this decline. The present study examined the experiences of three middle schools as they implemented and received a physical activity intervention in their school setting. With differing social environments, intrapersonal, interpersonal, and environmental factors, such as school staff buy-in, administrative and faculty/staff support, and student behavior were reported from qualitative interviews to contribute to the differences in implementation and receptivity of the intervention. When designing studies to address this growing public health issue, it is important for researchers to consider the environment and its influencing factors.

**Table 5.1. Objectives, Activities, and Materials of the Five Components of TAAG Intervention**

	<b>Physical Education (PE)</b>	<b>Health Education with Activity Challenges (HEAC)</b>	<b>Programs of Physical Activity (PPA)</b>	<b>Promotions</b>	<b>Program Champion (PC)</b>
<b>Objectives</b>	<p>Engage girls in moderate to vigorous physical activity (MVPA) at least 50% of class time</p> <p>Provide girls with many opportunities to participate, practice skills, and be physically active</p> <p>Provide girls with opportunities to be successful and enjoy physical activity</p> <p>Encourage girls to participate in physical activity outside of class</p>	<p>Develop behavioral and communication skills to increase physical activity and decrease sedentary behavior</p> <p>Develop communication skills</p> <p>Help girls value being strong and fit; help boys respond positively to this goal for girls</p> <p>Increase access to physical activity</p> <p>Increase enjoyment of physical activity</p>	<p>Increase all middle school girls' opportunities for, and participation in, accessible and appealing physical activity programs during non-school hours</p> <p>Develop and implement programs and opportunities based on girls' needs, interests, and local resources</p> <p>Provide a variety of accessible, safe, and fun physical activity programs and opportunities five days per week for girls</p> <p>Provide physical activity in which 50% of the session offers moderate to vigorous physical activity (MVPA)</p> <p>Strive to get and keep all TAAG girls in out-of-school physical activity programs and opportunities</p>	<p>Promote awareness of and participation in specific TAAG intervention events and activities through print and electronic channels that successfully reach diverse segments of girls</p> <p>Create programming (e.g., student competitions and school reward programs) that reinforce girls' participation in physical activity or schools' involvement in TAAG intervention objectives</p> <p>Inform families of TAAG events and encourage them to facilitate their daughters' choices to be active</p>	<p>Identify individuals within schools and communities who have the interest, energy, abilities and time to help maintain TAAG intervention objectives after the active intervention phase</p> <p>Develop a system for training PC through formal workshops and more informal technical assistance to continue TAAG intervention components</p> <p>Develop a system for helping PC meet the challenges of implementation</p> <p>Develop a system for helping PC problem solve barriers to institutionalization and to adapt the TAAG intervention to better fit the needs of the school and community</p> <p>Develop guidelines for TAAG sites on ways to continue to offer technical assistance (without additional TAAG resources) to schools after the active intervention phase</p>
<b>Activities</b>	<p>Staff development trainings (2 yearly, full-day and 4 semester half-day didactic and participation in skills-based workshops and boosters)</p>	<p>Staff trainings (2 yearly, full-day didactic workshops)</p>	<p>PPA Planning Committee meetings, physical activity programs</p>	<p>Kickoffs<sup>1</sup>, Passport Challenge<sup>2</sup>, Pedometer Challenge<sup>3</sup>, Real Girl Flyers<sup>4</sup>, Girl Group<sup>5</sup></p>	<p>Staff training (one-hour didactic workshop; attendance to intervention year two PE &amp; HEAC workshops; half-day grant writing workshop); monthly PC meetings, action plans related to components, PE &amp; HEAC observations</p>
<b>Materials</b>	<p>Resource manual, activity box, task cards, handouts</p>	<p>Grade-specific curriculum</p>	<p><i>No specific materials</i></p>	<p>Direct messaging using print and electronic media</p>	<p><i>No specific materials</i></p>

<sup>1</sup> Kickoffs were beginning-of-the-year events to introduce students to the TAAG intervention.

<sup>2</sup> Passport Challenge was a strategy to prompt and reinforce girls to be active using a physical activity passport booklet.

<sup>3</sup> Pedometer Challenge was an activity that used pedometers to reward girls for being physically active.

<sup>4</sup> Real Girl Flyers utilized girls from intervention schools as models in posters promoting physical activity.

<sup>5</sup> Girl Group was an organized group of 8<sup>th</sup> graders used to assist in planning and promoting PPA.

**Table 5.2. Characteristics of the Three Maryland TAAG Intervention Schools at Beginning of Measurement Year (2002-2003)**

	<b>School A</b>	<b>School B</b>	<b>School C</b>
Enrollment by Race/Ethnicity <sup>1,2</sup> n (%)	N=962	N=914	N=898
Non-Hispanic White	736 (77%)	270 (30%)	356 (40%)
African-American	165 (17%)	248 (27%)	497 (55%)
Hispanic	6 (1%)	262 (29%)	23 (3%)
API <sup>3</sup>	52 (6%)	128 (14%)	17 (2%)
AIAN <sup>4</sup>	3 (0%)	6 (1%)	5 (1%)
% Female <sup>1</sup>	45%	52%	45%
% of students who receive free-reduced lunch <sup>1</sup>	23.5%	40.8%	48.9%
% of teachers with advanced professional certificates <sup>1</sup>	44.0%	41.1%	48.1%
	n=46	n=55	n=59
Estimated Body Fat <sup>5</sup> Mean % (SD)	29.6 (8.59)	27.7 (7.81)	30.1 (8.49)
Body Mass Index <sup>5</sup> Mean kg/m <sup>2</sup> (SD)	20.9 (4.82)	20.2 (5.02)	22.4 (5.55)

<sup>1</sup> Data are from “2003 Maryland Report Card” <http://www.msp.msde.state.md.us/> and TAAG process evaluation data.

<sup>2</sup> Enrollment is the official count of students enrolled in school as of end of September 2002.

<sup>3</sup> API is Asian or Pacific Islander.

<sup>4</sup> AIAN stands for American Indian or Alaskan Native.

<sup>5</sup> Data are from TAAG baseline body composition measurements of randomly selected, representative subset of 6<sup>th</sup> grade girls from each school; n=46 for School A, n=55 for School B, n=59 for School C.

**Table 5.3<sup>1</sup>. Descriptive Characteristics of Case Study Schools during Two-Year Intervention**

	School A	School B	School C
<b>Location</b>	<ul style="list-style-type: none"> <li>• Baltimore County</li> </ul>	<ul style="list-style-type: none"> <li>• Montgomery County</li> </ul>	<ul style="list-style-type: none"> <li>• Baltimore County but close proximity to Baltimore City</li> </ul>
<b>Racial Profile of School</b>	<ul style="list-style-type: none"> <li>• 75% non-Hispanic White</li> <li>• 20% African American</li> </ul>	<ul style="list-style-type: none"> <li>• 30% non-Hispanic White</li> <li>• 30% African American</li> <li>• 30% Hispanic</li> <li>• 10% Asian/Pacific Islander</li> </ul>	<ul style="list-style-type: none"> <li>• 65% African American,</li> <li>• 30% non-Hispanic White</li> </ul>
<b>PE Class during Intervention</b>	<ul style="list-style-type: none"> <li>• 50 minute periods with a frequency of 5 classes per two week period</li> <li>• Co-educational, but 8<sup>th</sup> grade classes became gender-specific during year 2</li> </ul>	<ul style="list-style-type: none"> <li>• 84 minute periods with a frequency of 5 classes per two week period</li> <li>• Co-educational</li> </ul>	<ul style="list-style-type: none"> <li>• 50 minute periods with a frequency of 5 classes per two week period</li> <li>• Gender-specific</li> </ul>
<b>HE Class during Intervention</b>	<ul style="list-style-type: none"> <li>• Co-educational</li> <li>• Teachers taught classroom-based HEAC lessons for 3 cycles per year</li> </ul>	<ul style="list-style-type: none"> <li>• Co-educational</li> <li>• Primary health teachers taught classroom-based HEAC lessons for 4 quarters per year; make-up teachers (Year 1) taught physically active lessons for 1 quarter</li> </ul>	<ul style="list-style-type: none"> <li>• Gender-specific</li> <li>• Teachers taught physically active HEAC lessons once per year</li> </ul>
<b>Physical Activity Programs offered to Girls Prior to TAAG</b>	<ul style="list-style-type: none"> <li>• Basketball team (8<sup>th</sup> graders only)</li> <li>• Flag football (only a few girls participated)</li> <li>• Step squad</li> </ul>	<ul style="list-style-type: none"> <li>• Basketball, softball, and soccer teams (7<sup>th</sup> and 8<sup>th</sup> graders only)</li> <li>• Step squad</li> </ul>	<ul style="list-style-type: none"> <li>• Basketball team (7<sup>th</sup> and 8<sup>th</sup> graders only)</li> <li>• Step squad</li> </ul>
<b>Year 1 PE Teachers (gender, age, # years taught PE)</b>	<ul style="list-style-type: none"> <li>• Department Head: Female, early 30s, 10<sup>th</sup> year</li> <li>• Female, mid 40s, 13<sup>th</sup> year</li> <li>• Female, early 20s, 2<sup>nd</sup> year</li> <li>• Male, early 30s, 6<sup>th</sup> year</li> <li>• Male, early 20s, 2<sup>nd</sup> year</li> </ul> <p><i>All teachers were non-Hispanic White</i></p>	<ul style="list-style-type: none"> <li>• Department Head: Female, mid 50s, 29<sup>th</sup> year</li> <li>• Female, mid 30s, 5<sup>th</sup> year</li> <li>• Male, early 30s, 8<sup>th</sup> year</li> <li>• Male, mid 50s, 30<sup>th</sup> year</li> </ul> <p><i>All teachers were non-Hispanic White</i></p>	<ul style="list-style-type: none"> <li>• Department Head: Female, late 30s, 15<sup>th</sup> year</li> <li>• Female, early 30s, 9<sup>th</sup> year</li> </ul> <p><i>All teachers were non-Hispanic White</i></p>

	School A	School B	School C
<b>PE Teacher Turnover</b>	<ul style="list-style-type: none"> <li>• Male teacher (early 20s, 2<sup>nd</sup> year) left after Year 1. A first year, non-Hispanic white male teacher replaced him.</li> </ul>	<ul style="list-style-type: none"> <li>• African-American male teacher who had never taught PE, but was a mathematics teacher, joined the PE staff. He taught two sections of 8<sup>th</sup> grade PE in the morning and then taught math for the rest of the day.</li> </ul>	<ul style="list-style-type: none"> <li>• Department head left after Year 1 and was replaced by a non-Hispanic white female teacher (early 40s, 4<sup>th</sup> year) who had not taught PE for several years. For the past 7 years, this new PE teacher had been teaching special education.</li> </ul>
<b>Year 1 TAAG HEAC Teachers (gender, age)</b>	<ul style="list-style-type: none"> <li>• Female, non-Hispanic White, mid 40s, also taught PE</li> </ul>	<ul style="list-style-type: none"> <li>• Male, mid 30s, only taught health</li> <li>• Female, mid 30s, also taught PE</li> <li>• Male, early 30s, also taught PE</li> </ul> <p><i>All teachers were non-Hispanic White</i></p>	<ul style="list-style-type: none"> <li>• Female, late 30s, also taught PE</li> <li>• Female, early 30s, also taught PE</li> </ul> <p><i>All teachers were non-Hispanic White</i></p>
<b>Year 2 TAAG HEAC Teachers (gender, age)</b>	<ul style="list-style-type: none"> <li>• Female, non-Hispanic White, early 20s, also taught PE</li> </ul>	<ul style="list-style-type: none"> <li>• Male: mid 30s, only taught health</li> <li>• Female: mid 30s, also taught PE</li> <li>• Female: early/mid 30s, also taught media curriculum</li> </ul> <p><i>All teachers were non-Hispanic White</i></p>	<ul style="list-style-type: none"> <li>• Female: early 30s, also taught PE</li> <li>• Female: early 40s, also taught PE</li> </ul> <p><i>All teachers were non-Hispanic White</i></p>
<b>Health Teacher Turnover</b>	<ul style="list-style-type: none"> <li>• No turnover. At this school, it is customary for one PE teacher to teach 7<sup>th</sup> grade health and another PE teacher to teach 8<sup>th</sup> grade health.</li> </ul>	<ul style="list-style-type: none"> <li>• No turnover. However, during Year 1, male PE teacher who normally did not teach HE taught several TAAG HEAC lessons during Quarter 2 because the male health teacher was not able to teach during Quarter 1 due to school closures (Hurricane Isabel).</li> <li>• Additionally, during Year 2, the media specialist teacher taught TAAG HEAC lesson 6, which paralleled her content area.</li> </ul>	<p><i>See PE turnover</i></p>

	School A	School B	School C
<b>Administration Turnover</b>	<ul style="list-style-type: none"> <li>• Same principal during both intervention years, but not the principal who agreed to be a TAAG school</li> </ul>	<ul style="list-style-type: none"> <li>• A new principal came at the end of intervention year one and was very supportive of TAAG. The principal who agreed to participate in TAAG and was present during Year 1 was hands-off and placed an assistant principal in charge of all TAAG activities.</li> </ul>	<ul style="list-style-type: none"> <li>• A new principal came at the end of intervention year one. The old principal was supportive of TAAG and required an assistant principal to attend PPA meetings. New principal was also supportive of TAAG.</li> </ul>
<b>Approached about TAAG</b>	<ul style="list-style-type: none"> <li>• TAAG staff approached eligible schools in the area during spring 2002 using a staged approach. Once a school in an area agreed to participate, other middle schools in the area became ineligible.</li> </ul>		
<b>School's response to becoming a TAAG school</b>	<ul style="list-style-type: none"> <li>• Not well received by PE staff because department head and other teachers were not involved in planning phase.</li> </ul>	<ul style="list-style-type: none"> <li>• Positive reaction from PE and health staff</li> </ul>	<ul style="list-style-type: none"> <li>• Positive reaction from PE and health staff</li> </ul>
<b>Measurement Year (2002-2003)</b>	<ul style="list-style-type: none"> <li>• Intervention school girls were introduced to TAAG during a kickoff event. Recruitment began Fall 2002. Staggered measurement took place during Spring 2003.</li> </ul>		
<b>Notable Environmental Event</b>	<ul style="list-style-type: none"> <li>• For three weeks in October 2002, the notorious sniper shootings terrorized the Baltimore-Washington, D.C. metropolitan area. Although the intervention phase of TAAG had not begun, the activity levels of children in the area were highly affected. Students were forced indoors as all outdoor activities, including PE classes and after school programs, were suspended from being outdoors.</li> </ul>		

**Table 5.4<sup>1</sup>. Intervention Year 1 (2003-2004) Events and Experiences**

	School A	School B	School C
<b>Intervention Year 1 (2003-2004)</b>	<ul style="list-style-type: none"> <li>• PE staff buy-in was very difficult with resistance to TAAG philosophy.</li> <li>• HEAC did not proceed smoothly, mainly due to teacher’s intrapersonal issues.</li> <li>• PPA was a success.</li> </ul>	<ul style="list-style-type: none"> <li>• Female teachers more receptive than male teachers.</li> <li>• HEAC proceeded smoothly, although the teachers had issues with the lessons.</li> <li>• PPA was a success.</li> </ul>	<ul style="list-style-type: none"> <li>• PE teachers were very receptive to TAAG PE and HEAC.</li> <li>• PPA was a success and offered a variety of programs never offered to the girls before.</li> </ul>
<b>Notable Environmental Event</b>	<ul style="list-style-type: none"> <li>• In mid-September 2003, Hurricane Isabel blew through the Baltimore-Washington, D.C. metropolitan causing severe power outages and several days of school closings. These closings affected HEAC lessons at School B.</li> </ul>		
<b>7<sup>th</sup> Grade HEAC Workshop (1 workshop for all schools prior to start of school)</b>	<ul style="list-style-type: none"> <li>• 1 HE teacher attended.</li> <li>• 100% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• 1 HE teacher attended.</li> <li>• 100% dose, 100% reach</li> <li>• Due to school cancellations from Hurricane Isabel, HE teacher could not teach TAAG HEAC during Quarter 1. To ensure all girls received lessons, all PE teachers were trained during make-up session in November.</li> </ul>	<ul style="list-style-type: none"> <li>• Both teachers attended.</li> <li>• 100% dose, 100% reach</li> </ul>
<b>Year 1 Full PE Workshop (1 workshop per county prior to start of school)</b>	<ul style="list-style-type: none"> <li>• Four PE teachers attended. One PE teacher made up the workshop in abbreviated session in late September.</li> <li>• 80% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Three PE teachers attended. One PE teacher made up the workshop in abbreviated session in late September.</li> <li>• 75% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Two PE teachers attended.</li> <li>• 100% dose, 100% reach</li> </ul>
<b>Year 1 PPA Committee Members</b>	<ul style="list-style-type: none"> <li>• Included PE teachers, community partners, PTA, and TAAG staff</li> </ul>	<ul style="list-style-type: none"> <li>• Included PE teachers, community partners, and TAAG staff</li> </ul>	<ul style="list-style-type: none"> <li>• Included PE teachers, assistant principal, community partners, and TAAG staff</li> </ul>
<b>Year 1 Kickoff Event</b>	<ul style="list-style-type: none"> <li>• Successfully held during PE class</li> </ul>	<ul style="list-style-type: none"> <li>• Successfully held during PE class, although girls at this school complained that the kickoff was not active enough considering TAAG is supposed to be about being physically active.</li> </ul>	<ul style="list-style-type: none"> <li>• Successfully held during PE class</li> </ul>

	School A	School B	School C
<b>Fall 2003 PPA Programs</b>	<ul style="list-style-type: none"> <li>• 4 programs</li> <li>• Teen fitness club, step squad, tennis, flag football</li> </ul>	<ul style="list-style-type: none"> <li>• 5 programs</li> <li>• DARE dance, double dutch, step squad, basketball, hiking club</li> </ul>	<ul style="list-style-type: none"> <li>• 2 programs</li> <li>• Step squad, self defense</li> </ul>
<b>Passport Challenge</b>	<ul style="list-style-type: none"> <li>• 20% participation rate</li> </ul>	<ul style="list-style-type: none"> <li>• 12% participation rate</li> </ul>	<ul style="list-style-type: none"> <li>• 19% participation rate</li> </ul>
<b>Year 1 Booster 1 (1 per county)</b>	<ul style="list-style-type: none"> <li>• Five PE teachers attended. One PE teacher left early.</li> <li>• 80% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Three PE teachers attended. One PE teacher made up the booster in abbreviated session.</li> <li>• 75% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• One PE teacher attended in early November. One PE teacher made up booster in abbreviated session.</li> <li>• 50% dose, 100% reach</li> </ul>
<b>Spring 2004 PPA programs</b>	<ul style="list-style-type: none"> <li>• 8 programs</li> <li>• Teen fitness club, step squad, speed walking, DARE dance, music fitness, swimming, field hockey, cheerleading</li> </ul>	<ul style="list-style-type: none"> <li>• 8 programs</li> <li>• DARE dance, step squad, basketball, hiking club, swimming, AM volleyball, jump rope club, AAA club</li> </ul>	<ul style="list-style-type: none"> <li>• 9 programs</li> <li>• Step squad, DARE dance, volleyball, swimming, gospel dance, cheerleading, basketball, karate, softball</li> </ul>
<b>Year 1 Booster 2 (1 per county)</b>	<ul style="list-style-type: none"> <li>• Five PE teachers attended.</li> <li>• 100% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Three PE and one health teachers attended. One PE teacher also attended the other county's booster to share ideas. One PE teacher did not attend any sessions.</li> <li>• 75% dose, 75% reach</li> </ul>	<ul style="list-style-type: none"> <li>• One PE teacher attended. One PE made up booster in abbreviated session.</li> <li>• 50% dose, 100% reach</li> </ul>
<b>Year 1 Real Girl Flyers</b>	<ul style="list-style-type: none"> <li>• The first round of flyers (fall) posted at the schools contained pictures from the TAAG stock photos. The 2nd round of flyers were developed with input from girls who were recommended by PE teachers. These girls helped with the text and were featured in the photos. Non-active shots were taken.</li> </ul>		

**Table 5.5<sup>1</sup>. Intervention Year 2 (2004-2005) Events and Experiences**

	<b>School A</b>	<b>School B</b>	<b>School C</b>
<b>Intervention Year 2 (2004-2005)</b>	<ul style="list-style-type: none"> <li>• Program Champions were instrumental in increasing PE teacher buy-in.</li> <li>• HEAC teacher did an excellent job of teaching lessons and getting students involved.</li> <li>• PPA was successful.</li> </ul>	<ul style="list-style-type: none"> <li>• Male teachers became more involved with TAAG PE.</li> <li>• HEAC continued on a positive note.</li> <li>• PPA was successful.</li> <li>• Program Champions played vital role in all components of TAAG intervention.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher and administration turnovers negatively impacted the implementation of TAAG.</li> <li>• Department head who was also a PC was unavailable for the majority of the school year (maternity leave). This influenced TAAG PE, HEAC, and PPA.</li> </ul>
<b>Selection of Program Champion</b>	<ul style="list-style-type: none"> <li>• Both PCs were nominated by principal. Initially, TAAG staff was not enthusiastic about the choices because of the lack of previous involvement by either nominee. In agreement, but the appointment of the PE department head turned out to be the missing link to fully getting PE staff buy-in.</li> </ul>	<ul style="list-style-type: none"> <li>• The PE department head was selected because of her involvement during year one and the after school activity coordinator was chosen (by TAAG and the principal) because of his role in coordinating after-school programs at the school.</li> </ul>	<ul style="list-style-type: none"> <li>• There were limited options for this school. Very involved community person and pregnant PE department head were the only choices.</li> </ul>
<b>8<sup>th</sup> Grade HEAC Workshop (1 for all schools prior to start of school)</b>	<ul style="list-style-type: none"> <li>• One health teacher and one PC attended.</li> <li>• 100% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Two health teachers and two PC attended. In September, another session was held for media curriculum teacher who taught Lesson 6.</li> <li>• 100% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Two PE teachers and the community PC attended.</li> <li>• 100% dose, 100% reach</li> </ul>
<b>Year 2 Full PE Workshop (1 for all schools prior to start of school)</b>	<ul style="list-style-type: none"> <li>• Four PE teachers attended. One teacher left early. New PE teacher made up session in late September.</li> <li>• 60% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Four PE and one health teachers attended.</li> <li>• 100% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Two PE teachers and the community PC attended.</li> <li>• 100% dose, 100% reach</li> </ul>
<b>Year 2 PPA Committee Members</b>	<ul style="list-style-type: none"> <li>• Little contribution from community. Primarily consisted of PCs and TAAG staff</li> </ul>	<ul style="list-style-type: none"> <li>• Little involvement with community. Primarily consisted of PC, school staff who led PPA programs, and TAAG staff. By Spring 2005, the meetings were run by PC and not TAAG staff.</li> </ul>	<ul style="list-style-type: none"> <li>• Assistant Principal no longer involved. Primarily consisted of PC and TAAG staff.</li> </ul>

	<b>School A</b>	<b>School B</b>	<b>School C</b>
<b>Year 2 Kick-off Event</b>	<ul style="list-style-type: none"> <li>• This event was led by PE teachers and PC during an assembly. Great success.</li> </ul>	<ul style="list-style-type: none"> <li>• This event was supposed to be part of a school-wide fair on picture day. One of the PCs said they would organize the event but that didn't happen and TAAG staff didn't find out until the day of the event. TAAG staff created and led impromptu stations with one other PE teacher (no community agencies attended).</li> </ul>	<ul style="list-style-type: none"> <li>• This event was ran by TAAG staff during PE class with little assistance from PE teachers. Community PC led/organized one of the stations.</li> </ul>
<b>Fall 2004 PPA Programs</b>	<ul style="list-style-type: none"> <li>• 8 programs</li> <li>• Teen fitness club, hip hop, step squad, tennis, flag football, speed walking, DARE dance, self defense</li> </ul>	<ul style="list-style-type: none"> <li>• 9 programs</li> <li>• DARE dance, step squad, hiking club, AM volleyball, jump rope club, field hockey, Rising Sun, Latin dance, wrestling</li> </ul>	<ul style="list-style-type: none"> <li>• 6 programs</li> <li>• Step squad, self defense, DARE dance, swimming, hiking club, Turkey Trot</li> </ul>
<b>Pedometer Challenge</b>	<ul style="list-style-type: none"> <li>• 75% participation rate</li> </ul>	<ul style="list-style-type: none"> <li>• 82% participation rate</li> </ul>	<ul style="list-style-type: none"> <li>• 58% participation rate</li> </ul>
<b>Year 2 Booster 1 (1 per school)</b>	<ul style="list-style-type: none"> <li>• Five PE teachers and PC attended.</li> <li>• 100% dose, 100% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Four PE teachers, PC, and health teacher attended. One required PE teacher did not attend or make-up session.</li> <li>• 80% dose, 80% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Two PE teachers and PC attended.</li> <li>• 100% dose, 100% reach</li> </ul>
<b>Program Champion Grant Writing Workshop</b>	<ul style="list-style-type: none"> <li>• Neither PC attended. A one hour make-up session was held. PC did not have a positive attitude about grant writing workshop because she felt if they needed money for programs, they could receive funds from administration.</li> </ul>	<ul style="list-style-type: none"> <li>• Both PCs attended. Positive feedback and great participation.</li> <li>• Applied for Washington Post grant, but did not receive it.</li> </ul>	<ul style="list-style-type: none"> <li>• Both PCs attended. Positive feedback and great participation.</li> <li>• PE teacher applied for funds for Dance Dance Revolution and was awarded monies.</li> </ul>

	<b>School A</b>	<b>School B</b>	<b>School C</b>
<b>Spring 2005 PPA programs</b>	<ul style="list-style-type: none"> <li>• 10 programs</li> <li>• Hip hop dance, step squad, tennis, 3 versus 3 basketball, field hockey, ultimate Frisbee, cheerleading, Just Try volleyball, Just Try soccer, Just Try cross country</li> </ul>	<ul style="list-style-type: none"> <li>• 10 programs</li> <li>• DARE dance, step squad, hiking club, jump rope club, Rising Sun, AM badminton, Latin dance, Hip Hop dance, Pilates, Track challenge</li> </ul>	<ul style="list-style-type: none"> <li>• 7 programs</li> <li>• Step squad, DARE dance, swimming, volleyball, cheerleading, boot camp, street dance</li> </ul>
<b>Girl Group</b>	<ul style="list-style-type: none"> <li>• Successfully recruited 7-9 girls who meet on a biweekly basis to discuss programs and promotions. These girls also made posters and did announcements. Halfway through the spring semester, a group of 3-4 girls attended a PPA meeting. There were indications that the Girl Group would continue next year.</li> </ul>	<ul style="list-style-type: none"> <li>• This group was not successfully implemented at this school. Principal was really disappointed because she wanted girls to be involved. Only two meetings were held. 23 girls invited, but only 4 magnet girls and 3 non-magnet girls attended. Magnet girls dominated the discussion.</li> <li>• For the second meeting, 25 girls invited but only 6 non-magnet and 2 magnet girls attended. Girls did not seem very interested and the group was discontinued.</li> </ul>	<ul style="list-style-type: none"> <li>• Successfully recruited 10-15 girls who meet on a biweekly basis to discuss programs and promotions. Halfway through the spring semester, a group of 2-3 girls attended a PPA meeting. Seemed positive that Girl Group will continue next year.</li> </ul>
<b>Year 2 Booster 2 (1 for all schools)</b>	<ul style="list-style-type: none"> <li>• Five PE teachers and PC attended</li> <li>• 100% dose, 100% reach.</li> </ul>	<ul style="list-style-type: none"> <li>• Three PE teachers, PC, and HE teacher attended. Two PE teachers did not attend either session.</li> <li>• 60% dose, 60% reach</li> </ul>	<ul style="list-style-type: none"> <li>• Two PE teachers and PC attended.</li> <li>• 100% dose, 100% reach</li> </ul>
<b>Year 2 Real Girl Flyers</b>	<ul style="list-style-type: none"> <li>• Featured members of the Girl Group for most shots. Also used photos taken during PPA programs.</li> </ul>	<ul style="list-style-type: none"> <li>• Because there was not a Girl Group, Real Girl Flyers were not implemented during Year 2.</li> </ul>	<ul style="list-style-type: none"> <li>• Featured members of the Girl Group and their friends for staged active shots.</li> </ul>

**Table 5.6. Implementation and Receptivity of TAAG Intervention Components by School**

	School A			School B			School C		
	Year 1	Year 2	Change <sup>1</sup>	Year 1	Year 2	Change <sup>1</sup>	Year 1	Year 2	Change <sup>1</sup>
<b>PE (workshops)<sup>2</sup></b>									
Dose <sup>3</sup>	87%	87%	↔	75%	80%	↔	67%	100%	↑
Fidelity <sup>4</sup>	96%	86%	↓	96%	86%	↓	96%	86%	↓
Reach <sup>5</sup>	100%	100%	↔	75%	80%	↔	100%	100%	↔
<b>PE (concepts)<sup>6</sup></b>									
Dose <sup>7</sup>	3.0	2.3	↓	2.2	2.3	↔	3.8	3.3	↓
Fidelity <sup>8</sup>	48%	35%	↓	38%	35%	↔	50%	34%	↓
Reach <sup>9</sup>	100%	100%	↔	100%	100%	↔	100%	100%	↔
<b>HEAC<sup>2</sup> (workshops)</b>									
Dose <sup>10</sup>	100%	100%	↔	33%	67%	↑	100%	100%	↔
Fidelity <sup>11</sup>	97%	90%	↓	97%	90%	↓	97%	90%	↓
Reach <sup>12</sup>	100%	100%	↔	100%	100%	↔	100%	100%	↔
<b>HEAC<sup>6</sup> (lessons)</b>									
Dose <sup>13</sup>	88%	100%	↑	93%	89%	↔	100%	100%	↔
Fidelity <sup>14</sup>	48%	82%	↑	78%	70%	↓	38%	62%	↑
Reach (lessons) <sup>15</sup>	79%	90%	↑	93%	83%	↓	100%	98%	↔
Reach (AC) <sup>16</sup>	52%	82%	↑	56%	55%	↔	22%	29%	↔
<b>PPA</b>									
Dose <sup>17</sup>	260%	211%	↓	240%	200%	↓	240%	144%	↓
Dose <sup>18</sup> (# programs)	12	18	↑	13	19	↑	11	13	↔
Reach <sup>19</sup> (# girls)	11.5	10.4	↔	12	12.5	↔	13.5	19.6	↑
<b>Promotions</b>									
Reach <sup>20</sup>	N/A	75%	-	N/A	82%	-	N/A	58%	-
<b>Program Champion</b>									
Dose (training activities) <sup>21</sup>	N/A	89%	-	N/A	94%	-	N/A	89%	-

- <sup>1</sup> Refers to the trend in measures from year one to year two: increase (↑), decrease (↓), or no change (↔). Differences were not statistically tested because of small sample sizes.
- <sup>2</sup> Assessed dose, fidelity, and reach by TAAG university staff to school staff, in regards to PE or HEAC workshops.
- <sup>3</sup> Dose for PE workshops is the % of PE teachers who attended the entire training.
- <sup>4</sup> Fidelity for PE workshops is the % of mandatory PE workshop components fully covered.
- <sup>5</sup> Reach for PE workshops is the % of expected PE teachers who attended the training.
- <sup>6</sup> Assessed dose, fidelity, and reach by school staff to girls; in regards to PE concepts or HEAC lessons.
- <sup>7</sup> Dose for PE concepts is the amount of time TAAG PE resources were used.
- <sup>8</sup> Fidelity for PE concepts is the % of PE class time devoted to TAAG PE concepts.
- <sup>9</sup> Reach for PE concepts is the % of girls who attended PE class.
- <sup>10</sup> Dose for HEAC workshops is the % of health teachers who attended the entire training.
- <sup>11</sup> Fidelity for HEAC workshops is the % of mandatory HEAC workshop components fully covered.
- <sup>12</sup> Reach for HEAC workshops is the % of expected health teachers who attended the training.
- <sup>13</sup> Dose for HEAC lessons is the % of HEAC lessons taught as intended.
- <sup>14</sup> Fidelity for HEAC lessons is the % of HEAC lesson components fully covered.
- <sup>15</sup> Reach for HEAC lessons is the % of girls who were taught lessons.
- <sup>16</sup> Reach for activity challenges is the % of girls who completed activity challenges.
- <sup>17</sup> Dose for PPA was calculated (average # of programs per semester) / (expected # of program per semester). The expected number of programs was two for the first intervention semester and increased by one until the last intervention semester.
- <sup>18</sup> Dose for PPA is average number of programs.
- <sup>19</sup> Reach for PPA is average attendance per program.
- <sup>20</sup> Reach for Promotions is the % of girls who participated in the Pedometer Challenge.
- <sup>21</sup> Dose for Program Champion training activities is the % of training requirements fully completed.

## **Chapter 6: QUALITATIVE ANALYSIS OF ADOLESCENT GIRLS' PERCEPTIONS OF A PHYSICAL ACTIVITY INTERVENTION**

*To be submitted to Health Promotion Practice*

### **Abstract**

As physical activity levels continue to decline in adolescent girls, it is pertinent for researchers to investigate not only the factors but the context of the situations that influence physical activity levels in this population. To explore the perceptions and attitudes of middle school girls who were exposed to the school-based, physical activity intervention Trial of Activity for Adolescent Girls (TAAG), nine focus groups at three middle schools were conducted. Although the environments of the three intervention schools differed, there were commonalities among the girls. Overall, middle school girls positively viewed the intervention; the girls' physical activity behavior was influenced by family members, friends, and teachers; girls had both negative and positive attitudes towards physical education and health education components of TAAG; and girls faced similar reasons for participating and not participating in TAAG-sponsored physical activity programs. The lessons learned from this in-depth study of middle school girls can be used to guide best practices for future intervention efforts.

### **Introduction**

Research supports that while there are many benefits of regular physical activity in adolescents (US Department of Health and Human Services, 2000), participation tends to decline with age, especially among girls (Kimm et al., 2000). In recent years

as a way to address this public health issue, school-based interventions have emerged targeting increased physical activity in adolescents (Going et al., 2003; Neumark-Sztainer et al., 2003; Pate et al., 2003). In general, these large interventions have had disappointing results.

Because the decline in physical activity is more pronounced in girls than in boys (Kimm et al., 2000), targeted intervention strategies are needed specifically for this population (Sallis et al., 2003). There are various factors that can influence physical activity in girls (Sallis et al., 2000), therefore, it is crucial to evaluate implementation strategies and methods targeting female adolescents. Several, large intervention trials focusing on adolescents have assessed process evaluation measures to better understand the implementation of interventions (Marcoux et al., 1999; McKenzie et al., 2004; Pate et al., 2003; Perry et al., 1997; Steckler et al., 2003). Some supplemented quantitative measures with qualitative methodology (Pate et al., 2003; Steckler et al., 2003) to get a better understanding of how the intervention was perceived by “users”. However, the focus has usually been on adults who participated in the intervention implementation. It is rare for qualitative process evaluation data to concentrate on adolescents, the ultimate targets for interventions. Speaking to adolescents about their perceptions and views of an intervention can increase insight to better structure and inform future studies. Examining the thoughts and perceptions of this population can provide an opportunity to better understand factors that influence girls’ physical activity and a way to recognize and explore their response to being part of an intervention. There is a need for investigators to document unique,

emerging factors from the girls' viewpoints to increase success of future physical activity programs.

### **Purpose of Present Study**

The present study explored the perceptions and attitudes of middle school girls who were exposed to a school-based, physical activity intervention. The information collected from girls, the intervention targets, can be used to better understand the factors that influenced implementation and receptivity of the intervention, to understand how middle school girls responded to such an intervention, and to inform future investigators on elements to consider when planning future school-based interventions targeting middle school girls.

### **Overview of TAAG**

TAAG was a multi-center group-randomized trial designed to test school and community interventions to reduce the decline in moderate to vigorous physical activity (MVPA) among middle school girls. This trial was a collaborative study involving six field centers in the vicinities of Washington, D.C. and Baltimore, Maryland (University of Maryland); Columbia, South Carolina (University of South Carolina); Minneapolis, Minnesota (University of Minnesota); New Orleans, Louisiana (Tulane University); Tucson, Arizona (University of Arizona); and San Diego, California (San Diego State University). University of North Carolina, Chapel Hill served as the Coordinating Center and the National Heart, Lung, and Blood Institute was the Project Office. The primary specific aim was to determine if an intervention that provided physical activity opportunities through linking schools to community organizations reduced the age-related decline in MVPA in middle school

girls. A complete description of the study design for TAAG is reported elsewhere (Stevens, 2005). The active intervention phase of this trial spanned the 2003-2004 and 2004-2005 school years. Although all students enrolled in each school were exposed to TAAG intervention strategies and activities, the main population targeted was 6<sup>th</sup> grade girls during the 2002-2003 school year as they progressed through 8<sup>th</sup> grade. The 8<sup>th</sup> graders in the current research are a subset of the cohort of interest.

### **Components of TAAG**

The theoretical framework of TAAG was based on a social-ecological model that focused on physical and social environments and the individual characteristics of middle school girls. This approach emphasized etiological explanations and behavioral theories that focused on considering the physical activity from three domains: (1) individual or intrapersonal (biological, psychological, and behavioral influences), (2) social (family or peer support), and (3) environmental (facilities, communities, accessibility) (Sallis & Owen, 1999). Five intervention components: Physical Education, Health Education and Activity Challenge, Programs of Physical Activity, Promotions, and Program Champion, addressed how to increase physical activity in middle school girls.

***Physical Education (PE)***. Because school is a primary place that adolescent physical activity can be promoted and lifetime activity habits can be developed, PE class was a major target for the TAAG intervention. The vision of TAAG PE was to promote daily PE that provided girls with opportunities to participate in enjoyable, moderate to vigorous physical activity (MVPA) and to learn movement and behavioral skills.

***Health Education with Activity Challenges (HEAC).*** HEAC lessons were taught by health education or PE teachers to promote behavioral skills associated with physical activity. This component of the intervention provided youth with the knowledge and skills needed to be more active both inside and outside of school. Activity Challenges, a type of active homework, enhanced each lesson and provide opportunities for students to be active and have fun while learning. Only the 8<sup>th</sup> graders described in this study were exposed to TAAG HEAC.

***Programs for Physical Activity (PPA).*** Collaborations among schools, community agencies, and the TAAG universities were constructed to provide physical activity programs for girls after school and during non-school hours (e.g., weekends, summers). These jointly developed after-school programs were called Programs for Physical Activity, or PPA. The purpose of the TAAG PPA was to increase all middle school girls' opportunities for, and participation in, accessible and appealing physical activity programs during non-school hours - before school, after school, on weekends, during summer.

***Promotions.*** Promotional activities were launched to encourage overall physical activity and promote TAAG-specific programs. One particular promotional event was the Pedometer Challenge. This activity utilized an innovative way to use pedometers to reward girls for being physically active. The Challenge was launched during year two of the TAAG intervention and targeted 8<sup>th</sup> grade girls.

***Program Champion (PC).*** A Program Champion model was adopted to enhance the sustainability of the intervention in the maintenance year (2005-2006 school year). This component of TAAG is not discussed in this paper.

## **Methods**

### **Intervention Schools**

All participants for the present study were students at one of the three intervention schools involved with TAAG at the Maryland field center. These three schools exhibited social and racial diversity, as well as unique instructional practices key to the TAAG intervention.

**School A.** School A is located in a suburban area of Baltimore County. The school's population was majority White with an average of 25% of students who received subsidized lunch over the two years of the TAAG intervention. For the first year of the intervention, School A had co-educational PE and health education classes, but at the beginning of year two, transitioned to gender-specific PE classes for 8<sup>th</sup> grade students only.

**School B.** Located in Montgomery County, School B had a racial make-up of approximately 30% non-Hispanic White, 30% African American, 30% Hispanic, and 10% Asian. Approximately 40% of the students received subsidized meals. School B is also a magnet school, in which some of the students (mostly non-Hispanic White and Asian) chose to attend this school because of an advanced media technology program. The African American and Hispanic students were more likely to live in close proximity of the school and not enrolled in the magnet program. School B had co-educational PE and health education classes during the two years of the intervention.

**School C.** School C is located just outside the Baltimore City limits in Baltimore County with a student population of approximately 60% African American. Fifty

percent of this school's population received free or reduced lunch. School C offered a gender-specific PE and health education environment for their students during the two years of the intervention.

## **Participants**

***Rationale for selection.*** Eighth grade girls were chosen to participate in the focus groups because the TAAG intervention targeted this cohort of girls. Sixth grade girls were chosen based on preliminary findings of TAAG data that suggested grade level differences in participation of PPA programs (TAAG Steering Committee, 2004). During the 2003-2004 school year, of the 34 total programs offered at the three intervention schools, there was an average of four 6<sup>th</sup> grade girl participants for every one 8<sup>th</sup> grade girl participant per program. This trend was also evident from after school activity log data – 6<sup>th</sup> graders were most likely and 8<sup>th</sup> graders were least likely to participate in PPA programs. Preliminary results suggested similar participation patterns for the 2004-2005 school year. To investigate these grade differences, focus groups with 6<sup>th</sup> grade and 8<sup>th</sup> grade girls were conducted.

***Participant selection.*** A total of nine focus groups were held; three at each of the intervention schools. Because 8<sup>th</sup> grade girls had been exposed to TAAG PE and HEAC in class settings, criteria for inclusion of focus group participation were based on the girl's level of voluntary participation in TAAG PPA. Using attendance log sheets collected from each PPA after school activity, 15 8<sup>th</sup> grade girls with the highest attendance to PPA programs (attended more than 5 activity sessions) were randomly selected to participate in a focus group from each intervention school (labeled as 'active in PPA 8<sup>th</sup> grade group'). To gain insight on the reason for lack of

involvement in PPA activities, an equal number of 8<sup>th</sup> grade girls who did not participate in any PPA programs were randomly selected to participate in a separate focus group (labeled as ‘non-active in PPA 8<sup>th</sup> grade group’). These names were obtained from PE class lists.

Similar guidelines were used to select the 6<sup>th</sup> grade focus group participants. Because no intervention activities specifically targeted this cohort of girls, only one focus group with 6<sup>th</sup> grade girls was conducted per intervention school. Sixth grade girls who were active in PPA and girls who were not active in PPA were randomly selected to participate in this focus group. Table 6.1 displays additional details on the involvement of girls in the focus groups.

#### **Materials (Focus Group Questions)**

Focus group methodology was designed to elicit the attitudes and beliefs of the girls regarding the intervention. Questions were developed within the framework of the TAAG ecological model, giving attention to all intervention components. To develop the structure of the focus groups, a guide was developed based on recommendations from Ramirez and Sheppard (1988) and TAAG formative assessment focus group guides. The guide outlined the procedures for conducting the discussions, as well as 25 main and probing questions. The introduction detailed the purpose of the focus group and listed ground rules to share with the participants. A warm-up activity was included to help create a comfortable environment that promoted discussion.

Questions were structured to inquire about the girl’s general perspective on TAAG followed by specific questions about PPA, PE, HEAC, and Promotional

activities. Sixth grade girls were not asked about HEAC and Promotional activities due to their lack of exposure to these TAAG components.

### **Procedures**

Prior to data collection, University of Maryland Institutional Review Board approval was obtained. Each focus group was held in a neutral, but private location in the schools and was audio taped. In order to participate in the focus groups, a signed informed consent form from a parent or guardian and a signed assent form from the student were required. Each focus group lasted approximately 1 hour. The girls were compensated for their time with \$10 worth of movie theater vouchers.

### **Data Analysis**

Qualitative data from the focus groups were analyzed using Qualitative Solutions and Research (QSR) N6 Student, software program for analyzing text-based data (Qualitative Solutions and Research Pty Ltd, 2002). The audio tapes were transcribed verbatim and the text files were transferred into QSR N6 Student. Using open, axial, and selective coding methodology (Strauss & Corbin, 1998) as a systematic approach for identifying emerging major and minor themes, 27 major codes that captured the main themes from the focus group discussions were developed. Matrices were created to determine the dominant themes. The qualitative data were based on 9 focus groups with approximately 300 pages of transcript text.

### **Results**

The purpose of this research was to describe the attitudes and beliefs of 6<sup>th</sup> and 8<sup>th</sup> grade girls exposed to the TAAG intervention in three different school settings at the Maryland field center. Using the underlying theoretical framework of TAAG, the

social-ecological model, Table 6.2 outlines the summary of findings from the focus groups in the context of individual, social, and environmental level factors that inhibited or facilitated the implementation and reach of the intervention. The responses of the middle school girls were initially analyzed by school and grade level. Because few differences were found by either stratification, data for 6<sup>th</sup> and 8<sup>th</sup> grade girls for all schools were collapsed.

### **Identification of TAAG Activities**

Girls from all three schools stated that a TAAG activity was one that “required any movement”. Activities related to intervention components, “sports”, “after school programs”, “activities done in PE”, and “activities related to TAAG health class” were repeatedly named as TAAG activities. This indicated girls’ recognition of components of the intervention.

### **Intrapersonal Attitudes about the Intervention**

Girls were asked “What does TAAG mean to you?” Responses were overwhelming positive ranging from a “fun program” to “a way to be active.” The words *physical activity* and *girl* were recurring descriptors of TAAG. Several times, it was stated that TAAG is a great program, should be continued in high school, and provided more activities within their schools. A sixth grader expressed,

[I]t’s a great program for the girls here at this school. They’re doing activities after school, and programs like tennis, flag football, I think it is really neat for us to do after school. It gives us something to not to go home and play video games all day.

In the focus group discussions, another common declaration was TAAG encouraged and provided opportunities for girls to try new activities. These new activities

included activities in which girls did not have previous exposure, were not interested to try in the past, or did not have the confidence to try because of lack of skill.

For me, it's a program to get girls to try new things, 'cause I did some stuff that I hadn't done before. (8<sup>th</sup> grader)

Girls seemed to understand an underlying objective of the intervention as they talked about why it is important for girls to be physically active and inferred that girls are not as active as boys.

[TAAG] get[s] girls to get more physical activity because guys don't need it 'cause they always are, well, the majority of them are always physically active. (8<sup>th</sup> grader)

### **Social Interactions with Respect to the Intervention**

The intervention targeted social and environmental contexts for physical activity, as social support from family and friends are significant correlates of girl physical activity. Thus, it would be expected for interactions with persons in the girls' social network (other girls, boys, teachers, and family) to potentially influence their physical activity behavior.

#### ***Peer Interactions***

According to the focus group participants, other girls were more apt to make comments about the intervention than boys. Boys did not often talk about TAAG, nor did they influence girls' physical activity behavior. However, girls at two of the intervention schools reported that boys expressed their desire to participate in TAAG PPA and subsequently joined dance programs. Some male peers articulated an interest in having a similar program exclusively for boys. Common themes expressed by other girls related to components of the intervention. Most girls heard other girls talk about the selection of programs being offered and their experience while

participating in programs. As these other girls talked about programs, they tried to influence and encourage their friends to participate, also.

Well, my friend was in the Boot Camp...she was like trying to get me to participate 'cause she said it was fun and all. (6<sup>th</sup> grader)

According to focus group participants, most other girls at School A and School B thought TAAG positively influenced and made PE more fun because of the different activities offered. Often times, PE teachers at the intervention schools would tell the students that a new activity being introduced was a “TAAG” activity. If girls viewed the activity as fun, they also viewed TAAG as fun. In contrast, girls from School C stated that other girls at their school also associated TAAG with PE class, but because they thought PE was boring, they sometimes thought TAAG was boring.

### ***Teacher Influence***

As part of the intervention, all faculty/staff, including administrators were urged to promote physical activity among all students. Girls most reported that PE teachers were the faculty/staff who encouraged girls to be active, primarily by promoting programs and organizing sign-up procedures. This encouragement piqued girls' attention and did influence their decision to participate in programs, regardless of if the girl thought she would excel.

That's the only reason I did tennis. Ms <math>\diamond</math> [a PE teacher] told me that I probably would be good at it even though I stank, but it was so fun. (8<sup>th</sup> grader)

PE teachers also served as positive role models for physical activity. Several girls reported being inspired to be active because their PE teachers were also active.

Another good thing is the teachers participate and kind of show you, they kind of role model, they show you what you can become, like, how strong you can get. (6<sup>th</sup> grader)

I think it encourages you when you see the teachers. They can talk, but if you see them actually, you know, doing something like what they say, too.  
(8<sup>th</sup> grader)

Other teachers and faculty/staff rarely spoke about the intervention or about girls being physically active, but did occasionally talk about their own active lifestyles. At School B, these comments were not viewed positively. Girls expected teachers to talk about the subject they taught and felt somewhat uncomfortable when non-PE teachers encouraged physical activity.

[When my teacher talks about physical activity, it] feels weird, 'cause like they're teachers, not talking about subjects, they're talking about sports. Get back on-task. (8<sup>th</sup> grader)

Administrators also played a viable role in empowering girls to be more active. Several girls noticed their positive interest in whether girls were participating in intervention activities, as illustrated by,

He [the assistant principal] was like, "Are you in TAAG?" I'll say "Yeah."  
He'll say "Good." (8<sup>th</sup> grader)

### ***Family Influence***

Girls reported that family members positively and negatively influenced girls' physical activity. Parents and siblings provided verbal encouragement, active participation, and support for girls to be involved in TAAG-sponsored programs, other physical activity programs within the community, and general activity. One girl from School B was encouraged and supported by her mother to join a badminton program at school, an activity the mother was involved in during her youth. Another girl from the same school was discouraged to play football because her mother thought it was "a boy's sport." At School A, a mother had a specific reason for wanting her daughter to be active.

My mom encouraged me to be physically active. She tells me I'm gonna be fat for the rest of my life if I don't start exercising. (8<sup>th</sup> grader)

Siblings played a significant role as several girls were motivated to join a TAAG-sponsored program or to play an activity “for fun” because their older siblings were involved in the activity.

### **Comments about Intervention Components**

As reported earlier, most girls identified the intervention as activities related to the intervention components. Table 6.3 outlines the girls' general attitudes about the specific components of TAAG.

#### ***Physical Education (PE)***

TAAG PE was based on four major objectives: (1) girls should be engaged in moderate to vigorous physical activity for at least 50% of class time, (2) girls should be provided many opportunities to participate, practice skills, and be physically active, (3) girls should be provided opportunities to be successful and enjoy physical activity, and (4) girls should be encouraged to participate in physical activity outside of class. During focus group discussions, the girls directly addressed the teachers' success of achieving the objectives.

Most girls at School A and School B rated their PE class as active, whereas girls at School C reported their class as inactive most of the time. The differing opinions resulted from teachers' approach to teaching PE. Girls from School A and School B reported that their PE teacher made class fun, which influenced their activity levels, by regularly participating with and encouraging all students to engage in activity. The fun was enhanced at School B because students were introduced to and enjoyed non-traditional games (i.e., archery, table tennis, wrestling) in PE class.

At School C, girls reported their PE class was boring because of the lack of participation and effort of their teacher. Girls at all schools felt the teachers enforced the rules too much, making game play less fun. For example,

Well, sometimes teachers, they like stress the rules too much when we're just trying to have fun. So when they put too many rules, it's not fun anymore.  
(8<sup>th</sup> grader)

Some girls at School B felt that teachers favored the more skilled players. Some girls from this school also felt they were highly skilled in PE and did not enjoy PE class because of that reason.

Like the same people are on the same team each time, so then they always win, and it doesn't make sense because like our PE teacher, 'cause like, you know, he has like his special favorite. You know, the people basically who are really good at the sport. (6<sup>th</sup> grader)

Choice in PE was a PE intervention goal. Girls at all schools reported that they received choice of equipment, but only were allowed choice of activity and teams during rare occasions. Girls wanted more choice and often enjoyed when they were given choice in PE class.

Sometimes PE class is fun, especially when we have free time or we have a variety of things we can choose from. (6<sup>th</sup> grader)

Girls at all schools felt their PE teachers verbally encouraged them to be active outside of PE class.

### ***Health Education and Activity Challenges (HEAC)***

Eighth grade girls at all schools had two years of TAAG HEAC - six lessons with accompanying activity challenges, or active homework in 7<sup>th</sup> and 8<sup>th</sup> grades. Although girls stated that they learned new concepts, overall attitudes of TAAG HEAC at School B and School C were not positive. At both schools, HEAC lessons were considered boring, while at School B, the girls felt the lessons did not challenge them

intellectually. At School C, the teachers' delivery of the lessons seemed to influence the girls' perceptions. Girls felt the teachers lacked preparation and enthusiasm for teaching HEAC curriculum, which made the lessons boring.

[The teachers would say] we have to do this TAAG lesson today, so just sit back and listen. (8<sup>th</sup> grader)

Despite the overwhelmingly negative comments from girls at School B and School C, girls at School A enjoyed the lessons and were pleased to be introduced to new activities in HEAC.

I liked the health lessons because like they had like a list of sports you could do...And a lot of 'em, I hadn't done before. (8<sup>th</sup> grader)

Girls' opinions of the activity challenges were similar to their impression of the HEAC lessons. Girls at School A liked the activity challenges, but stated that some students did not always complete them. Girls at School B reported the activity challenges did not encourage them to be physically active and were not enthused about completing them.

Girls at School A and School B received classroom-based HEAC lessons in health class. However, girls at School C completed physically active versions of the lessons during PE class. These girls did not like getting "homework" in PE class, which resulted in negative attitudes and lack of participation in activity challenges.

### ***Programs of Physical Activity (PPA)***

Girls at each school were provided a range of 2-10 programs per semester during the two years of TAAG. An average of 13 girls attended each program with more 6<sup>th</sup> graders participating than 8<sup>th</sup> graders (as discussed elsewhere in this dissertation, Barr-Anderson, Chapter 4). Additionally, fall programs had higher attendance than spring programs. Girls who participated in TAAG physical activity programs most

commonly stated influence of friends, encouragement by PE teacher to join program, and influence of family. Other reasons are listed in Table 6.4.

Reasons for not joining PPA programs were numerous. At all schools, the most reported reasons were lack of transportation, time conflict, family responsibility (i.e. babysitting), not interested in activity, and friends not participating. Some girls were not active in programs because of lack of skill, as illustrated:

And some people feel that people are gonna laugh at ‘em and make fun of ‘em because they can’t do it. (8<sup>th</sup> grader)

Older girls reported hesitation to sign up for a program because of the lack of involvement of other 8<sup>th</sup> grade girls. Other barriers to joining the programs are outlined in Table 6.5.

At all schools, girls who participated in the programs stated they and their friends enjoyed the activities. Girls at School B would participate in the programs again and girls from School C liked having the variety of programs from which to choose (Table 6.3).

### ***Promotions***

Besides the usual promotions of after school programs and physical activity , a major promotional activity during the second year of the intervention was the Pedometer Challenge. Approximately 75, 82, and 58% of 8<sup>th</sup> grade girls at Schools A, B, and C, respectively, participated in the Pedometer Challenge. Girls at all schools reported enjoying the Pedometer Challenge, especially the prizes. Although some girls at their schools did not participate, most girls in the focus groups stated that they “would probably do it again.” Most girls reported that wearing the pedometer and monitoring their steps positively influenced their physical activity levels.

And like it made people wanna take more steps, like to see how many they could get. (8<sup>th</sup> grader)

Teachers at each of the schools also participated in a similar pedometer challenge.

Girls at School C recalled seeing their teachers wearing the pedometers, but the girls' activity levels were not influenced.

Participant: It was like it ain't that big of a deal. You [just] put [it] on your waist. (8<sup>th</sup> grader)

### **Discussion**

As physical activity continues to decline in adolescent girls, it is important for researchers to explore, not only personal, social, and environmental factors, but also the context of the situations that influence physical activity. We had the unique opportunity to examine situational contexts through a qualitative evaluation of girls' perceptions of a physical activity intervention. Although the environments of the three intervention schools at the TAAG Maryland field center differed in characteristics, there were commonalities among girls' perceptions. Overall, the girls' physical activity behavior was influenced by family members, friends, and teachers; girls had both negative and positive attitudes towards physical education and health education components of TAAG; and girls faced similar reasons for participating and not participating in TAAG-sponsored physical activity programs.

In accordance with the social-ecological model which is the underlying framework for TAAG, interpersonal encouragement by parents, siblings, and friends impacted whether girls participated in TAAG-sponsored programs. Previous research has found these social interactions to be correlates of adolescent physical activity (Gentle et al., 1994; Perusse et al., 1989; Humbert et al., 2006; Wilson & Dollman, 2006). Although TAAG formative assessment research found that family members

were viewed as the most influential on girls' physical activity levels (Vu et al., 2006), the intervention emphasized girls' social interactions, but not family interactions. Given what was reported during the group discussions and current evidence in the literature, incorporating familial influences in future trials may assist in increasing activity in adolescent girls.

Although teachers were extensively trained by TAAG university staff on delivering strategies and activities, PE concepts and HEAC lessons were not implemented as intended at all schools (Barr-Anderson, Chapter 4). Based on girls' reports, students at all three schools were rarely offered choice in PE class. These comments were supported by class observations by TAAG process evaluation staff. During intervention year two, choice was observed being provided only 13% of the time (Barr-Anderson, Chapter 4). Some girls viewed their PE class as inactive and HEAC lessons as boring. As explored elsewhere in this dissertation (Barr-Anderson, Chapter 4), the partial implementation may have stemmed from lack of sufficient training, lack of teacher motivation, or lack of teachers' time to modify HEAC curriculum or PE strategies. Other reports of school-based interventions have had similar results of intended strategies not being fully implemented (Marcoux et al., 1999; Pate et al., 2003). Reasons cited for partial implementation were teacher's concerns with concepts and infrastructure issues (intervention staff hiring, transportation for student participants, the use of peer leaders, implementation of the intervention, and lack of ownership of the program by community persons) that affected implementation and receptivity (Marcoux et al., 1999; Pate et al., 2003).

TAAG PPA was effective in increasing outside of school physical activity opportunities for girls with the highest program attendance among 6<sup>th</sup> graders and the lowest among 8<sup>th</sup> graders. An issue with adolescent physical activity is strategizing how to involve older girls. As physical activity levels in adolescent girls continue to decline with increasing age, future research needs to explore ways to engage these older girls. The ill-health implications from the lack of habitual physical activity have placed a public health burden on American society, especially among females (US Department of Health and Human Services, 2000). Understanding the physical activities older adolescent girls are interested in can assist researchers to begin to make strides to address the girls' needs, as well as the larger public health issue.

The current research attempted to address this issue by exploring the thoughts of both older and younger middle school girls. However, the responses from 6<sup>th</sup> and 8<sup>th</sup> graders were similar and provided little insight on the age-level differences. Potentially, the questions asked may not have been directive or in-depth enough to address this issue (i.e., the right questions were not asked).

Some of the most reported reasons for girls not participating in PPA programs were lack of transportation, time conflict, family responsibility (i.e. babysitting), not interested in activity, and friends not participating. Cost was also a major factor at School C. School staff and community partners also reported adequate transportation and money as the most deficient resources for providing out-of-class physical activity programs (Barr-Anderson, Chapter 4). During TAAG formative assessment research, barriers to programs' acceptability were identified (Young et al., 2006). TAAG tried to address these issues within the intervention schools by providing transportation to

off-site programs for girls at School C. However, providing transportation home was the larger of the two issues, as reported during the focus group discussion. Limited resources inhibited TAAG from providing the girls with transportation home from programs. Programs were provided at minimal cost, but because of equipment needs or instructor payment, a fee of \$20 or more was required for some programs. These factors have been previously cited as barriers (Dwyer et al., 2006) and it is necessary for future interventions to continue to discuss and explore ways to alleviate the burden of these barriers, so girls can benefit from the opportunities available.

The Pedometer Challenge was highly implemented at School A and School B (75% and 82%), and moderately implemented at School C (58%). Girls reported enjoyment in participation and positive influence on their activity level, which met the goal of TAAG providing the promotional event. Using a similar strategy has been successful in increasing activity for adults during a community-based intervention (Blake et al., 1996). TAAG is the first documented intervention for adolescents that used such an innovative activity to increase out of school physical activity. Although the activity was successful at TAAG schools, increased activity does not necessarily translate to an increase in out of school physical activity once the activity ends. Future studies should not only incorporate similar fun and innovative strategies to promote physical activity outside of school, but should examine how to maintain the increased activity once the intervention ends.

The limitations of this study include small sample sizes and potentially biased responses. Due to end of the school year activities and the time when the focus groups were held, some of the invited girls did not participate in the focus groups. The girls

who participated in the focus group could have been different from the girls who did not attend, potentially biasing the findings. Additionally, the TAAG intervention had been a part of each school's environment for three years and the participants were at least visually familiar with the facilitator. Although the participants were encouraged to speak truthfully about topics and confidentiality was ensured, the participants still could have given socially desirable responses. Both limitations could have influenced data collection, analysis, and study findings (Vu et al., 2006).

Another limitation is data were not collected from parents and other influencing persons (excluding PE and health teachers) in the girls' lives. Social relationships can influence adolescent girls' physical activity, as was shown in this study. Although not targeted in TAAG, understanding influential adults' feelings and perceptions of the intervention and of girls being physically active could have yielded meaningful information to be incorporated in future studies. Despite these limitations, this qualitative research is valuable because little is known about middle school girls' perceptions of a physical activity intervention and this study begins to explore this issue.

### **Conclusion**

This study addressed a gap in the existing literature. Adolescents, the population highly targeted for behavioral change in most school-based interventions, voiced their perceptions and attitudes of a physical activity trial. Girls recognized activities related to the intervention and lessons learned from this large scale program can be used by researchers and applied to similar populations to affect change.

**Table 6.1. Focus Group Attendance by Intervention School**

	<b># of invited girls</b>	<b># of girls who turned in consent form</b>	<b># of girls in attendance</b>	<b>% participation</b>
<b>School A<sup>1</sup></b>				
8 <sup>th</sup> grade active <sup>2</sup>	15	10	5	33%
8 <sup>th</sup> grade non-active	15	7	5	33%
6 <sup>th</sup> grade <sup>3</sup>	16	5	3	19%
<b>School B<sup>4</sup></b>				
8 <sup>th</sup> grade active	15	11	9	60%
8 <sup>th</sup> grade non-active <sup>5</sup>	15	6	4	27%
6 <sup>th</sup> grade	16	9	8	50%
<b>School C<sup>4</sup></b>				
8 <sup>th</sup> grade active	15	11	10	67%
8 <sup>th</sup> grade non-active	15	12	12	80%
6 <sup>th</sup> grade	16	12	11	69%

<sup>1</sup> At School A, the administration would not allow for the focus groups to be held during school hours. Overall attendance was low compared to other schools, because many of the invited girls could not stay after school (due to lack of transportation home).

<sup>2</sup> This focus group was initially scheduled after school from 3-4pm but school was dismissed an hour early due to high heat index. The focus group was then rescheduled from 2-3pm. Ten girls had turned in consent forms, but due to the early dismissal, only five girls attended.

<sup>3</sup> Attendance for 6<sup>th</sup> grade focus group at School A was extremely low because this focus group had to be rescheduled. On the original date set for the focus group, school was dismissed early (due to high heat index) and all after-school activities were cancelled. The researcher was able to arrange with the administration for the make-up session to be held during school hours, but girls were notified with little notice. Many of the girls could not participate due to lack of signed parental consent forms.

<sup>4</sup> Focus groups at School B and School C took place during school hours resulting in fewer barriers for the girls to attend and a higher participation rate compared to School A.

<sup>5</sup> Attendance for 8<sup>th</sup> grade non-active focus group was lower than intended because half of the girls were on an end-of-the-year field trip. Due to scheduling difficulties, it was not possible to reschedule to a day when the absent girls would have been present.

**Table 6.2. Summary of Findings**

<b>FACILITATING FACTORS</b>	<b>INHIBITING FACTORS</b>
<b>INTRAPERSONAL</b>	
Reasons to join programs <ul style="list-style-type: none"> <li>• Previous experience with program</li> <li>• Interest in activity</li> </ul>	Barriers to joining programs <ul style="list-style-type: none"> <li>• Lack of interest</li> <li>• Lack of skill</li> </ul>
Girls' positive view of TAAG <ul style="list-style-type: none"> <li>• Great program</li> <li>• Way to be physically active</li> <li>• Should be continued</li> <li>• Opportunity to try new activities</li> <li>• Important for girls to be physically active</li> <li>• Provided more programs</li> </ul>	
Girl involvement in promotional activities <ul style="list-style-type: none"> <li>• Involvement encouraged activity</li> </ul>	
	Girls' negative view of PE class <ul style="list-style-type: none"> <li>• Class viewed as boring and associate TAAG with PE class</li> </ul>
Girls' positive view of HEAC class <ul style="list-style-type: none"> <li>• Liked lessons and activity challenges</li> </ul>	
<b>INTERPERSONAL</b>	
Family influence on girls' physical activity behavior <ul style="list-style-type: none"> <li>• Mom/sibling encouraged participation in activity</li> </ul>	Family influence on girls' physical activity behavior <ul style="list-style-type: none"> <li>• Mom disagreed with girl playing traditional male sport</li> </ul>
PE teachers as role models for physical activity <ul style="list-style-type: none"> <li>• Inspired girls to be active</li> </ul>	Other teachers talking about being physically active <ul style="list-style-type: none"> <li>• Made girls uncomfortable</li> </ul>
Girls hear other girls talk about PPA programs <ul style="list-style-type: none"> <li>• Selection of available programs</li> <li>• Participation in programs</li> </ul>	
Boys' view of TAAG <ul style="list-style-type: none"> <li>• Wished for a similar program</li> <li>• Participated in some programs</li> </ul>	
Teachers' promotion of TAAG <ul style="list-style-type: none"> <li>• Encouragement to sign-up for programs made girls interested</li> </ul>	
Friend influence on girls' physical activity behavior <ul style="list-style-type: none"> <li>• Encouraged participation in programs</li> </ul>	
Support of other teachers and faculty/staff <ul style="list-style-type: none"> <li>• Encouraged participation in TAAG</li> </ul>	
Support of administration <ul style="list-style-type: none"> <li>• Encouraged participation in TAAG</li> </ul>	
Reasons to join PPA <ul style="list-style-type: none"> <li>• Influence of friends</li> <li>• Encouragement by PE teacher</li> <li>• Liked the instructor</li> </ul>	

FACILITATING FACTORS	INHIBITING FACTORS
<b>INTERPERSONAL</b>	
	Barriers to joining programs <ul style="list-style-type: none"> <li>• Family responsibility</li> <li>• Friends not participating</li> <li>• Involvement of younger girls</li> </ul>
	Teacher involvement in promotional activities <ul style="list-style-type: none"> <li>• Involvement of teachers in Pedometer Challenge did not encourage girls to be more active</li> </ul>
<b>ENVIRONMENTAL</b>	
Girls' positive view of PE class <ul style="list-style-type: none"> <li>• TAAG activities made PE class more fun</li> <li>• Active PE class</li> <li>• Teachers encouraged outside of school physical activity</li> </ul>	Girls' negative view of PE class <ul style="list-style-type: none"> <li>• Inactive class</li> <li>• Teachers stressed rules too much</li> <li>• Skilled players more valued</li> </ul>
	Girls' negative view of HEAC class <ul style="list-style-type: none"> <li>• Lessons not intellectually challenging</li> <li>• Do not like homework in PE class</li> </ul>
	Barriers to joining programs <ul style="list-style-type: none"> <li>• Lack of transportation</li> <li>• Time conflict</li> </ul>

**Table 6.3. Girls' Attitudes and Perceptions towards Intervention Components by School**

	<b>School A</b>	<b>School B</b>	<b>School C</b>
<b>PE<sup>1</sup></b>			
Fun because of teacher	√	√	
Boring because of teacher			√
Teacher encouraged out of class physical activity	√	√	√
Teacher enforced rules too much	√	√	√
Choice given at times	√	√	√
Teacher favored skilled students		√	
<b>HEAC<sup>2</sup></b>			
Introduced to new activities	√		
Boring lessons		√	√
Lessons not intellectually challenging		√	
Liked activity challenges	√		
Activity challenges did not encourage activity		√	
Did like getting homework in PE class			√
Partial/no completion of activity challenges by students	√	√	√
<b>PPA<sup>3</sup></b>			
Girls and friends enjoyed programs	√	√	√
Would participate in program again		√	
Liked variety of program offered			√
<b>Promotions<sup>4</sup></b>			
Encouraged girls to be active	√		√
Enjoyed promotional activity	√	√	√
Would participate again	√	√	√
Lack of participation	√		
Dishonest participation			√
Teachers' participation did not encourage activity			√

<sup>1</sup> PE = Physical Education

<sup>2</sup> HEAC = Health Education with Activity Challenges; this component was only completed by 8<sup>th</sup> graders.

<sup>3</sup> PPA = Programs of Physical Activity

<sup>4</sup> Promotions focused on the Pedometer Challenge, which was completed by 8<sup>th</sup> graders only.

**Table 6.4. Reported Reasons for Participating in Intervention-Sponsored Physical Activity Programs**

<b>Intrapersonal</b>	Previous experience with activity Interest in activity
<b>Interpersonal</b>	Friend influence PE Teacher influence Family influence Like instructor
<b>Environmental</b>	None stated

**Table 6.5. Reported Reasons for Not Participating in Intervention-Sponsored Physical Activity Programs**

<b>Intrapersonal</b>	Lack of interest in activity Lack of skill
<b>Interpersonal</b>	Family responsibility (babysitting) Friends not participating Dislike for instructor
<b>Environmental</b>	Lack of transportation Cost associated with activity Program only available for certain grades Full enrollment Did not know about program Program canceled due to low enrollment Time conflict (involved with other activities) Academic restrictions (failing grades)

## **Chapter 7: SUMMARY AND CONCLUSIONS**

The goal of this current project was to utilize quantitative and qualitative methodology to examine the implementation and receptivity of a physical activity intervention targeting middle school girls. Dose, fidelity, and reach were assessed for the five components of TAAG. Thematic analysis of focus group and in-depth interviews with key implementers and receivers of the intervention was combined with quantitative process evaluation measures to answer the following research questions:

- 1) How were intervention activities implemented and received by the three intervention schools?
- 2) What factors facilitated or inhibited how the TAAG intervention was implemented and received in each intervention school?
- 3) How did the intervention activities pertaining to research question #1 and the factors discussed in research question #2 differ by school?

These questions were examined and results are included in previous chapters. Chapter 4 answered the three research questions in a broad sense focusing on notable trends in the process evaluation data. Chapter 5 addressed research question #3 and explored the events and experiences related to the intervention in each school setting. Influencing factors of intervention implementation as they varied in each school environment were highlighted. Chapter 6 further addressed research questions #1 and #2 from the viewpoint of middle school girls, the main target of the TAAG intervention. Girls' perceptions and attitudes of the intervention were reported.

This chapter presents the major findings, discusses the strengths and limitations, explores the role of the researcher in this investigation, and gives suggestions for future research.

### **Summary of Findings**

#### **Research Question #1: *How were intervention activities implemented and received by the three intervention schools? What were the differences by school?***

Tables 7.1, 7.2, and 7.3 outline the dose, fidelity, and reach of the various intervention components for each school as compared to the goals created by TAAG investigators to assess success of implementing component strategies and activities. Over the two intervention years, implementation of PE workshops was high (dose=82%, fidelity=92%, and reach=91%). However, several teachers at each school did not attend some full- or half-day trainings, which lowered dose and fidelity.

Implementation of PE concepts varied by school. Dose for PE concepts was greater for School C than the other schools. Teachers at School C reported *frequently* used TAAG materials (mean score=3.0 out of 4), while teachers at School A and School B only used these resources *rarely* or *sometimes* (mean scores ranged from 1.75-2.2 out of 4).

For intervention year one, the portions of PE class devoted to TAAG concepts varied by the concept (fidelity ranged from 13% to 76%). The average fidelity for School B was lower - approximately 40% versus approximately 50% for the other two schools. For all three schools, the concepts *students rewarded for out-of-PE class physical activity* and *students encouraged to be active during class* were implemented the least (fidelity less than 28%). For School B and School C, teacher's use of

strategies to minimize management time was poorly implemented (28% and 11%, respectively, compared to 50% for School A).

Fidelity for use of adequate equipment according to class size and appropriate group sizes were low for School B (29% and 38%, respectively), but higher for the other two schools (72% and 67%, respectively, for School A and 93% and 91%, respectively, for School C). However, for all schools, most girls appeared to enjoy PE class and students were provided choice (greater than 70% and approximately 60% for each school, respectively).

During Year 2, overall fidelity for PE class decreased (ranged from 13% to 60%) and continued to differ by PE objective. Most notably, choice in class decreased by at least 40% in all schools. Most girls appearing to enjoy PE decreased by 16% at School A and School B and by 34% at School C.

Similar to PE trainings, implementation of HEAC trainings was high (dose=83%, fidelity=93%, and reach=100%). Unlike PE concepts, implementation of HEAC lessons increased over the active intervention phase. Dose for HEAC lessons was high for all schools each year (average dose=93% and 96%, respectively). Fidelity and reach of HEAC lessons increased in School A and School C, but both measures decreased by approximately 10% in School B.

TAAG was effective in increasing outside of school physical activity opportunities for girls. There were 2.5, 2, and 3-fold increases in the average number of activity programs available at each school from the first semester to last semester of the intervention (A, B, and C, respectively). Across all schools, approximately 14 girls were attending each PPA program with the highest attendance among 6<sup>th</sup> graders

and the lowest among 8<sup>th</sup> graders. Girls at School C participated in more programs than girls at the other schools.

Most 8<sup>th</sup> grade girls participated in the Pedometer Challenge at School A and School B (75% and 82%); but fewer at School C (58%). Both Program Champions from each school attended the mandatory one-hour workshop and 91% of the training activities were fully completed by at least one of the Program Champions at each school.

Most of TAAG's goals for intervention implementation were not met. Nonetheless, some components were highly implemented across the three schools – dose, fidelity, and reach for PE and HEAC workshops; dose of number of programs provided for PPA, and dose of completed training activities for Program Champion. Besides the measures mentioned above, the level of implementation for PE concepts, HEAC lessons, and promotional activity varied by school.

**Research Question #2: *What factors facilitated or inhibited how the TAAG intervention was implemented and received in each intervention school? What were the differences by school?***

The theoretical framework for TAAG was based on the social-ecological model. This project identified numerous intrapersonal, interpersonal, and environmental factors that facilitated or inhibited how the intervention was implemented and received in each school. The following section gives a brief overview of these factors; Chapters 4, 5, and 6 of this dissertation explores the factors in deeper context.

Figures 7.1 through 7.9 display common and unique factors of the three middle schools that were reported to have influenced the extent the intervention

activities were executed for each TAAG component. Administrative support and girls' positive attitudes about TAAG facilitated overall implementation of the TAAG intervention at each school (Figure 7.1). Limiting factors, such as lack of teacher involvement in the decision to be a TAAG school at School A, girls' negative attitudes of TAAG preventing instead of promoting activity at School B, and the lack of consistent administrative support at School C, were reported to inversely influence implementation and receptivity of the intervention (Figure 7.1).

Varying intrapersonal attitudes of teachers and girls facilitated (Figure 7.2) and inhibited (Figure 7.3) the implementation and receptivity of TAAG PE. Support provided by TAAG university staff further facilitated this component for each school, while environmental factors such as teacher turnover and disruptive student behavior hindered TAAG PE at School C.

Support provided by TAAG university staff and teachers' positive attitudes about the workshops played a positive role in implementing TAAG HEAC lessons (Figure 7.4). However, teachers at each school were faced with more environmental factors when implementing HEAC lessons (Figure 7.5). Limited space was an issue at all three schools. School closure due to bad weather hindered the teaching of HEAC lessons at School B, while teachers at School C were impeded by disruptive student behavior.

Family, friend, and teacher influence had a positive impact on girls participating in PPA programs at each school (Figure 7.6). Faculty and staff supported and sponsored programs at School A and School B, and School C received similar support from community agencies. Girls at all schools reported lack of

interest, family responsibility, lack of friend participation, lack of transportation, and time conflict as reasons for not participating in programs. Additionally, reported barriers were school-specific (Figure 7.7).

At all schools, teachers reported the Pedometer Challenge as time consuming to organize and implement. However, girls from each school stated that involvement in this promotional activity encouraged them to be physically active (Figure 7.8).

Factors that influenced implementation and receptivity of the Program Champion component were unique for each school (Figure 7.9). Ownership of programs and staff buy-in at School A and differing but effective roles of each Program Champion at School B, were reported to positively influence this component. On the contrary, new supervisory and parental responsibilities for one Program Champion and the lack of an established relationship with the school's administrative team for the other Program Champion negatively impacted the implementation of Program Champion component at School C.

### **Study Strengths and Limitations**

The current research is significant in that by using mixed methodology, quantitative and qualitative data were generated to examine the level of implementation and receptivity of TAAG intervention activities and strategies. Perceptions of key implementers (school staff, community partners, and TAAG university staff) and receivers (school staff, community partners, and middle school girls) of the intervention were also explored using focus groups and one-on-one interviews. This methodology of triangulation enriched the depth and breadth of the information gathered, which provided rich accounts from different viewpoints and sources of how

the intervention strategies were completed. At times, the data sources supported each other. For example, girls and school staff reported that PE teachers encouraged girls to be physically active outside of school. This finding was further corroborated by process evaluation data, which indicated an increase in PE teachers spending class time to encourage outside of school physical activity. These parallel findings from different data sources strengthens the reliability of the data.

However, the data sources did not always support each other's findings. The data from PE class observations at School C showed that students were provided choice less than 25% of the time. PE teachers from this school reported regularly giving the students choice, while 8<sup>th</sup> grade girls from School C discussed the limited amount of choice given and how they would like to have more choice. These disparate reportings emphasize the importance of researchers to collectively consider all data sources and not rely solely on a specific account when making conclusions about research findings.

To further increase the validity and quality of the focus group and interview data, member checking and peer debriefing techniques were employed. School staff and community partners were given the opportunity to meet with the researcher to review their transcripts and a list of main ideas interpreted by the researcher. This served as a way to verify that the researcher's interpretation of the data represented the true perceptions and ideas of the participants. Two peer debriefers familiar with the TAAG intervention and qualitative methodology assisted the researcher in understanding and interpreting the data. These approaches are further discussed in Chapter 3.

Another strength is that experiences of three intervention school environments, instead of the one, were explored. This allowed for a wider range of events to be researched, thus increasing the implications of this study. However, with a sample size of three, the findings are not generalizable to all middle schools participating in a physical activity intervention. In fact, the results are not generalizable to the other four TAAG data collection sites, but are specific to the Maryland site. Despite this limitation, the challenges faced and the lessons learned from exploring how the intervention was implemented and received have clear relevance for future school-based research studies targeting adolescent behavior. Another limitation is two of the twelve process evaluation forms (PE teacher questionnaire, HEAC teacher interview) were self-administered and retrospective, potentially introducing respondent or recall bias. Interviewer-administrated surveys were possible, but because of the familiar relationship of the TAAG process evaluation staff and school staff, respondent bias still may have been introduced; the self-administered surveys reduced burden for both TAAG staff and school staff. Additionally, teachers completed the surveys regarding HEAC lessons and PE class at the end of each teaching cycle or school year, respectively. Due to the potentially high burden of completing the forms so frequently after each HEAC lesson or PE class, this option did not seem feasible.

Discussions from the girl focus group revealed the influence of parents, friends, and teachers on their participation in physical activity. Previous research has found that social relationships can influence adolescent girls' physical activity (Gentle et al., 1994; Perusse et al., 1989; Humbert et al., 2006; Wilson & Dollman,

2006) and TAAG formative assessment data also found that girls are influenced by their families to be physically active (Vu et al., 2006). This study did not collect any data from parents and other influencing adults (excluding PE and health teachers) in the girls' lives. A past study that did survey mothers about their daughters' involvement in a physical activity intervention discovered despite the positive effect the intervention had on daughters' behavior, mothers wished there was more parental involvement. However, the mothers were more interested in receiving health promotion pamphlets to encourage their daughters to be active and less willing to be active with their daughters (Neumark-Sztainer et al., 2003). Knowing how parents perceived an intervention that involved their children could yield meaningful information to further explain reasons for partial implementation of TAAG. This information could be incorporated in future studies.

Limitations associated with the focus groups include small sample sizes and potentially biased responses. Due to end of the school year activities and the time when the focus groups were held, some of the invited girls did not participate in the focus groups. Four of the focus groups had a participation rate of less than 50%. The girls who participated in the focus groups could have been different from the girls who did not attend, potentially biasing the discussion findings. Also, for each focus group except for one at School C, more girls turned in consent forms than participated in the group discussion. This, too, introduced participant bias. The girls were aggressively recruited by school staff and the researcher through numerous written and verbal reminders in class and personal phone calls, but because of the unexpected

school dismissal and scheduled end-of-the-year activities, the lack of girl participation was unavoidable.

The TAAG intervention had been a part of each school's environment for three years and the participants may have seen the focus group facilitator at their school. Although the participants were encouraged to speak truthfully about topics and confidentiality was ensured, the participants still could have given socially desirable responses. However, the researcher and facilitator perceived that the girls were candid in their responses. Despite this potential bias, this particular facilitator was selected to moderate the focus groups because in order to yield the richest data and probe appropriately in the groups' discussion, the facilitator had to be someone who understood the intricacies of the intervention.

Respondent and social desirability bias was also a potential issue for the in-depth interviews because of the researcher's established relationship with the interviewees. Sensitive questions were asked about the interviewees' perceptions of TAAG, so they may have felt obligated or pressured to only give "positive" responses. However, after reviewing the transcripts and audio tapes and being observant of body language during the interviews, the researcher felt that the interviewees were open and honest with their responses. Both negative and positive replies were given with very little hesitation from the respondents.

Due to the complexity of the TAAG intervention, the moderator of the focus groups was chosen based on her familiarity of the TAAG intervention. The selected facilitator had the knowledge and capacity to ask relevant probing and follow-up questions that enriched the quality of data collected. Potentially, this increased

interviewer bias because the facilitator was knowledgeable of not only TAAG, but of the current project. She may have had preconceived ideas, and asked leading, probing question(s). The facilitator had experience moderating focus groups, so it was expected that this bias was minimal.

### **Role of Researcher**

Because of the nature of the topic covered in this next section, the first person point of view instead of the third person is used.

I have been involved in the main trial of TAAG intervention implementation since baseline year as an intervention assistant. Because of my association with intervention activities, while working on the current project, several issues related to objectivity have arisen. Potential biases as a researcher in the current project stemmed from:

- 1) my involvement in the implementation of intervention;
- 2) my familiar relationships with student participants (I visited PE classes and assisted in teaching TAAG PE, conducted PE visits and HEAC visits, was involved in some PPA programs, and led portions of student kickoff events);  
and
- 3) my relationships with school PE and health staff and TAAG university staff (I assisted in PE and HEAC trainings and provided technical support throughout the intervention).

Because of the relationship I had with the study participants, during the interview inquiries, I constantly reflected on my role and remained sensitive to the established relationships. At the end of each interview, I listened to the audio tape dissecting how

I phrased my questions, how I responded to my interviewees, and contemplated my non-verbal language, so that I could make adjustments for subsequent interviews. This constant reflection enhanced my ability to understand more fully those to whom I was listening (Way, 2005). “Researchers should constantly evaluate and reevaluate their biases, assumptions, and expectations. It is when prejudices are not reflected on or, as far as possible, acknowledged in research that one is likely to end up with findings that do not accurately represent the research participants’ views or perspectives” (Way, 2005).

In the interpretation of the data, I continued to engage in reflexivity. I understood that it would be impossible for me to separate my personal-self from my researcher-self (Creswell, 2003); this became challenging when “writing up” and presenting the data. I realized that the results presented throughout this body of work may present some subjective conclusions because of my involvement and extensive background associated with TAAG. I addressed maintaining my objectivity during analysis and interpretation of the data by grounding my conclusions in the objective, quantitative data and working within the framework of the truth and not my perceptions. I focused on separating the truth from perceptions by remaining alert and receptive to the unexpected and allowed themes submerged in the data to emerge. I was familiar with the theories or concepts that were expected to surface, but I stayed attentive to the new and unexpected, expecting to learn something new from the interviews, a strength of qualitative methods (Way, 2005).

With very little qualitative data collection and analysis experience prior to this project, I struggled with coding such a large body of data and presenting the findings.

With over 1000 pages of transcripts, I had difficulty approaching the data. As outlined by Strauss and Corbin (1998), coding involves succinct steps of reading through the data and categorizing the information. I found this task to be intimidating, but was able to work through the process through the help and guidance of committee members and a peer debriefer. I met with two of my committee members who have extensive experience with analyzing qualitative data. They advised me of practical steps to take in order to translate the theory of analyzing the data to practice. Working through developing and refining the codebook with a peer debriefer also provided me with practical tips in analyzing the data.

With experience of interpreting and presenting data for quantitative data only, I also had difficulty in writing up the qualitative data. Finding a balance of presenting the subjective voice of the participants with the objective quantitative data was very different from the type of research writing of which I am accustomed. However, grounding the subjective voice within the realm of the objective data helped me to accomplish this task.

## **Conclusions**

Through the use of triangulatory methodology, this dissertation project identified individual, social, and environmental factors that influenced implementation and receptivity of a physical activity intervention in three middle schools. Information gained from this research can inform future investigators:

- 1) Participants' attitudes towards various aspects of the intervention, support provided to school staff, and behavioral and space issues were frequently reported factors that both facilitated and inhibited the implementation and receptivity of the intervention. Future endeavors should focus on decreasing the inhibiting factors in order to optimize intervention implementation.

- 2) Differences in the level of implementation may have been affected by varying school climates. Schools with more positive school climates report better implementation of intervention components (Gittelsohn et al., 2003; Steckler et al., 2003). Furthermore, the higher implementation by study staff compared to school staff may have been due to staff buy-in, which is affected by school climate. Past research supports the importance of initial staff buy-in and utilizing community based participatory research strategies may be effective.
- 3) Using different data sources can enrich the depth and breadth of process evaluation information to better understand program implementation.
- 4) As supported by previous research, girls' physical activity behavior was influenced by family members, friends, and teachers. Emphasizing and developing these relationships may be key strategies for future interventions.
- 5) Older girls were not as involved in after school programs as younger girls. Although the focus groups explored these grade-level differences, explanations for these differences were not uncovered. It is important for future researchers to explore these differences, as well as understand the physical activities in which older adolescent girls are interested, in order to make strides to address the girls' needs.
- 6) TAAG's promotional activity was successful in motivating girls to be active outside of school. Future studies should not only incorporate similar fun and innovative strategies, but should examine how to maintain the increased activity once the activity ends.
- 7) Girls reported previously documented barriers as reasons for not joining PPA programs. It is necessary for future interventions to continue to discuss and explore ways to alleviate the burden of these barriers, so girls can benefit from the opportunities available.

**Table 7.1. Implementation and Receptivity of TAAG Intervention Components for School A**

	<b>TAAG GOAL</b>	<b>Year 1</b>	<b>Met Goal?<sup>1</sup></b>	<b>Year 2</b>	<b>Met Goal?<sup>1</sup></b>
<b>PE (workshops)<sup>2</sup></b>					
Dose <sup>3</sup>	100%	87%	no	87%	no
Fidelity <sup>4</sup>	100%	96%	no	86%	no
Reach <sup>5</sup>	100%	100%	YES	100%	YES
<b>PE (concepts)<sup>6</sup></b>					
Dose <sup>7</sup>	≥ 3	3.0	YES	2.3	no
Fidelity <sup>8</sup> : Students prompted for out-of-class PA	≥ 50%	6%	no	17%	no
Fidelity <sup>8</sup> : Teachers used strategies to minimize management time	≥ 80%	50%	no	39%	no
Fidelity <sup>8</sup> : Students provided with choice	≥ 80%	56%	no	6%	no
Fidelity <sup>8</sup> : Students encouraged to be active in class	≥ 80%	11%	no	17%	no
Fidelity <sup>8</sup> : Most girls appeared to enjoy PE	≥ 80%	72%	no	56%	no
Fidelity <sup>8</sup> : Adequate equipment	≥ 80%	72%	no	56%	no
Fidelity <sup>8</sup> : Appropriate group sizes	≥ 80%	67%	no	59%	no
Reach <sup>9</sup>	100%	100%	YES	100%	YES
<b>HEAC<sup>2</sup> (workshops)</b>					
Dose <sup>10</sup>	100%	100%	YES	100%	YES
Fidelity <sup>11</sup>	100%	97%	no	90%	no
Reach <sup>12</sup>	100%	100%	YES	100%	YES
<b>HEAC<sup>6</sup> (lessons)</b>					
Dose <sup>13</sup>	100%	88%	no	100%	YES
Fidelity <sup>14</sup>	≥ 80%	48%	no	82%	YES
Reach (lessons) <sup>15</sup>	100%	79%	no	90%	no
Reach (AC) <sup>16</sup>	≥ 80%	52%	no	82%	YES
<b>PPA</b>					
Dose <sup>17</sup>	100%	260%	YES	211%	YES
Dose <sup>18</sup> (# programs)	↑ by 1	12	YES	18	YES
Reach <sup>19</sup> (# girls)	5% ↑ per semester	11.5	no	10.4	no
<b>Promotions</b>					
Reach <sup>20</sup>	≥ 70%	N/A	N/A	75%	YES
<b>Program Champion</b>					
Dose (training activities) <sup>21</sup>	100%	N/A	N/A	89%	no

- <sup>1</sup> Refers to whether TAAG implementation goal was achieved for a particular measure.
- <sup>2</sup> Assessed dose, fidelity, and reach by TAAG university staff to school staff; in regards to PE or HEAC workshops.
- <sup>3</sup> Dose for PE workshops is the % of PE teachers who attended the entire training.
- <sup>4</sup> Fidelity for PE workshops is the % of mandatory PE workshop components fully covered.
- <sup>5</sup> Reach for PE workshops is the % of expected PE teachers who attended the training.
- <sup>6</sup> Assessed dose, fidelity, and reach by school staff to girls; in regards to PE concepts or HEAC lessons.
- <sup>7</sup> Dose for PE concepts is the amount of time TAAG PE resources were used.
- <sup>8</sup> Fidelity for PE concepts is the % of PE class time devoted to TAAG PE concepts.
- <sup>9</sup> Reach for PE concepts is the % of girls who attended PE class.
- <sup>10</sup> Dose for HEAC workshops is the % of health teachers who attended the entire training.
- <sup>11</sup> Fidelity for HEAC workshops is the % of mandatory HEAC workshop components fully covered.
- <sup>12</sup> Reach for HEAC workshops is the % of expected health teachers who attended the training.
- <sup>13</sup> Dose for HEAC lessons is the % of HEAC lessons taught as intended.
- <sup>14</sup> Fidelity for HEAC lessons is the % of HEAC lesson components fully covered.
- <sup>15</sup> Reach for HEAC lessons is the % of girls who were taught lessons.
- <sup>16</sup> Reach for activity challenges is the % of girls who completed activity challenges.
- <sup>17</sup> Dose for PPA was calculated as: (average # of programs per semester) / (expected # of program per semester). The expected number of programs was two for the first intervention semester and increased by one until the last intervention semester.
- <sup>18</sup> Dose for PPA is average number of programs. TAAG goal was to increase # of programs by 1 per semester.
- <sup>19</sup> Reach for PPA is average attendance per program.
- <sup>20</sup> Reach for Promotions is the % of girls who participated in the Pedometer Challenge.
- <sup>21</sup> Dose for Program Champion training activities is the % of training requirements fully completed.

**Table 7.2. Implementation and Receptivity of TAAG Intervention Components for School B**

	<b>TAAG GOAL</b>	<b>Year 1</b>	<b>Met Goal?<sup>1</sup></b>	<b>Year 2</b>	<b>Met Goal?<sup>1</sup></b>
<b>PE (workshops)<sup>2</sup></b>					
Dose <sup>3</sup>	100%	75%	no	80%	no
Fidelity <sup>4</sup>	100%	96%	no	86%	no
Reach <sup>5</sup>	100%	75%	no	80%	no
<b>PE (concepts)<sup>6</sup></b>					
Dose <sup>7</sup>	≥ 3	2.2	no	2.3	no
Fidelity <sup>8</sup> : Students prompted for out-of-class PA	≥ 50%	17%	no	44%	no
Fidelity <sup>8</sup> : Teachers used strategies to minimize management time	≥ 80%	28%	no	11%	no
Fidelity <sup>8</sup> : Students provided with choice	≥ 80%	67%	no	11%	no
Fidelity <sup>8</sup> : Students encouraged to be active in class	≥ 80%	11%	no	28%	no
Fidelity <sup>8</sup> : Most girls appeared to enjoy PE	≥ 80%	78%	no	61%	no
Fidelity <sup>8</sup> : Adequate equipment	≥ 80%	29%	no	40%	no
Fidelity <sup>8</sup> : Appropriate group sizes	≥ 80%	38%	no	50%	no
Reach <sup>9</sup>	100%	100%	YES	100%	YES
<b>HEAC<sup>2</sup> (workshops)</b>					
Dose <sup>10</sup>	100%	33%	no	67%	no
Fidelity <sup>11</sup>	100%	97%	no	90%	no
Reach <sup>12</sup>	100%	100%	YES	100%	YES
<b>HEAC<sup>6</sup> (lessons)</b>					
Dose <sup>13</sup>	100%	93%	no	89%	no
Fidelity <sup>14</sup>	≥ 80%	78%	no	70%	no
Reach (lessons) <sup>15</sup>	100%	93%	no	83%	no
Reach (AC) <sup>16</sup>	≥ 80%	56%	no	55%	no
<b>PPA</b>					
Dose <sup>17</sup>	100%	240%	YES	200%	YES
Dose <sup>18</sup> (# programs)	↑ by 1	13	YES	19	YES
Reach <sup>19</sup> (# girls)	5% ↑ per semester	12	no	12.5	no
<b>Promotions</b>					
Reach <sup>20</sup>	≥ 70%	N/A	N/A	82%	YES
<b>Program Champion</b>					
Dose (training activities) <sup>21</sup>	100%	N/A	N/A	94%	no

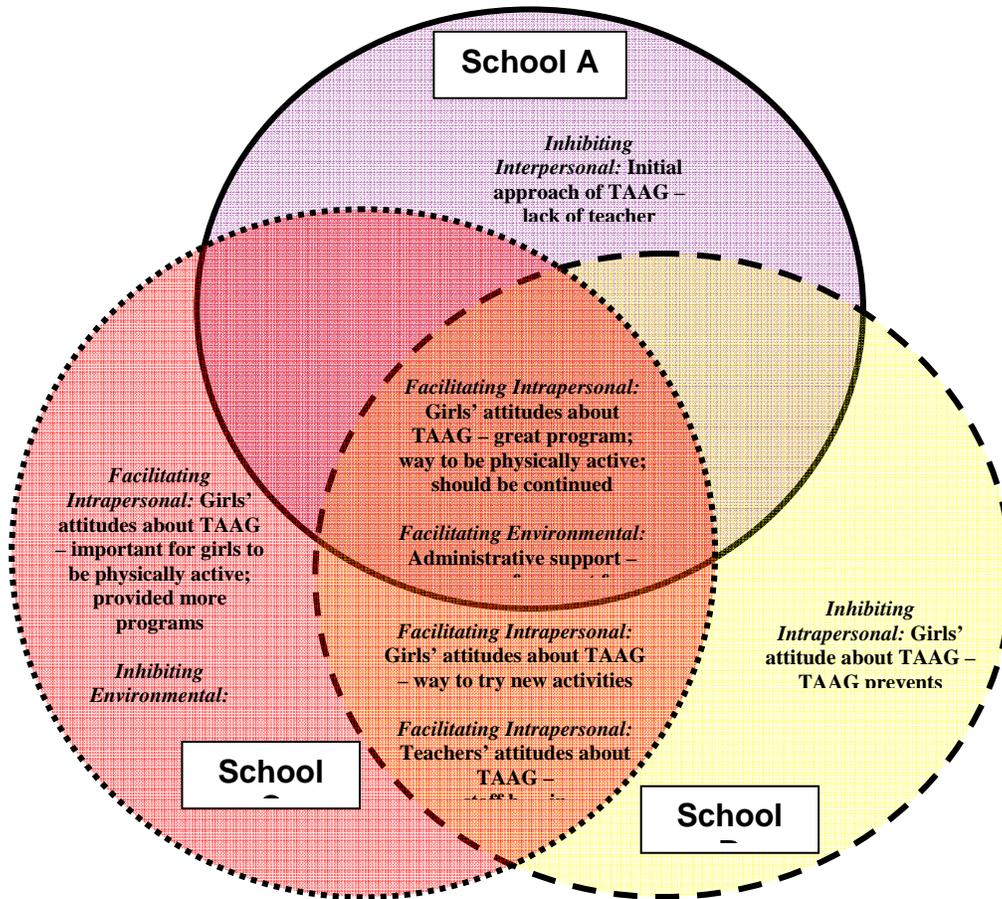
- <sup>1</sup> Refers to whether TAAG implementation goal was achieved for a particular measure.
- <sup>2</sup> Assessed dose, fidelity, and reach by TAAG university staff to school staff; in regards to PE or HEAC workshops.
- <sup>3</sup> Dose for PE workshops is the % of PE teachers who attended the entire training.
- <sup>4</sup> Fidelity for PE workshops is the % of mandatory PE workshop components fully covered.
- <sup>5</sup> Reach for PE workshops is the % of expected PE teachers who attended the training.
- <sup>6</sup> Assessed dose, fidelity, and reach by school staff to girls; in regards to PE concepts or HEAC lessons.
- <sup>7</sup> Dose for PE concepts is the amount of time TAAG PE resources were used.
- <sup>8</sup> Fidelity for PE concepts is the % of PE class time devoted to TAAG PE concepts.
- <sup>9</sup> Reach for PE concepts is the % of girls who attended PE class.
- <sup>10</sup> Dose for HEAC workshops is the % of health teachers who attended the entire training.
- <sup>11</sup> Fidelity for HEAC workshops is the % of mandatory HEAC workshop components fully covered.
- <sup>12</sup> Reach for HEAC workshops is the % of expected health teachers who attended the training.
- <sup>13</sup> Dose for HEAC lessons is the % of HEAC lessons taught as intended.
- <sup>14</sup> Fidelity for HEAC lessons is the % of HEAC lesson components fully covered.
- <sup>15</sup> Reach for HEAC lessons is the % of girls who were taught lessons.
- <sup>16</sup> Reach for activity challenges is the % of girls who completed activity challenges.
- <sup>17</sup> Dose for PPA was calculated as: (average # of programs per semester) / (expected # of program per semester). The expected number of programs was two for the first intervention semester and increased by one until the last intervention semester.
- <sup>18</sup> Dose for PPA is average number of programs. TAAG goal was to increase # of programs by 1 per semester.
- <sup>19</sup> Reach for PPA is average attendance per program.
- <sup>20</sup> Reach for Promotions is the % of girls who participated in the Pedometer Challenge.
- <sup>21</sup> Dose for Program Champion training activities is the % of training requirements fully completed.

**Table 7.3. Implementation and Receptivity of TAAG Intervention Components for School C**

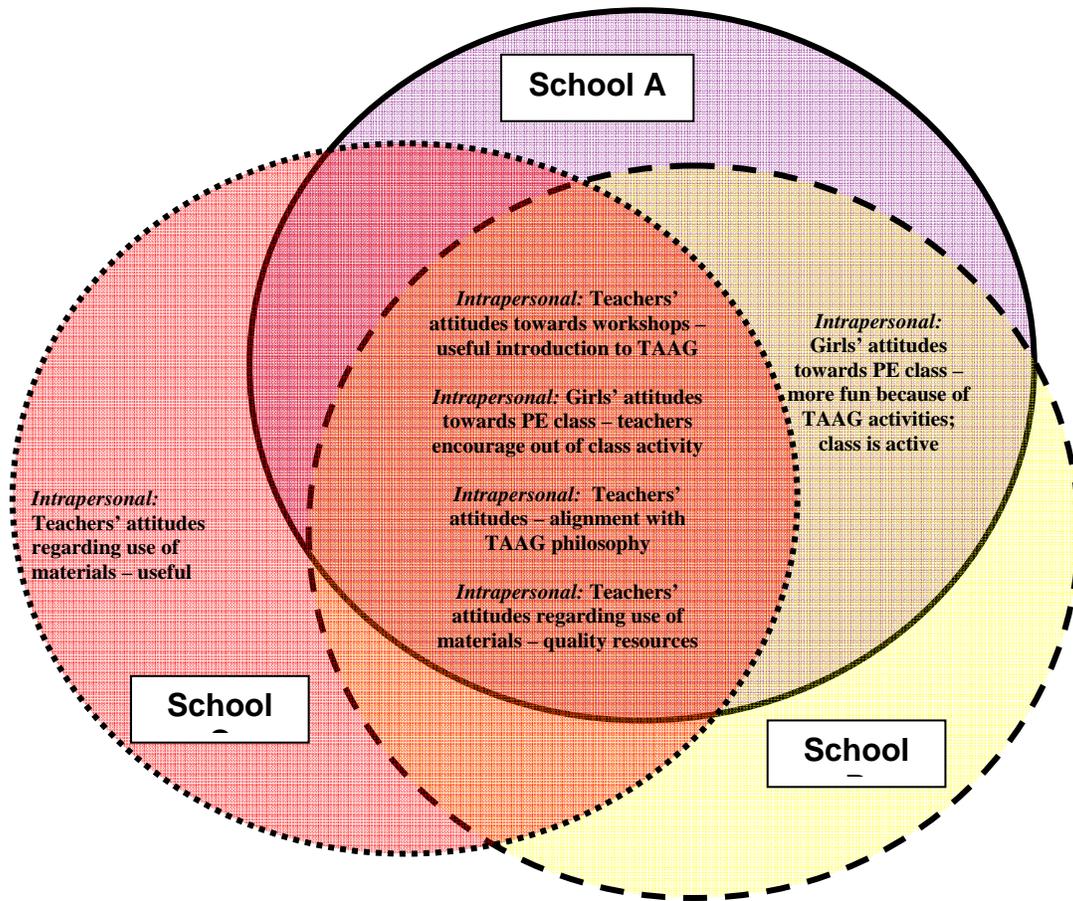
	<b>TAAG GOAL</b>	<b>Year 1</b>	<b>Met Goal?<sup>1</sup></b>	<b>Year 2</b>	<b>Met Goal?<sup>1</sup></b>
<b>PE (workshops)<sup>2</sup></b>					
Dose <sup>3</sup>	100%	67%	no	100%	no
Fidelity <sup>4</sup>	100%	96%	no	86%	no
Reach <sup>5</sup>	100%	100%	YES	100%	YES
<b>PE (concepts)<sup>6</sup></b>					
Dose <sup>7</sup>	≥ 3	3.8	YES	3.3	YES
Fidelity <sup>8</sup> : Students prompted for out-of-class PA	≥ 50%	28%	no	17%	no
Fidelity <sup>8</sup> : Teachers used strategies to minimize management time	≥ 80%	11%	no	6%	no
Fidelity <sup>8</sup> : Students provided with choice	≥ 80%	61%	no	22%	no
Fidelity <sup>8</sup> : Students encouraged to be active in class	≥ 80%	17%	no	6%	no
Fidelity <sup>8</sup> : Most girls appeared to enjoy PE	≥ 80%	78%	no	44%	no
Fidelity <sup>8</sup> : Adequate equipment	≥ 80%	93%	YES	72%	no
Fidelity <sup>8</sup> : Appropriate group sizes	≥ 80%	91%	YES	72%	no
Reach <sup>9</sup>	100%	100%	YES	100%	YES
<b>HEAC<sup>2</sup> (workshops)</b>					
Dose <sup>10</sup>	100%	100%	YES	100%	YES
Fidelity <sup>11</sup>	100%	97%	no	90%	no
Reach <sup>12</sup>	100%	100%	YES	100%	YES
<b>HEAC<sup>6</sup> (lessons)</b>					
Dose <sup>13</sup>	100%	100%	YES	100%	YES
Fidelity <sup>14</sup>	≥ 80%	38%	no	62%	no
Reach (lessons) <sup>15</sup>	100%	100%	YES	98%	no
Reach (AC) <sup>16</sup>	≥ 80%	22%	no	29%	no
<b>PPA</b>					
Dose <sup>17</sup>	100%	220%	YES	144%	YES
Dose <sup>18</sup> (# programs)	↑ by 1	11	YES	13	YES
Reach <sup>19</sup> (# girls)	5% ↑ per semester	13.5	no	19.6	no
<b>Promotions</b>					
Reach <sup>20</sup>	≥ 70%	N/A	N/A	58%	no
<b>Program Champion</b>					
Dose (training activities) <sup>21</sup>	100%	N/A	N/A	89%	no

- <sup>1</sup> Refers to whether TAAG implementation goal was achieved for a particular measure.
- <sup>2</sup> Assessed dose, fidelity, and reach by TAAG university staff to school staff; in regards to PE or HEAC workshops.
- <sup>3</sup> Dose for PE workshops is the % of PE teachers who attended the entire training.
- <sup>4</sup> Fidelity for PE workshops is the % of mandatory PE workshop components fully covered.
- <sup>5</sup> Reach for PE workshops is the % of expected PE teachers who attended the training.
- <sup>6</sup> Assessed dose, fidelity, and reach by school staff to girls; in regards to PE concepts or HEAC lessons.
- <sup>7</sup> Dose for PE concepts is the amount of time TAAG PE resources were used.
- <sup>8</sup> Fidelity for PE concepts is the % of PE class time devoted to TAAG PE concepts.
- <sup>9</sup> Reach for PE concepts is the % of girls who attended PE class.
- <sup>10</sup> Dose for HEAC workshops is the % of health teachers who attended the entire training.
- <sup>11</sup> Fidelity for HEAC workshops is the % of mandatory HEAC workshop components fully covered.
- <sup>12</sup> Reach for HEAC workshops is the % of expected health teachers who attended the training.
- <sup>13</sup> Dose for HEAC lessons is the % of HEAC lessons taught as intended.
- <sup>14</sup> Fidelity for HEAC lessons is the % of HEAC lesson components fully covered.
- <sup>15</sup> Reach for HEAC lessons is the % of girls who were taught lessons.
- <sup>16</sup> Reach for activity challenges is the % of girls who completed activity challenges.
- <sup>17</sup> Dose for PPA was calculated as: (average # of programs per semester) / (expected # of program per semester). The expected number of programs was two for the first intervention semester and increased by one until the last intervention semester.
- <sup>18</sup> Dose for PPA is average number of programs. TAAG goal was to increase # of programs by 1 per semester.
- <sup>19</sup> Reach for PPA is average attendance per program.
- <sup>20</sup> Reach for Promotions is the % of girls who participated in the Pedometer Challenge.
- <sup>21</sup> Dose for Program Champion training activities is the % of training requirements fully completed.

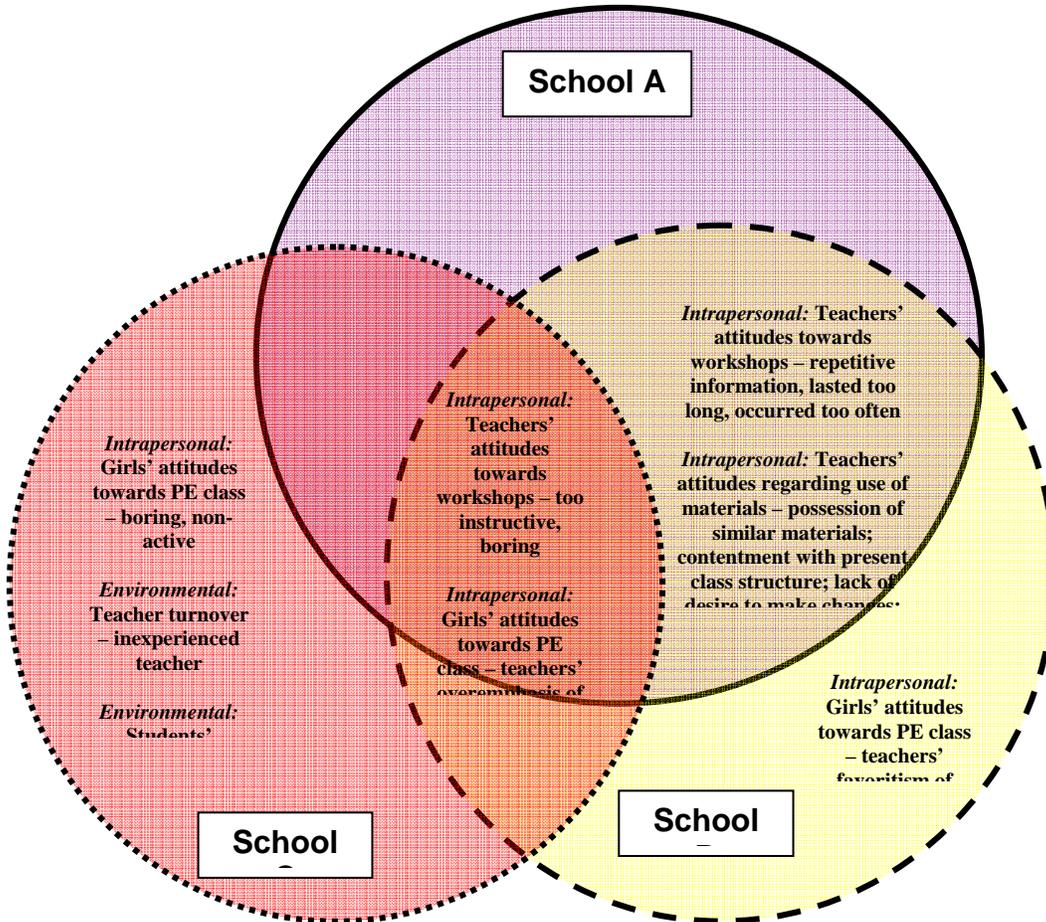
**Figure 7.1. Facilitating and Inhibiting Factors that Influenced Implementation and Receptivity of General Aspects of TAAG Intervention**



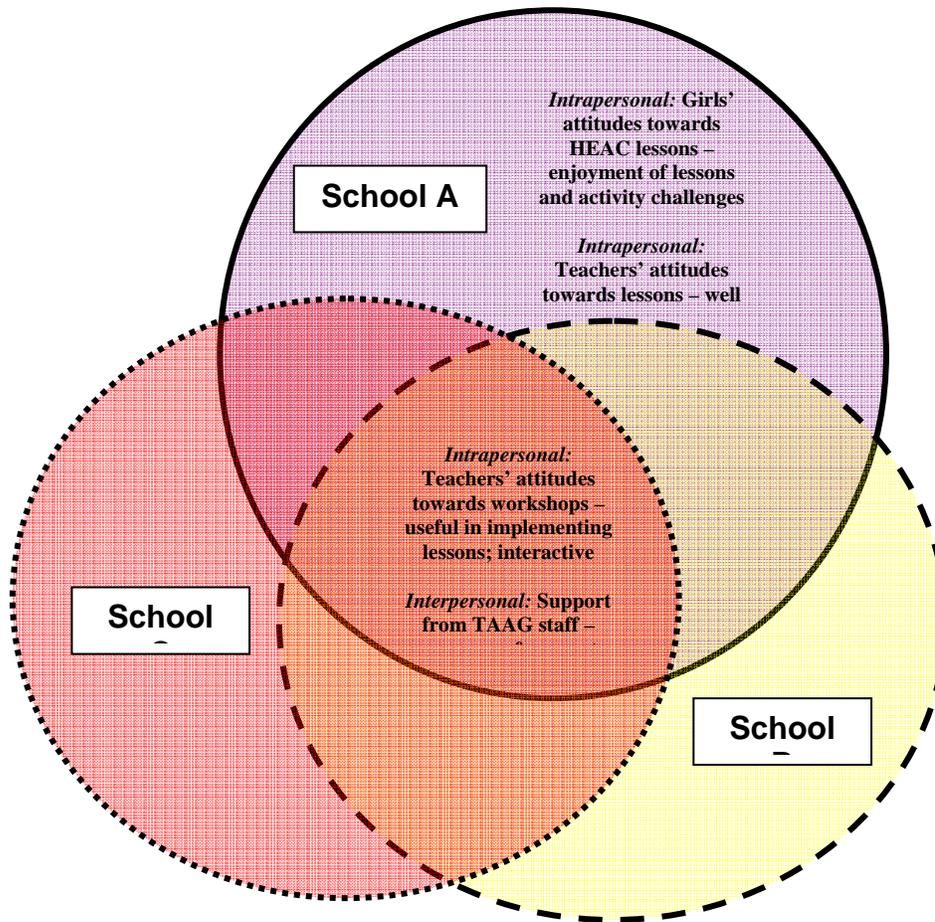
**Figure 7.2. Facilitating Factors that Influenced Implementation and Receptivity of TAAG Physical Education (PE) Component**



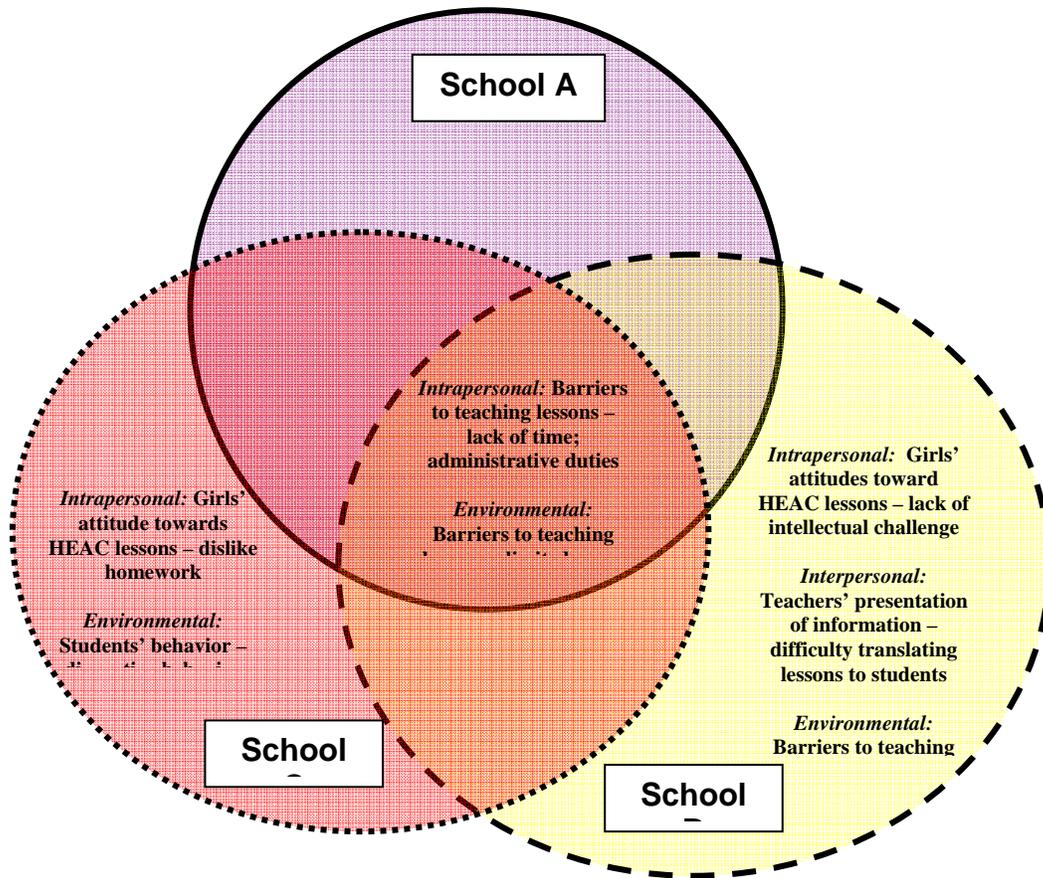
**Figure 7.3. Inhibiting Factors that Influenced Implementation and Receptivity of TAAG Physical Education (PE) Component**



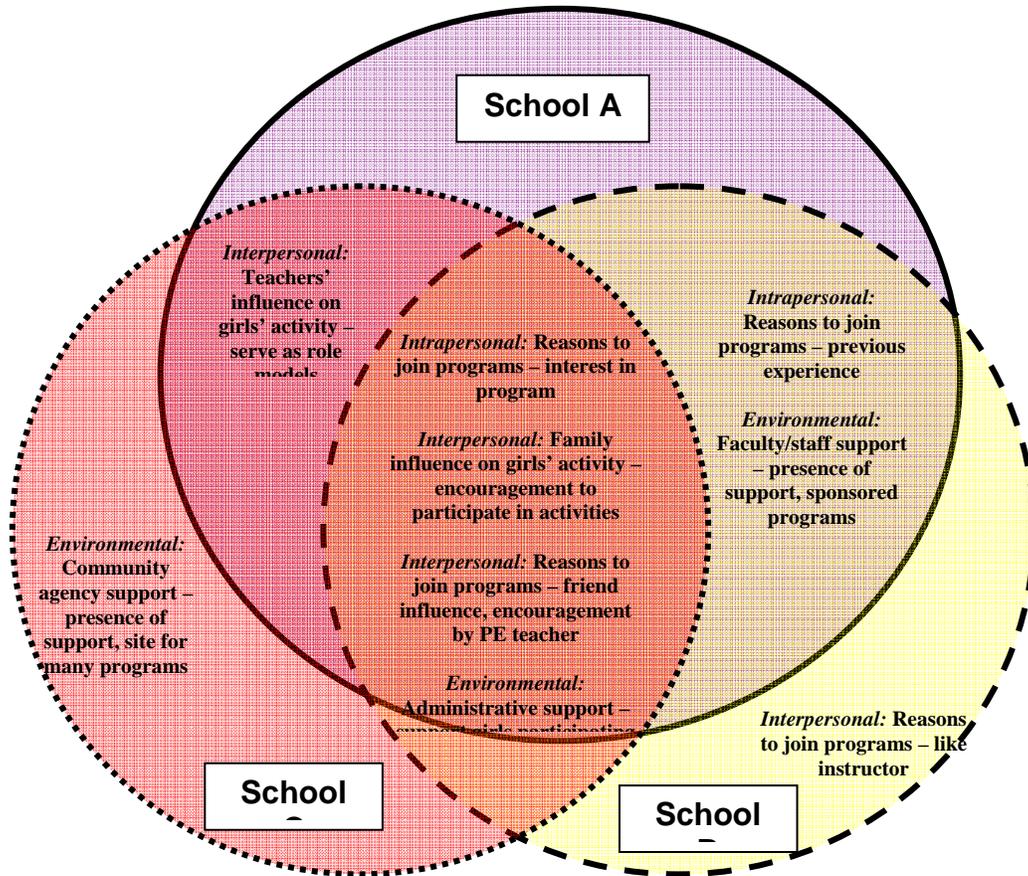
**Figure 7.4. Facilitating Factors that Influenced Implementation and Receptivity of TAAG Health Education with Activity Challenges (HEAC) Component**



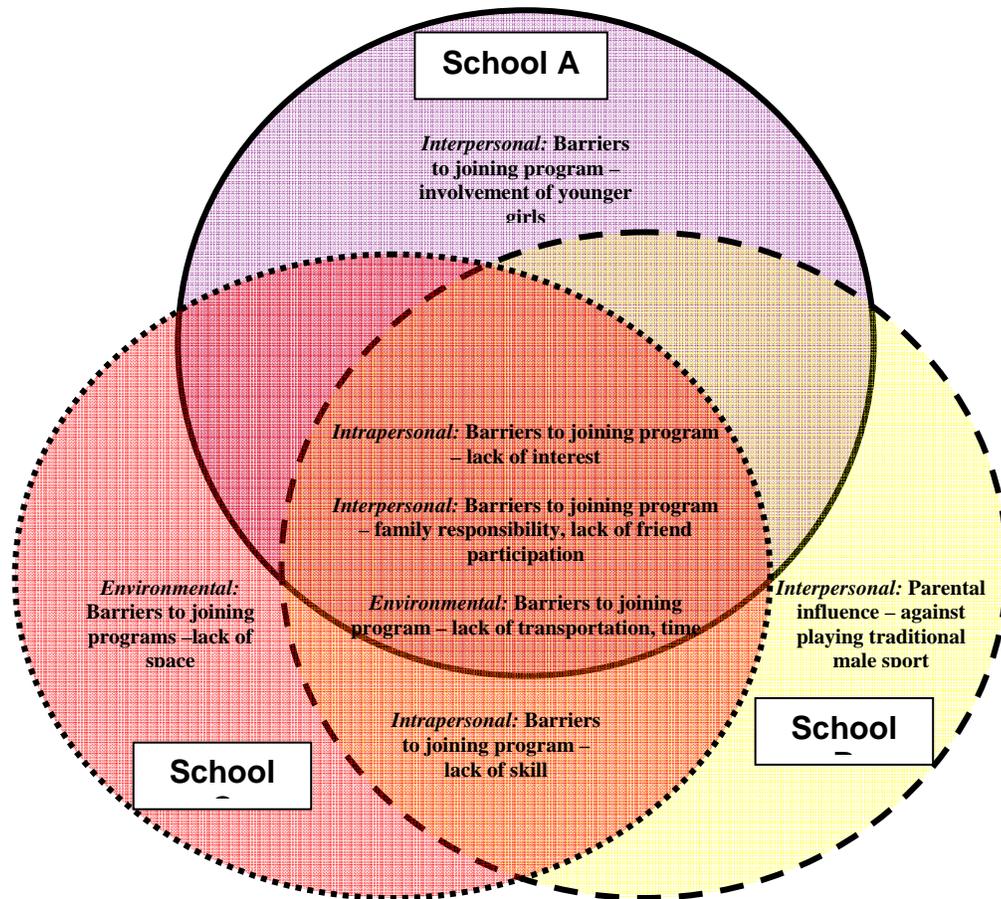
**Figure 7.5. Inhibiting Factors that Influenced Implementation and Receptivity of TAAG Health Education with Activity Challenges (HEAC) Component**



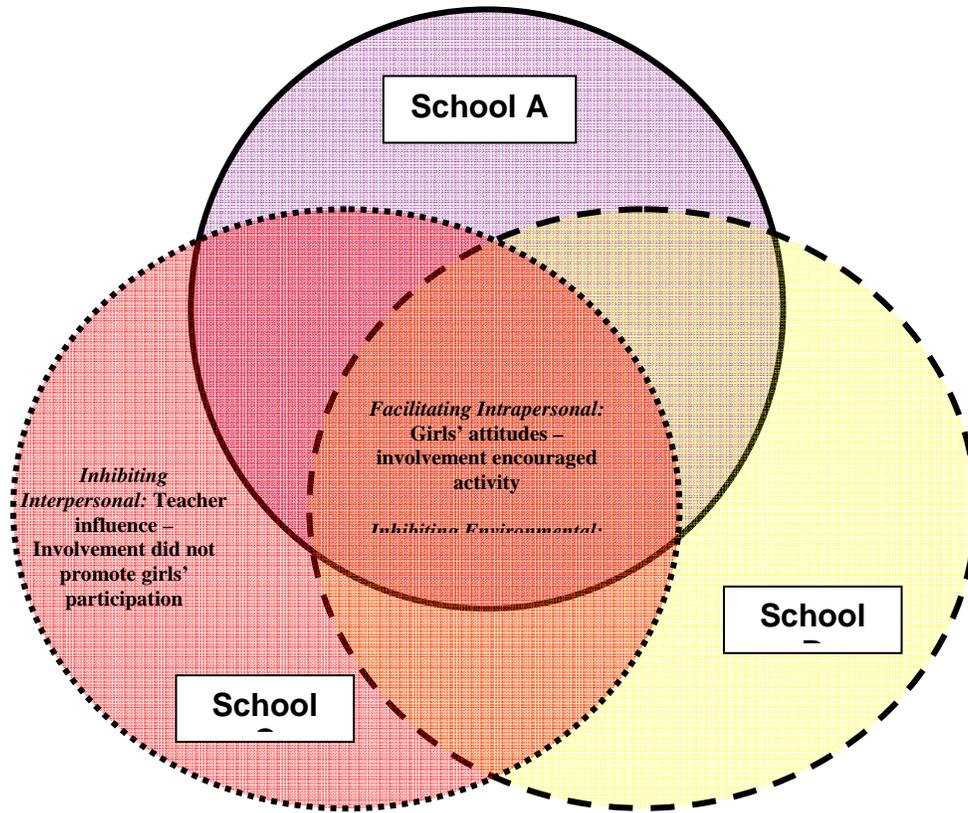
**Figure 7.6. Facilitating Factors that Influenced Implementation and Receptivity of TAAG Programs for Physical Activity (PPA) Component**



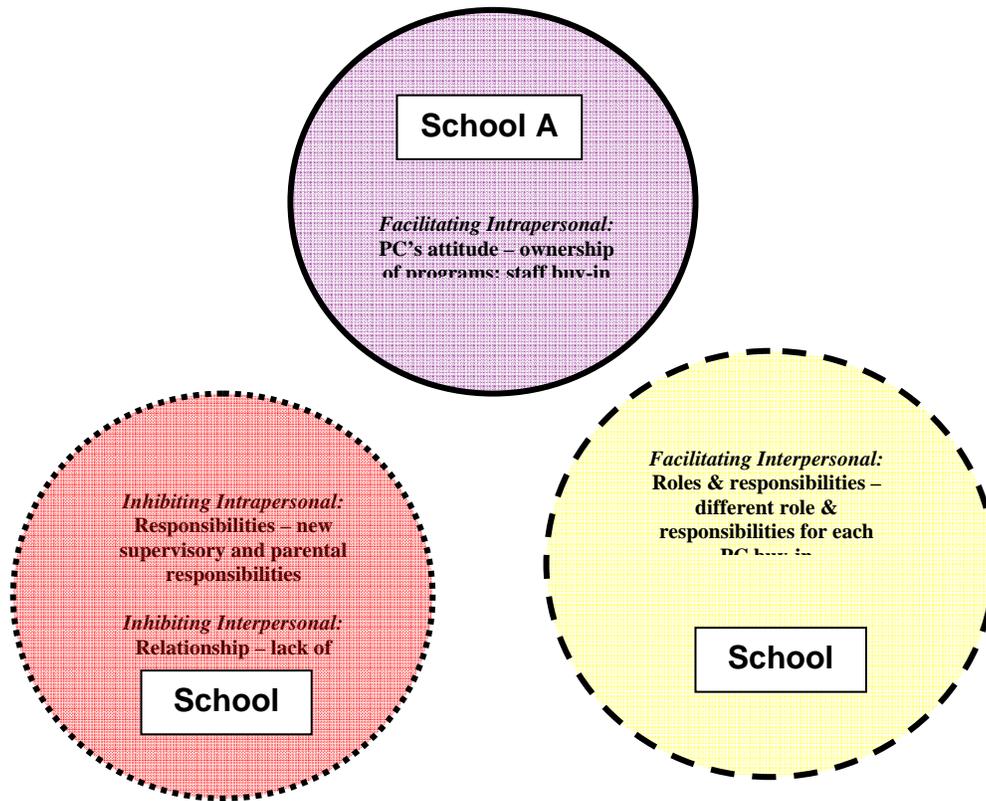
**Figure 7.7. Inhibiting Factors that Influenced Implementation and Receptivity of TAAG Programs for Physical Activity (PPA) Component**



**Figure 7.8. Facilitating and Inhibiting Factors that Influenced Implementation and Receptivity of TAAG Promotions Component**



**Figure 7.9. Facilitating and Inhibiting Factors that Influenced Implementation and Receptivity of TAAG Program Champion**



## **Appendix A: TAAG Study Overview**

TAAG was a randomized, multi-center field trial of 36 middle schools with the goal of reducing the decline in physical activity in adolescent girls. Its primary aim was to determine if an intervention that links schools to community organizations reduces the age-related decline in moderate to vigorous physical activity (MVPA) in middle school girls. Secondary aims included those at the individual, environmental (school and community), and maintenance (one year after the end of intervention) levels.

The six field centers for the trial were San Diego State University, University of Arizona, Tulane University, University of Minnesota, University of Maryland, and University of South Carolina. The University of North Carolina was the trial's coordinating center and the National Heart, Lung, and Blood Institute (NHLBI) was the project office. There were three intervention and three control schools at each field center. Process evaluation, baseline measurements, and intervention strategies from TAAG were used in this dissertation project.

### **Process Evaluation**

Throughout the main trial of TAAG, process evaluation protocol documented how well the intervention was implemented as intended. Process evaluation for TAAG assessed fidelity of intervention delivery (i.e., extent to which the intervention was delivered as intended), the intervention dose (i.e., amount of intervention provided), and reach to the groups targeted by the intervention (i.e., extent to which the intervention was received by the target group) (Baranowski & Stables, 2000). By monitoring the delivery of key intervention components, process evaluation data

could be used to ensure that the intervention was being implemented as planned (i.e., fidelity). The internal validity of the trial was dependent on adequate intervention implementation (Basch, Sliepcevich, Gold, Duncan & Kolbe, 1985). Monitoring, providing feedback to study investigators, and making appropriate adjustments ensured adequate implementation of the intervention components. Reach provided information on the ability to impact (penetrate) the intervention target groups. Study outcomes could not be achieved without the intervention strategies reaching the intended targets.

For TAAG, the process evaluation components are defined as follows:

- *Dose*: The number or amount of intended units of intervention delivered.

Example: Number of TAAG lessons taught relative to how many were intended.

- *Fidelity*: The extent to which the intervention was delivered as intended.

Example: Percent of TAAG lesson components that were completed.

- *Implementation*: The combination of dose and fidelity.

Example:  $(\text{Percent lessons taught} + \text{Percent completed lesson components})/2$

- *Reach*: The extent to which the program was received by the targeted groups.

Example: Percent of girls attending after school physical activity programs.

- *Exposure*: The extent to which participants viewed/read intervention materials.

Example: Number of promotional print materials the girls viewed relative to how many was distributed.

Select information from process evaluation data collection was used as secondary data sources for the present study. See Table 3.2 for a full description of the process evaluation data analyzed.

### **Outcome Measurements**

TAAG was designed to determine the effects of a school- and community-linked intervention on moderate to vigorous physical activity (MVPA) in middle school girls. The primary outcome variable in TAAG was MVPA. The trial examined the effects of the intervention on several secondary outcomes and determined the influence of several factors that may mediate or moderate the effects of the intervention on physical activity. Data were collected using questionnaires (a comprehensive student questionnaire that examined moderators and mediators of physical activity and three-day physical activity recall), Computer Sciences and Applications (CSA) activity monitor, cycle ergometer, and anthropometry. The table at the end of this section lists the primary variables of interest, data collection method, and times of measurements.

Measurement data were collected at three different stages throughout the trial – baseline and two follow-up (8A and 8B) measurements. During the spring semester of the 2002-2003 school year, baseline measurements were collected using 6<sup>th</sup> grade girls. During the spring semester of 2004-2005 school year after two years of intervention, follow-up measurements on 8<sup>th</sup> grade girls who were also measured as 6<sup>th</sup> graders were collected (8A measurements). TAAG 8B measurements, collected during spring semester of the 2005-2006 school year using 8<sup>th</sup> grade girls, evaluated

the extent to which environmental changes had been maintained in TAAG schools and communities after the end of the active TAAG intervention activities.

**Table A.1. TAAG Measurements for Primary Outcome, Secondary Outcomes, Mediators, Moderators, and Descriptors**

<b>Variable Type</b>	<b>Variable(s)</b>	<b>Method</b>	<b>Level</b>	<b>Times Measured</b>
<b>Primary Outcome</b>	Daily intensity-weighted minutes of MVPA	Accelerometry (CSA activity monitor) <sup>1</sup>	Girl	Baseline, 8A, 8B
<b>Secondary Outcomes</b>	Cardiorespiratory Fitness	PWC-170 cycle ergometer	Girl	8A
	Body Composition: <ul style="list-style-type: none"> <li>• Percent body fat</li> <li>• Body mass index</li> </ul>	Height (ht), Weight (wt), Triceps Skinfold	Girl	Baseline, 8A, 8B
	Types and Contexts of Physical Activity	Modified 3DPAR <sup>2</sup>	Girl	Baseline, 8A, 8B
	School Achievement	Standardized test scores	School	Baseline, 8A, 8B
	Smoking Initiation	Student Questionnaire; Modified scale, 6 items	Girl	Baseline, 8A, 8B
	Physical Activity in PE Classes	Modified System for Observing Fitness Instruction Time (SOFIT)	Class room	Baseline, 8A, 8B
	Depressive Symptoms	Student Questionnaire; CES-D <sup>3</sup> scale, 20 items	Girl	Baseline, 8A, 8B
	Total Physical Activity	Accelerometry	Girl	Baseline, 8A, 8B
	Physical Activity on weekdays, weekends, in-school, out-of-school	Accelerometry	Girl	Baseline, 8A, 8B

<b>Variable Type</b>	<b>Variable(s)</b>	<b>Method</b>	<b>Level</b>	<b>Times Measured</b>
<b>Mediator</b>	Self-efficacy	Student Questionnaire; Modified scale by Saunders, 8 items	Girl	Baseline, 8A, 8B
	Change Strategies	Student Questionnaire; Modified PACE+ <sup>4</sup> scale, 9 items	Girl	Baseline, 8A, 8B
	Enjoyment of Physical Activity	Student Questionnaire; Adapted PACES <sup>5</sup> scale, 7 items	Girl	Baseline, 8A, 8B
	Enjoyment of Physical Education	Student Questionnaire; Motl et al. scale, 1 item	Girl	Baseline, 8A, 8B
	Perceived Benefits and Barriers	Student Questionnaire; Modified Amherst scale and Attitude Questionnaire, 19 items	Girl	Baseline, 8A, 8B
	Social Support	Student Questionnaire; Modified Amherst scale, 9 items	Girl	Baseline, 8A, 8B
	Perceived Environment & Recreational Facilities	Student Questionnaire; Modified Amherst scale, 24 items	Girl	Baseline, 8A, 8B
	School Climate for Physical Activity	Student Questionnaire; New scale, 6 items	Girl	Baseline, 8A, 8B
<b>Moderator</b>	Body Composition	Height, Weight, and Triceps Skinfold	Girl	Baseline, 8A, 8B
	Sports/Activity Participation History	Student Questionnaire; 33 items	Girl	Baseline, 8A, 8B
	Home Alone	Student Questionnaire; 2 items	Girl	Baseline, 8A, 8B

<b>Variable Type</b>	<b>Variable(s)</b>	<b>Method</b>	<b>Level</b>	<b>Times Measured</b>
	Transportation	Student Questionnaire; 3 items	Girl	Baseline, 8A, 8B
	Ethnicity	Student Questionnaire; 1 item	Girl	Baseline, 8A, 8B
	Address	Consent form	Girl	Baseline, 8A, 8B
	Socio-Economic Status	Student Questionnaire of Parent Employment, Parent Education, Household Structure, and Reduced/Free Lunch; 4 items	Girl	Baseline, 8A, 8B
	Ethnicity	Reported by Schools/ Public archives	School	Baseline, 8A, 8B
	Address – School and Community Partners	Reported by Schools/ Community Agencies	School	Baseline, 8A, 8B
	School Socio-Economic Status	% free/reduced price lunch reported by Schools/ Public archives	School	Baseline, 8A, 8B
<b>Descriptor</b>	Age	Consent Form, Date of Birth	Girl	Baseline, 8A, 8B
	Grade	Student Questionnaire	Girl	Baseline, 8A, 8B
	School Enrollment	Student Questionnaire	Girl	8A, 8B
	PE Enrollment	Student Questionnaire	Girl	8A, 8B

<sup>1</sup> CSA: Computer Sciences and Application

<sup>2</sup> 3DPAR: Three-day physical activity recall questionnaire

<sup>3</sup> CES-D: Center for Epidemiological Studies – Depression

<sup>4</sup> PACE+: Patient-centered Assessment and Counseling on Exercise plus nutrition scale

<sup>5</sup> PACES: Physical Activity Enjoyment Scale

### **Intervention**

The purpose of the TAAG intervention was to foster school and community environments that encouraged and supported the full involvement of girls in every

aspect of physical activity, including physical education, recreation, sport, and an active lifestyle. The intervention phase of this trial spanned from April 2003 to May 2006. Although all students received benefits from the TAAG project, the main population targeted was 6<sup>th</sup> grade girls in the 2002-2003 school year as they progressed through 8<sup>th</sup> grade. Because this dissertation project focused primarily on the intervention phase and components of TAAG, intervention details are thoroughly explored in the next few sections.

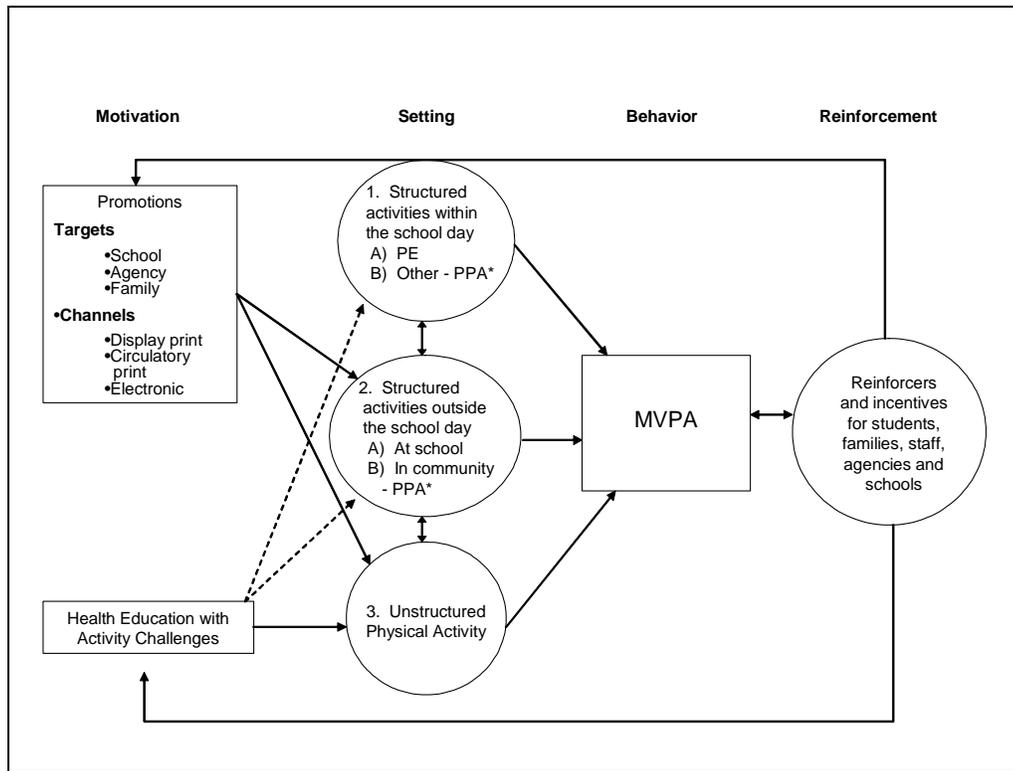
### **Theoretical Framework for TAAG Intervention**

The TAAG intervention was based on the social-ecological model, and targeted intrapersonal, interpersonal, organizational, and environmental factors that influenced physical activity behavior. This approach emphasized etiological explanations and behavioral theories that focused on considering the behavior solely from individual-level perspectives and predisposing factors (i.e., individuals' motivation, knowledge, attitudes or values surrounding a behavior).

The social-ecological model directly addressed the social and physical contexts for physical activity in order to optimize change. There was an emphasis on affecting not only individual behavior change, but efforts to change the environment so that the larger environment could prompt and reinforce behavior change by the individual. Major components of this model were motivation, setting, behavior, and reinforcement (Figure A.1). The establishment and degree of existence of these factors could heavily affect the level of physical activity in adolescent girls. The intervention at each field center was implemented in three different schools, thus

potentially having three different environmental responses because of the unique dynamics of each intervention school.

**Figure A.1. TAAG Intervention Theoretical Framework**



**Components of TAAG Intervention**

The TAAG intervention involved a partnership between the middle school, community, and university to increase opportunities and decrease barriers for girls to be active in and out of school. The main components of the TAAG intervention were:

- (1) Physical education (PE)
- (2) Health education activity challenges (HEAC)
- (3) Programs for Physical Activity (PPA)
- (4) Promotional activities (Promotions)
- (5) Program Champion (PC)

These components worked together to help motivate girls as well as activate school staff, community agencies and families to encourage and support girls in every aspect of physical activity. Each school and community expanded upon these components in ways that best addressed their unique needs.

### **Physical Education (PE).**

Because school is a primary place that adolescent physical activity can be promoted and lifetime activity habits can be developed, PE class was a major target for the TAAG intervention. The vision of TAAG PE was to promote daily PE that provides girls with opportunities to participate in enjoyable, MVPA and to learn movement and behavioral skills. TAAG expected these behaviors to generalize to other times of the school day and away from school. There were four objectives for TAAG PE:

- 1) Girls are engaged in MVPA at least 50% of class time.
- 2) Girls are provided many opportunities to participate, practice skills, and be physically active.
- 3) Girls are provided opportunities to be successful and enjoy physical activity.
- 4) Girls are encouraged to participate in physical activity outside of class.

The first three objectives were reached by positively influencing how PE class is conducted including the format of lessons, class management strategies, instructional strategies and the development of social skills that reduce barriers to girls' participation and enjoyment of physical activity. Enjoyment of PE class was enhanced by providing choice to students, including choice of activities, choice of competitive levels and where possible, choice of gender segregated activities. Sample

lessons and unit activities were presented during staff development training and in the written materials giving PE staff concrete examples of active lessons and activities. Because most PE classes included both boys and girls, the ideals of TAAG applied to the instruction of all students in class.

The fourth objective was reached by engaging PE teachers as links to the wider school and community physical activity opportunities that were being offered as part of the TAAG intervention. In some cases, PE teachers also delivered the TAAG Health Education with Activity Challenges (HEAC) lessons positioning them to reinforce activity beyond PE class. PE teachers were encouraged to promote TAAG after school activities and other TAAG-supported community programs.

***TAAG PE intervention strategies:*** TAAG PE was not a traditional curriculum, rather it used a staff development model, training and empowering schools' PE teachers to adapt or revise their current curriculum in ways that increased MVPA and girls' satisfaction with the PE experience. There were two primary intervention strategies for TAAG PE: staff development training and on-site follow-up. TAAG field site intervention staff conducted one full day training and two booster in-service trainings (one in the fall, one in the spring) to all PE teachers in the intervention schools in each of the TAAG intervention years. The boosters were active trainings. They modeled TAAG intervention concepts and provided PE teachers with experiential learning. Topics covered in training were gender equity in physical activity, barriers girls encounter in being physically active, adaptation of existing lesson plans to meet the TAAG PE objectives, introduction of more choice into PE lesson plans and reduction of non-active time during PE.

Following initial training, TAAG field site intervention staff provided regular, on-site follow-up. During Year 1 of the intervention, TAAG PE staff visited each intervention school at least once every two weeks. During Year 2, the visits were less frequent – once every 2-3 weeks. The purpose of these visits was to provide support for the adoption and institutionalization of TAAG PE. Focusing mainly on the four TAAG PE objectives, this consultation included feedback, modeling, and technical support to PE teachers.

**TAAG PE materials:** Materials developed for TAAG PE for school staff are a TAAG PE Resource Manual, TAAG PE Activity Box, and Task Cards. The TAAG PE Resource Manual was given to staff at the first staff development training and included: 1) an overview of TAAG; 2) the rationale, vision, and objectives of TAAG PE; 3) recommended lesson format; 4) tips on building a positive learning environment; 5) information on health-related fitness; 6) physical activity promotion beyond PE; 7) planning and assessing for progress; 8) commonly asked questions; 9) resources and professional information; and 10) references.

The TAAG PE Activity Box provided a wide variety of sample unit activities focusing on health-related fitness such as aerobic warm-up activities, skill builders and mini-games, jump rope, soccer, jump band, cooperatives, step aerobics, basketball, kickboxing, walk/jog, stunts and tumbling, and cultural games. These sample unit activities gave concrete examples to teachers on how to adapt their current units to meet TAAG objectives and examples of new units to introduce to their classes. The Task Card file contained handouts, task cards and a CD to assist with implementing the TAAG sample activities.

***PE process evaluation data.*** Select PE process evaluation data that were analyzed in the present study included:

- 1) PE Teacher Workshop Observation Checklist: completed at each training session by TAAG process evaluation staff
- 2) PE Teacher Workshop Observation Checklist: completed at each training session by TAAG process evaluation staff
- 3) PE Teacher Questionnaire: completed at the end of each intervention staff by PE teachers
- 4) PE Observation Form: completed three times a semester by TAAG process evaluation staff

**Health Education with Activity Challenges (HEAC).**

HEAC lessons were taught by health education or PE teachers to promote behavioral skills associated with physical activity. This component of the intervention provided youth with the knowledge and skills needed to be more active both inside and outside of school. Parallel lessons with the same learning objectives were designed for both classroom and physical education settings, which allowed schools to decide where TAAG HEAC best fitted with their school's curricular needs. Activity Challenges enhanced each lesson and provide opportunities for students to be active and have fun while learning. Because most health education instruction occurred in co-educational classes, TAAG HEAC was designed for both girls and boys. The objectives of TAAG Health Education with Activity Challenges were to:

- 1) Develop behavioral and communication skills to increase physical activity and decrease sedentary behavior.

- 2) Develop communication skills.
- 3) Help girls value being strong and fit; help boys respond positively to this goal for girls.
- 4) Increase access to physical activity.
- 5) Increase enjoyment of physical activity.

***TAAG HEAC intervention strategies:*** TAAG HEAC was a six-lesson health education curriculum for 7<sup>th</sup> and 8<sup>th</sup> grade. Each year of the intervention included lessons, an associated activity challenge to be done outside of class and brief follow-up sessions. The lessons had a scope and sequence with one lesson building on the previous one and year two lessons building on year one lessons. Teachers were trained to teach all lessons in the appropriate sequence. Included in the health education lessons were topics such as the benefits of physical activity, enlisting social support for being active, setting goals for activity, reducing barriers to being active, and self-monitoring techniques for assessing physical activity.

Each lesson included behavioral objectives, an outline for the teacher specifying the activities that occur as part of each lesson and the amount of time to devote to each activity, and the materials needed for each activity. The lesson plan detailed the information to present and provided suggestions for engaging the students in the activities. For the lesson versions that were taught in a traditional classroom, didactic presentations were minimized and the focus was on interactive, problem solving or creative experiences. For the lessons taught in PE, a proportion of each lesson was designed to get students moving. Each lesson finished with an activity challenge for the following week. Activity challenges ranged from behavior

modification-type assignments to challenges involving wearing pedometers and setting goals for movement. The activity challenges supported the content presented in the lessons and acted to carryover lessons outside of class into their daily routines. Reinforcement for behavior change occurred as challenges were met.

At the three intervention schools at the Maryland field site, health education was taught in quarterly increments and teachers potentially taught the HEAC lessons several times throughout the year.

*Secondary data sources.* Select HEAC process evaluation data were used for the present study:

- 1) HEAC Teacher Workshop Attendance Log: completed at each training session by TAAG process evaluation staff
- 2) HEAC Teacher Workshop Observation Form: complete at each training session by TAAG process evaluation staff
- 3) HEAC Teacher Interview: completed at the end of each training cycle by health teachers
- 4) HEAC Lesson Observation: completed whenever lessons were taught.

**Programs for Physical Activity (PPA).**

Collaborations among schools, community agencies, and the TAAG universities were constructed to provide physical activity programs for girls after school and during non-school hours (e.g., weekends, summers). These jointly developed after-school programs were called Programs for Physical Activity, or PPA. The purpose of the TAAG PPA was to increase all middle school girls' opportunities for, and participation in, accessible and appealing physical activity programs during non-

school hours (before school, after school, on weekends, during summer). TAAG interventionists worked collaboratively with the school and community agency partners to assess and determine which activity programs and services were best for their population group. TAAG interventionists and PPA Planning Committee regularly met once a month to identify and coordinate the use of local resources to promote physical activity for girls. TAAG interventionists also facilitated the development of the local capacity and sustainability of the PPA Planning Committee and out-of-school programs for adolescent girls.

The objectives for TAAG interventionists and the PPA Planning Committee were to:

1. Develop and implement programs and opportunities based on girls' needs, interests, and local resources.
2. Provide a variety of accessible, safe, and fun physical activity programs and opportunities five days per week for girls.
3. Provide physical activity in which 50% of the session offers moderate to vigorous physical activity (MVPA).
4. Strive to get and keep all TAAG girls in out-of-school physical activity programs and opportunities.

***PPA intervention strategies:*** For each school catchment area, the school-community-university partnership worked to increase the number of available and/or accessible programs in the school and in the community via a PPA Planning Committee. The programs could have been new programs that were developed as part of TAAG intervention activities or could have been modifications or special

promotions of existing programs. TAAG PPA also worked towards decreasing barriers, improving access to programs, promoting attendance, and reinforcing participation in programs and activities. The goal of the partnership process was to develop a shared vision and purpose among a diverse group of stakeholders so that this group could work toward the common goal of increased physical activity opportunities for girls in the school and community.

The types of out-of-school programs, as well as the number and type of partners involved, varied from school to school. The objective was to standardize the process as much as possible, while allowing the partners to develop plans that best met the needs and desires of girls and schools in their community.

Community partners contributed in a variety of ways including: offered direct programming in a community agency, such as a new kickboxing class at the YWCA advertised to TAAG girls; offered direct programming in the school after hours, such as a dance instructor in the community offering a hip hop class after school on school grounds; or supported physical activity in other ways, such as a health maintenance organization providing funds for transportation to a community center or providing funds for bike racks at the school.

***PPA process evaluation data.*** Weekly Program Summary Attendance Log, completed weekly by PPA program sponsors, was the only select PPA process evaluation data used in the analyses for the present study.

## **Promotions**

Promotional activities were launched to encourage overall physical activity and promote TAAG-specific programs. The objectives of the TAAG Promotion intervention component were to:

- 1) promote awareness of and participation in specific TAAG intervention events and activities through print and electronic channels that successfully reach diverse segments of girls;
- 2) create programming (e.g., student competitions and school reward programs) that reinforce girls' participation in physical activity or schools' involvement in TAAG intervention objectives; and
- 3) inform families of TAAG events and encourage them to facilitate their daughters' choices to be active.

***TAAG promotion intervention strategies:*** TAAG promotional strategies included direct messaging to girls, such as flyers, posters, morning and afternoon announcements, and updates in school newsletters promoting general physical activity or specific PPA programs. The strategies also included promotional events, such as the Passport or Pedometer Challenge, which heightened awareness of TAAG and provide motivation and incentives for girls to participate in TAAG programming.

***Passport Challenge.*** The primary goal of the Passport Program was to prompt and reinforce girls for participating in a variety of moderate to vigorous physical activities, and to differentially reinforce higher levels of participation.

This promotional event targeted 7<sup>th</sup> grade girls during year one of the TAAG intervention. Each 7<sup>th</sup> grade girl at each intervention school received a TAAG

Activity Passport containing 12 pages of physical to earn stamps and win prizes. Girls were given 2 weeks to earn as many of the stamps as they can. Girls who earned stamps on all 12 pages received special recognition.

***Pedometer Challenge.*** The TAAG Pedometer Challenge engaged girls in a fun and innovative activity using pedometers to reward girls for being physically active. The Challenge was launched during year two2 of the TAAG intervention and targeted 8<sup>th</sup> grade girls. Other grades, boys, or teachers could also be involve as long as their involvement did not take away any opportunities for 8<sup>th</sup> grade girls to participate.

Intervention schools had the option of determining how each school's Pedometer Challenge was to be structured. For example, the challenge may be designed to be individually based with girls challenging themselves to achieve an average of 11,000 steps per day over the challenge period; challenging themselves to meet individual step goals; or challenging themselves to improve their step counts each day. The challenge may also be between classes or between students and faculty or be a combination of the individual and group challenges if sites have the resources. Regardless of the type of challenge, girls are encouraged to wear their pedometers for the specified week and to achieve set goals. Girls also are encouraged to participate in ongoing TAAG activities in their school to achieve their step count goals.

*Pedometer Challenge process evaluation data.* Process evaluation data on the Pedometer Challenge used for the present study were from Pedometer Summary Form completed by TAAG process evaluation staff. Pedometer Summary Form: completed at the end of the Pedometer Challenge by Program Champion.

### **Program Champion (PC).**

A Program Champion model was adopted to enhance the sustainability of the intervention in the maintenance year. Two PCs from each school/community catchment area worked closely with TAAG university staff during the second year of the intervention. During the maintenance year, the program champions took full responsibility of implementing TAAG.

The purpose of the Program Champion intervention component was to help plan for and support institutionalization of TAAG intervention activities during the active intervention phase of TAAG. Although the TAAG intervention was designed with sustainability elements in mind (specifically training teachers to implement the curricular activities and working with community and school stakeholders to increase opportunities for physical activity by improving existing and developing new programs), it was realized that without an intervention phase dedicated to sustainability, there was little in place to ensure that the TAAG intervention would not follow the usual course of research-based school health promotion studies which is deterioration over time. The goals of the Program Champion Intervention component were to:

- A. Identify individuals within schools and communities who have the interest, energy, abilities and time to help maintain TAAG intervention objectives after the active intervention phase of the grant (when research dollars are available for intervention activities) is complete.

- B. Develop a system for training program champions through formal workshops and more informal technical assistance to continue TAAG intervention components
- C. Develop a system for helping program champions meet the challenges of implementation including 1) continuing PE and HEAC training; 2) finding resources and overcoming logistical challenges to reproduce TAAG intervention materials including student and teacher materials, promotional materials, and other supporting materials; 3) continue to promote PA and market PA opportunities for girls; and 4) continue to work with community stakeholders to provide more PA opportunities for girls outside of the school day.
- D. Develop a system for helping program champions problem solve barriers to institutionalization and to adapt the TAAG intervention to better fit the needs of the school and community
- E. Develop guidelines for TAAG sites on ways to continue to offer technical assistance (without additional TAAG resources) to schools after the active intervention phase (year 05) is completed.

The roles and responsibilities of a Program Champion during the active intervention phase were to:

- 1) Become familiar with all components of the TAAG intervention.
- 2) Problem solve with TAAG staff around institutionalization of TAAG; e.g., how to produce materials, how to identify and garner other needed resources.

- 3) Work with schools and community agencies to adapt TAAG interventions to local circumstances; assist in decision making about program adaptation.
- 4) Team with other program champions to implement TAAG intervention components (i.e., school and community champions should work together.)
- 5) Engage in advocacy for TAAG interventions in the school and the community; advocate at school and community agency policy and administrative levels.
- 6) Engage in long-term planning; work on acquiring needed resources, organizational changes, and personnel for the long-term maintenance of TAAG interventions.

Process evaluation data used in the present study were from TAAG Program Champion Form completed once per semester of Intervention year two by TAAG process evaluation staff. Data from locally collected Program Champion Workshop Evaluation Form completed at the end of each semester by Program Champions were used.

## Appendix B: Human Subjects Approval Form



UNIVERSITY OF  
MARYLAND

INSTITUTIONAL REVIEW BOARD

2100 Lee Building  
College Park, Maryland 20742-5121  
301.405.4212 TEL 301.314.1475 FA

To: Deborah Rohm Young  
Daheia Barr-Anderson  
Department of Kinesiology

From: Roslyn Edson, M.S., CIP *RE*  
IRB Manager  
University of Maryland, College Park

Re: IRB Application # 04-0522  
Title: Qualitative Assessment of Trial of Activity for Adolescent  
Girls (TAAG)

Approval Date: May 18, 2005

Expiration Date: December 31, 2005

Type of Application: Addendum/Modification  
To conduct an ancillary study to determine the implementation and  
receptivity of the TAAG intervention, by conducting in-depth  
interviews with adult school staff and community members and  
focus groups of 6<sup>th</sup> and 8<sup>th</sup> grade girls across the three schools in  
Maryland in which the intervention was already conducted

Type of Research: Nonexempt

Type of Review: Expedited

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The University of Maryland, College Park Institutional Review Board (IRB) approved your IRB application. The research was approved in accordance with the University's IRB policies and procedures and 45 CFR 46, the Federal Policy for the Protection of Human Subjects. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

**Recruitment/Consent:** For research requiring written informed consent, the IRB-approved and stamped informed consent document is enclosed. The IRB approval expiration date has been stamped on the informed consent document. Please keep copies of the consent forms used for this research for three years after the completion of the research.

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**Appendix C: Parental Informed Consent and Student Assent  
Forms**



## PARENTAL/GUARDIAN PERMISSION FORM

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### Project Title: Qualitative Assessment of TAAG

Dear Parent or Guardian:

Your daughter's middle school is participating in a research study conducted by the University of Maryland. The name of the project is *Qualitative Assessment of TAAG*. It is a substudy to Trial of Activity for Adolescent Girls (TAAG), a national study that is funded by the National Institutes of Health and the dissertation project for Ms. Daheia Barr-Anderson, MSPH. We are inviting your daughter to participate in the focus group discussions. Only select girls in the 6<sup>th</sup> and 8<sup>th</sup> grade during the 2004-2005 school year can be involved.

#### **PURPOSE OF THE PROJECT:**

The major purpose of TAAG is to study physical activity levels of girls in middle school and other items that may relate to children's health. The purpose of this ancillary study is to evaluate how the TAAG intervention was received in your daughter's middle school. We will do this by asking girls questions about their involvement in TAAG activities and feelings about various components of the TAAG intervention and physical activity in general.

#### **WHAT IS INVOLVED?**

Your daughter will be asked to participate in a focus group discussion with 5-9 other girls of the same grade. The focus group will take approximately 45-60 minutes to complete and will be conducted privately in a classroom or other available school room during regular school hours, after school, during lunch time or before school. The time at which the interview will take place will be determined by school personnel and TAAG staff. All focus group discussions will be audio taped. The focus group includes questions on your daughter's participation in the TAAG intervention and her overall perceptions of the TAAG project. In addition, your daughter will be asked to report her name, age, grade, school, and race/ethnicity.

#### **EXPECTED RISKS AND DISCOMFORTS:**

Participating in the focus group presents little to no risk to your daughter. Depending on when the focus group is scheduled at your daughter's school, she may miss a single class period. Your daughter does not have to answer any questions if she prefers not to, but all answers she does provide are confidential and will only be utilized by the TAAG research team for research purposes.

#### **EXPECTED BENEFITS:**

Your daughter will receive no direct benefit from her participation in this study. However, her participation will help investigators understand which strategies are most effective in a school setting for increasing physical activity in adolescent girls.

**COMPENSATION:**

After she has completed the focus group, your daughter will receive a small gift worth about \$10 in appreciation for participating in the substudy.

**VOLUNTARY PARTICIPATION:**

It is your choice whether your daughter takes part in the study. Your daughter may choose not to participate in any or all of the focus group discussion for any reason. You can decide to withdraw her from the study. Your decision on whether to let your daughter participate will not hurt your future relations with the University of Maryland or your daughter's school.

**CONFIDENTIALITY:**

All information obtained from your daughter will be held in confidence to the extent allowed by law. The focus group, transcripts and audiotapes will be identified with a code and maintained in locked files at University of Maryland by Ms. Daheia Barr-Anderson. Your daughter will not be identified in any presentation of project results.

**CONTACT PERSONS FOR QUESTIONS YOU MAY HAVE ABOUT THE RESEARCH STUDY:**

You may ask questions about the study at any time. For more information about this ancillary study, you may contact Ms. Daheia Barr-Anderson, MSPH, at 240-475-2806, [dbarrand@umd.edu](mailto:dbarrand@umd.edu) or Dr. Deborah Rohm Young, Principal Investigator, at 301-405-2496, [dryoung@umd.edu](mailto:dryoung@umd.edu). If you have questions about your daughter's rights as a research subject, please contact: **Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) [irb@deans.umd.edu](mailto:irb@deans.umd.edu); (telephone) 301-405-4212.**

**Statement of age and parental/guardian permission:**

Signing your name means that you have read this form and have had a chance to ask any questions. Your daughter's signature on the *Child Assent Form* means that she has agreed to take part in the focus group. If you agree to allow your daughter to take part in this study, you may change your mind and withdraw your permission at any time.

\_\_\_\_\_ **Yes**, I do consent to have my daughter take part in this substudy of TAAG.  
*I state that I am the parent or legal guardian of the student who **does** wish to take part in the program of research described above, conducted by Ms. Daheia Barr-Anderson and Dr. Deborah Rohm Young, Dept. of Kinesiology, Univ. of Maryland. I am over 18 years of age, and **do** provide permission for her to participate. **Please sign below.***

\_\_\_\_\_  
**Printed Name of Parent/Legal Guardian**

\_\_\_\_\_  
**Printed Name of Daughter**

\_\_\_\_\_  
**Signature of Parent/Legal Guardian**

\_\_\_\_\_  
**Date**



## Child Assent Form

---

### Project Title: Qualitative Assessment of TAAG

My parent or guardian has said it is okay for me to be in the project *Qualitative Assessment of TAAG*, a substudy of the *Trial of Activity for Adolescent Girls (TAAG)*. This project will study how well the TAAG program was received in my middle school. I understand that if I agree to be in this project, I will participate in a focus group discussion with 5-9 girls who are also in the same grade.

Being in this project is up to me. I can choose to quit or ask to stop at any time. Also, if I do not like any of the questions, I do not have to answer them. No one will be upset if I don't want to be in the project. If I decide not to be in this project, it will not affect my schoolwork, grades, or what my teacher thinks of me.

Only the university people working on this project will see my information.

I understand that I will receive a gift worth approximately \$10 in appreciation for my being in this project.

\_\_\_\_\_ **Yes**, I want to be in this project.

By printing my name below, I agree to be in the TAAG project.

\_\_\_\_\_  
**Name** (please print)

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**School Name**

## **Appendix D: Adult Participant Informed Consent Form**



## ADULT PARTICIPANT CONSENT FORM

---

### Project Title: Qualitative Assessment of TAAG

Dear Adult Participant:

You are being asked to participate in a research study conducted by the University of Maryland. The name of the project is *Qualitative Assessment of TAAG*. It is a substudy to Trial of Activity for Adolescent Girls (TAAG) and the dissertation project for Daheia Barr-Anderson, MSPH. You are being asked to participate due to your involvement with the TAAG project.

#### **PURPOSE OF THE PROJECT:**

The major purpose of TAAG is to study physical activity levels of girls in middle school and other items that may relate to children's health. To evaluate how TAAG was delivered and received at your school, interviews with key people involved with the main trial of the TAAG intervention are being conducted. Adults will be asked about their involvement in TAAG activities and perceptions and feelings about various components of the TAAG intervention.

#### **WHAT IS INVOLVED?**

If you agree to participate, you will be asked to participate in an one-on-one interview with Ms. Barr-Anderson. The interview will take approximately 30-60 minutes to complete and will be conducted privately in a classroom or other available school room during regular school hours, after school, during lunch time or before school. The time at which the interview will take place will be determined by your preference. The interview will be recorded upon your approval. The interview includes questions on your role in TAAG, intervention strategies that worked in your school environment, and your perceptions of TAAG.

#### **EXPECTED RISKS AND DISCOMFORTS:**

Participating in the interview presents little to no risk to you. You can choose not to participate or stop participation at any time. Your answers are confidential and will only be utilized by Ms. Barr-Anderson for research purposes.

#### **EXPECTED BENEFITS:**

You will receive no direct benefit from your participation in this study. However, your participation will help investigators understand which strategies are most effective in a school setting for increasing physical activity in adolescent girls.

#### **COMPENSATION:**

After you have completed the interview, you will receive a small gift worth approximately \$20 in appreciation.

#### **VOLUNTARY PARTICIPATION:**

It is your choice whether you take part in the study. You may choose not to participate in any or all of the interview for any reason. If you decide to withdraw from the study, the information and data that have been collected will be kept in a confidential manner. Your decision on whether you participate will not hurt your future relations with the University of Maryland or your affiliated middle school.

**CONFIDENTIALITY:**

All information obtained from you will be held in confidence to the extent allowed by law. The interview, transcripts and audiotapes will be identified with a code and maintained in locked files at University of Maryland by Ms. Barr-Anderson. You will not be identified in any presentation of project results.

**CONTACT PERSONS FOR QUESTIONS YOU MAY HAVE ABOUT THE RESEARCH STUDY:**

You may ask questions about the study at any time. For more information about TAAG, you may contact Ms. Daheia Barr-Anderson, MSPH, at 240-475-2806, [dbarrand@umd.edu](mailto:dbarrand@umd.edu) or Dr. Deborah Rohm Young, Principal Investigator, at 301-405-2496, [dryoung@umd.edu](mailto:dryoung@umd.edu). If you have questions about your rights as a research subject or wish to report a research-related injury, please contact: **Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) [irb@deans.umd.edu](mailto:irb@deans.umd.edu); (telephone) 301-405-4212.**

**Statement of permission:**

Signing your name means that you have read this form and have had a chance to ask any questions. If you agree to take part in this study, you may change your mind and withdraw your permission at any time.

\_\_\_\_\_ **Yes**, I do consent to take part in the interview.

*I state that I **do** wish to take part in the program of research described above, conducted by Ms. Daheia Barr-Anderson and Dr. Deborah Rohm Young, Dept. of Kinesiology, Univ. of Maryland. **Please sign below.***

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

## **Appendix E: Student Focus Group Guide**



## STUDENT FOCUS GROUP GUIDE

---

### Project Title: Qualitative Assessment of TAAG

As participants arrive, have them fill out a name tag with their first name and demographic information sheet. Make sure each participant turns in a parent/guardian consent form and she signs the child assent form.

**Time Introduction begins:** \_\_\_\_\_ (*notetaker's responsibility*)

#### I. Introduction

1. Welcome and thank everyone for coming
2. Facilitator and Notetaker Introductions
3. Participant Introductions – First name and any special plans for this summer
4. We will be taking notes and recording this session. Is that ok with everyone?
5. All the information that is written down and recorded is confidential. We will not mention your name in any way.

#### *Purpose of Today's Group*

The reason we asked you to talk with us today is because we need your help. TAAG has been in your school for a couple of years and we want to find out your feelings toward the project and physical activity, in general. We will be asking you a series of questions and there are a couple of things you need to keep in mind:

1. You will not be identified by name.
2. There are no right or wrong answers.
3. We just want to know what you think.
4. Please be honest. You won't hurt our feelings or affect us in any way.
5. Try to speak one at a time so we can hear what everyone has to say.
6. Please respect others and let them speak if they have something to say.
7. There are several components of TAAG that you may be familiar with, but during this discussion, we will only talk about the after school programs, TAAG in PE and health education classes. We will not talk about the measures that some of you 8<sup>th</sup> graders may have participated in.

We will be tape recording this group discussion and only project staff will hear these tapes. Your parents and teachers will not hear these tapes. Is this okay with you?

Any questions before we get started?

## II. Warm-up

Go around the room and have each girl state her favorite physical activity and how often she engages in this activity. *Facilitator should start.*

*Now let's get started. As I stated earlier, we are going to be talking about physical activity in general and your feelings about TAAG in your school.*

### **REMINDER TO FACILITATOR: GENERAL PROBES**

“Would you explain further?”

“Can you give me an example?”

“Would you say more?”

“Is there anything else?”

“Please describe what you mean.”

## III. General Questions

1. What does TAAG mean to you? (*probes: girls only, fun activities, being physically active, homework, not for me, getting measured*)
2. What are some activities that you identify as being TAAG? (*probes: afterschool programs, some PE activities, health education lessons, posters, bulletin boards*)
3. What do you hear other girls say about TAAG? (*probes: likes/dislikes, active/non-active, good things/not so good things*)
4. What do you hear boys say about TAAG? (*probes: likes/dislikes, active/non-active, good things/not so good things*)
5. What do you hear your teachers say about TAAG? (*probes: PE teachers, health education teacher, other teachers, principals*)

## IV. Questions regarding PPA

**Show the students a list of PPA programs that took place in their school.**

6. What physical activity programs have you been involved in?
  - a. *If participated:* Why did you participate?
    - i. What did you think about the program?
    - ii. Would you participate again if it was offered next year? Why or why not?

- b. *If no participation: Why didn't you participate? (probes: time, other obligations, didn't seem like fun, friends wouldn't join, no way to get home, wasn't at the school, parents wouldn't allow)*
  - c. Why do you think other students do participate in programs? Why don't they participate?
7. How did you hear about these programs? *(probes: flyers, posters, announcements, PE/health classes, in classes other than PE or health; did they interest you? Turned you off?)*
8. How does your school promote physical activity in general? *(probes: announcements, teachers leading classes)*

**V. Question regarding PE**

9. Tell me about PE class *(probes: what do you do, what parts are fun, what parts aren't, is it active or non-active most of the time?)*
- a. In what way are boys and girls treated differently? The same? (THIS DOES NOT APPLY TO School C)
  - b. What kind of choice do you have in class? *(probes: choice of equipment, modification of rules to make it easier, pick own teams, can choose which activity to play or all students engaged in the same activity)*
10. Does your PE teacher ever encourage outside of school activity? How so? *(probes: any TAAG programs, other activity related to current class lesson, did you sign up for any?)*
- a. How does this affect your interest in being active? *(probes: Does it make it more or less likely to do so? Why or why not?)*

**SHADED BOX IS FOR 8<sup>TH</sup> GRADERS ONLY**

**VI. Questions regarding HEAC – 8<sup>th</sup> graders only**

**Show students a list of HEAC topics.**

11. What did you learn about physical activity when doing these health lessons? (probe: goal setting, self-monitoring, being active with others, choosing to be active, problem-solving barriers to being physically active)

*Show students activity challenge handouts.*

12. What did you think about the activity challenges? (probe: liked/disliked, fun/not fun, too much work, no support at home, no support from friends))

- a. Did you do the activity challenges? *(probes: with friends or family members) Why or why not? (probes: if you did them, did they influence you being active at other times)*

**VII. Questions regarding Promotions - 8<sup>th</sup> grade only**

13. Did you participate in the Pedometer Challenge at the beginning of the year (Can refer to Pedometer Challenge as the time when everyone in your PE class was encouraged to wear a monitor for a week and kept track of their steps – make sure to differentiate from HEAC pedometer activity) a. Why or why not? )

- a. If you did participate, what did you like or dislike about it? (*probe: what did you hear other girls say about the challenge*)
- b. Would you do it again? Why or why not?

**Concluding Question**

14. Is there anything else you want to say about TAAG or being physically active?

**Wrap-Up**

- a. Thank participants for their time.
- b. Distribute gift certificates to participants.
- c. Facilitator and notetaker debrief (go over notes and check for accuracy)

**Time Focus Group ends: \_\_\_\_\_ (*notetaker's responsibility*)**



# STUDENT FOCUS GROUP INFORMATION SHEET

## Project Title: Qualitative Assessment of TAAG

1. NAME:

\_\_\_\_\_

2. AGE: \_\_\_\_\_

3. GRADE: \_\_\_\_\_

4. SCHOOL: \_\_\_\_\_

5. NUMBER OF YEARS AT THIS SCHOOL: \_\_\_\_\_

6. RACE/ETHNICITY: (Optional: Please check all that apply)

\_\_\_\_\_ Caucasian (White, non-Hispanic)

\_\_\_\_\_ Black

\_\_\_\_\_ Hispanic

\_\_\_\_\_ Asian / Pacific Islander

\_\_\_\_\_ American Indian

\_\_\_\_\_ Other, please specify: \_\_\_\_\_



## STUDENT FOCUS GROUP GUIDE DATA MANAGEMENT SHEET

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**Project Title: Qualitative Assessment of TAAG**

Date of focus group: \_\_\_\_\_

School: \_\_\_\_\_

Grade: \_\_\_\_\_ Active or non-active: \_\_\_\_\_

Number of girls in attendance: \_\_\_\_\_

Facilitator: \_\_\_\_\_

Notetaker: \_\_\_\_\_

Place of focus group: (i.e., classroom, conference room, etc.)  
\_\_\_\_\_

Environmental Factors: (what is the temperature; is the room crowded; were students more involved with eating than answering questions; because of the setting, was focus group rushed and girls did not get to answer some questions; any major distractions; other comments)

## **Appendix F: Adult Participant Interview Guide**



## ADULT PARTICIPANT INTERVIEW GUIDE

### Project Title: Qualitative Assessment of TAAG

Fill in this information prior to start of interview.

Start time of Interview	
Date	
Place	
Interviewee	
Position within TAAG of interviewee	
School	

I. Review and sign informed consent.

II. Review rules.

8. You will not be identified by name.
9. There are no right or wrong answers.
10. I just want to know what you think.
11. Please be honest. You won't hurt my feelings or affect me in any way.

Is it alright if I tape record this interview? It will only be heard by the transcriptionist who is located in Maine and myself. No one else from TAAG will hear these tapes. *If agree, turn on tape.*

**General Questions** (*In the guide used during the interviews, there will be space provided after each question for the interviewer to write notes*)

1. What does TAAG mean to you? (*probes: PE, HEAC, after school programs, girls being active; exclusion of boys,*
2. Overall, how do you feel about TAAG being in your school the past 3 years? (*probes: likes/dislikes, benefits/drawbacks of TAAG*)
3. How has TAAG influenced the students at your school? (gauge of success of intervention) (*probes: facilitate or not facilitate girls being physically active, how affected opportunities for girls to be active, how affected co-ed participation*)

**PE**

4. To you, what do you feel were the most important ideas or elements of TAAG PE? (*probes: 50% MVPA during class; 3 Ps, success & enjoyment; encouragement of outside of school PA; workshops; materials: PE guidebook, activity box, task card file; equipment; TAAG staff support*)

5. In what ways do (or don't) these ideas align with your own PE philosophy? *(probes: how goals, techniques, strategies differ/the same)*
6. How did the students respond to the TAAG activities you did in class? *(probes: liked/disliked; during warm-up, heart-related fitness, skill building, skill application, game play)*
7. **PE trainings and boosters:** There were trainings on each of the 4 TAAG objectives (50% MVPA, 3 Ps, Success and Enjoyment, & Outside of School PA), choice, self-assessment, and advocacy. What are your feelings on these PE trainings and boosters? *(probes: useful/not useful, liked/disliked, collaborating with other schools, content of boosters/training – What material would you have added or removed?)*
8. **PE visits by TAAG staff:** Heidi and I made regular PE visits to your class in which we left a feedback sheet on reaching the 4 TAAG PE objectives, with a special emphasis on the time spent in MVPA? What are your feelings on these visits? *(probes: helpful/not helpful; intrusive/not intrusive)*
9. **What are your overall feelings about TAAG PE?** *(probes: likes/dislikes; areas of improvement; influenced by administration/faculty/staff/student feelings about TAAG??)*

## **HEAC**

### **Have a list of 7<sup>th</sup> and 8<sup>th</sup> grade lessons**

10. To you, what do you feel were the most important ideas or elements of TAAG HEAC? *(probes: content of lessons, activity challenges)*
11. How did the students respond to the TAAG lessons? *(probes: liked/disliked content of lesson/activity challenges; too much talking and not enough activity)*
12. **HEAC trainings and boosters:** What are your feelings on the TAAG HEAC trainings? *(probes: useful/not useful, liked/disliked, content of boosters/training – What material would you have added or removed?)*
13. **HEAC visits by TAAG staff:** What are your feelings on the regular visits by the TAAG staff? *(probes: helpful/not helpful; intrusive/not intrusive)*
14. **What are your overall feelings about TAAG HEAC?** *(probes: likes/dislikes; areas of improvement)*

## **PPA**

15. What do you feel are the overall goals of the PPA committee? *(probes: provide more opportunities for girls, establish partnerships between school and*

*community organizations; how have these goals been beneficial to the participants of after-school programs?)*

- a. If TAAG was not available, what present resources within your school could have been addressed the goals you just named?

16. What were some of the successes and challenges the PPA committee was faced with over the last 2 years? *(probes: attendance at programs, participation of community agencies & school; support of school faculty/staff)*

**ASK SPECIFICALLY ABOUT PROGRAM IF INTERVIEWEE IS PROGRAM LEADER**

17. If you could change anything about the committee, what would it be? *(probes: provide more programs, include other agencies, tap into other resources within school and agencies, meet more/less frequently)*

18. How were afterschool programs received within the school? By the students? By faculty/staff? By administration? *(Probes: resistance/embraced, willingness to sponsor a program /not willing)*

**Program Champion**

19. What do you feel are the overall goals for program champions? *(keep TAAG going next year, advocate for physical activity)*

- a. If TAAG was not available, what present resources within your school could have been addressed the goals you just named?

20. What duties and responsibilities did you handle as a PC?

- a. What are you planning to continue next year?

21. How has being a PC changed your perspective on TAAG? *(probes: more/less understanding of importance to get girls more active; importance of having an in-school advocate)*

22. How do you feel about this position being paid? *(probes: should be/should not be, work/time demand)*

23. If this was not a paid position, would you volunteer to be the PC? Why or why not? *(probe: reward of seeing girls more active, time/work responsibilities)*

**Concluding Questions**

24. How has being a part of the study changed or not changed your school environment? *(probes: any comments from faculty/staff, administration)*

25. To what extent do you feel your participation in the intervention activities were “worth your time and effort”? (*probe: work put in outweigh the effort exerted when implementing this intervention*)

26. If you could sum up your feelings about TAAG in one sentence, what would that sentence be?

**Wrap-Up**

- Thank participants for his/her time.
- Give gift certificate to participant.
- Interviewer takes note of nonverbal behavior and other relevant information.

**END TIME OF INTERVIEW:** \_\_\_\_\_

## **Appendix G: TAAG Staff Interview Guide**



## TAAG STAFF INTERVIEW GUIDE

### Project Title: Qualitative Assessment of TAAG

Fill in this information prior to start of interview.

Start Time	
Date	
Place	
Interviewee	
Position within TAAG of interviewee	

#### I. Review rules.

12. You will not be identified by name.
13. There are no right or wrong answers.
14. I just want to know what you think.
15. Please be honest. You won't hurt my feelings or affect me in any way.
16. This interview will be recorded.

I am going to ask you a series of questions of about each of the TAAG intervention schools one at a time.

#### REMINDER TO FACILITATOR: GENERAL PROBES

- "Would you explain further?"
- "Can you give me an example?"
- "Would you say more?"
- "Is there anything else?"
- "Please describe what you mean."

**Please answer the following questions as they pertain to \_\_\_\_\_ MS.**

**General questions**

1. Overall, how do you feel the intervention went in this school?  
*(Probes: Negative/positive response from students? PE/Health teachers? Other teachers? Administration?; Did or did not impact school environment? Things that could have been done differently to change the impact?)*
2. What changes have you seen in the school because of the TAAG intervention?  
*(Probes: change in girls?; change in PE/Health teachers? Other teachers?; change in how school views physical activity?)*

**PE**

1. What details stand out in your mind about this particular school's PE activities pertaining to TAAG?  
*(probe: what worked/didn't work; attitudes of the teachers; improvements/regressions over intervention period; teacher response to regular PE visits, feedback sheets, trainings, boosters, activity box, equipment, task card file, hands-on assistance)*
2. What factors FACILITATED how PE teachers responded to the TAAG philosophy?  
*(probe: resource availability; teacher buy-in; administrative support; teacher PE philosophy; student after school responsibilities; traditional PE class structure)*
3. What factors INHIBITED how PE teachers responded to the TAAG philosophy?  
*(probe: resource availability; teacher buy-in; administrative support; teacher PE philosophy; student after school responsibilities; traditional PE class structure)*

**HEAC**

1. What details stand out in your mind about this particular school's HEAC activities pertaining to TAAG?  
*(probe: what worked/didn't work; attitudes of the teachers; improvements/regressions over intervention period; teacher response to HEAC visits, feedback sheets, trainings, hands-on assistance)*
2. What factors FACILITATED the delivery of HEAC lessons?  
*(probe: resource availability; teacher buy-in; HEAC lesson content; academic level of the students; school climate or culture)*
3. What factors INHIBITED the delivery of HEAC lessons?

*(probe: resource availability; teacher buy-in; HEAC lesson content; academic level of the students; school climate or culture)*

### **PPA**

1. What details about PPA stand out in your mind for this school?  
*(probes: programs provided; organizations involved; relationships established; what worked/didn't work; attitudes of the committee members; improvements/regressions over intervention period)*
2. How has the PPA committee progressed throughout the last two years?  
*(probes: successes/challenges related to community partnerships, programs provided, school faculty/staff support, members involved)*
3. Which PPA programs, if any, do you feel will continue without TAAG staff support? Why do you feel these programs will continue and not others?  
*(probes: faculty support; student interest)*

### **Program Champion**

1. What details about the PCs stand out in your mind for this school?  
*(probes: effectiveness/ineffectiveness of PCs; their ownership of TAAG; did/did not make a change in TAAG continuing)*
2. How are the program champions working with the school and TAAG staff?  
*(probes: duties/tasks accomplished; attitude of PCs; independence/dependence on TAAG staff)*
3. Thinking about your experiences with PC, how confident do you feel they will carry on TAAG without TAAG staff presence? *(probe: is there support from staff/faculty/administration; PC seem to be invested in the philosophy of TAAG?; any physical indication of continuing with philosophy; aspects of TAAG that will continue and aspects that will not continue)*

### **Promotions**

1. What details about promotions stand out in your mind for this school?  
*(probes: flyers, bulletin boards, announcements and all other forms of promotions for PPA programs, PA in general, Pedometer Challenge, Passport Challenge, Real Girl Flyers and Outstanding Teacher Award)*
2. How has promotions progressed throughout the last two years.  
*(probe: did it seem to affect how school viewed TAAG or physical activity? More specifically, girls? Teachers?; any physical indication of impact)*
3. Thinking about the promotional efforts at this school, what successes and challenges did TAAG face in this school?  
*(probes: Degree of support / participation from students/faculty)*

### **Concluding Questions**

1. Given the amount of energy and time you spent on TAAG and keeping in mind the changes that have taken place in this school due to TAAG, to what extent do you feel your participation in the intervention activities was “worth your time and effort”?

*(probes: Changes outweigh effort)*

2. As a TAAG interventionist, what would you say was the biggest challenge for you working with this school?

3. **ASK THIS QUESTION AT VERY END OF INTERVIEW** - Looking back, what would you have done differently?

Thank TAAG Staff member for participating in interview.

END TIME OF INTERVIEW: \_\_\_\_\_

## **Appendix H: Qualitative Data Codebook**

## Dissertation Project Codebook

NUD*IST Code	Label, Definition
(1)	<b>/GENERAL</b> * Refers to general information about the type of interview and participants
(1 1)	<b>/GENERAL/School</b>
(1 1 1)	<b>/GENERAL/School/A</b>
(1 1 2)	<b>/GENERAL/School/B</b>
(1 1 3)	<b>/GENERAL/School/C</b>
(1 2)	<b>/GENERAL/TypeofInt</b>
(1 2 1)	<b>/GENERAL/TypeofInt/Focus Group</b>
(1 2 2)	<b>/GENERAL/TypeofInt/Adult Interview</b>
(1 2 3)	<b>/GENERAL/TypeofInt/TAAG Interview</b>
(1 3)	<b>/GENERAL/Grade</b>
(1 3 1)	<b>/GENERAL/Grade/8thActive</b>
(1 3 2)	<b>/GENERAL/Grade/8thNonActive</b>
(1 3 3)	<b>/GENERAL/Grade/6<sup>th</sup></b>
(1 4)	<b>/GENERAL/Adult Respondent</b>
(1 4 1)	<b>/GENERAL/Adult Respondent/PE teacher</b>
(1 4 2)	<b>/GENERAL/Adult Respondent/HE teacher</b>
(1 4 3)	<b>/GENERAL/Adult Respondent/Program Champion</b>
(1 4 4)	<b>/GENERAL/Adult Respondent/Non-PE/HE Staff</b>
(1 4 5)	<b>/GENERAL/Adult Respondent/Community Person</b>
(1 5)	<b>/GENERAL/TAAG Staff involvement</b>
(1 5 1)	<b>/GENERAL/TAAG Staff Involvement/PE</b>
(1 5 2)	<b>/GENERAL/TAAG Staff Involvement/HEAC</b>
(1 5 3)	<b>/GENERAL/TAAG Staff Involvement/Promotions</b>
(1 5 4)	<b>/GENERAL/TAAG Staff Involvement/PPA</b>
(1 5 5)	<b>/GENERAL/TAAG Staff Involvement/Program Champion</b>

NUD*IST Code	Label, Definition
(2)	<b>/FACTORS</b> * <i>These codes refers to outside factors not directly associated with TAAG components (inhibiting and facilitating factors associated with TAAG components should be coded as “successes” and “challenges”)</i>
(2 1)	<b>/FACTORS/Facilitators</b> * <i>Refers to factors that facilitated the implementation or delivery of the intervention; include positive principal support</i>
(2 2)	<b>/FACTORS/Inhibitors</b> * <i>Refers to factors that inhibited the implementation or delivery of the intervention</i>
(2 3)	<b>/FACTORS/Neutral</b> * <i>Refers to factors that do not seem to inhibit or facilitate the implementation or delivery of the intervention</i>
(2 4)	<b>/FACTORS/Environmental</b>
(2 4 1)	<b>/FACTORS/Environmental/School</b> * <i>Refers to actual or perceived factors within the intervention school environment that influenced the implementation of the intervention; these factors may occur before, during, or after the school day; includes teacher turnover issues</i>
(2 4 1 1)	<b>/FACTORS/Environmental/School/School’s social climate</b>
(2 4 1 2)	<b>/FACTORS/Environmental/School/Availability of resources</b>
(2 4 1 3)	<b>/FACTORS/Environmental/School/School rules&amp;regulations</b>
(2 4 2)	<b>/FACTORS/Environmental/Community</b> * <i>Refers to actual and perceived factors associated with community agencies that influenced the implementation of the intervention</i>
(2 4 2 1)	<b>/FACTORS/Environmental/Community/Availability of resources</b>
(2 4 2 2)	<b>/FACTORS/Environmental/Community/Staffing issues</b>
(2 5)	<b>/FACTORS/Intrapersonal</b> * <i>Refers to factors within (mind or self) of Girls, Adults, and TAAG staff that influenced how the intervention was implemented and/or received</i>
(2 5 1)	<b>/FACTORS/Intrapersonal/Girl</b>
(2 5 2)	<b>/FACTORS/Intrapersonal/Adult</b>
(2 5 3)	<b>/FACTORS/Intrapersonal/TAAG Staff</b>
(2 6)	<b>/FACTORS/Interpersonal</b> * <i>Factors from others (Girls, other Adults within the school environment, TAAG Staff) that influenced how the intervention was implemented and/or received</i>
(2 6 1)	<b>/FACTORS/Interpersonal/Between Girls</b>
(2 6 2)	<b>/FACTORS/Interpersonal/Between Adults</b>
(2 6 3)	<b>/FACTORS/Interpersonal/Between Girl(s) and Adult(s)</b>

NUD*IST Code	Label, Definition
(3)	<b>/PERCEPTIONS</b>
(3 1)	<b>/HOW TAAG IS VIEWED</b>
(3 1 1)	<b>/HOW TAAG IS VIEWED/By Girls</b>
(3 1 1 1)	<b>/HOW TAAG IS VIEWED/By Girls/Positive views</b>
(3 1 1 2)	<b>/HOW TAAG IS VIEWED/By Girls /Negative views</b>
(3 1 2)	<b>/HOW TAAG IS VIEWED/By Boys</b>
(3 1 2 1)	<b>/HOW TAAG IS VIEWED/By Boys/Positive views</b>
(3 1 2 2)	<b>/HOW TAAG IS VIEWED/By Boys /Negative views</b>
(3 1 3)	<b>/HOW TAAG IS VIEWED/By PE Teachers</b>
(3 1 3 1)	<b>/HOW TAAG IS VIEWED/By PE Teachers/Positive views</b>
(3 1 3 2)	<b>/HOW TAAG IS VIEWED/By PE Teachers/By TAAG staff/Negative views</b>
(3 1 4)	<b>/HOW TAAG IS VIEWED/By Other Teachers</b>
(3 1 4 1)	<b>/HOW TAAG IS VIEWED/By Other Teachers/Positive views</b>
(3 1 4 2)	<b>/HOW TAAG IS VIEWED/By Other Teachers/Negative views</b>
(3 1 5)	<b>/HOW TAAG IS VIEWED/By Family</b>
(3 1 5 1)	<b>/HOW TAAG IS VIEWED/By Family/Positive views</b>
(3 1 5 2)	<b>/HOW TAAG IS VIEWED/By Family/Negative views</b>
(3 2)	<b>/PERCEIVED TAAG ACTIVITIES (By Girls)</b>
	<i>* These codes are only used for focus group transcripts</i>
(3 2 1)	<b>/PERCEIVED TAAG ACTIVITIES/General (any) PA</b>
(3 2 2)	<b>/PERCEIVED TAAG ACTIVITIES/PA programs</b>
(3 2 3)	<b>/PERCEIVED TAAG ACTIVITIES/Sports</b>
(3 2 4)	<b>/PERCEIVED TAAG ACTIVITIES/Activities in PE</b>
(3 2 5)	<b>/PERCEIVED TAAG ACTIVITIES/HEAC</b>
(3 2 6)	<b>/PERCEIVED TAAG ACTIVITIES/"New" activities</b>
	<i>* Refers to activities that the girls never tried/knew about before</i>
(3 3)	<b>/INFLUENCE OF TAAG</b>
	<i>* Refers to influence of the TAAG intervention on girls and school environment; used for general references</i>
(3 3 1)	<b>/INFLUENCE OF TAAG/On Girls</b>
	<i>I.e. PA level, choice of activities</i>
(3 3 2)	<b>/INFLUENCE OF TAAG/On school environment</b>
(3 4)	<b>/FEELINGS OF TAAG BEING WORTH IT</b>
(3 5)	<b>/PURPOSE OF TAAG</b>
	<i>* Any reference by Adults or Girls regarding the purpose of TAAG</i>
(3 6)	<b>/SUPPORT OF TAAG STAFF</b>
	<i>* Refers to the support TAAG staff members gave Adult participants; used to identify Adult's perception of TAAG staff support ; don't use for TAAG staff interviews</i>
(3 6 1)	<b>/SUPPORT OF TAAG STAFF/Positive</b>
(3 6 2)	<b>/SUPPORT OF TAAG STAFF/Negative</b>

NUD*IST Code	Label, Definition
(3 7)	<b>/REFERENCE ANOTHER INTERVENTION SCHOOL</b>
(3 7 1)	<b>/REF/School B</b>
(3 7 2)	<b>/REF/School A</b>
(3 7 3)	<b>/REF/School C</b>
(3 8)	<b>/REFERENCE TO TAAG MEASUREMENT</b>
(3 9)	<b>/INFLUENCE ON GIRL'S BEHAVIOR</b> <i>* Refers to influence on girl's general behavior; not specific to a TAAG component</i>
(3 9 1)	<b>/INFLUENCE ON GIRLS' BEHAVIOR/Family</b>
(3 9 2)	<b>/INFLUENCE ON GIRLS' BEHAVIOR/Friends</b>
(3 9 3)	<b>/INFLUENCE ON GIRLS' BEHAVIOR/Teachers</b>
(3 9 4)	<b>/INFLUENCE ON GIRLS' BEHAVIOR/Boys</b>
(3 10)	<b>/REFERENCE TO GIRL GRADE LEVEL</b>
(3 10 1)	<b>/REF/6<sup>th</sup> grade</b>
(3 10 2)	<b>/REF/7<sup>th</sup> grade</b>
(3 10 3)	<b>/REF/8<sup>th</sup> grade</b>
(3 11)	<b>/PRIOR TO TAAG</b> <i>* Any reference to circumstances/conditions prior to TAAG being in school</i>
(3 12)	<b>/GIRL ONLY</b> <i>* Any reference to TAAG being girl only, focusing on girls, excluding boys, etc.</i>

NUD*IST Code	Label, Definition
(4)	<b>/HEAC</b>
(4 1)	<b>/HEAC/Successes</b>
(4 2)	<b>/HEAC/Challenges</b>
(4 3)	<b>/HEAC/Lessons</b>
(4 3 1)	<b>/HEAC/Lessons/Use of materials</b>
(4 3 2)	<b>/HEAC/Lessons/Girls' response</b>
(4 4)	<b>/HEAC/Activity Challenges</b>
(4 4 1)	<b>/HEAC/Activity Challenges/Girls' participation</b>
(4 4 1 1)	<b>/HEAC/Activity Challenges/Girls' participation/Did participate</b>
(4 4 1 2)	<b>/HEAC/Activity Challenges/Girls' participation/Didn't participate</b>
(4 4 2)	<b>/HEAC/Activity Challenges/Girls' feelings regarding AC</b>
(4 4 2 1)	<b>/HEAC/Activity Challenges/Girls' feelings regarding AC/Easy</b>
(4 4 2 2)	<b>/HEAC/Activity Challenges/Girls' feelings regarding AC/Boring</b>
(4 4 2 3)	<b>/HEAC/Activity Challenges/Girls' feelings regarding AC/Enjoyed</b>
(4 4 2 4)	<b>/HEAC/Activity Challenges/Girls' feelings regarding AC/Other</b>
(4 5)	<b>/HEAC/HEAC trainings</b>
(4 6)	<b>/HEAC/HEAC visits</b>
(4 7)	<b>/HEAC/Continuation</b>
(4 8)	<b>/HEAC/7<sup>th</sup> grade</b>
(4 9)	<b>/HEAC/8<sup>th</sup> grade</b>

NUD*IST Code	Label, Definition
(5)	<b>/PE</b>
(5 1)	<b>/PE/Successes</b>
(5 2)	<b>/PE/Challenges</b>
(5 2 1)	<b>/PE/Challenges/Space</b>
(5 2 2)	<b>/PE/Challenges/Equipment &amp; set-up</b>
(5 3)	<b>/PE/TAAG-related activities (i.e. warm-up, cool-down)</b>
(5 4)	<b>/PE/Girls' attitudes toward PE</b>
(5 5)	<b>/PE/PE class</b>
(5 5 1)	<b>/PE/PE class/Characteristics</b> <i>* The subcodes are not inclusive; also refer to specific characteristics of PE class</i>
(5 5 1 1)	<b>/PE/PE class/Characteristics/Comments about co-ed</b>
(5 5 1 2)	<b>/PE/PE class/Characteristics/Comments about single sex</b>
(5 5 2)	<b>/PE/PE class/Girls' participation</b>
(5 5 3)	<b>/PE/PE class/Choice in class</b>
(5 5 4)	<b>/PE/PE class/Girls' response to TAAG activities</b>
(5 6)	<b>/PE/TAAG PE objectives</b>
(5 6 1)	<b>/PE/TAAG PE objectives/Alignment with teacher's philosophy</b>
(5 6 2)	<b>/PE/TAAG PE objectives/Encourage out of school PA</b>
(5 6 2 1)	<b>/PE/TAAG PE objectives/Encourage out of school PA/By PE teacher</b>
(5 6 2 2)	<b>/PE/TAAG PE objectives/Encourage out of school PA/By other teachers</b>
(5 6 2 3)	<b>/PE/TAAG PE objectives/Encourage out of school PA/Influence on Girls' PA level</b>
(5 6 3)	<b>/PE/TAAG PE objectives/3 P's</b>
(5 6 4)	<b>/PE/TAAG PE objectives/50% MVPA</b>
(5 6 5)	<b>/PE/TAAG PE objectives/Success and enjoyment</b>
(5 7)	<b>/PE/PE trainings</b>
(5 7 1)	<b>/PE/PE trainings/Positive</b>
(5 7 2)	<b>/PE/PE trainings/Negative</b>
(5 8)	<b>/PE/PE visits</b> <i>* Includes mention of feedback sheets</i>
(5 9)	<b>/PE/Continuation</b>
(5 10)	<b>/PE/Materials given by TAAG (i.e. activity box, task cards)</b>
(5 11)	<b>/PE/Equipment</b>
(5 12)	<b>/PE/Activity Calendar</b>
(5 13)	<b>/PE/Physical Activity Survey</b>

NUD*IST Code	Label, Definition
(6)	<b>/PPA</b>
(6 1)	<b>/PPA/Successes</b>
(6 2)	<b>/PPA/Challenges</b>
(6 3)	<b>/PPA/Committee</b>
(6 3 1)	<b>/PPA/Committee/Positive</b>
(6 3 2)	<b>/PPA/Committee/Negative</b>
(6 4)	<b>/PPA/Involvement of community/outside agencies</b>
(6 5)	<b>/PPA/Involvement of Faculty&amp;Staff</b>
(6 6)	<b>/PPA/Available resources w/o TAAG</b> <i>* Refers to school's ability to provide same quality PA programs if TAAG was never present</i>
(6 7)	<b>/PPA/Programs</b>
(6 7 1)	<b>/PPA/Programs/Characteristics</b>
(6 7 1 1)	<b>/PPA/Programs/Characteristics/Positive</b>
(6 7 1 2)	<b>/PPA/Programs/Characteristics/Negative</b>
(6 7 2)	<b>/PPA/Programs/Girls' involvement</b>
(6 7 3)	<b>/PPA/Programs/Reasons girls participate</b>
(6 7 3 1)	<b>/PPA/Programs/Reasons girls participate/Friends participating</b>
(6 7 3 2)	<b>/PPA/Programs/Reasons girls participate/To learn how to play activity</b>
(6 7 3 3)	<b>/PPA/Programs/Reasons girls participate/Parental influence</b>
(6 7 4)	<b>/PPA/Programs/Reasons girls DON'T participate</b>
(6 7 4 1)	<b>/PPA/Programs/Reasons girls DON'T participate/Don't know about it</b>
(6 7 4 2)	<b>/PPA/Programs/Reasons girls DON'T participate/Enrollment too low</b>
(6 7 4 3)	<b>/PPA/Programs/Reasons girls DON'T participate/Money</b>
(6 7 4 4)	<b>/PPA/Programs/Reasons girls DON'T participate/Boring or no fun</b>
(6 7 4 5)	<b>/PPA/Programs/Reasons girls DON'T participate/Time conflict</b>
(6 7 4 6)	<b>/PPA/Programs/Reasons girls DON'T participate/Transportation</b>
(6 7 4 7)	<b>/PPA/Programs/Reasons girls DON'T participate/Other reasons</b>
(6 7 4 8)	<b>/PPA/Programs/Reasons girls DON'T participate/Friends not involved</b>
(6 7 4 9)	<b>/PPA/Programs/Reasons girls DON'T participate/Not interested</b>
(6 7 4 10)	<b>/PPA/Programs/Reasons girls DON'T participate/Family Responsibility</b>
(6 7 5)	<b>/PPA/Programs/Willingness to participate again</b>
(6 7 5 1)	<b>/PPA/Programs/Willingness to participate again/Reasons why</b>
(6 7 5 2)	<b>/PPA/Programs/Willingness to participate again/Reasons not</b>
(6 7 5 3)	<b>/PPA/Programs/Willingness to participate again/Influence of others</b>
(6 7 6)	<b>/PPA/Programs/Continuation</b> <i>* Refers to whether or not program(s) will continue next year</i>

NUD*IST Code	Label, Definition
(6 7 7)	/PPA/Programs/ <b>What is being said about programs</b>
(6 7 7 1)	/PPA/Programs/What is being said about programs/ <b>By Girls</b>
(6 7 7 1 1)	/PPA/Programs/What is being said about programs/By Girls/ <b>Positive</b>
(6 7 7 1 2)	/PPA/Programs/What is being said about programs/By Girls/ <b>Negative</b>
(6 7 7 2)	/PPA/Programs/What is being said about programs/ <b>By Boys</b>
(6 7 7 2 1)	/PPA/Programs/What is being said about programs/By Boys/ <b>Positive</b>
(6 7 7 2 2)	/PPA/Programs/What is being said about programs/By Boys/ <b>Negative</b>
(6 7 7 3)	/PPA/Programs/What is being said about programs/ <b>By Faculty&amp;staff</b>
(6 7 7 3 1)	/PPA/Programs/What is being said about programs/By Faculty&staff/ <b>Positive</b>
(6 7 7 3 2)	/PPA/Programs/What is being said about programs/By Faculty&staff/ <b>Negative</b>
(6 7 8)	/PPA/Programs/ <b>Variety of programs</b>
(6 8)	/PPA/ <b>Participation in non-TAAG PA programs</b>

NUD*IST Code	Label, Definition
(7)	<b>/PROMOTIONS</b>
(7 1)	<b>/PROMOTIONS/Successes</b>
(7 2)	<b>/PROMOTIONS/Challenges</b>
(7 3)	<b>/PROMOTIONS/Pedometer Challenge</b>
(7 3 1)	<b>/PROMOTIONS/Pedometer Challenge/Feelings towards</b>
(7 3 1 1)	<b>/PROMOTIONS/Pedometer Challenge/Feeling towards/Positive</b>
(7 3 1 2)	<b>/PROMOTIONS/Pedometer Challenge/Feelings towards/Negative</b>
(7 3 2)	<b>/PROMOTIONS/Pedometer Challenge/Participate again</b>
(7 4)	<b>/PROMOTIONS/Passport Challenge</b>
(7 5)	<b>/PROMOTIONS/Influence</b> <i>* Refers to the influence of promoting PPA or overall PA on Girls and Faculty/Staff</i>
(7 5 1)	<b>/PROMOTIONS/Influence/On Girls</b>
(7 5 2)	<b>/PROMOTIONS/Influence/On Faculty&amp;staff</b>
(7 6)	<b>/PROMOTIONS/PPA</b>
(7 6 1)	<b>/PROMOTIONS/PPA/Strategies</b> <i>* Refers to how girls find out about programs</i>
(7 6 1 1)	<b>/PROMOTIONS/PPA/Strategies/Print (posters, flyers, bulletin board)</b>
(7 6 1 2)	<b>/PROMOTIONS/PPA/Strategies/PA announcements</b>
(7 6 1 3)	<b>/PROMOTIONS/PPA/Strategies/In PE class</b>
(7 6 1 4)	<b>/PROMOTIONS/PPA/Strategies/In other classes</b>
(7 6 1 5)	<b>/PROMOTIONS/PPA/Strategies/Home mailings</b>
(7 6 1 6)	<b>/PROMOTIONS/PPA/Strategies/Lunchroom promotions by TAAG staff</b>
(7 6 1 7)	<b>/PROMOTIONS/PPA/Strategies/Other</b>
(7 6 2)	<b>/PROMOTIONS/PPA/How school promotes PA</b>
(7 6 2 1)	<b>/PROMOTIONS/PPA/...School.../Print (posters, flyers, bulletin board)</b>
(7 6 2 2)	<b>/PROMOTIONS/PPA/...School.../PA announcements</b>
(7 6 2 3)	<b>/PROMOTIONS/PPA/...School.../Home mailings</b>
(7 6 2 4)	<b>/PROMOTIONS/PPA/...School.../Other</b>
(7 7)	<b>/PROMOTIONS/Continuation</b>
(7 8)	<b>/PROMOTIONS/PPA In-class Demos/Kickoffs</b>
(7 9)	<b>/PROMOTIONS/Real Girl flyers</b>
(7 10)	<b>/PROMOTIONS/Girl Advisory Group</b>
(7 11)	<b>/PROMOTIONS/Teacher Recognition</b>
(7 12)	<b>/PROMOTIONS/Faculty Drop-Ins</b>

NUD*IST Code	Label, Definition
(8)	<b>/PROGRAM CHAMPION</b>
(8 1)	/PROGRAM CHAMPION/ <b>Successes</b>
(8 2)	/PROGRAM CHAMPION/ <b>Challenges</b>
(8 3)	/PROGRAM CHAMPION/ <b>Duties and responsibilities</b>
(8 4)	/PROGRAM CHAMPION/ <b>Continuation</b> <i>* Refers to whether or not the role of PC will continue after TAAG funding ends</i>
8 5)	/PROGRAM CHAMPION/ <b>Available resources w/o TAAG</b> <i>* Refers to if TAAG was not present, whether or not resources are available to provide the service that was provided by PCs*</i>
(8 6)	/PROGRAM CHAMPION/ <b>Involvement with TAAG before becoming PC</b>
(8 7)	/PROGRAM CHAMPION/ <b>Training</b>

## OVERLAPPING CODES

In general, the codes **(2 1) /FACTORS/Facilitators** and **(2 2) /FACTORS/Inhibitors** are used to categorize general factors (non-specific to TAAG components) that affected the implementation or delivery of the TAAG intervention. However, facilitators sometimes equated to successes that occurred in the intervention and inhibitors equated to challenges faced in the intervention. Therefore, the following codes overlap:

The code **(2 1) FACTORS/Facilitators** overlaps with the following codes:  
**(4 1) /HEAC/Successes, (5 1) /PE/Successes, (6 1) /PPA/Successes, (7 1) /PROMOTIONS/Successes, and (8 1) /PROGRAM CHAMPION/Successes.**

The code **(2 2) /FACTORS/Inhibitors** overlaps with the following codes:  
**(4 2) /HEAC/Challenges, (5 2) /PE/Challenges, (6 2) /PPA/Challenges, (7 2) /PROMOTIONS/Challenges, and (8 2) /PROGRAM CHAMPION/Challenges.**

The code **(3 9 3) /INFLUENCE ON GIRLS' BEHAVIOR/Teachers** overlaps with **(5 5 2) /PE/PE Class/Participation**. The code (3 9 3) should be used for more general examples, but an overlap does occur when girls are talking about being more physically active because their PE teachers are active during PE class.

Initially, the code **(5 5 1 2) /PE/PE Class/Characteristics/Comments about single sex** was used to categorize any mention of TAAG being “Girls only”. However, after a couple of transcripts, this theme emerged more and more, so a separate code **(3 12) /GIRLS ONLY** was created.

Initially, the code **(5 5 3) /PE/Choice in class** was used to categorize any mention of Girls having a variety of PPA programs from which to choose. However, after a couple of transcripts, this theme emerged more and more, so a separate code **(6 7 8) /PPA/Programs/Variety** was created.

The following codes overlap due to their reference of encouraging out of school physical activity.

The main code **(5 6 2) /PE/TAAG PE Objectives/Encourage out of school PA** and its subcode **(5 6 2 1) /PE/.../By PE teacher** overlap with the code **(7 6 1 3) /PROMOTIONS/PPA/Strategies/In PE class.**

The main code **(5 6 2) /PE/TAAG PE Objectives/Encourage out of school PA** and its subcode **(5 6 2 2) /PE/.../By Other teachers** overlap with the code **(7 6 1 3) /PROMOTIONS/PPA/Strategies/In Other classes.**

In the focus group transcripts, when girls are talking about the PPA programs they have been involved with, it is hard to differentiate whether they are talking about characteristics of a PPA program or what is being said about programs when broad statements such as “Hip Hop dance is fun.” Therefore, the codes **(6 7 1) /PPA/Programs/Characteristics** and its subcodes overlap with **(6 7 7) /PPA/Programs/What is being said about programs** and its subcodes.

When creating the codebook, the following codes were defined separately: **(6 7 4 4) /PPA/Programs/Reasons girls DON'T participate/Boring or no fun** and **(6 7 4 9) /PPA/.../Not interested**. In the context of the transcripts, there is little difference between the two codes and overlap may occur.

Because a bulk of the Program Champions' duties revolves around PPA programs, in many of the transcripts, the continuation of the role of Program Champion refers to whether or not certain PPA programs will continue. Because of this, the code **(8 4) /PROGRAM CHAMPION/Continuation** overlaps with **(6 7 6) /PPA/Programs/Continuation**.

## **Appendix I: Quantitative Data Forms**

# PE Department Head Interview



**To be completed by TAAG staff:**

School ID: \_\_\_\_\_

Form Code: **PDH**    Version: **A**    Series #: \_\_\_\_    Seq. #: \_\_\_\_

## PE DEPARTMENT HEAD INTERVIEW

Process Evaluation: Context and Secular Trends

School: \_\_\_\_\_

1. During this academic year, what is the average size of the PE classes at your school? \_\_\_\_
2. During this academic year, are there differences in class size by grade?    Yes        No  
*If yes, then query class size for each grade separately:*
  - a. 6<sup>th</sup> grade only: \_\_\_\_                      b. 6-7 combined: \_\_\_\_
  - c. 7<sup>th</sup> grade only: \_\_\_\_                      d. 7-8 combined: \_\_\_\_
  - e. 8<sup>th</sup> grade only: \_\_\_\_                      f. 6-7-8 combined: \_\_\_\_
3. During this academic year, is PE class co-ed or gender separate? (*circle one for each class type. If other, explain in 3g.*)

	<b>All PE is gender separate</b>	<b>Gender separate for contact sports and co-ed for everything else</b>	<b>All PE is co-ed</b>	<b>Other</b>
a. 6 <sup>th</sup> grade only	A	B	C	D
b. 6-7 combined	A	B	C	D
c. 7 <sup>th</sup> grade only	A	B	C	D
d. 7-8 combined	A	B	C	D
e. 8 <sup>th</sup> grade only	A	B	C	D
f. 6-7-8 combined	A	B	C	D

g. If "other", please specify: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. On any given day during this academic year, what proportion of girls enrolled in PE class do not participate in it? (i.e. they do not dress out, or they do not engage in activities.) (*circle one*):  
 0%    10    20    30    40    50    60    70    80    90    100%
5. What are the reasons for lack of participation? (*check all that apply*)
  - a.  Menstrual cycle
  - b.  Chronic health conditions
  - c.  Injury or other acute illness
  - d.  Does not have / forgot gym clothes
  - e.  Other (*please specify*): \_\_\_\_\_

6. How adequate are your school facilities for teaching your district's PE curriculum? (*circle one*):
- A. Not at all adequate
  - B. Not adequate
  - C. Adequate
  - D. More than adequate

7. What is lacking, if anything? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Do you consider your school's physical education facilities to be well maintained and usable? (*circle one*):
- A. Not at all
  - B. Somewhat
  - C. Mostly
  - D. Very well

9. Which facilities, if any, are not as well maintained as you would like?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. How much of the equipment needed to teach your district's PE curriculum does your school have? (*circle one*):
- A. All
  - B. Most
  - C. Some
  - D. None

11. What equipment is lacking? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. In an average semester during this academic year, approximately what percentage of PE classes are shortened or cancelled due to school activities--such as assemblies, testing, school photos, etc--which prevent students from dressing out?

(This number should NOT include TAAG measurement activities) \_\_\_\_%.

13. Has this changed over the past academic year?    Yes        No
- a. If yes, has the percentage: (*circle one*):
- 1. Increased
  - 2. Decreased

# PE Observation Form



School ID: _____ Form Code: <b>POF</b> Version: <b>C</b> Series #: ____    Seq. #: ____
--

## PE OBSERVATION FORM

Process Evaluation: Physical Education

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_    Assessor ID#: \_\_\_\_\_    Teacher ID(s): \_\_\_\_\_  
 (mm / dd / yyyy)

Class Period: \_\_\_\_    Class Start Time: \_\_\_\_:\_\_\_\_    Class End Time: \_\_\_\_:\_\_\_\_  
 Activity Start Time: \_\_\_\_:\_\_\_\_    Activity End Time: \_\_\_\_:\_\_\_\_

Number of students in attendance: \_\_\_\_\_

**FOR THE LESSON YOU JUST OBSERVED:**

1. Is this a girls-only class? (circle **one**)      Y Yes      N No
2. The lesson included (check **all** that apply):
 

a. <input type="checkbox"/> Warm Up	b. <input type="checkbox"/> Health-Related Fitness
c. <input type="checkbox"/> Skill Builder	d. <input type="checkbox"/> Skill Application/Game Play
e. <input type="checkbox"/> Cool-Down or Closure	

**How much of the class time were the following observed? (circle **one**)**

	None of the Time	Some of the Time	Most of the Time	All of the Time	N/A
3. Students were prompted/rewarded for out-of-PE class physical activity	1	2			
4. Teacher used strategies to <u>minimize</u> management time	1	2	3		
5. Students were provided with choices	1	2	3		
6. Students were encouraged or reinforced to be physically active or demonstrate PA skills during class	1	2	3		
7. Most girls appeared to enjoy PE class	1	2	3		
8. Adequate equipment : student ratio existed during activities	1	2	3	4	5
9. Group sizes were appropriate to activity	1	2	3	4	5

Comments: \_\_\_\_\_  
 \_\_\_\_\_

# PE Teacher Questionnaire



To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	PTQ	Version:	C
Series #:	41	Seq. #:	___

## PE TEACHER QUESTIONNAIRE Process Evaluation: Physical Education

1. Date: \_\_\_\_/\_\_\_\_/20\_\_\_\_  
(mm dd yy)
2. I teach Physical Education at the following school: \_\_\_\_\_
3. I am a: (check **all** that apply)
  - a.  Physical education specialist
  - b.  Classroom teacher
  - c.  Other (specify: \_\_\_\_\_)
4. I have taught Physical Education for \_\_\_\_ years.
5. Have you taught PE *at this school* for all of the past 3 years (including this year)? (circle one)  
Y Yes  
N No
6. In how many TAAG PE Teacher Workshops have you participated: (circle one)
  - A. None (0)
  - B. Don't remember, but at least 1
  - C. 1 workshop
  - D. 2 workshops
  - E. 3 workshops
  - F. 4 workshops
  - G. 5 workshops
  - H. 6 workshops

Teacher ID: \_\_\_\_\_

7. How difficult was it for you to do the following in your PE lessons this school year?  
(circle **one** number per item)

Objective	Not at all difficult	2	Somewhat difficult	4	Very difficult
a. Have students spend at least 50% of class time engaged in moderate-to-vigorous physical activity	1	2	3	4	5
b. Provide students with sufficient opportunities to participate and practice skills	1	2	3	4	5
c. Provide students with opportunities to be successful and enjoy physical activity	1	2	3	4	5
d. Encourage students to be active outside of class	1	2	3	4	5

8. How often did you use the following TAAG PE Resources this school year? (circle **one** number per item)

	Never	Rarely	Sometimes	Frequently
a. TAAG PE <b>Teacher's Guidebook</b>	1	2	3	4
b. TAAG PE <b>Task Cards</b>	1	2	3	4
c. TAAG PE <b>Activity Box</b>	1	2	3	4
d. TAAG PE <b>Handouts</b> (e.g. Tip Sheets)	1	2	3	4
e. Music/Videos provided by TAAG	1	2	3	4

9. To what extent did you use the following activities from the TAAG PE Activity Box or Task Cards this year? (circle **one** number per item)

Activity	Not used at all		Used to some extent		Used to a great extent	
a. Warm Up	1	2	3	4	5	
b. Health-Related Fitness (e.g. circuits, activity hunts, pedometers)	1	2	3	4	5	
c. Skill Builders & Mini Games (e.g. jump rope, basketball, soccer)	1	2	3	4	5	
d. Dance & Rhythmic Movements (e.g. jump bands)	1	2	3	4	5	
e. Stunts & Tumbling	1	2	3	4	5	
f. Cooperatives or Cultural Games	1	2	3	4	5	
g. Group Fitness (e.g. kickboxing, step aerobics)	1	2	3	4	5	
h. Management Activities	1	2	3	4	5	

Please circle **one** number to indicate how much you agree or disagree with each of the following statements:

	Strongly Disagree		Mixed		Strongly Agree		Don't Know
10. "Our school administration supports using the TAAG PE philosophy."	1	2	3	4	5		
11. "I believe TAAG PE resulted in greater participation of girls in PE class."	1	2	3	4	5		
12. "I believe TAAG PE resulted in an increase in the physical activity level of girls in PE class."	1	2	3	4	5		
13. "I believe TAAG PE resulted in girls' increased enjoyment of PE class."	1	2	3	4	5		
14. "I believe TAAG PE resulted in girls increasing their out-of-school physical activity."	1	2	3	4	5	6	

Teacher ID: \_\_\_\_\_

	<b>Not at All</b>		<b>To Some Extent</b>		<b>To a Great Extent</b>	
	1	2	3	4	5	
15. To what extent do you plan to continue using the TAAG PE philosophy next year? ( <i>circle one</i> )						

a. Please Explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Thank you for your feedback on the TAAG program!**



Site ID: \_\_\_\_\_

	<b>Fully Covered</b>	<b>Partially Covered</b>	<b>Not Covered</b>	<b>N/A</b>
14. Strategies to help reach TAAG PE Objectives 1 & 2				
a. Building a Positive Learning Environment	1	2	3	
b. Management Strategies	1	2	3	
15. Sample Activity Demonstration & Debriefing (90 minutes) – site discretion for activities demonstrated				
a. Warm Up	1	2	3	4
b. Health-related Fitness	1	2	3	4
c. Skill Builder	1	2	3	4
d. Skill Application/Mini-games	1	2	3	4
e. Cool Down/Closure	1	2	3	4
f. Other (please specify: _____)	1	2	3	4
g. Demonstrations included management strategies/ routines discussed in 14.b. as appropriate	1	2	3	4
16. Action Planning	1	2	3	
17. Planning for the Future – Questions & Comments	1	2	3	
18. Process Evaluation	1	2	3	
19. Closure & Evaluations	1	2	3	

**Do you agree with the following statements concerning the training environment? (circle one)**

	<b>Yes</b>	<b>Somewhat</b>	<b>No</b>
20. The material was presented clearly to participants	1	2	3
21. Activities were used as examples and to demonstrate concepts as appropriate	1	2	3
22. The environment was conducive to the participants' learning	1	2	3
23. The participants asked questions and were involved	1	2	3
24. TAAG staff were able to answer participants' questions in an informative manner	1	2	3

25. Additional observer comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



To be completed by TAAG staff:			
Site ID:	_____		
Form Code: <b>W2F</b>	Version: <b>A</b>	Series #: _____	Seq. #: _____

**PE Teacher Workshop Observation Checklist – Year 2 Full Day Master Teacher Workshop**  
 Process Evaluation: Physical Education

1. Date: \_\_\_\_/\_\_\_\_/20\_\_\_\_                      2. Assessor ID #: \_\_\_\_\_  
           (mm dd yy)
3. Number of attendees who stayed for entire workshop: \_\_\_\_\_

**Were the following covered as intended during the training: (circle one)**

	Fully Covered	Partially Covered	Not Covered	N/A
4. Welcome & Introductions	1	2	3	
5. Workshop Objectives	1	2	3	
6. Team Builder Activity	1	2	3	
7. Sharing Successes	1	2	3	
8. TAAG-ifying New Resources				
a. Review of 4 TAAG PE objectives	1	2	3	
b. TAAG-ifying sample lesson together	1	2	3	
c. Teaching Skills	1	2	3	
d. TAAG-ifying Exercise	1	2	3	
9. Activity Demonstrations – modeling all 4 TAAG PE objectives				
a. Activity demonstrating Objective #1 (at least one)	1	2	3	
b. Activity demonstrating Objective #2 (at least one)	1	2	3	
c. Activity demonstrating Objective #3 (at least one)	1	2	3	
d. Activity demonstrating Objective #4 (at least one)	1	2	3	
10. TAAG Integration				
a. Program Champion	1	2	3	
b. Promotions – Pedometer Challenge	1	2	3	
c. HEAC – 8 <sup>th</sup> grade	1	2	3	
d. Measurement Logistics	1	2	3	4

W2F Version A / August 2, 2004

Site ID: \_\_\_\_\_

	<b>Fully Covered</b>	<b>Partially Covered</b>	<b>Not Covered</b>	<b>N/A</b>
e. Fall PPA activities	1	2	3	
11. Incorporating Choice into your Program				
a. Physical Activity Habits	1	2	3	
b. Allowing Choice	1	2	3	
c. Strategies for Incorporating Choice	1	2	3	
d. Incorporating Choice Scenarios	1	2	3	
12. Action Plans - Choice	1	2	3	
13. Workshop Objectives – How did we do?	1	2	3	
14. Process Evaluation	1	2	3	
15. Closure, Raffles & Evaluations	1	2	3	

**Do you agree with the following statements concerning the training environment? (circle one)**

	<b>Yes</b>	<b>Somewhat</b>	<b>No</b>
16. The material was presented clearly to participants	1	2	3
17. Activities were used as examples and to demonstrate concepts as appropriate	1	2	3
18. The environment was conducive to the participants' learning	1	2	3
19. The participants asked questions and were involved	1	2	3
20. TAAG staff were able to answer participants' questions in an informative manner	1	2	3

21. Additional observer comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



To be completed by TAAG staff:			
Site ID:	_____		
Form Code:	W22	Version:	A
Series #:	31	Seq. #:	___

**PE Teacher Workshop Observation Checklist — Year 2 Booster 2**  
**TAAG PE Objective, TAAGifying & Choice Review and Advocacy**  
 Process Evaluation: Physical Education

1. Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
 (mm dd yyyy)
2. Assessor ID #: \_\_\_\_\_
3. Number of attendees who stayed for entire workshop: \_\_\_\_\_

**Were the following covered as intended during the training:** (*circle one*)

	Fully Covered	Partially Covered	Not Covered	N/A
4. Welcome & Introductions	1	2	3	
5. Icebreaker	1	2	3	4
6. Review TAAGifying, Choice, & TAAG PE Objectives from Winter Booster Workshop	1	2	3	
7. Discuss Successes & Challenges Implementing TAAG PE Objectives (use <i>PE Teacher Guidebook</i> & examples as references)				
a. PE Objective 1 – At least 50% MVPA	1	2	3	
b. PE Objective 2 – Opportunities to participate, practice skills and be physically active	1	2	3	
c. PE Objective 3 – Opportunities to be successful and enjoy PA	1	2	3	
d. PE Objective 4 – Encourage outside of class PA	1	2	3	
8. Brainstorming Session & Revisiting Action Plans – Pair Share Successes & Challenges	1	2	3	4
9. Activity Demonstrations – Demonstrating TAAG PE Objectives (Site Interventionist's Choice)				
a. Demonstrate PE Objective 1 – At Least 50% MVPA	1	2	3	
b. Demonstrate PE Objective 2 – The 3 P's	1	2	3	
c. Demonstrate PE Objective 3 – Success & Enjoyment	1	2	3	
d. Demonstrate PE Objective 4 – Encouraging Outside of Class PA	1	2	3	

ID: \_\_\_\_\_ Series: \_\_\_\_\_ Sequence: \_\_\_\_\_

	Fully Covered	Partially Covered	Not Covered	N/A
10. The Physical Educator and Advocacy	1	2	3	
11. Action Planning	1	2	3	4
12. Closure & Evaluations	1	2	3	

**Do you agree with the following statements concerning the training environment? (circle one)**

	Yes	Somewhat	No
13. The material was presented clearly to participants	1	2	3
14. Activities were used as examples and to demonstrate concepts as appropriate	1	2	3
15. The environment was conducive to the participants' learning	1	2	3
16. The participants asked questions and were involved	1	2	3
17. TAAG staff were able to answer participants' questions in an informative manner	1	2	3

18. Additional observer comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# HEAC Workshop Observation Form



To be completed by TAAG staff:			
Site ID: _____			
Form Code: <b>HW7</b>	Version: <b>A</b>	Series #: _____	Seq. #: _____

## Health Lessons and Activity Challenges 7<sup>th</sup> Grade Teacher Workshop I, Observation Form

**A. Administrative**

1. Date of Workshop:     /    /20  
(mm / dd / yy)
2. Observer Initials:
3. Number of Attendees who stayed for the entire workshop:

**B. Workshop Content**

Indicate how well the following items were covered during the training: (*circle one for each item*)

	Fully Covered	Partially Covered	Not Covered	N/A
4. Introductions and Housekeeping	1	2	3	
5. Ice Breaker Activity–Pedometer Challenge	1	2	3	
6. TAAG Study Overview (PP/Overhead)				
a) Importance of Study/Trends	1	2	3	4
b) Integration: Community Partners, PE, HEAC	1	2	3	4
c) Workshop Objectives	1	2	3	
d) Overview of workshop agenda	1	2	3	
7. A. TAAG HEAC Overview				
a) Goals and Objectives	1	2	3	
b) Materials	1	2	3	
c) Layout of HE Lessons and AC topics	1	2	3	
B. General Information: How to deliver lessons and challenges				
a) Lesson Format	1	2	3	
b) Lesson Flexibility	1	2	3	
c) Time Commitment	1	2	3	
d) Follow-up to Lessons	1	2	3	
e) Teachers'/Interventionists' Roles	1	2	3	
8. Questions and Answer Session	1	2	3	

	<b>Fully Covered</b>	<b>Partially Covered</b>	<b>Not Covered</b>	<b>N/A</b>
<b>9. Lesson #1 “Why Physical Activity? Benefits of Physical Activity”</b>				
a) Brief Introduction to Lesson	1	2	3	
b) Model or role play PA version*	1	2	3	4
c) Review (debrief) PA version using Manual & To Go Pac	1	2	3	4
d) Model or role play Classroom version*	1	2	3	4
e) Review Classroom version using Manual & To Go Pac	1	2	3	4
f) Model or role play Lesson #1 AC	1	2	3	
g) Review Lesson #1 AC assignment using Manual & To Go Pac	1	2	3	
<b>BREAK</b>				
h) Model or role play Lesson #1 AC Follow-up	1	2	3	
i) Review Lesson #1 AC Follow-up	1	2	3	
<b>10. Lesson #2 “Fitting in MVPA: Intensity and Physical Activity”</b>				
a) Brief Introduction to Lesson	1	2	3	
b) Model or role play Classroom version*	1	2	3	4
c) Review Classroom version using Manual & To Go Pac	1	2	3	4
d) Model or role play PA version*	1	2	3	4
e) Review PA version using Manual & To Go Pac	1	2	3	4
f) Review Lesson #2 AC using Manual & To Go Pac	1	2	3	
g) Review Lesson #2 AC Follow-up	1	2	3	
<b>11. Lesson #3 “Logging On: Using Self-monitoring Techniques to Increase Physical Activity”</b>				
a) Brief Introduction to Lesson	1	2	3	
b) Model or role play PA version*	1	2	3	4
c) Review PA version using Manual & To Go Pac	1	2	3	4
d) Model or role play Classroom version*	1	2	3	4
e) Review Classroom version using Manual & To Go Pac	1	2	3	4
f) Review Lesson #3 AC using Manual & To Go Pac	1	2	3	

\*Defined as at least 1 activity from that lesson version was modeled or role played.

	<u>Fully Covered</u>	<u>Partially Covered</u>	<u>Not Covered</u>	<u>N/A</u>
<b>LUNCH</b>				
g) Review Lesson #3 AC Follow-up	1	2	3	
<b>12. Lesson #4 "The Buddy System: Enlisting Support for Physical Activity"</b>				
a) Brief Introduction to Lesson	1	2	3	
b) Model or role play Classroom version*	1	2	3	4
c) Review Classroom version using Manual & To Go Pac	1	2	3	4
d) Model or role play PA version*	1	2	3	4
e) Review PA version using Manual & To Go Pac	1	2	3	4
f) Review Lesson #4 AC using Manual & To Go Pac	1	2	3	
g) Review Lesson #4 AC Follow-up	1	2	3	
<b>13. Lesson #5 "Be a Goal-Getter: Short-term and Long-term Goal Setting"</b>				
a) Brief Introduction to Lesson	1	2	3	
b) Model or role play PA version*	1	2	3	4
c) Review PA version using Manual & To Go Pac	1	2	3	4
d) Model or role play Classroom version*	1	2	3	4
e) Review Classroom version using Manual & To Go Pac	1	2	3	4
f) Review Lesson #5 AC using Manual & To Go Pac	1	2	3	
<b>BREAK</b>				
<b>14. Lesson #6 "Putting it All Together: Creating a Physically Active Life"</b>				
a) Brief Introduction to Lesson	1	2	3	
b) Model or role play Classroom version*	1	2	3	4
c) Review Classroom version using Manual & To Go Pac	1	2	3	4
d) Model or role play PA version*	1	2	3	4
e) Review PA version using Manual & To Go Pac	1	2	3	4
f) Review Lesson #5 AC Follow-up using the Manual & To Go Pac	1	2	3	

\*Defined as at least 1 activity from that lesson version was modeled or role played.

Site ID: \_\_\_\_\_

	<b>Fully Covered</b>	<b>Partially Covered</b>	<b>Not Covered</b>	<b>N/A</b>
g) End of 7 <sup>th</sup> grade HEAC celebration using the Manual	1	2	3	
15. Review Process Evaluation	1	2	3	
16. Fill out workshop evaluation forms	1	2	3	4
17. Graduation and Awards	1	2	3	

18. Additional observer comments: \_\_\_\_\_  
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To be completed by TAAG staff:			
Site ID:	_____		
Form Code:	HW8	Version:	A
Series #:	___	Seq. #:	___

**Health Lessons and Activity Challenges 8<sup>th</sup> Grade**  
Teacher Workshop I, Observation Form

**A. Administrative**

1. Date of Workshop:     /    /20                          2. Observer Initials:               
(mm / dd / yy)
3. Number of Attendees who stayed for the entire workshop:

**B. Training Formats**

**Interventionist may select from the three training formats described below. Site process evaluator is informed of format(s) to be used prior to training**

- **Interventionist Role Play:** Interventionist reviews lesson objectives & background with teachers. Interventionist role-plays an activity from both versions of the lesson in addition to reviewing the lesson. Teachers review (5-8 minutes) overall lesson format and content before role-play of the lesson. Teachers are walked through the appropriate lesson version(s) and then role-play the same activity. All lesson sections are covered.
- **Teacher Model:** Interventionist reviews lesson objectives & background with teachers. Teachers, working in small groups, review the lesson. Next, teachers role-play an activity of their choice from the appropriate version(s) of the lesson. All lesson sections are covered.
- **Group Discussion:** Interventionist reviews lesson objectives and background with teachers. Teachers review lesson and discuss implementation and practicalities of the lesson in small groups. All lesson sections are covered. No role play is expected.

**C. Workshop Content**

Indicate how well the following items were covered during the training: *(circle one for each item)*

	<b>Fully Covered</b>	<b>Partially Covered</b>	<b>Not Covered</b>	<b>N/A</b>
4. Introductions and Housekeeping	1	2	3	
5. Team Builder Activity: Modified Lesson 1 PA Activity (Myth or Reality Scavenger Hunt)	1	2	3	
6. TAAG Study Overview	1	2	3	
7. Health Education Overview	1	2	3	
8. Review 7th Grade Health Ed Concepts	1	2	3	

	<b>Fully Covered</b>	<b>Partially Covered</b>	<b>Not Covered</b>	<b>N/A</b>
<b>D. HEAC Lessons 1-6</b>				
<b>9. Lesson 1: Fit and Active: Everybody can be Active</b>				
a) Review Lesson 1 Objectives & Background	1	2	3	
b) Teachers skim Lesson 1	1	2	3	
c) Lesson 1 Sections Covered	1	2	3	
d) Activity Role-play	1	2	3	4
e) Lesson 1 Activity Challenge Assignment using Teacher's Manual (TM) and Lesson Activity Handout (LH)	1	2	3	
f) Lesson 1 AC Follow-up	1	2	3	
g) Discussion: How to Record AC Follow-up	1	2	3	
<b>10. Lesson 2: The FITT Recipe: A Recipe for Active Life</b>				
a) Review Lesson 2 Objectives & Background	1	2	3	
b) Teachers skim Lesson 2	1	2	3	
c) Lesson 2 Sections Covered	1	2	3	
d) Activity Role-play	1	2	3	4
e) Lesson 2 Activity Challenge Assignment	1	2	3	
<b>11. Lesson 3: Barrier Busters! Identifying and Breaking Barriers</b>				
a) Lesson 2 AC Follow-up	1	2	3	
b) Review Lesson 3 Objectives & Background	1	2	3	
c) Teachers skim Lesson 3	1	2	3	
d) Lesson 3 Sections Covered	1	2	3	
e) Activity Role-play	1	2	3	4
f) Lesson 3 Activity Challenge Assignment	1	2	3	
g) Pedometer Assignment & Return Procedures	1	2	3	
h) Alert Teachers to Coordinate Pedometer assignment with Pedometer Challenge	1	2	3	

	<b>Fully Covered</b>	<b>Partially Covered</b>	<b>Not Covered</b>	<b>N/A</b>
<b>12. Lesson 4: Talking It Out: Using Appropriate Communication Skills to Overcome Barriers to Physical Activity</b>				
a) Lesson 3 AC Follow-up	1	2	3	
b) Review Lesson 4 Objectives & Background	1	2	3	
c) Teachers skim Lesson 4	1	2	3	
d) Lesson 4 Sections Covered	1	2	3	
e) Activity Role-play	1	2	3	4
f) Lesson 4 Activity Challenge Assignment	1	2	3	
<b>13. Lesson 5: Turning it Around: Reducing Sedentary Behaviors</b>				
a) Lesson 4 AC Follow-up	1	2	3	
b) Review Lesson 5 Objectives & Background	1	2	3	
c) Teachers skim Lesson 5	1	2	3	
d) Lesson 5 Sections Covered	1	2	3	
e) Activity Role-play	1	2	3	4
f) Lesson 5 Activity Challenge Assignment	1	2	3	
<b>14. Lesson 6 "Putting it All Together: Get the Word Out</b>				
a) Lesson 5 AC Follow-Up	1	2	3	
b) Review Lesson 6 Objectives & Background	1	2	3	
c) Teachers skim Lesson 6	1	2	3	
d) Lesson 6 Sections Covered	1	2	3	
e) Activity Role-play	1	2	3	4
15. Review Process Evaluation	1	2	3	
16. Discussion of Lesson Scheduling	1	2	3	
17. Workshop Evaluation	1	2	3	
18. Graduation and Awards	1	2	3	

Site ID: \_\_\_\_\_

19. Additional observer comments: \_\_\_\_\_  
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# Health Education Department Head Interview



To be completed by TAAG staff:

School ID: \_\_\_\_\_

Form Code: PHD    Version: B    Series #: \_\_\_\_\_    Seq. #: \_\_\_\_\_

## HE DEPARTMENT HEAD INTERVIEW

Process: Context and Secular Trends

1. School Name: \_\_\_\_\_

**Record the information below based on the answers supplied by the HE Department Head.**

2. How many health education lessons on topics related to physical activity/physical fitness did students receive?

a. 6<sup>th</sup> grade: \_\_\_\_\_

b. 7<sup>th</sup> grade: \_\_\_\_\_

c. 8<sup>th</sup> grade: \_\_\_\_\_ (*Skip questions 3 and 4 for control schools and at baseline.*)

3. Of the lessons noted in question 2, how many were TAAG lessons?

a. 6<sup>th</sup> grade: \_\_\_\_\_

b. 7<sup>th</sup> grade: \_\_\_\_\_

c. 8<sup>th</sup> grade: \_\_\_\_\_

4. Of the lessons noted in question 2, how many were non-TAAG lessons?

a. 6<sup>th</sup> grade: \_\_\_\_\_

b. 7<sup>th</sup> grade: \_\_\_\_\_

c. 8<sup>th</sup> grade: \_\_\_\_\_

# HEAC Lesson Observation Form



**To be completed by TAAG staff:**

Teacher ID: \_\_\_\_\_

Form Code: **CL7**    Version: **A**    Series #: \_\_\_\_    Seq. #: **01**

**7<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Classroom Lesson 1: Why Physical Activity? Benefits of Physical Activity*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_:\_\_\_\_:\_\_\_\_ Class End Time: \_\_\_\_:\_\_\_\_:\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_
2. Lesson 1 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. Introduction	1	2	3
b. Brainstorming: Benefits of Physical Activity	1	2	3
c. Class Discussion	1	2	3
d. Lesson Summary	1	2	3
e. ACA–Work out That Mood	1	2	3

3. Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented) \_\_\_\_\_

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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	CL7	Version:	A
Series #:	___	Seq. #:	04

**7<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Classroom Lesson 4: Buddy System: Enlisting Support for Physical Activity*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_
2. Lesson 4 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. *(circle one per activity)*

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 3	1	2	3
b. Introduction	1	2	3
c. Social Support Discussion	1	2	3
d. Small Group Work/Role-play	1	2	3
e. Lesson Summary	1	2	3
f. ACA-Buddy Up	1	2	3

3. Comments: **(Note: please include any events or situations which made it difficult for lesson to be implemented)** \_\_\_\_\_

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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	PA7	Version:	A
Series #:	___	Seq. #:	01

**7<sup>th</sup> Grade Health Lessons and Activity Challenges - Lesson Observation**  
*Physically Active Lesson 1: Why Physical Activity? Benefits of Physical Activity*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_:\_\_\_\_:\_\_\_\_ Class End Time: \_\_\_\_:\_\_\_\_:\_\_\_\_

- How many girls were taught? \_\_\_\_\_
  - How many boys were taught? \_\_\_\_\_
- Lesson 1 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. Warm-up & Introduction	1	2	3
b. Physical Activity Circle	1	2	3
c. Pair Share & Discussion	1	2	3
d. Cool Down & Lesson Summary	1	2	3
e. ACA–Work out That Mood	1	2	3

- Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented) \_\_\_\_\_

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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code: PA7	Version: A	Series #: _____	Seq. #: 02

**7<sup>th</sup> Grade Health Lessons and Activity Challenges - Lesson Observation**  
*Physically Active Lesson 2: Fitting in MVPA: Intensity and Physical Activity*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_:\_\_\_\_:\_\_\_\_ Class End Time: \_\_\_\_:\_\_\_\_:\_\_\_\_

- How many girls were taught? \_\_\_\_\_
  - How many boys were taught? \_\_\_\_\_
- Lesson 2 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 1	1	2	3
b. Warm-up & Introduction: Walk, Jog, Sprint	1	2	3
c. MVPA Marathon	1	2	3
d. Personal Assessment Fitting in MVPA	1	2	3
e. Cool Down & Lesson Summary	1	2	3
f. ACA—How Intense Can You Get?	1	2	3

- Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented) \_\_\_\_\_  
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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code: PA7	Version: A	Series #: ____	Seq. #: 03

**7<sup>th</sup> Grade Health Lessons and Activity Challenges - Lesson Observation**

*Physically Active Lesson 3: Logging On: Using Self-monitoring Techniques to Increase Physical Activity*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_:\_\_\_\_:\_\_\_\_ Class End Time: \_\_\_\_:\_\_\_\_:\_\_\_\_

- How many girls were taught? \_\_\_\_\_
  - How many boys were taught? \_\_\_\_\_
- Lesson 3 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (circle **one** per activity)

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 2	1	2	3
b. Warm-up & Introduction	1	2	3
c. Logging On with Pedometers	1	2	3
d. Lifestyle Activity Estimate	1	2	3
e. Cool Down & Lesson Summary	1	2	3
f. ACA—Put Some Pep in Your Step	1	2	3

- Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented) \_\_\_\_\_  
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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	CL8	Version:	A
Series #:	___	Seq. #:	01

**8<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Classroom Lesson 1: Fit and Active: EveryBODY can Be Active*

Teacher Name: \_\_\_\_\_ Date Form Completed:    /   /     
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_
2. Lesson 1 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not taught
a. Introduction	1	2	3
b. Activity: Physical Activity Survey	1	2	3
c. Activity: Myth or Reality Quiz Show	1	2	3
d. Purpose of Activity Challenge	1	2	3
e. ACA–Challenge the Myth	1	2	3
f. Lesson Summary	1	2	3

3. Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented) \_\_\_\_\_

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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	CL8	Version:	A
Series #:	___	Seq. #:	03

**8<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Classroom Lesson 3: Identifying and Breaking Barriers to Physical Activity*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_
2. Lesson 3 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 2	1	2	3
b. Introduction	1	2	3
c. Activity: Barrier Continuum	1	2	3
d. Activity: Break the Barriers	1	2	3
e. ACA- Barrier Busters	1	2	3
f. Wearing & Caring for Pedometers	1	2	3
g. Lesson Summary	1	2	3

3. Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented) \_\_\_\_\_  
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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	CL8	Version:	A
Series #:	___	Seq. #:	04

**8<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Classroom Lesson 4: Talking it Out: Using Appropriate Communication Skills to Overcome Barrier to Physical Activity*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_

2. Lesson 4 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 3	1	2	3
b. Introduction	1	2	3
c. Activity: Barrier Self Check	1	2	3
d. Activity: Communication Scenarios	1	2	3
e. ACA–Talk IT Out and Get Active	1	2	3
f. Activity Handout-Talk it Out	1	2	3
g. Lesson Summary	1	2	3

3. Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented) \_\_\_\_\_  
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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	CL8	Version:	A
Series #:	___	Seq. #:	05

**8<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Classroom Lesson 5: Turning It Around: Reducing Sedentary Behavior*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_
2. Lesson 5 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 4	1	2	3
b. Introduction	1	2	3
c. Activity: Discussion of Key Sedentary Behaviors	1	2	3
d. Activity: Classy Moves	1	2	3
e. ACA-Turning It Around	1	2	3
f. Activity Handout-Turning It Around	1	2	3
g. Lesson Summary	1	2	3

3. Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented)

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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	CL8	Version:	A
Series #:	___	Seq. #:	06

**8<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Classroom Lesson 6: Put It Together: Get The Word Out*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_
2. Lesson 6 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 5	1	2	3
b. Introduction	1	2	3
c. Activity: Getting the Word Out	1	2	3
d. Create Group PSA	1	2	3
e. Activity: Airing and Sharing PSA	1	2	3
f. Lesson Summary	1	2	3
g. Awarding Certificates	1	2	3

3. Comments: (**Note:** *please include any events or situations which made it difficult for lesson to be implemented*) \_\_\_\_\_

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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	PA8	Version:	A
Series #:	___	Seq. #:	02

**8<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Physically Active Lesson 2: The FITT Recipe: A Recipe for an Active Life*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_
2. Lesson 2 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 1	1	2	3
b. Warm-Up & Introduction	1	2	3
c. Activity: Review the FITT Recipe Principles	1	2	3
d. Activity: Dear Personal Trainer	1	2	3
e. ACA- FITT Recipe for a FITT Week	1	2	3
f. Cool Down & Lesson Summary	1	2	3

3. Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	PA8	Version:	A
Series #:	___	Seq. #:	03

**8<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Physically Active Lesson 3: Identifying and Breaking Barriers to Physical Activity*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_/\_\_\_/\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_

2. Lesson 3 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. *(circle one per activity)*

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 2	1	2	3
b. Warm-up & Introduction	1	2	3
c. Wearing & Caring for Pedometers	1	2	3
d. Activity: Barrier Activity Hunt	1	2	3
e. ACA: Barrier Busters	1	2	3
f. Cool Down & Lesson Summary	1	2	3

3. Comments: **(Note: please include any events or situations which made it difficult for lesson to be implemented)**

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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code:	PA8	Version:	A
Series #:	___	Seq. #:	04

**8<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**

*Physically Active Lesson 4: Talking it Out: Using Appropriate Communication Skills to Overcome Barrier to Physical Activity*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_

2. Lesson 4 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 3	1	2	3
b. Warm-up & Introduction	1	2	3
c. Activity: Negotiations Car Pool	1	2	3
d. ACA–Talk IT Out and Get Active	1	2	3
e. Cool Down & Lesson Summary	1	2	3

3. Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code: PA8	Version: A	Series #: _____	Seq. #: 05

**8<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Physically Active Lesson 5: Turning It Around: Reducing Sedentary Behaviors*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_
2. Lesson 5 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 4	1	2	3
b. Warm-up & Introduction	1	2	3
c. Activity: Need to Do vs Choose to Do Sedentary Activities	1	2	3
d. Activity: Sedentary Substitution Circuit	1	2	3
e. ACA-Turning It Around	1	2	3
f. Cool Down & Lesson Summary	1	2	3

3. Comments: (**Note:** *please include any events or situations which made it difficult for lesson to be implemented*)

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To be completed by TAAG staff:			
Teacher ID:	_____		
Form Code: PA8	Version: A	Series #: _____	Seq. #: 06

**8<sup>th</sup> Grade Health Lessons and Activity Challenges – Lesson Observation**  
*Physically Active Lesson 6: Put It Together: Get The Word Out*

Teacher Name: \_\_\_\_\_ Date Form Completed: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

Observer Code: \_\_\_\_\_ Class Start Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ Class End Time: \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_

1. a. How many girls were taught? \_\_\_\_\_ b. How many boys were taught? \_\_\_\_\_
2. Lesson 6 included the activities listed below. For each activity, please indicate if this activity was completed, partially completed, or not taught. (*circle one per activity*)

	Completed Activity	Partially Completed	Activity not Taught
a. AC Follow-up to Lesson 5	1	2	3
b. Introduction	1	2	3
c. Activity: Getting the Word Out	1	2	3
d. Create PSA	1	2	3
e. Activity: Airing and Sharing PSA	1	2	3
f. Lesson Summary	1	2	3
g. Award Certificates	1	2	3

3. Comments: (**Note:** please include any events or situations which made it difficult for lesson to be implemented) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# HEAC Student Participation Log



<b>To be completed by TAAG staff:</b>			
Teacher ID: _____			
Form Code: <b>SP8</b> Version: <b>A</b> Series #: ____    Seq. #: ____			

## Health Lessons and Activity Challenges Student Participation Log

**Instructions:** To help us determine which activity challenges each student completes, please fill out this form for each class that you teach that has Health Lessons and Activity Challenges. Activity Challenge assignments are considered completed when all questions listed on the Activity Challenge handout are answered in writing by the student. Teachers may validate completion in other ways based on IEP. List all students and place a check mark under each Challenge completed by that student. Please complete following each Activity Challenge.

**Teacher Name:** \_\_\_\_\_      **Class Period:** \_\_\_\_

**# Girls in class:** \_\_\_\_      **# Boys in class:** \_\_\_\_

No.	Student Name or Identifier	Gender (M/F)	Grade	Activity Challenges <i>(check each challenge completed by student)</i>				
				1	2	3	4	5
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								

## HEAC Teacher Interview



To be completed by TAAG staff:

Teacher ID: \_\_\_\_\_

Form Code: **TS7**    Version: **A**    Series #: \_\_\_\_    Seq. #: \_\_\_\_

### Health Lessons and Activity Challenges

#### Teacher Survey – Grade 7

School Name: \_\_\_\_\_

Subject/Course Name: \_\_\_\_\_

#### **For Office Use Only**

Number of Girls enrolled in 7<sup>th</sup> grade: \_\_\_\_\_    Number of Boys enrolled in 7<sup>th</sup> grade: \_\_\_\_\_

**The purpose of this survey is to get your feedback about the continued implementation of TAAG health lessons with activity challenges in 7<sup>th</sup> grade. Your honest answers will help us understand the influence of TAAG Health Lessons and Activity Challenges.**

Date: \_\_\_\_/\_\_\_\_/20\_\_\_\_

1. Did you teach any 7<sup>th</sup> grade TAAG health lessons this school year?  
Y Yes    (If yes, skip to question 3)  
N No    (If no, go to question 2)
  
2. If you did **not** teach any TAAG Health lessons and Activity Challenges this year, why not? (*Check all that apply - when completed skip to question 8*)
  - a.  Did not know about 7<sup>th</sup> grade TAAG Health Lessons & Activity Challenges
  - b.  No one asked me to teach 7<sup>th</sup> grade TAAG Health Lessons & Activity Challenges in my courses
  - c.  Scheduling barriers in school
  - d.  Teacher's Manual and materials were unavailable
  - e.  Never trained to implement the lessons
  - f.  Not trained well enough to teach without TAAG staff support
  - g.  Lack of administrative support
  - h.  Too much material in the TAAG lesson to teach
  - i.  Difficult to prepare for lessons
  - j.  Not enough time to teach the lessons
  - k.  Limited (or lack of) space
  - l.  Lack of equipment
  - m.  Encountered too many problems teaching the TAAG Health Lessons & Activity Challenges last year
  - n.  Too much paper work associated with TAAG Health Lessons & Activity Challenges
  - o.  Students did not like the lessons
  - p.  Not teaching 7<sup>th</sup> grade this year
  - q.  Other (please specify: \_\_\_\_\_)

TS7/ Version A/ March 24, 2006

3. To how many 7<sup>th</sup> grade girls (and boys if in a coed class) did you teach 7<sup>th</sup> grade TAAG health lessons this year?

A. Girls: \_\_\_\_\_

B. Boys: \_\_\_\_\_

4. Which of the following TAAG lessons did you teach this school year? (check all that apply)

A.  Lesson 1 – Why Physical Activity? (Benefits of Physical Activity)

B.  Lesson 2 – Fitting in MVPA (Intensity and Physical Activity)

C.  Lesson 3 – Logging on (Self-monitoring Techniques for Physical Activity)

D.  Lesson 4 – The Buddy System (Enlisting Support for Physical Activity)

E.  Lesson 5 – Be a Goal-Getter (Short-term Goal Setting)

F.  Lesson 6 – Putting it All Together (Creating a Physically Active Life)

5. Did you include the Activity Challenges (out of class assignments)? (*circle one*)

A. Yes

B. Sometimes

C. No

6. To what extent did you modify the lessons? (*circle one*)

A. Not at all

B. Somewhat

C. A Lot

a. Please explain \_\_\_\_\_  
\_\_\_\_\_

7. Do you intend to continue to teach TAAG Health Education Lessons?

Y Yes

N No

8. Please provide any additional comments, suggestions, or insights about the TAAG health lessons and activity challenges.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Thank you for your feedback on the TAAG program**



To be completed by TAAG staff:

Teacher ID: \_\_\_\_\_

Form Code: TS8      Version: A      Series #: 41      Seq. #: \_\_\_\_

**Health Lessons and Activity Challenges**  
Teacher Survey – Grade 8

School Name: \_\_\_\_\_

Subject/Course Name: \_\_\_\_\_

**For Office Use Only**

Number of Girls enrolled in 8<sup>th</sup> grade: \_\_\_\_\_      Number of Boys enrolled in 8<sup>th</sup> grade: \_\_\_\_\_

The purpose of this survey is to get your feedback about the continued implementation of TAAG health lessons with activity challenges in 8<sup>th</sup> grade. Your honest answers will help us understand the influence of TAAG Health Lessons and Activity Challenges.

Date: \_\_\_/\_\_\_/20\_\_\_

1. Did you teach any 8<sup>th</sup> grade TAAG health lessons this school year?  
Y Yes    (If yes, **skip** to question 3)  
N No    (If no, **go** to question 2)
  
2. If you did **not** teach any TAAG Health lessons and Activity Challenges this year, why not? (*Check all that apply - when completed skip to question 8*)
  - a.  Did not know about 8<sup>th</sup> grade TAAG Health Lessons & Activity Challenges
  - b.  No one asked me to teach 8<sup>th</sup> grade TAAG Health Lessons & Activity Challenges in my courses
  - c.  Scheduling barriers in school
  - d.  Teacher's Manual and materials were unavailable
  - e.  Never trained to implement the lessons
  - f.  Not trained well enough to teach without TAAG staff support
  - g.  Lack of administrative support
  - h.  Too much material to teach
  - i.  Difficult to prepare for lessons
  - j.  Not enough time to teach the lessons
  - k.  Limited (or lack of) space
  - l.  Lack of equipment
  - m.  Encountered too many problems teaching the TAAG Health Lessons & Activity Challenges last year
  - n.  Too much paper work associated with TAAG Health Lessons & Activity Challenges
  - o.  Students did not like the lessons
  - p.  Not teaching 8<sup>th</sup> grade this year
  - q.  Other (please specify: \_\_\_\_\_)

3. To how many 8<sup>th</sup> grade girls (and boys if in a coed class) did you teach 8<sup>th</sup> grade TAAG health lessons this year?

A. Girls: \_\_\_\_\_

B. Boys: \_\_\_\_\_

4. Which of the following TAAG lessons did you teach this school year? (check all that apply)

A.  Lesson 1 – Fit and Active (Everybody Can Be Active)

B.  Lesson 2 – The FITT Recipe (A Recipe For An Active Life)

C.  Lesson 3 – Barrier Busters (Identifying And Breaking Barriers To Physical Activity)

D.  Lesson 4 – Talking It Out (Using Communication Skills To Overcome Barriers To PA)

E.  Lesson 5 – Turning It Around (Reducing Sedentary Behaviors)

F.  Lesson 6 – Putting it Together (Get The Word Out)

5. Did you include the Activity Challenges (out of class assignments)? (circle **one**)

A. Yes

B. Sometimes

C. No

6. To what extent did you modify the lessons? (circle **one**)

A. Not at all

B. Somewhat

C. A Lot

a. Please explain \_\_\_\_\_

\_\_\_\_\_

7. Do you intend to continue to teach TAAG Health Education Lessons?

Y Yes

N No

8. Please provide any additional comments, suggestions, or insights about the TAAG health lessons and activity challenges.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Thank you for your feedback on the TAAG program**



# Weekly Program Summary Attendance Log



<b>To be completed by TAAG staff:</b>			
Program ID:	_____		
Form Code: <b>PSL</b>	Version: <b>B</b>	Series #: _____	Seq. #: _____

## WEEKLY PROGRAM SUMMARY ATTENDANCE LOG Process Evaluation: PPA

Name of Physical Activity Program: \_\_\_\_\_

Date of Program Series:     /    /20 to     /    /20  
(mm / dd / yy) (mm / dd / yy)

<b>To be completed by TAAG staff</b>	
Name of Program Leader:	_____
Approximate number of minutes/session:	_____
Week Range:	<u>    </u> / <u>    </u> / <u>20</u> to <u>    </u> / <u>    </u> / <u>20</u> (mm / dd / yy) (mm / dd / yy)

**Please include totals from the corresponding Program Attendance Logs (PAL):**

1. Total number of sessions this week: \_\_\_\_\_
2. Total number of participants: \_\_\_\_\_
3. Total number of **girls** in grades 6 through 8: \_\_\_\_\_
4. Total number of **boys** in grades 6 through 8: \_\_\_\_\_

Please record the number of **girls** from TAAG Intervention schools in the table below:

	<b>Grade</b>			
	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	Unknown
5. School ID:				
6. School ID:				
7. School ID:				
8. School Unknown				

	F	M	
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# PPA Planning Committee Survey



To be completed by TAAG staff:			
School ID: _____			
Form Code: <b>PMS</b>	Version: <b>C</b>	Series #: _____	Seq. #: _____

## Programs for Physical Activity Survey Process Evaluation: Programs for Physical Activity

Organization Name: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/20\_\_\_\_  
mm dd yy

**If you were not a member of a Planning Committee, please skip to Section II.**

### I. TAAG PPA Planning Committee Questions

1. How many PPA planning committee meetings did you attend? (*circle one*)

- A. 0-2 meetings
- B. 3-5 meetings
- C. 6-8 meetings
- D. More than 8 meetings

2. To what extent do you agree or disagree with the following statements:

	Strongly Agree	Agree	Disagree	Strongly Disagree
This PPA Planning Committee has adequate representation of:				
a. School personnel	1	2	3	4
b. Community agency personnel	1	2	3	4
c. University personnel	1	2	3	4
d. Parents	1	2	3	4
e. Students	1	2	3	4

3. A PPA Planning Committee needs financial and other resources in order to work effectively and achieve its goals. For each of the following types of resources, to what extent does your TAAG PPA Planning Committee have what it needs to work effectively?

	All	Most	Some	Almost None	None	Don't Know
a. Funding to facilitate meetings	1	2	3	4	5	6
b. Space for meetings	1	2	3	4	5	6
c. Equipment (e.g., fax machines, computers, etc.)	1	2	3	4	5	6
d. Skills and expertise (e.g., leadership, marketing, public policy, administration, evaluation, community organizing, etc)	1	2	3	4	5	6

**II. Resources for Programs for Physical Activity**

4. How useful were the following resources for the development or implementation of new or modified physical activities?

	<b>Very Useful</b>	<b>Useful</b>	<b>Not very Useful</b>	<b>Not at all Useful</b>	<b>Did not receive</b>
a. TAAG Mini grants	1	2	3	4	5
b. The background information on your school and community provided by TAAG (Summary Report)	1	2	3	4	5
c. The TAAG grant resource book for obtaining additional funds for PPA Planning Committee activities or PPA programs	1	2	3	4	5
d. Physical Activity Session Checklist	1	2	3	4	5
e. Tip Sheet for Working with Adolescent Girls	1	2	3	4	5
f. Training on how to utilize TAAG promotional tools	1	2	3	4	5

5. Please add any comments you have related to resources for the development and implementation of new or modified TAAG PPA programs:

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**III. Perceived Effectiveness of the TAAG PPA**

To what extent do you agree or disagree with the following statements:

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Don't know</b>
6. The TAAG PPA has been effective in developing new or modified physical activity programs for girls.	1	2	3	4	5
7. The TAAG PPA has been successful in reducing barriers to girls' participation in physical activities.	1	2	3	4	5
8. The TAAG PPA has been successful in helping girls participate in existing physical activity programs in the community.	1	2	3	4	5
9. The TAAG PPA has been successful in reaching some girls who were not previously involved in after-school or community activity programs.	1	2	3	4	5

School ID: \_\_\_\_\_

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Don't know</b>
10. The programs sponsored by TAAG PPA have been successful in recruiting girls to participate.	1	2	3	4	5
11. The programs sponsored by TAAG have been successful in keeping girls engaged in the activities.	1	2	3	4	5
12. TAAG has been successful in keeping girls active for a majority of the time spent in a program (or activity).	1	2	3	4	5
13. The TAAG PPA has been effective in obtaining funding for girls' physical activity programs.	1	2	3	4	5
14. TAAG has been effective in encouraging fun physical activity programs for girls and their families.	1	2	3	4	5

**IV. Perceived Benefits of Participation in TAAG PPA**

15. For each of the following benefits, please indicate the extent to which you agree or disagree that you or your organization have already received the listed benefit as a result of participating in the TAAG PPA.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
a. Enhanced ability to address an issue that is important to me and/or my organization	1	2	3	4
b. Acquired new knowledge or skills	1	2	3	4
c. Increased utilization of my expertise or my organizations' services	1	2	3	4
d. Developed valuable relationships/networks	1	2	3	4
e. Had a greater impact than I could have on my own or my organization could have on its own	1	2	3	4
f. Made a contribution to the community	1	2	3	4
g. Helped my organization achieve its goals	1	2	3	4

**V. TAAG PPA Challenges**

16. To what extent did you have the following resources in order to carry out new or existing PPA programs?

	<b>All</b>	<b>Most</b>	<b>Some</b>	<b>Almost None</b>	<b>None</b>	<b>Don't Know</b>
a. Space for physical activity (e.g. playing fields, gyms, etc.)	1	2	3	4	5	6
b. Money (to pay instructors, etc.)	1	2	3	4	5	6

School ID: \_\_\_\_\_

	All	Most	Some	Almost None	None	Don't Know
c. Qualified instructors or coaches to deliver physical activity programs	1	2	3	4	5	6
d. Equipment (e.g., balls, mats, goals, other sports or gym type equipment)	1	2	3	4	5	6
e. Adequate transportation for students	1	2	3	4	5	6
f. Staff time to coordinate services and resources amongst schools and agencies	1	2	3	4	5	6
g. Supervision of girls during TAAG PPA	1	2	3	4	5	6

17. Please add any comments you may have about the extent of resources available to develop and implement new or modified physical activities:

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#### VI. Background information

18. How long have you been involved with TAAG PPA? (*circle one*)

- A. 6 months or fewer
- B. 6 months to one year
- C. One year or more

19. How would you rate your involvement in the TAAG PPA? (*circle one*)

- A. Not at all involved
- B. Somewhat uninvolved
- C. Somewhat involved
- D. Very involved

20. Do you represent the school? (*circle one*)

Yes

No (*If no, please skip to Question 21*)

- a. What is your position in the school? (*check all that apply*)

i.  Administrator

ii.  Teacher

iii.  Counselor

iv.  Coach

v.  Other, specify: \_\_\_\_\_

School ID: \_\_\_\_\_

21. Do you represent a community agency? (circle **one**)

Yes

No (If **no**, please skip to Question 22)

a. If yes, what is your position in the agency?

A. Administrator

B. Activity Leader

C. Non-administrative Staff

D. Volunteer

E. Other, specify: \_\_\_\_\_

22. Do you represent a university? (circle **one**)

Yes

No (If **no**, please skip to Question 23)

a. If yes, what is your role in TAAG? \_\_\_\_\_

23. Are you a parent of a student at the school? (circle **one**)      Yes      No

24. Are you a student at the school? (circle **one**)

Yes

No (If **no**, please skip to Question 25)

a. If yes, what grade are you in? (circle **one**)

A. 6<sup>th</sup>

B. 7<sup>th</sup>

C. 8<sup>th</sup>

D. Other: \_\_\_\_\_

25. What is your gender? (circle **one**)      Male      Female

26. To what racial or ethnic group do you belong? (check **all that apply**)

a.  Caucasian (White, non-Hispanic)

b.  Black or African American

c.  Hispanic

d.  Asian / Pacific Islander

e.  American Indian or Alaska Native

f.  Other, specify: \_\_\_\_\_

27. Is there anything else you would like us to know about your experience working with TAAG PPA?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Pedometer Summary Form



To be completed by TAAG staff:

School ID: \_\_\_\_\_

Form Code: **PED**    Version: **A**    Series #: \_\_\_\_    Seq. #: \_\_\_\_

**Pedometer Summary Form**  
Process Evaluation: Promotions

**Please note: This form is a summary form for the entire school. Please compile the information received from individual classes on this summary form.**

1. Today's Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)
2. School Name: \_\_\_\_\_
3. TAAG Pedometer Challenge Coordinator (*circle one*):
  - A. School Staff
  - B. University Staff
  - C. Both
4. TAAG Pedometer Challenge School Liaison (*circle one*):
  - A. School Staff
  - B. University Staff
  - C. Both
5. Start Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)
6. End Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
(mm / dd / yyyy)

**Please record the following information** (*please approximate and do **not** record ranges*):

7. Did boys participate in the Pedometer Challenge? (*circle one*):  
Y Yes  
N No
8. Grades of girls participating: (*check all that apply*)
  - a.  6<sup>th</sup>
  - b.  7<sup>th</sup>
  - c.  8<sup>th</sup>
9. Grades of boys participating: (*check all that apply*)
  - a.  6<sup>th</sup>
  - b.  7<sup>th</sup>
  - c.  8<sup>th</sup>
10. Number of girls who participated in pedometer challenge: \_\_\_\_\_
11. Number of 8<sup>th</sup> grade girls who participated: \_\_\_\_\_
12. Number of 8<sup>th</sup> grade girls in the school: \_\_\_\_\_

13. Number of girls eligible to participate: \_\_\_\_\_  
a. If eligibility is not determined based on enrollment in grade(s) marked in question 8, please explain eligibility criteria: \_\_\_\_\_  
\_\_\_\_\_

14. Did teachers participate in the Pedometer Challenge? (*circle one*):  
Y Yes  
N No

15. How many teachers participated? \_\_\_\_\_

16. What type(s) of challenge(s) was/were used at this school? (check **all** that apply)  
a.  Individually based challenge  
b.  Challenge between classes  
c.  Challenge between students and faculty  
d.  Other (Please specify: \_\_\_\_\_)

17. Which class did you use to implement the Pedometer Challenge? (Check **all** that apply)  
a.  PE  
b.  Home Base/Advisory  
c.  Lunch  
d.  Math  
e.  English  
f.  Science  
g.  Health Ed.  
h.  Other (Please specify: \_\_\_\_\_)

18. How many days did the challenge last? \_\_\_\_\_

19. Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# TAAG Program Champion Form



To be completed by TAAG staff:

Teacher ID: \_\_\_\_\_

Form Code: PPC    Version: A    Series #: \_\_\_\_    Seq. #: \_\_\_\_

## TAAG Program Champion Form

The purpose of the TAAG Program Champion Form is to collect descriptive information about, and ensure minimal site requirements are met by each Program Champion (as outlined in the *Program Champion Orientation Materials* handbook).

**Instructions:** One form per Program Champion is to be completed each semester by the Process Evaluation Coordinator at each site (in cooperation with the Project Coordinator and/or Program Champion).

Today's Date: \_\_\_\_/\_\_\_\_/20\_\_\_\_  
                  m m/ d d/ yyyy

Form Completed by (initials): \_\_\_\_

### 1. Description of PC

- a. PC is (*circle one*):            M - Male            F - Female
- b. What is PC's primary occupation? (*check all that apply*)
- a.  PE Teacher
  - b.  Health Education Teacher
  - c.  Other Teacher
  - d.  Other School Staff
  - e.  Community Agency Staff
  - f.  Other, specify: \_\_\_\_\_
- c. Number of years PC has lived in the community (*circle one*):
- A. Less than 1 year
  - B. More than 1 but less than 5 years
  - C. More than 5 but less than 10 years
  - D. More than 10 years
- d. Number of years PC has worked with the school (either as a volunteer or paid position): \_\_\_\_
- e. Past experience with TAAG? (*circle one*)            Y - Yes            N - No
- If Yes, in what capacity? (*check all that apply*)
- a.  Teaches TAAG PE
  - b.  Teaches TAAG Health Education
  - c.  TAAG Liaison
  - d.  Program Leader
  - e.  PPA Committee Member
  - f.  Other, specify: \_\_\_\_\_
- f. Average number of hours PC has committed to TAAG work per week: \_\_\_\_

g. How was PC hired? (*circle one*)

- 1 - Open interview process
- 2 - Recruited for this role

h. Start date (as paid TAAG PC):  $\frac{\quad}{m} \frac{\quad}{m} / \frac{\quad}{d} \frac{\quad}{d} / 20\frac{\quad}{yy}$

**2. Minimal site requirements related to PC component**

Have minimal training activities been completed by each PC? Please check (“√”) “completed” or “not completed” for each activity under HEAC, PE, PPA, and Promotions categories. Write comments to clarify when an activity has not been completed.

<b>A. Training Activities HEAC</b>	Completed	Not Completed	Comments
1. Attended the full day HEAC teacher training			
2. Met with the TAAG HEAC interventionist and reviewed HEAC training materials			
3. Observed at least 2 TAAG HEAC lessons			
4. Completed an action plan regarding continuation of TAAG HEAC in 8B			

<b>B. Training Activities Physical Education</b>	Completed	Not Completed	Comments
1. Attended the full day PE teacher training			
2. Attended the Fall PE booster training			
3. Attended the Spring PE booster training			
4. Reviewed PE Essential Elements with TAAG PE interventionist			
5. Observed at least 2 PE classes			
6. Completed an action plan regarding continuation of TAAG PE concepts in 8B			

<b>C. Training Activities PPA</b>	Completed	Not Completed	Comments
1. Met with primary TAAG PPA interventionist to review the PPA manual			
2. Attended at least one Planning Committee meeting			
3. Conducted at least one 1-on-1 interview			
4. Observed at least one full session of 2 (or more) PPA sponsored programs			
5. Completed an action plan regarding continuation of TAAG PPA programs in 8B			

<b>D. Training Activities Promotions</b>	Completed	Not Completed	Comments
1. Helped implement the TAAG pedometer challenge			
2. Designed and created at least 2 promotional posters, flyers, or PA announcements (with help of TAAG interventionist)			
3. Completed an action plan regarding continuation of TAAG promotion activities in 8B			

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