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A Typology of Middle School Girls: Audience Segmentation Related to Physical Activity

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The Trial of Activity for Adolescent Girls (TAAG) combines social ecological and social marketing approaches to promote girls' participation in physical activity programs implemented at 18 middle schools throughout the United States. Key to the TAAG approach is targeting materials to a variety of audience segments. TAAG segments are individuals who share one or more common characteristic that is expected to correlate with physical activity. Thirteen focus groups with seventh and eighth grade girls were conducted to identify and characterize segments. Potential messages and channels of communication were discussed for each segment. Based on participant responses, six primary segments were identified: athletic, preppy, quiet, rebel, smart, and tough. The focus group information was used to develop targeted promotional tools to appeal to a diversity of girls. Using audience segmentation for targeting persuasive communication is potentially useful for intervention programs but may be sensitive; therefore, ethical issues must be critically examined.

Keywords: *formative assessment; methodology; social marketing; adolescents*

Active youth are more likely to continue to be active in adulthood (Telama, Yang, Laakso, & Viikari, 1997). However, girls' participation in moderate to vigorous physical activity (MVPA) drops dramatically, compared to that of boys, from the early elementary years through high school (Caspersen, Pereira, & Curran, 2000; Grunbaum et al., 2002; Kimm et al., 2000, 2002; Sallis, 2000; Trost, 2000; Trost et al., 2002). To counteract the decline in girls' participation in MVPA, the National Heart, Lung, and Blood Institute initiated an intervention trial, Trial of Activity for Adolescent Girls (TAAG), with 36 middle schools across six field centers randomized to intervention or control conditions.

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The purpose of TAAG is to design and evaluate an intervention based on the social ecological model (Gittelsohn et al., 2006; Young et al., 2006) to reduce the decline in physical activity in middle school girls by affecting the physical and social environment through (a) health education and physical education programming, (b) linking schools with community organizations to increase opportunities for physical activity, and (c) promotional efforts to enhance motivation. Because a school- and community-based intervention such as TAAG is implemented with a broad general population, investigators identified a need to make TAAG programming and marketing materials diverse and appealing to a wide variety of girls. Investigators selected social marketing strategies to identify key segments in the target population and learn about ways promotional messages could be shaped to meet varying needs and interests. This article presents an innovative strategy, implemented as part of TAAG formative research to identify audience segments related to MVPA among middle school girls and associated channels, sources, and messages to reach them.

To enhance the effectiveness of intervention components, TAAG adopted an overall promotions strategy aimed at both the primary audience (girls) and secondary audiences (e.g., teachers, parents). Although successfully marketing physical activity interventions to girls who already engage in MVPA may seem relatively easy, data suggest that even active girls decrease participation during adolescence (Kimm et al., 2000, 2002; Telama et al., 1997). Therefore, maintaining their involvement in MVPA is a challenge. Marketing such programs to girls who are not physically active is even more challenging. Based on the growing importance of peer connections during early adolescence, the TAAG promotional campaign emphasizes social and fun aspects of MVPA. To meaningfully increase and sustain physical activity levels, formative research was conducted to learn about the different ways that MVPA might be perceived as fun and filling social needs of girls with a wide variety of interests and affiliations. In TAAG, these strategies are drawn from communication theory and social marketing principles and methods.

McGuire's (1981) Communication-Persuasion Model specifies that communication campaigns use a combination of message elements and delivery characteristics, known as inputs, to produce the desired effects, or outputs. Outputs are sequential and include both intermediate results, such as creating favorable attitudes toward a message, and main results, such as behavior change and maintenance (McGuire, 1981). To produce the desired outputs, health communication campaigns must make strategic decisions regarding the inputs most likely to be effective in the target population. Dimensions of health communication inputs are specified as the source of the message; the message itself, which may appeal to emotions, logic, or both; the channel by which the message is communicated; the target audience; and the underlying rationale for the message (McGuire, 1981).

Social marketing, which applies advertising and communications methodologies in attempts to change socially relevant behavior (Bloom & Novelli, 1984), can make important contributions to the design and selection of health communication inputs and outputs. Social marketing conceptualizes the desired behavior change as a product to be marketed to the target audience. This approach recognizes the possible appeal of competing products (i.e., unhealthy behaviors) and prompts research to address the needs and concerns of the target population to increase the desired behavior's "market share." Within health promotion, social marketing has been used to promote condom use (Agha & Meekers, 2004; Cohen & Farley, 2004), fruit and vegetable consumption (Foerster et al., 1995), hand washing (Pinfold, 1999) and more recently physical activity in adolescents

(Wong et al., 2004) to create awareness of health issues, increase demand for health services or programs, teach skills, and prompt and reinforce behavior and maintenance (Elder, 2001; Kotler & Roberto, 1989).

One social marketing tool is audience segmentation, which divides a broader audience into smaller categories for purposes of more efficient and effective message communication (Elder, 2001). Audience segmentation has been used effectively in marketing commercial products, such as tobacco, alcohol, and fast food, to adults for more than 50 years (Slater, 1996). There are few publications in marketing literature that describe audience segmentation targeting teenagers (Frankenberger & Sukhdial, 1994; Moore, Raymond, Mittelstaedt, & Tanner, 2002) and none that discuss the direct application of marketing methodologies. Although the fields of public health and health research have used the method, it has not been broadly applied. TAAG chose to use audience segmentation as a way to reach the desired aim of appealing to a wide variety of girls.

The concept of audience segmentation suggests that different segments of girls have different sets of predisposing factors and barriers and will positively respond (i.e., with desired change in behavior, mediator, or reinforcement) to different prompts and incentives. Using audience segmentation helps identify and address those differences, moving beyond a one-size-fits-all approach. Direct methods of defining audience segments include grouping individuals by demographics (Slater, 1996) or psychographics, such as stages of change (Poscente, Rothstein, & Irvine, 2002). These segments are derived through conducting focus groups (Makowski, 2004) or quantitative surveys (Fridinger, Macera, & Cordell, 2002). An alternative method uses a variety of post hoc analytical methods, such as cluster analysis, that select variables to define a group's behavior (Forthofer, 2000; Slater, 1996; Slater & Flora, 1991; Williams & Flora, 1995).

Recently, public health practitioners have used audience segmentation to promote medication compliance, child immunizations, weight loss, exercise (Forthofer, 2000), and the use of complementary and alternative medicine (Makowski, 2004). However, few studies have examined audience segmentation related to physical activity (Fridinger et al., 2002; Poscente et al., 2002). One exception is the National Survey on Recreation and the Environment (NSRE), which identified a variety of segments based on respondents' physical activity patterns. Yet neither the NSRE nor any other study or segmentation survey has addressed and used physical activity segmentation specifically for adolescent girls.

The goal of segmentation in TAAG is to increase girls' responses to intervention messages and promotions by (a) identifying audience segments that are most relevant for physical activity behavior change and (b) using this information to develop promotional messages and communication modes that are likely to be received, attended to, perceived as salient, and acted on by more girls than could be reached by more general or single-segment messages. The goal is to deliver a unified intervention with multiple messages, using different channels that in combination will reach most middle school girls. The expectation is that girls will notice the TAAG messages that are salient to them and tune out messages that target other segments. Rather than attempting to actually categorize individual girls or to create separate interventions for different segments, the goal was to use the formative research to ensure that the TAAG marketing mix is inclusive. Theoretically, by avoiding a focus on any one particular segment or systematically excluding another, overall, participation will increase.

METHOD

Recruitment

The identification of audience segments was done through focus groups conducted in May and June of 2002 with seventh and eighth grade girls at the six TAAG field sites: Tucson, Arizona; San Diego, California; New Orleans, Louisiana; Baltimore, Maryland/Washington, D.C.; Minneapolis, Minnesota; and Columbia, South Carolina. Focus group participants were recruited from middle schools that were not involved in the main TAAG trial. Teachers and counselors were solicited to help recruit participants from designated ethnic and racial groups at each site and were instructed to select, based on their own perceptions, girls of varying physical activity levels from classes that were representative of the entire student body.

It is possible that the recruitment process resulted in the overrepresentation of a particular segment of girls, but we are unable to assess whether this occurred. Anecdotal reports from the focus group moderators, however, suggested that most of the focus groups contained a variety of different types of girls. Standard focus group protocol includes selecting a homogeneous set of participants (Krueger, 2000). The purpose of conducting ethnically homogeneous groups was to make girls feel more comfortable discussing audience segments and to ensure participation of girls representing minority populations. All facilitators were adult women, and attempts were made to match the race and ethnicity of focus group facilitators with that of the participants. No middle school personnel acted as facilitators, nor were they present during focus group discussions.

Focus Group Procedures

The focus groups were developed, conducted, and analyzed based on the TAAG theoretical framework (Gittelsohn et al., 2006; Young et al., 2006) and McGuire's (1981) Communication-Persuasion Model. The TAAG framework emphasizes the importance of interpersonal factors in shaping adolescent girls' physical activity participation and the need to identify different audience segments and understand their perceptions of physical activity. McGuire's model emphasizes the importance of identifying appropriate inputs for each audience segment to produce the desired outputs.

The focus group methodology was developed by the TAAG Formative Assessment Working Group and piloted at two sites. The TAAG Steering Committee and institutional review boards at each site approved the protocol. Informed consents were obtained from a parent or guardian, and all participating girls signed a minor assent form. All sessions were audiotaped and transcribed verbatim.

Moderators began the focus groups by describing the TAAG project. The girls were then given a small stack of index cards and a pencil or pen and were told

we want to try to include all different types of girls (in TAAG) and figure out ways to help them all get more active and have fun doing it. For us to make a program that is interesting and fun for everyone, we need to know about the different types of girls in your school. Please write down the different types or groups of girls on these note cards. Use a different card for each group or type of girl. Once you are done, we are going to collect the cards and talk about them.

Moderators collected and shuffled the cards (for privacy) and read them aloud. The girls then used a group card-sort technique to sort the cards into piles of similar types or groups of girls. Many participants identified the same groups by different names. The purpose of this exercise was to generate a comprehensive list, then assess consensus and eliminate duplication while maintaining varying terminology for the groups. Once the groups were sorted, the piles were discussed from largest to smallest. Some of the less frequently identified segments were not discussed because of time constraints. Discussions of each segment included (a) a general description, (b) the group's level of physical activity, (c) their possible interest in TAAG, (d) what activities would appeal to them the most, (e) what source of information would be most effective (e.g., friends, teachers), (f) what specific channel would be most effective (e.g., flyers, announcements), and (g) what promotional messages would be most appealing. Girls voted on a list of possible tag lines or slogans for the TAAG project. Later, when each segment was discussed, girls were asked which slogans would most appeal to the different segments. Girls were also shown a variety of numbered posters and asked which, if any, would appeal to the individual segments and why.

Data Analysis

The data analyst and the Formative Assessment Working Group reviewed a sample of the transcribed focus groups to develop the codebook. The data analyst then coded all transcripts. Once coding was completed, a content analysis was performed to identify segment similarities and differences across sites (Vu, 2003). Girls' responses were tabulated according to which poster (identified by number) and message(s) they thought would appeal to each segment.

RESULTS

Each TAAG site recruited at least 2 groups of girls, and overall, the six TAAG sites conducted 13 focus groups, with a total of 100 girls (Table 1). Focus groups were conducted in classrooms, gymnasiums, and outside on the sidewalk. They generally lasted one class period. Group size ranged from 4 to 12 girls. It was difficult for many of the counselors and teachers to recruit ethnically homogeneous groups of girls. Of the 13 groups, 6 groups had members who self-identified into more than one race or ethnic group. Three of the groups were predominantly Caucasian girls, with one member of another ethnicity. The remaining 3 multiethnic groups were relatively evenly split between girls of 2 ethnic groups. Two focus groups were conducted solely with African American girls, 2 with Caucasian girls, and 3 with Hispanic girls.

Based on the girls' discussions and card-sort results, group descriptions, and common themes across sites, the girls identified 102 segments. The segments were collapsed into 7 researcher-defined segments of girls: athletic, preppy, quiet, rebel, smart, tough, and other. The remaining segments were each identified by at least three of the focus groups. Figure 1 presents a graphic representation of the interrelationships between segments using the language and terms offered by the participating adolescent girls. This figure demonstrates that there was overlap among the segments, with some terminology being placed in different categories by different focus groups (e.g., cheerleaders and majorettes were grouped as preppy girls or tough girls by different groups).

Table 1. Characteristics of Focus Group Participants

Focus Group Site	Grade	Race/Ethnicity
Arizona 1	8	Hispanic
Arizona 2	7	Multiethnic, predominantly Caucasian
California 1	8	Multiethnic, predominantly Caucasian
California 2	7	Hispanic
California 3	7	Hispanic
Louisiana 1	7	African American
Louisiana 2	8	African American
Maryland 1	7	Multiethnic, predominantly Caucasian
Maryland 2	8	Caucasian
Minnesota 1	8	Multiethnic, predominantly Caucasian
Minnesota 2	7	Caucasian
South Carolina 1	7	Multiethnic, predominantly Caucasian
South Carolina 2	8	Multiethnic, predominantly Caucasian

A description of each segment, as reported by focus group participants, is given below, followed by an excerpt from a focus group describing that particular segment. Individual excerpts may include comments from more than one focus group participant. It is important to note that some of the descriptions and terms used here may appear to the reader to be negative, offensive, or stereotypical. Although we do not support the use of derogatory or disrespectful terms, we believe it is important to report the results in the girls' own words.

Athletic Girls. Focus group participants reported that these girls are focused on sports and would be very interested in participating in TAAG. One problem is that athletic girls may already be heavily involved in after-school activities and may not have time for additional activities. Some focus group participants were concerned that the competitiveness of the athletic girls might discourage other girls.

It's whatever. It's like when we go on the court, we all about the balls. When we off the court, we wanna see, oh my god, we wanna see boys. It's like we just want, we just wanna . . . do everything . . . have fun. Tell us one time [about TAAG activities], we'd be there. (Seventh grader, Maryland)

Preppy Girls. These girls are described as very social, the popular girls, and cheerleaders. These girls were perceived as sometimes self-absorbed, concerned about their appearance, and concerned with being included in the popular crowd. This group was described as very interested in attention and approval from boys. Some groups stated that this group would be concerned about injuries.

Most of them like to play basketball, cheerlead, and Double Dutch . . . and Step Squad. Step, yeah, Step Squad. As long as there's time to talk in whatever you do. And food. Oh yes . . . we would love it [TAAG]. (Seventh grader, Maryland) (Note: Stepping is a form of dance involving a rhythmic movement of hands and feet.)

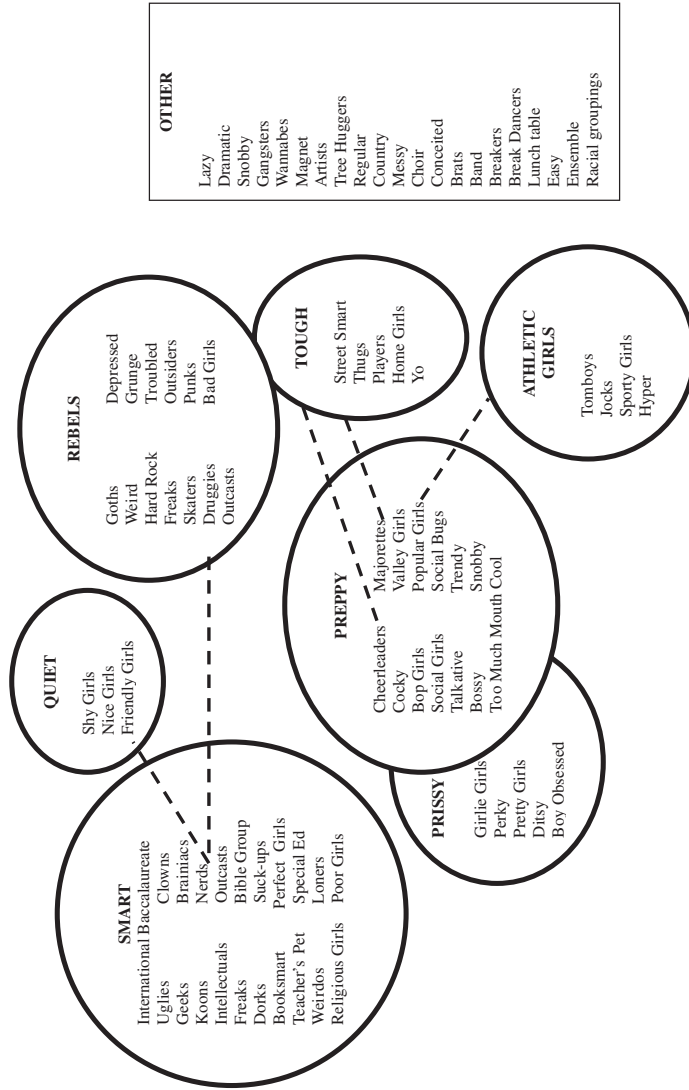


Figure 1. Overview of different types of girls in the unedited language of seventh and eighth grade girls. NOTE: Dash designates that some of the types of girls that were mentioned could fall into more than one group. For example, nerds were considered smart, but they can also be quiet girls or outcasts at schools. Likewise, athletic girls were also considered the popular girls at schools. At the Louisiana site, the cheerleaders and majorettes are also considered tough girls because they “don’t act ladylike. . . . They lift up their skirts [cheerleading].” Size of the circle reflects number of different names given to the segment and does not reflect the number of girls or frequency of mention. In the box on the side of the figure are other types of girls that were named during the focus group discussions. However, they were considered a small (not main) group of girls, or they were only discussed briefly.

Quiet Girls. Participants stated that these girls keep to themselves and do not say much. They tend to be shy and don't like to be around a lot of people. Quiet girls will participate in activities that are comfortable to them.

They don't say anything. They never get involved in mess or nothing. They just stay to themselves. . . . Don't like to be around a lot of people. So sports and everything is just out for them. It's like they're scared to get involved with a new group because they don't know what to expect of that person. . . . If they do something [physically active], they think people will laugh at them. They don't want to be embarrassed. . . . They probably wouldn't even come around [to TAAG activities]. They will be hiding somewhere. (Eighth grader, Louisiana)

Rebels. This group is a combination of Goths who tend to wear black, have body piercing, wear white makeup, and are generally physically inactive; skaters who may have a similar dress style but frequent skate parks; punks; grunge; and others. These girls tend to act tough and be extremely independent. They are perceived as trying to go against the norm. Punk music is favored by the group. In general, this group was viewed as unlikely to participate in TAAG activities, although music was viewed as a possible way to attract these girls to activities.

They [skaters] like go to skate parks and stuff. . . . If you could get a big group of them involved, you could get others involved [in TAAG]. (Seventh grader, Arizona)

It's more like, uh, you'd think . . . some of them just don't like to do things if it's popular. So if it's popular, they won't do it just because it's popular. (Eighth grader, Minnesota)

Smart Girls. Participants described these girls as enjoying studying and getting good grades. They tend to focus on learning. Some sites identified these girls as "nerds" (not positive), whereas other sites stated that being a smart girl is a positive thing and not the same as being a nerd. Smart girls might be interested in activities if there is a grade attached or if the activity is a volunteer opportunity. One site identified softball as a common sport for smart girls.

No offense to smart people, but most of 'em aren't active, like they like reading a lot, so they stay home and inside. . . . [They would go to TAAG activities] to get good grades. (Seventh grader, San Diego)

Tough Girls. According to participants, this group tends to act tough, tries to be the center of attention, likes to be in control, and does things according to its own rules. Rap is a favorite type of music. This group was viewed as being difficult to involve in TAAG activities as they are extremely independent. Activities such as basketball and stepping were identified as potentially appealing activities.

It has to be their rules. . . . Like for basketball, you have to use the street basketball rules. If they do it [a TAAG activity] their way, or if they do it a way they like it, they might do it. (Seventh grader, Minnesota)

Table 2 contains a profile of each segment, including (a) physical activity levels and interests, (b) perceptions of how the segment would react to a program such as TAAG, (c) perceptions of barriers to participating in physical activity programs, and (d) targeted

Table 2. Physical Activity Interests and Potential Marketing Strategies for Six Segments of Middle-School-Aged Girls

Segment	Physical Activity Level and Interest	How They Would React to TAAG	Barriers to Participating in Physical Activity	Channels for Distributing Messages	Influential Information Sources	Messages
Athletic girls	Recognize the importance of activity; like and participate in all activities; interests: basketball, football, rough sports, and soccer	These girls will love TAAG	Lack of time	Not probed	PE teachers, coaches	Themes promoting all types of activities and competition
Preppy girls	Mixed response; some are active to get in shape; others are not; others are active if it is social; interests: basketball, cheerleading, dancing, Double Dutch, field hockey, football, gymnastics, ice skating, lacrosse, powder puff football, soccer, softball, stepping, tennis, track, volleyball, walking, and working out	Probably would participate, especially if there is competition between schools and activities are social	Concerns about appearance; concerns about injury; time		Older cheerleaders or majorettes, older preppy girls, sisters, friends, parents	Themes that feature fashionable girls and social opportunities
Quiet girls	May be active or inactive; they may not be involved in sports because they are uncomfortable with the attention; interests: basketball, individual sports, soccer, volleyball, walking	Shy girls may not participate; they might be intimidated, but the rest of the girls might participate if they found an activity they liked	Embarrassment, shyness, uncertainty because of lack of understanding about what they are supposed to do; belief that they don't fit in	Flyers	Teachers, friends	Themes designed to emphasize comfort and ability to be active alone or in small groups of friends

Rebel girls	Probably not interested in physical activity; interests: biking, rollerblading, skateboarding	Would not be interested	Heat, because of their black clothing; wanting to avoid doing something perceived as popular	Flyers (in school, stores, skate parks); punk music	Teachers, friends, parents, and counselors	Themes include messages that show you can be active without joining a team
Smart girls	Like physical activity if it doesn't interfere with grades; they may prefer to read; interests: basketball, lacrosse, softball, volleyball, walking	A focus on sports might turn them off, although social activities might interest them	Other kids' attitudes toward them; fear of not doing well; taking time away from school or homework	Flyers	Teachers, school counselors, friends	Themes linking activity to achievement or as something important to the school
Tough girls	In general, do not participate in physical activity; they are not interested unless it is a social scene; interests: fighting, stepping, street basketball	Likely to get involved if there was a step or dance team or if they can do things their way	None identified	Rap music	Teachers or adults involved in diversion programs ^a ; encouraging messages from boys	Themes include choice, independence, setting one's own rules

NOTE: TAAG = Trial of Activity for Adolescent Girls.

a. Diversion programs target at-risk individuals to promote staying in school to graduate.

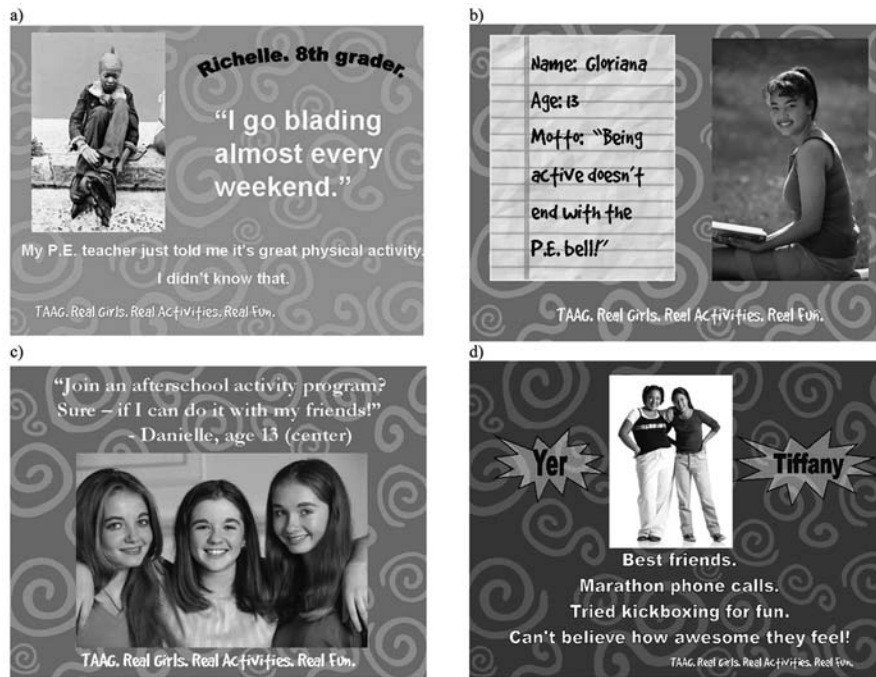


Figure 2. Examples of Real Girl flyers primarily targeting (a) tough girls, (b) smart girls, (c) preppy girls, and (d) quiet girls.

ways to reach the segments, including channels for distributing messages, influential information sources, and potential TAAG messages that would attract each segment.

To develop and market materials appropriately, we asked focus group participants for specific suggestions regarding the types of images that would be best for the different segments. Respondents provided the following suggestions: (a) For athletic girls, pictures should show girls participating in organized, competitive activities; (b) for preppy girls, pictures might show girls cheerleading, well-dressed individuals, groups of friends being active, girls being active with boys watching (with positive affect, not leering or jeering), and organized sports with “cute” uniforms; (c) for quiet girls, pictures should show girls alone or in small groups doing activities (don’t focus on competitive sports); (d) for rebel girls, pictures might include girls on skateboards, perhaps with some visible body piercing, girls wearing dark clothes, images implying dancing to punk rock music; and (e) for smart girls, pictures should show girls who are not too muscular or strong being active in small groups, and positive attitudes and neat but not trendy dress may be appealing. Small group images that show some smart girls and some preppy girls being active together may be appealing. And (f) for tough girls, pictures might show girls doing stepping or hip-hop dance or girls playing basketball (not necessarily in uniform; show street games, pick-up games). Images of girls should not be conservative. Groups of friends would be appealing.

Based on focus group feedback, in conjunction with the overarching TAAG promotional tagline selected by the focus group participants (“TAAG. Real Girls. Real Activities. Real Fun.”), the Promotions Working Group developed a series of “Real Girl” promotional flyers and posters. Figure 2 provides samples of Real Girl flyers targeting tough, smart, preppy, and quiet/smart girls.

DISCUSSION

Focus group participants from diverse locations identified similar types of girls as the relevant audience segments for promoting MVPA. Although we anticipated that either race or ethnicity or social groups would emerge as the key segmentation variables, we intentionally left the discussions open to allow participants to identify any type of segments they perceived as salient for MVPA promotion. In further efforts to create a climate in which girls were free to identify any type of segmentation variable they wanted, we first had participants list the segments as an individual task, prior to discussing them and building consensus as a group. It was striking that not only did every focus group spontaneously focus primarily on social types or groups but also the segments that were identified were quite similar across different regions and types of locations (e.g., urban and rural, racially diverse and fairly racially homogeneous). Investigators believed that conducting ethnically homogeneous focus groups would be less intimidating than if groups were ethnically heterogeneous and would empower girls to identify ethnic groups if they felt they were key for physical activity programs. Yet ethnicity was not mentioned frequently by either the ethnically homogeneous or mixed groups.

Our results are similar to a study by Ling and Glantz (2002), who found that the tobacco industry, in contrast to public health practitioners, identify audience segments in very different ways. Public health practitioners tend to concentrate on demographic groups that relate to disease risk profiles but may not be salient or efficient targets for behavior change. The tobacco industry, in contrast, defines target segments in young adults by their attitudes, aspirations, activities, and lifestyles and not demographics. The demographics of a group are explored after a target segment has been identified. Slater (1996) states that demographics alone may not be useful if there is a great deal of variability within a demographic group.

The purpose of asking girls about messages and poster and image styles was to assist in the development of TAAG promotional materials that would appeal to a wide range of girls. In promoting MVPA events, it is important to determine which groups may be most interested in various activities or, conversely, which groups may be relatively uninterested in any activity and then to use materials targeted to those groups. For example, it is probably unrealistic to offer a cheerleading camp and expect rebels or tough girls to attend or to have an event at a local skateboard park with punk music and expect preppy girls to attend. Girls may dismiss TAAG as not understanding their interests if inappropriately targeted promotional materials are used.

A common recommendation from the focus groups was that the images used by TAAG for all segments should feature girls engaged in physical activity. The TAAG Promotions Working Group did extensive searches of commercial photo banks to identify and purchase the types of images suggested for each segment. However, there are few commercially available images featuring girls engaged in physical activity. Furthermore, among the available images, there is very little diversity of body shape or racial or ethnic representation. The vast majority of images are of thin, physically active Caucasian girls (a few muscular, none overweight) often dressed in brightly colored, form-fitting outfits and generally consistent with recommendations regarding the athletic and preppy segments. As a result, in an effort to include salient images for girls in multiple segments with multiple backgrounds, we broadened our search to include images of diverse girls regardless of whether they were engaged in physical activity and used these to develop the "Real Girl" flyers (Figure 2). However, if resources and time had allowed, a more effective strategy might have been to create our own images.

The TAAG focus group methodology was challenging, as the identification of audience segments in middle school girls is a potentially sensitive one. Caution was needed to ensure that the discussions were conducted in a nonthreatening, nonjudgmental manner. Focus group participants were never directly asked to self-identify with a specific segment. During discussions about segment characteristics, some girls in the focus groups spontaneously identified themselves or others with a particular segment. Facilitator perception was that there was reasonable diversity but not strong representation from all of the identified segments in our focus groups. In recognition of this possibility, the Formative Assessment Working Group initially planned to conduct a second round of focus groups, specifically recruiting members of the identified segments. Because of study resources, staff availability, and study timeline, the second round was not pursued. Concerns were also raised by some study staff about potential discrimination in recruiting segments, participant embarrassment, and difficulties with institutional review boards. Despite these concerns, if resources had been available, a second round of focus groups would have been conducted with girls from the identified segments to get direct input on appealing activities, messages, and channels and to validate the results of the first round. The absence of the second round of focus groups is a limitation for this study. How well participants' perceptions about segments agree with an individual segment's self-perception is unknown and may well be based on stereotypes.

The goals of TAAG include inclusiveness, nondiscrimination, and respect for the dignity of all individuals. The focus group findings presented some interesting and complicated challenges for addressing these goals. As is evident in Figure 1, many of the girls used stereotypical, unkind, or even offensive terms to describe some of the social types or groups and were similarly frank in their characterizations of the types of messages, channels, and physical activities that might appeal to each of the different groups. At times, the descriptions used by the girls made TAAG staff uncomfortable and concerned about appearing to condone or endorse such characterizations. Yet at all sites, moderators and other staff believed that participants were honest and realistic in their responses and generally were providing constructive advice and were not responding with malice. The key challenge, then, was to extract unique and important elements for successfully targeting each of the segments without exploiting negative social dynamics or reinforcing stereotypes. The risk in eliminating too much of the negative or offensive responses would be that resulting marketing strategies would be based more on investigators' desires for how girls might think and act rather than on thoughtfully shared feedback and advice from members of the target population. That approach would pose its own ethical challenges, as campaigns might be ineffective for many segments and could squander resources and participants' goodwill. This dichotomy is an ongoing tension for TAAG and is one likely to be faced by other researchers using formative assessment to identify audience segments and to design targeted promotional materials.

Implications for Practice

This article describes the process of using audience segmentation to design promotional materials for the TAAG interventions. Focus group results suggest that appealing to a variety of social types or groups is necessary but not sufficient for influencing whether girls will participate in physical activity programs. Issues such as parental influence, lack of time, transportation, access to resources, confidence in ability to perform physical activities (self-efficacy), and personal health play significant roles. Social groups, nonetheless, play a key role in influencing the activities and attitudes of middle

school girls and therefore should be considered when promoting as well as designing and implementing physical activity interventions.

Future studies should incorporate segment-specific focus groups and quantitative measures of physical activity to assess whether physical activity patterns are distinct for the identified segments. In addition, evaluation measures to assess the reach, appeal, and direct effect of the social marketing strategy need to be included to determine whether all segments are equally receptive to the marketing strategy employed by TAAG.

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