Research Article

Motivators of and Barriers to Engaging in Physical Activity: Perspectives of Low-Income Culturally Diverse Adolescents and Adults

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ABSTRACT

*Background: Obesity rates are rising in the United States, especially among low-income and racial/ethnic minority individuals. Exploring motivators and barriers relative to engaging in physical activity is imperative. **Purpose:** The purpose of this study was to identify motivators and barriers relative to engagement in physical activity as reported by culturally diverse low-income adolescents and adults. **Methods:** A total of 91 adolescent (11 to 15 years of age) and adult (18 years of age or older) participants who self-identified as African American, Hispanic, or non-Hispanic White engaged in age group-, race/ethnicity-, and gender-concordant focus groups. **Results:** Qualitative data analysis indicated that the motivators and barriers most commonly identified among the adolescent and adult focus groups were: social influence; time and priorities; physical environment; fun and enjoyment; inherently physical activities; weight concerns; fatigue, physical discomfort and current fitness level; and immediate positive feelings. **Discussion:** Findings were generally similar across age group, gender and race/ethnicity. Age group-specific, gender-specific and race/ ethnicity-specific motivators and barriers were related to how commonly the motivators and barriers were identified among each group. **Translation to Health Education Practice:** Implications for increasing physical activity among low-income culturally diverse adolescents and adults are discussed.*

BACKGROUND

Overweight and obesity among adolescents and adults have increased significantly in the United States.[1] In 2006, over 17% of adolescents ages 12 to 19 were considered overweight and over one-third of adults were considered obese.[1] Obesity disproportionately affects racial/ethnic minority populations, with African Americans and Hispanics evidencing higher rates of obesity than non-Hispanic Whites.[1] *Healthy People 2010* identified overweight and obesity among the country's 10 leading health indicators, as these health problems have been found to be associated with a number of disease conditions including cardiovascular disease, diabetes, hypertension, and cancer.[2] Due to the increased risk for chronic disease that results from being overweight or obese, effective interventions that promote healthy behaviors and reduce overweight and obesity among adults and adolescents are especially needed.

Low-income African American youth and Hispanic youth are disproportionately affected by several of the health problems that can be prevented through engagement in health promoting behaviors.[1, 3, 4] Thus, national agencies are calling for interventions to promote healthy behaviors among all Americans, but especially among low-income and minority children and adolescents.[2] Additionally, because individuals who are overweight or obese as children also

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tend to be overweight or obese as adults, it is particularly important to include youth in research focused on understanding, modifying, and preventing obesity.[5]

Engagement in physical activity has been linked to improved health in youth and adults. Physical activity has been identified as one important tool in achieving and maintaining weight loss and combating obesity.[6,7,8] However, despite the detrimental impact of inactivity on health, many adolescents in the United States do not engage in recommended levels of physical activity.[9,10]

Development of effective interventions to promote engagement in health promoting behaviors, such as physical activity, requires an understanding of the most salient factors that influence such behavior. Bandura's Social Cognitive Theory posits that engagement in health behaviors is influenced by a combination of personal determinants (e.g., biological and cognitive factors) and socio-environmental influences. Identifying motivators of and barriers to engagement in health promoting behaviors as perceived by adolescents and adults would enhance the knowledge-base regarding personal factors that influence engagement in physical activity.

PURPOSE

The present research is a component of a larger study regarding the health promoting behaviors of culturally diverse children, adolescents and adults. The specific purpose of the present research was to identify motivators and barriers relative to engagement in physical activity as reported by low-income African American, Hispanic and non-Hispanic White adolescents and adults.

METHODS

Participants

Participants were adolescents (ages 11 to 15 years) and adults (older than 18 years) who self-identified as African American, Hispanic, or non-Hispanic White and who participated in one of 12 focus groups. Specifically, there were 91 focus group participants, including 41 adolescents (20 females and 21 males) and 50 adults (30 females and 20 males). The number of participants in each focus group ranged from 4 to 10, with 7 being the median number of participants per focus group. Each focus group was age group-, race/ethnicity-, and gender-concordant. For example, a focus group was conducted with only African American adult males.

Adolescent focus group participants ranged in age from 11 to 15 years old, with a mean age of 13.8 (SD = 1.2). Adolescents who were age 16 or older were not recruited to be focus group participants due to potential dissimilarities (e.g., values, interests, maturity level) between such older adolescents and their younger counterparts. The racial/ethnic composition of the adolescent participants was 34.1% African American, 43.9% Hispanic and 22.0% non-Hispanic White.

Adult focus group participants ranged in age from 18 to 89 years old, with a mean age of 34.0 (SD = 15.4). All participants in the adult focus groups were financially independent and not living with their parents. The racial/ethnic composition of the adult participants was 21.2% African American, 38.5% Hispanic and 44.2% non-Hispanic White.

One of the requirements for participation in this study was having a family income of less than $40,000. The median annual household income range was $20,000-$24,999 for both the African American adults and the non-Hispanic White adults. The median annual household income range for the Hispanic adults was $25,000-$29,999. Family income data were not obtained for the adolescent focus group participants; however, their parents were informed of the family income requirement for being a research participant. Sixty percent (n = 13) of the Hispanic adult focus group participants, 60% (n = 12) of the non-Hispanic White adult focus group participants, and 90% (n = 10) of the African American adult focus group participants reported that their highest level of education completed was high school. Participants were from a small city in north-central Florida.

Instruments

The following two instruments were used in conducting the focus groups:

1. A researcher-constructed demographic data questionnaire that assessed demographic characteristics such as race/ethnicity, age and gender.

2. A researcher-constructed interview guide, which was orally administered by trained focus group leaders for the purpose of exploring participants' motivators of and barriers to engaging in health promoting behaviors, including engaging in physical activities such as walking, moving more rather than less and engaging in moderate-to-intense physical activity. The interview guide was developed based on Stewart and Shamdasani's[12] recommendations regarding conducting focus groups, including building rapport in the group before beginning to ask questions, carefully crafting questions so as to maximize the number and variety of responses, asking open-ended (rather than close-ended) questions, asking broad questions first and then gradually narrowing the focus of subsequent questions, and limiting the total number of questions to no more than 12.

Participant Recruitment

Researchers and five community research consultants recruited focus group participants via participant recruitment announcements made at schools, churches and community centers in a small city in north central Florida. The racial/ethnic breakdown of this city is 68.4% White, 23.2% Black and 6.4% Hispanic.[13] Recruitment methods also included publishing participant recruitment articles in local newspapers and disseminating and/or posting participant recruitment flyers at community events and settings (e.g., barbershops and local businesses). Additionally, participants were recruited using the snowball technique; that is, individuals who agreed to be focus group participants were asked to disseminate participant recruitment flyers to other persons that they knew and to encourage these persons to be research participants. The recruitment sites/areas that were targeted were those most likely to enable successful use of the quota technique, which involved recruiting approximately equal numbers of males,

females, adults and adolescents from each of the racial/ethnic groups of interest in the present study. Having fairly equal numbers of these groups enabled the planned formation of age group-, race/ethnicity-, and gender-concordant focus groups. For example, a focus group was conducted with African American adult males.

It is noteworthy that the above mentioned community research consultants included retired nurses, retired school teachers and other adults who were active in the community and had strong relationships with low-income culturally diverse adolescents and adults. These active community members were involved in organizations (e.g., the county health promotion committee) focused on improving the health and well-being of the residents of the research site city and thus found the present research to be consistent with their community involvement and interests. Community research consultants were each offered $200 for approximately 30 hours of work to recruit focus group participants; however, three of these consultants chose not to accept payment for their recruitment work.

All recruiters and recruitment materials provided potential focus group participants with information on the purpose and procedures of the present research. The stated purpose of the research was to identify motivators of and barriers to health promoting behaviors, including behaviors related to physical activity. Potential participants were informed that they would be asked to take part in a two-hour audio- and video-taped discussion group during which they would be asked a series of questions about what motivates them to engage in health behaviors and what prevents them from engaging in those behaviors. Potential participants were also informed that immediately before the discussion group, they would be served a meal, and at the end of the discussion group, they would be paid ($15 cash for adolescents and $20 cash for adults) for their participation. It was also stated that: (1) researchers would keep all audiotapes, videotapes and demographic data questionnaires confidential; (2) members in a discussion group

would be similar in terms of race/ethnicity, age group and gender; (3) participants could choose to not respond to any question asked by the discussion group leaders; (4) before the discussion group began, each participant would be asked to complete a written demographic questionnaire that would take approximately five minutes to complete; and (5) participants could choose to discontinue participation at any point in time with no adverse consequences.

Potential participants were also informed that the group discussion in which they would be involved would include other members of the community. Potential participants were informed about the purpose of the study, and if they expressed interest in it, they were asked to report their age and race/ethnicity so they could be given logistical information regarding the focus group that was appropriate for their age and race/ethnicity. Potential participants were informed that the researchers were seeking individuals who identified as African American, Hispanic, or non-Hispanic White.

Focus Group Organization and Leader Training

All focus groups were conducted by leaders, co-leaders and note-takers whose gender and race/ethnicity matched the gender and race/ethnicity of the participants in that group. Focus group leaders for the adult groups typically were university faculty members, while focus group leaders for the adolescent groups typically were graduate students. Focus group co-leaders for the adult groups were adult community members, while co-leaders of the adolescent groups were adolescents from the community or young undergraduate students. The role of focus group leaders was to use the structured interview questions to facilitate participants' identification of their motivators of and barriers to engaging in physical activity.

The co-leaders' roles were to promote rapport between the focus group leaders and focus group discussion participants, and to facilitate comfort among the participants. Note-takers were undergraduate research assistants whose role was to record nonverbal behaviors and interactions observed during

the focus group discussion that could help researchers better understand comments made by the focus group participants. All Hispanic focus groups were conducted by leaders, co-leaders and note-takers that were fluent in both English and Spanish.

Researchers who were trained in conducting culturally sensitive focus groups trained the focus group leaders, co-leaders and note-takers to conduct the focus groups. This training involved participating in a two-hour training session which focused on the goals and procedures of the focus groups, strategies for facilitating communication among focus group members, and ways of managing focus group dynamics (e.g., reminding the group to give everyone a chance to talk—as a way of encouraging quiet or shy group members to talk and as a way of reducing the amount of talking by group members who tend to monopolize a group discussion). At the focus group training session, all focus group leaders, co-leaders, and note-takers were provided with a training manual and the structured interview questions to study prior to facilitating a focus group. On the day of each focus group, the roles of these individuals were reviewed with them by the researchers who initially trained them. These researchers remained at the location of each focus group to answer questions from the focus group leaders, co-leaders and note-takers, as well as focus group participants, and to help with focus group logistics (e.g., setting up and testing the video cameras, and reading Assent Forms to the adolescent participants).

Focus Group Implementation

Each focus group was held at a convenient community site (i.e., a library or community center) on a weeknight or a weekend day. Upon arrival at the site, adult participants were given an Informed Consent Form to read and sign, while adolescent participants were given a Parental Consent Form (which required the signature of a parent or guardian) and were read an Assent Form. All participants were given the option of having applicable Informed Consent Forms, Parental Consent Forms, or Assent Forms read to them, and all participants also

could choose to receive written materials in Spanish. The Informed Consent Form, the Parental Consent Form and the Assent Form included information regarding the purpose of the focus groups, length of time required for participation, payment amounts and methods, and various research procedures, including procedures to protect the confidentiality of information obtained from participants. Participants then completed a demographic data questionnaire. After completing the necessary forms, focus group participants were served a meal to help them relax and to show appreciation for their participation. The focus group leader and co-leader then implemented the focus group, which began with either an "ice-breaker" activity (for adolescent focus groups) or introductions.

Data Analysis

Qualitative data were collected during the focus groups and later quantified for comparative purposes. A digital audio recording of each focus group was transcribed verbatim by a certified transcription company. Audio-tape recordings of focus groups conducted in Spanish were translated into English and transcribed by bilingual transcribers. Focus group transcripts were analyzed by a team of eight researchers (i.e., "coders") from diverse cultural backgrounds. Each transcript was independently coded by each member of a two-person coding team that included at least one coder whose race/ethnicity matched the race/ethnicity of the participants in the focus group whose data were being analyzed. This matching procedure was used to facilitate comprehension of word usage and dialect during the transcription coding process. To increase the reliability and validity of transcript coding, coders were rotated so that coding teams did not always consist of the same two coders. A senior researcher (e.g., coding supervisor) with expertise in using the constant comparative method closely supervised the coding process to enhance internal consistency of coding between transcripts.[14]

Each of the 12 focus group transcripts was coded using content analysis and the constant comparative method.[15] Specifically,

an "inductive category development"[16] approach was used, by which coding categories were derived directly from the data, as opposed to using a pre-existing theory to construct a coding scheme. To develop an initial coding scheme and increase inter-coder reliability, coders read parts of randomly-selected transcripts and agreed on categories (i.e., "codes") that described participants' comments regarding specific motivators of or barriers to engaging in physical activity. Each distinct unit of a participant's comment that described or referred to a particular physical activity motivator or barrier was considered an "instance." The length of each coded instance varied from a single word to as long as a participant's entire uninterrupted comment.

Each instance was assigned a main code only (e.g., physical environment) or a main code as well as a more specific sub-code (e.g., lack of recreation facilities in one's neighborhood was a sub-code of the main code "physical environment") according to Schilling's[17] recommendations. Every coded instance was also labeled as either a motivator or a barrier. After the initial list of codes was developed, coders independently coded each transcript by "constantly comparing" participants' comments to the most current version of the coding list in order to determine if each instance could be described using an existing code from the coding scheme. When coders came across instances that did not fit within the existing coding scheme, a new code was created and the coding list was appended. On occasion, a code from the coding list was deemed to be too specific or too broad and was thus revised (e.g., further specified or combined with another code) to better fit within the coding scheme. Whenever an existing code was revised, coders also applied the revision to any instances in which the code had been used in the respective transcripts they had previously coded.

Each transcript was independently coded by hand (i.e., no coding software was utilized) by each of the two members of a coding team, and then each coding team met with the coding supervisor to review and

compare codes identified from the respective transcripts they had coded. Each code that had been independently identified by each coder was discussed by the coding team and the coding supervisor. If both coders categorized a given instance with the same code, that coded instance was documented by the coding supervisor as an agreement. If, however, one of the coders categorized a given instance differently than did the other coder, that instance was recorded by the coding supervisor as a discrepancy, and the discrepancy was discussed in an effort to resolve the issue (with the coding supervisor making all final discrepancy-resolution decisions).

Inter-coder reliability was calculated by dividing the total number of coder agreements across all coded transcripts by the total number of coded instances (i.e., the sum of total coder agreements and total coder discrepancies across all coded transcripts). The result of this calculation was then multiplied by 100 to convert it to a percentage. Using this formula, there was an 88% level of agreement among the eight coders involved in the transcription coding process.

A total of 50 main codes and 26 sub-codes were identified through the coding process across all focus group transcripts. Reported motivators and barriers were not analyzed based on the number of participants who stated each motivator/barrier; instead, they were analyzed based on the frequency with which the reported motivators and barriers occurred *across* focus groups. This "commonness approach" was utilized based on the concept that factors reported in more than one focus group are likely to be more reliable than factors reported by several persons within a single focus group.

Early in the code-frequency tabulation process, it became readily apparent that the adult focus groups generated a much larger number of distinct motivators and barriers than did the adolescent groups, and the degree of commonality across focus groups regarding identified motivators and barriers was greater among the adult groups than among the adolescent groups (e.g., weight concerns were identified as a

barrier by five of the six adult groups, but by only two of the six adolescent groups). Three possible reasons for these differences are that adults likely tend to be more verbal than adolescents in group situations where group members do not know each other, adults would almost certainly have had more life experiences and a wider range of life experiences than adolescents, and adults usually are freer to make their own choices than are adolescents. Based on these rationales, motivators or barriers were classified as "most common" among adolescents if at least three of the six adolescent groups mentioned the motivator or barrier. Motivators or barriers were identified as "most common" among adult groups if at least four of the six adult groups mentioned the motivator or barrier.

RESULTS

The main codes that were found to be descriptive of the most common motivators of and barriers to engaging in physical activity were: social influence; time and priorities; physical environment; fun and enjoyment; inherently physical activities; weight concerns; fatigue, physical discomfort and current fitness level; and immediate positive feelings (Table 1). Each of these "most common" main codes and any relevant sub-codes are described in detail in the following sections.

Social Influence. The single category of motivators of or barriers to engaging in physical activity most often identified by adolescent and adult focus group participants was social influence (i.e., the influence of friends, parents, family members, coaches, health professionals, etc.). Social influence was most often mentioned as a motivator of rather than as a barrier to engaging in physical activity (i.e., five of six adolescent focus groups and all six adult focus groups identified social influence as a motivator). Specific types of motivational social influences mentioned in the adolescent groups included: (1) friends (identified in three adolescent groups); (2) parents and peers of the opposite sex (each identified in two adolescent groups); and (3) and non-parental family members (e.g., an aunt living in the household), team members, and coaches (each identified in one adolescent group). Specific motivational social influences identified in the adult focus groups included: (1) exercise partners (identified in five of six adult groups); (2) children (identified in

four of six adult groups); (3) spouses and health professionals (each identified in two of six adult groups); and (4) family members other than a child or spouse (identified in one of six adult groups). Having a dog was also identified as a motivator of engaging in physical activity in two of six adult groups. Social influence was mentioned as a barrier in three of six adolescent focus groups. Specific types of barriers regarding social influence included family members and friends who preferred to engage in sedentary activities (e.g., watching television) instead of physical activities.

Time and Priorities. In half of the adolescent focus groups, and in all of the six adult focus groups, a lack of time was mentioned as a barrier to engaging in physical activity. Similarly, having other priorities (e.g., work, school and family) was identified as a barrier to engaging in physical activity in three of the six adolescent focus groups and in five of the six adult focus groups.

Physical Environment. Availability/unavailability of resources (e.g., owning a bicycle, lack of neighborhood recreational facilities); availability of peers in close proximity; weather; location (i.e., the location where one lives/works); and safety

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Table 1. Most Common Categories of Identified Motivators and/or Barriers and the Specific Identifications for Each Age Group x Gender x Race/Ethnicity

Motivator/ Barrier	Adult						Adolescent					
	Female			Male			Female			Male		
	AA	H	W	AA	H	W	AA	H	W	AA	H	W
Social Influence	M	M	M	M	M	M	MB	MB	M		M	MB
Physical Environment	MB	MB	MB			MB	B	B	MB		MB	M
Fun and Enjoyment		M	M		M	M			M		M	M
Inherently Physical Activities	M	M	M		M	M	M	M			M	M
Weight Concerns		M	M	M	M	M					M	M
Time	B	B	B	B	B	B	B				B	B
Priorities	B	B	B	B	B		B		B		B	
Fatigue	B	B	B		B							
Physical Discomfort	B		B	B	B	B		B		B		B
Current Fitness Level	B		B	B					B	B		B
Immediate Positive Feelings	M	M	M			M		M			M	M

Notes: M = Motivator; B = Barrier; AA = African American; H = Hispanic; W = non-Hispanic White

issues (e.g., a dangerous neighborhood) were identified as influential environmental motivators of or barriers to physical activity. Three of the six adolescent focus groups reported environmental factors such as safety, availability of resources and availability of peers as motivators for engaging in physical activity. Conversely, four of the six adolescent groups reported environmental factors such as weather, location, safety and unavailability of resources as barriers to engaging in physical activity. Among the adults, four of the six focus groups reported environmental factors such as safety, location, weather and availability/unavailability of resources as motivators of and/or barriers to engaging in physical activity.

Fun and Enjoyment. Participants indicated that if an activity is perceived as being fun and enjoyable, the activity served as a motivator of engaging in physical activity. Specifically, three of the six adolescent focus groups and four of the six adult focus groups mentioned fun and enjoyment as a motivator. Nearly half of the adolescent groups specifically identified that listening to music while being physically active is a motivator of engaging in physical activity.

Inherently Physical Activities. Four of the six adolescent focus groups and five of the six adult focus groups identified that activities that are inherently physical (e.g., team sports, doing a chore/job that involves being active) motivate them to engage in such activities. In the adolescent groups, walking as a means of transportation was identified as a motivator for being physically active, but this was the case only among the male and female African American adolescent groups. In the adult groups, walking as a means of transportation and having a physically-demanding job were most commonly mentioned as motivators of being physically active.

Weight Concerns. In five of the six adult focus groups, having concerns regarding one's weight was identified as a motivator for engaging in physical activity. Particularly noteworthy is that the African American adult female group was the only adult group in which having weight concerns was not mentioned as a motivator or barrier. Among

the adolescent focus groups, having weight concerns was mentioned as a motivator for being more physically active in only two of six focus groups.

Fatigue, Physical Discomfort and Current Fitness Level. In four of the six adult focus groups, fatigue (either pre-existing fatigue or fatigue as a result of engaging in physical activity) was identified as a barrier to being physically active. Similarly, physical discomfort (as a result of engaging in physical activity) was reported as a barrier to engaging in physical activity in five of the six adult groups and in three of the six adolescent groups. Current physical fitness level was reported as a barrier (e.g., not being physically fit enough to engage in certain types of exercise) among half of the adolescent groups and among half of the adult groups.

Immediate Positive Feelings. Some participants reported immediate positive feelings as a motivator for engaging in physical activity. Specifically, feeling "better" and/or energetic after exercising was identified by both adolescents and adults as a motivator. Three of the six adolescent focus groups and four of the six adult focus groups reported immediate positive feelings as a motivator of engaging in physical activity.

Culture. Only three of six adult groups and one of six adolescent groups reported cultural factors as a barrier to engaging in physical activity; thus, culture was not actually one of the most commonly reported main codes. However, these findings are reported here due to the emphasis of the present research on cultural diversity. Half of the adult focus groups reported cultural factors as a barrier to engaging in physical activity. Specifically, in the African American adult female group, one race-related barrier regarding exercising was implied by the comment that "you don't associate exercise and being health-conscious with Black people." Additionally, the Hispanic adult female group discussed culture-related barriers in terms of their lifestyle in the United States in comparison to their lifestyle in their country of origin. Participants from the Hispanic adult female group suggested that

in the United States, as compared to their native countries, people walk less for transportation and there are fewer social events, particularly events involving dancing—a preferred means of physical activity. Participants in this group also reported that having a greater availability of peers of their own cultural background here in the United States would be a significant motivator of engaging in physical activity.

Similarly, participants in the Hispanic adult male focus group reported that having less time available for exercising and having fewer social activities that involve being physically active (e.g., playing soccer) here in the United States are barriers to being physically active. Additionally, participants in the Hispanic adult male group mentioned that not wanting to exercise because of having eaten too much is a culture-related barrier to engaging in physical activity (these participants also suggested that over-indulgence in food is culturally-accepted within the Latino culture). Finally, only one adolescent group (the Hispanic adolescent male group) identified that here in the United States, they live farther away from friends, spend less time outdoors, and have greater access to technology—all of which are barriers to being physically active.

DISCUSSION

The major purpose of this research was to identify motivators of and barriers to engaging in physical activity among African American, Hispanic, and non-Hispanic White adolescents and adults from low-income families. Due to the large number of discrete motivators and barriers identified by focus group participants, only the most commonly mentioned motivators and barriers are reported here. In general, the findings of this research indicate that the most commonly identified category of physical activity motivators and barriers involved social influence factors, and the majority of the most commonly identified motivators of and barriers to engaging in physical activity identified among the adolescent focus groups and among the adult focus groups were very similar. If these

findings are validated in future research with low-income African American, Hispanic, and non-Hispanic White adolescents and adults, support would be provided for developing and testing both family-focused and peer-focused interventions that address the many common motivators of and barriers to physical activity that may exist in low-income families similar to those in the present research. Such peer-focused interventions should ideally complement such family-focused interventions, given the strong influence of peers in general, but particularly during adolescence.

One interesting specific finding is that concern over one's weight was identified as a motivator of physical activity in every adult focus group except the African American female group. This finding is consistent with earlier research indicating that compared to non-Hispanic White, Hispanic, Asian and Native American females, African American females reported the highest levels of body satisfaction, even though as a group, the African American females had the highest prevalence of obesity.[11] It has been asserted that part of traditional African American culture includes having a different conceptualization of what is "overweight" or "being too fat" than the perceptions held by health care professionals, the majority of non-Hispanic Whites, and other ethnic groups; and honoring and adhering to cultural traditions (e.g., eating ethnic "soul" foods that are high in fat and/or sodium and associating beauty with large body sizes) that are antagonistic to weight-loss recommendations made by health care providers in the United States.[18]

Another noteworthy specific finding is that Hispanic groups of all ages, but especially adults, described living in the United States (in comparison to living in their respective countries of origin) as a barrier to engaging in physical activity. For example, they suggested that people in the United States, as compared to people in their respective native countries, rely less on walking, have less leisure time, and engage in fewer social events that involve physical activity (e.g., dancing, soccer). Additionally,

Hispanic adult female participants specifically referred to a lack of Hispanic peers as a barrier to engaging in physical activity. Such findings suggest that interventions designed to target Hispanic families/individuals, or interventions that occur in areas in which a large percentage of the population is Hispanic, may benefit from including information on strategies to overcome some of the perceived United States cultural barriers to engaging in physical activity. Furthermore, because it appears that Hispanic adults may be more motivated to be active when they are connected with other Hispanic adults, interventions designed to increase physical activity among these individuals may be more effective when a culturally relevant social component is included (e.g., dancing events or walking groups organized by and targeted for Hispanic adults and their families) and when these interventions occur within the Hispanic community (e.g., at a Hispanic church). The present research is unique in regard to its inclusion of three major racial/ethnic groups as well as its inclusion of adolescents and adults of each gender. It is also unique because of its focus on identifying motivators of and barriers to engaging in physical activity that are common across age groups (adolescents and adults) and/or race/ethnicity (African American, Hispanic and non-Hispanic White).

It is also worth mentioning that this research sought to conduct the focus groups in a culturally sensitive manner so as to optimize conditions for comfortably disclosing motivators of and barriers to physical activity among focus group participants. Specifically, the present focus group research was designed such that: (1) the gender and race/ethnicity of the focus group leaders, co-leaders and note-takers were the same as that of the participants in the focus group they conducted, (2) focus group participants who preferred to speak and read in Spanish were provided all materials in Spanish and participated in focus group where the leaders and other participants spoke Spanish, (3) the focus group sessions were conducted in a community setting that was at a convenient location for the focus group participants,

and (4) the researchers created a welcoming social environment for the focus group participants by providing them with food and social interaction with the focus group leaders and researchers before conducting each focus group. Given the difficulties of community-based research, such practices appeared to have aided in increasing participants' comfort and desire to participate. Additionally, the qualitative data analysis procedures were conducted in a culturally sensitive manner. For example, the researchers who engaged in the analysis of each focus group transcript included at least one coder of the same race/ethnicity as the participants whose data were being coded. This strategy ensured that the racial/ethnic makeup of the coding team was as diverse as that of the study's participants, and additionally, may have promoted better comprehension of any culture-specific language or culturally-influenced practice.

It is interesting to note that there were minimal differences in reported motivators and barriers in association with gender or race/ethnicity. This finding could be interpreted in a number of ways. One interpretation is that there are, in fact, only minimal differences in motivators of and barriers to physical activity in association with gender or race/ethnicity. Alternatively, low socioeconomic status may serve as an equalizer across racial/ethnic groups; that is, the motivators of and barriers to engaging in physical activity among adolescents and adults that are associated with socioeconomic status may mask race/ethnicity- and gender-related differences in these motivators and barriers.

The findings from the present research must be viewed with caution given that the participants involved in the present research may not be representative of African American, Hispanic and/or non-Hispanic White adolescents and adults with low family incomes. Furthermore, the adolescent focus group participants were much less verbal than the adult focus group participants, and thus the responses of the adolescent participants may be less inclusive than those of the adult participants. Additionally, given the non-representativeness of the participant

sample and group differences relative to factors such as age, it is impossible to conclude that there are or are not race/ethnicity or gender differences in the physical activity motivators and barriers identified in the present study. Finally, due to the nature of the data collection process (i.e., focus groups), there is no way to determine why each specific focus group identified certain motivators or barriers but did not mention others. For example, it is possible that the focus group questions that were asked or the communication style of the focus group leaders did not elicit certain motivators of and barriers to engaging in physical activity. Had participants been given an extensive list of potential barriers to and motivators of physical activity and asked to rate the degree to which each item applied to them, observed group differences could have been reported. Nevertheless, the overall sample size and diversity in this qualitative focus group research are impressive relative to similar studies focusing on the influences of health promoting behaviors such as physical activity.

TRANSLATION TO HEALTH EDUCATION PRACTICE

The combination of a large number of discrete motivators of and barriers to physical activity identified in the present research and the high degree of similarity between the respective adolescent and adult focus groups in terms of the most commonly reported motivators and barriers suggest important implications for health education. First, intervention programs and health education programs designed to increase physical activity among adolescents and adults with low family incomes likely should include an assessment of physical activity motivators and barriers, so that interventions and education efforts to promote physical activity can be tailored to the assessed physical activity motivators and barriers. Second, given that the majority of the identified motivators of and barriers to engaging in physical activity were similar across the adolescent focus groups and the adult focus groups, and given that the most commonly mentioned

category of physical activity motivators and barriers has to do with social influence (e.g., from friends, parents, spouses and children), it seems apparent that interventions to promote increased physical activity among culturally diverse youth and adults should be family-focused and peer-focused and need to address social influence motivators and barriers. Nevertheless, although the most common motivators and barriers identified in the present study were similar across gender groups, age groups and racial/ethnic groups, further research is necessary to assess whether or not interventions should be tailored to any of these specific groups.

Finally, since motivation is an important aspect in maintaining a routine of physical activity over time, providing health educators with knowledge regarding the motivators of and barriers to physical activity among low-income culturally diverse adolescents and adults will likely increase the probability of successfully assisting these individuals with establishing healthy lifestyles. A focus on increasing the motivators of and decreasing the barriers to physical activity, particularly among racial/ethnic minorities with low incomes, will likely play a major role in preventing and overcoming the mentally, physically and financially costly problems of overweight and obesity that plague the United States.

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