Materials and Methods for Recruiting Systematically Marginalized Youth and Families for Weight-Management Intervention Trials: Community Stakeholders' Perspectives

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Abstract

Rates of overweight and obesity are problematic among systematically marginalized youths; however, they and their families are a hard-to-reach research population. The purpose of our study was to identify facilitators and barriers for recruiting systematically marginalized families in youth weight-management intervention research. This study built upon existing evidence through involvement of youths, parents, community agency workers, and school nurses, and an exploration of both recruitment materials and processes. Seven focus groups were conducted with 48 participants from four stakeholder groups (youths, parents, school nurses, and community agency workers). A codebook approach to thematic analysis was used to identify key facilitator and barrier themes related to recruitment materials and processes across the stakeholder groups. Ecological systems theory was applied to contextualize the facilitators and barriers identified. Participants reported the need to actively recruit youths in the study through engaging, fun recruitment materials and processes. Participants reported greater interest in recruitment at community-based events, as compared to recruitment through healthcare providers, underscoring the depth of distrust that this sample group has for the healthcare system. Recommendations for recruitment materials and processes for weight-management intervention research with systematically marginalized families are proposed.

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Child and adolescent obesity is an ongoing concern in the U.S. for more than 25 million young people.[1] Obesity and extreme obesity continue to rise among youths, with obesity prevalence at 20.6% among 12- to 19-year-olds.[2] Rates of overweight/obesity are especially problematic among systematically marginalized youths.[3] However, studies with African-American and other systematically marginalized populations have found that these youths and their families are a hard-to-reach research population.[4–7]

Existing literature on recruitment for obesity intervention programs among systematically marginalized populations has identified facilitators across the recruitment process (e.g., characteristics of research team, methods of recruitment, characteristics of the target population, specifics of study participation).[7–11] Research team personnel who approached prospective participants with warmth, friendliness, and cultural humility reported greater success in recruitment attempts.[5] Cultivating trust between the research team and the research participants through involvement in their communities, including research team members who reflect the demographic characteristics of the research participants, and prioritizing the ease and convenience of participant involvement, were also associated with favorable recruitment.[5–6] Relatedly, studies of different types of recruitment strategies found that the community-based approaches (e.g., community health fairs, word of mouth, use of community liaisons) resulted in higher rates of enrollment than recruiting through mailed letters or brochures.[8–9, 12] Studies also emphasized the value of tailoring recruitment strategies to both youths and parents to ensure effective recruitment of the entire family for obesity intervention research. Further, the recruitment process itself, such as having a detailed, organized recruitment protocol, offering opportunities for in-person screening and consenting and flexible scheduling of recruitment appointments, has also been found to promote recruitment.[8] A detailed and comprehensive consent process, particularly one that clearly specifies protections for and parameters concerning confidentiality and anonymity, has also been strongly recommended among populations where "historical and current events have eroded their trust of institutions."[4] All of these findings underscore the importance of research staff accessibility, trustworthiness, and cultural sensitivity in working with systematically marginalized families.[13–14]

Although previous studies have explored and identified barriers to recruiting systematically marginalized families for research, it remains particularly difficult to engage these families in weight-management trials. Existing literature details barriers to recruitment and study participation identified by research personnel and prospective participants.[8] Research team members' perceived challenges to participation for systematically marginalized families included disinterest in the study, confusion or misunderstanding about the study, competing demands or complex family schedules, unreliable transportation, childcare needs, and time constraints associated with involvement.[5,8] Focus groups with parents who chose not to participate in a dyadic weight-management intervention with their child reported similar

concerns about participation, including no perceived need for care, no perceived need for further actions related to weight management, no intention to start a weight-management program, initiation barriers (e.g., scheduling conflicts, distance/transportation problems), and situational factors (e.g., weather, tiredness).[15]

Theoretical Framework

Bronfenbrenner's ecological systems theory[16] was originally developed to conceptualize the ways in which child development is shaped by a series of external systems, from the most intimate and personal (e.g., the family) to the broader social systems. This theory, often visually displayed as a series of concentric circles surrounding the individual, asserts that the developmental process is influenced across these systems. The five main systems proposed by Bronfenbrenner were: (1) microsystem (interpersonal; for example, the child-parent relationship); (2) mesosystem (relationships between microsystems; for example, the relationship between parents and pediatricians); (3) exosystem (larger community environment that indirectly affects the child; for example, the availability of fresh fruit at local markets); (4) macrosystem (broader cultural environment; for example, beliefs about child overweight or obesity); and (5) chronosystem (time over the life course, including both historical context and current experiences; for example, legacies of systematic oppression in America and developmental timing). Ecological systems theory and other modified socio-ecological frameworks have found application beyond the domain of child development, including pediatric health intervention research.[4,7,17] For example, in Graves and Sheldon's literature review,[4] ecological systems theory was used to contextualize the range of identified facilitators of and barriers in recruiting systematically marginalized (i.e., African American) children and adolescents into health-related research.

Current Study

While research has been done exploring facilitators and barriers to health-related research participation among systematically marginalized adults,[18–21] and there are studies of parents' perspectives concerning recruitment of youths into a weight management trial,[8,11,15] few studies have simultaneously explored various stakeholder perspectives in recruitment of systematically marginalized youths into weight management trials. The two studies that examined various stakeholder perspectives on youth involvement in weight-management research were conducted with rural[22] and white Australian populations.[17] To the authors' knowledge, only two studies investigating recruitment to weight-management intervention research among systematically marginalized youths include the voices/perspectives of the youths,[7, 10] and none combine youth perspectives with those of other community stakeholders. By building upon existing community-engaged research frameworks,[8,22] this study seeks to help fill that gap by weaving together the perspectives of multiple stakeholder groups and, notably, highlighting the perspectives of youths to explore facilitators and barriers in recruiting systematically marginalized families in weight management studies. Specifically, this study explored stakeholders' perspectives on both recruitment materials and processes for one weight-management intervention study. Ecological systems theory[4,16] was adapted to broadly organize themes identified across key stakeholder groups and conceptualize different tiers of effective recruitment practices.

Methods

A convenience sample of 48 participants across four stakeholder groups (youths, parents, school nurses, community agency workers) living in Cleveland, OH were enrolled in the study (Table 1). These participants included youths aged 10–13 years with a body mass index (BMI) in the 85th percentile or higher, their parents or guardians (hereafter referred to as parents), school nurses working with the youths, and community agency workers (e.g., recreation center staff) working with the young participants. The researchers had an existing collaboration with a large Title I school district[23] (a district with a disproportionate number of students from low-income families) that supported recruitment efforts for this study. Youths and parents were recruited from an existing parental advisory board, a school-based screening program, and from family-focused community events. School nurses were recruited during school nurse staff meetings. Community agency workers were recruited at school wellness committee meetings and through relationships with local community centers. Recruitment occurred over four months and, based on well-established sample size recommendations,[24] 11–13 participants were recruited per stakeholder group. Convenience sampling was used; prospective participants who responded to invitations were invited to the next focus group for their particular stakeholder group.

A total of seven focus groups were conducted during the spring of 2019 following human subjects approval by the university institutional review board. One focus group was conducted with school nurses ($n = 11$), while two focus groups were conducted with youths ($n = 5$, $n = 8$), parents ($n = 4$, $n = 8$), and community agency workers ($n = 8$, $n = 4$). Families included one youth and one parent/guardian, except for one family that had a parent/guardian with two youths (an adult parenting both an eligible child and an eligible grandchild). Focus group discussions were held in a private room at the university. All participants were provided information about confidentiality, and participants provided consent or assent for participation and the audio recording of the focus groups. These sessions were organized by stakeholder groups, with youth and parent focus group sessions held separately, but concurrently, to reduce participation burden on families. In an effort to maximize participant comfort and ease, a healthy meal was provided to all participants, and transportation reimbursement (either a taxi voucher or a $10 gas card and parking voucher) was provided to adult participants.

Two female research staff, who self-identified as part of systematically marginalized groups reflective of participating families, received training with the interview guide and facilitated focus groups. All focus groups were digitally recorded, and two additional female research staff took handwritten observational notes; all of these data were then used for the subsequent analyses.

Each focus group participant was provided with a folder containing a copy of the proposed recruitment materials (flyer, brochure, recruitment letter, public bus interior advertisement). The proposed recruitment materials were developed based on prior research with youths and families in this community.[38] Due to barriers in finding appropriate images for the recruitment materials, a variety of images depicting a diversity of family structures and ethnicities involved in a range of activities were selected to elicit feedback from

stakeholders. All stakeholder groups were asked questions about their reactions to the proposed recruitment materials and processes for a weight-management intervention study (see Supplemental Table 1 for a full list of focus group questions for each stakeholder group). All participants were encouraged to provide detailed, candid feedback about the recruitment materials and processes. The primary author did not attend any focus groups or interviews, to maximize participant comfort in providing truthful feedback. Focus group questions were developed based on the authors' involvement in prior studies focused on weight-management interventions with systematically marginalized youths and families, including a large, multisite national trial.[11, 38] The authors developed these questions based on feedback from prior participants (e.g., parents' lack of awareness about youth weight concerns described in recruitment letters). Focus groups lasted approximately 90 minutes. Data were collected using observer notes and digital audio recordings, which were later transcribed into text.

Textual data were managed using ATLAS.ti 8 qualitative data analysis software.[25] Two experienced qualitative researchers conducted a codebook approach to thematic analysis, which used an inductive, line-by-line approach to detect themes related to the focus group questions.[26] Both researchers coded independently and collaboratively reconciled any discrepant coding decisions. A summary of themes was developed from each focus group and compared with subsequent focus groups for convergence of the themes from each stakeholder group (youths, parents, school nurses, community agency workers). Analysis continued until no new themes emerged and theoretical saturation was achieved.

Data trustworthiness was supported using credibility, dependability, and confirmability methods.[27] To maintain credibility, voices of diverse stakeholders were elevated in the focus groups; this allowed for a broader, more complex perspective of facilitators and barriers to recruitment among this population.[27–29] To ensure that data were collected systematically, a focus group guide was used, and the two focus group leaders (one for youth focus groups, the other for adult focus groups) were trained to facilitate accordingly. A coding protocol was created to maintain dependability.[27] Two authors collaboratively created and amended the codebook for reference throughout the coding process. These same authors independently coded data and addressed discrepant coding decisions in ATLAS.ti. Lastly, both of these authors made memos throughout the coding process to detail any data reflections and reactions to preserve confirmability.[29]

Results

Participant demographic characteristics are summarized in Table 1. Key focus group themes were organized around facilitators and barriers related to recruitment materials (Table 2) and recruitment processes (Table 3). For each theme, key quotes were selected for each stakeholder group that provided responses endorsing the theme.

Recruitment Materials: Facilitators

Research Involvement as an Opportunity.—All stakeholder groups emphasized the importance of describing study participation as a unique opportunity in the recruitment materials. Parents, school nurses, and community agency workers underscored the value

of highlighting the potential joy and connection through study participation. One parent suggested including the word "challenge" in recruitment materials to build family interest, while another talked about the importance of using fun activities to cultivate engagement. Youths specifically identified the ways in which research participation could be an opportunity to get help, which reflected comments by school nurses about framing research as a way for researchers to help participants with their health goals.

Thoughtful Language.—Parents and youths reported few concerns about how the weight-management research was described in recruitment materials. One parent spoke about a degree of preparedness and desensitization concerning the topic of child obesity through prior experiences in receiving healthcare for their child, and youths felt that the language used was appropriate. By contrast, school nurses and community agency workers reported greater worry about language and wording concerning child weight in recruitment materials. Both of these stakeholder groups recommended shifting language towards 'healthy living,' and one school nurse even recommended *not* explicitly stating concerns about overweight or obesity in recruitment materials.

Accessible Information.—All stakeholder groups identified the importance of providing clear and easily accessible information in recruitment materials, both in terms of visual presentation and wording. Both youths and parents felt that the language presented in the recruitment materials was understandable and clear. However, the school nurses and community agency workers in the focus groups were concerned about the understandability of specific terms, such as "compensation." Some parents, school nurses, and community agency workers in the groups also suggested minimizing wording, highlighting the opportunity to talk further about study involvement, and/or using a QR (quick response) code on bus advertisements to reduce the word count on the materials.

Critical Information.—Across all the stakeholder groups, specific information was identified as essential to include in the recruitment materials. Youths, parents, school nurses, and community agency workers all emphasized the value of foregrounding information on eligibility, incentives associated with research participation (e.g., compensation, transportation), confidentiality, and that the intervention did not include medication. Furthermore, school nurses and community agency workers specifically highlighted the need to detail childcare offerings to facilitate involvement of parent-youth dyads in research. Both parents and community agency workers discussed the need to indicate in the recruitment materials that the proposed intervention was not a medication study because parents do not want their children to take unnecessary medications.

Design of Recruitment Materials.—Across all the stakeholder groups, participants discussed the importance of recruitment material design, both in terms of visual appeal and the use of fun and relevant language and images for the target community. Youths in the focus groups identified the value of colorful pictures and those depicting fun physical activities. The parents and community agency workers also suggested the use of bright colors to pique the interest of prospective participants.

Recruitment Materials: Barriers

Weight Perceptions and Sensitivity.—Despite the recommendations about having thoughtful language in recruitment materials, the adult focus group participants (parents, school nurses, community agency workers) recognized potential challenges due to the differing perceptions of and sensitivity about weight and weight management that parents/guardians may experience. A school nurse cautioned that using the words "overweight" or "obese" could dissuade engagement among some families, particularly if parents themselves struggle with their weight. A community agency worker described how presenting an intervention as a weight-management intervention could be a barrier for families who are not worried about their child's weight, even if the child is overweight or obese. To that end, the community agency worker recommended reframing intervention participation as an opportunity to learn about how to be healthy or active.

Correspondingly, parents talked about perceptions and sensitivity around discussions of their children's weight. One parent described how they could be caught off guard by receiving a recruitment letter inviting them to be part of a study because their child was overweight. This parent's statement illuminated perceptions and beliefs that parents may have about their children's weight, weight management, and distrust of a healthcare system (and the healthcare providers in it) that has failed to be sensitive in communicating with these families.

Unclear Information.—All adult focus group participants expressed confusion about content in the recruitment materials, particularly information about the purpose of the research study and the specifics of study participation. Some of the recruitment materials mentioned "healthier living," rather than "weight management," which the parents, school nurses, and community agency workers in the focus groups consistently found to be too vague. The parents articulated the need for more information about intervention activities in the recruitment materials to be better informed about the parameters of study participation. The community agency workers also discussed how the images added further confusion by being too generic.

Fear.—Relatedly, the parents and community agency workers specifically stressed how the lack of clarity in recruitment materials could cause some fear among prospective participants. After imagining the receipt of recruitment materials indicating that their child could be at risk for diabetes, a parent described how their first reaction would be to contact the child's pediatrician to get medical treatment, rather than to get involved in a research study. The community agency workers focused on how a general statement in the recruitment materials about taking measurements for the study could also create fear of study participation. One community agency worker identified the importance of specifying *what* measurements would be taken, due to possible fear and mistrust of the healthcare system.

Lack of Representation.—All stakeholder groups identified the lack of adequate representation in the recruitment materials as a barrier to study participation. The youths in the focus groups reported not seeing themselves reflected in the recruitment material images.

Parents appreciated the racial/ethnic diversity of families represented in the recruitment material images, but underscored the need to be more inclusive of lots of different families in the materials. The school nurses and community agency workers echoed these concerns about representation; both of these stakeholder groups identified the need to include images that were more representative of the target population in terms of diversity, family composition, favorite leisure activities, and weight. School nurses, for example, talked about how one of the images of families riding bikes on a towpath was not reflective of the leisure activities of families in their school community. Instead, they suggested using images of more popular and representative youth activities to draw in prospective study participants.

Recruitment Process: Facilitators

Humility.—Only the community agency workers identified the need for researchers to approach the recruitment process with humility, or in the words of one worker, "meet people where they are." One of them indicated that this humility was essential in all parts of the recruitment process. They further discussed how this approach requires researchers to shift out of the mindset of being "the expert" and see the research participants and community members as meaningful collaborators in the research process. This notion of asking prospective families to provide input as opposed to just being research participants was echoed repeatedly by the community agency workers.

Community Engagement.—All stakeholders in the focus groups recommended that researchers meaningfully connect with community members. The focus group participants identified the following three key ways for researchers to engage with communities throughout the research process: (1) broad distribution of study information, (2) community presence, and (3) peer-to-peer recruitment strategies. All participants provided suggestions for a range of locations to distribute and post flyers that may be most accessible and convenient for prospective families, including libraries, recreation centers, parks, churches, museums, and hospitals. They also emphasized the value of using a range of social media outlets to publicize the study. They expressed the need for researchers to be physically present in the community to meet and build relationships with prospective families by attending, for example, sporting events, community festivals, and school open houses.

The parents and community agency workers discussed the importance of using peers to recruit prospective families into the research. Both stakeholder groups reflected on the notion of trust in the recruitment process, particularly through the application of a peer-to-peer model. Parents talked about wanting to hear about the study from trusted sources for themselves (e.g., well-known school personnel) and the value of youths hearing about the study from others their own age. Parents noted that youths might feel more comfortable asking questions and talking through concerns with their peers. Community agency workers discussed the ways in which peer-to-peer recruitment makes use of the trust within the existing peer relationship to connect families to resources, such as intervention research opportunities.

Recruitment for the Family.—All stakeholder groups emphasized the importance of recruiting for *both* youths and parents. Parents specifically discussed the value of recruiting

youths first. In addition, the recruitment of the whole family (e.g., having a dedicated person to speak with parents and youths, respectively), building off of the peer-to-peer model, and using different social media platforms to meet the preferences of youths and parents, were other proposed approaches.

Related to the *community engagement* theme, community agency workers reflected on the importance of relationship-building to facilitate recruitment of families into weight-management intervention research studies. They also spoke of the value of using opportunities of community presence (e.g., attending school events, tabling at recreation centers) to have conversations with parents and youth. School nurses discussed understanding the needs of the families participating in research studies and offering relevant and useful support to encourage participation (e.g., childcare for children not participating in the study).

Recruitment Process: Barriers

Lack of Awareness.—School nurses and community agency workers identified the possibility that some parents may be unaware of the value of a weight-management intervention study for their child. School nurses, in particular, were concerned about families who would be eligible for this study due to their child's BMI, but who would not be concerned about weight management. Further, another school nurse talked about the ambivalence among parents about engaging in other healthy eating initiatives and classes. Community agency workers offered a possible explanation for the lack of interest in a weight-management intervention—the role of socioeconomic status and the cost of healthy eating. As such, families who feel that a weight-management intervention is not relevant, or that strategies for weight management are too costly, may opt out of study participation.

Institutional Distrust.—Another key barrier in the research process identified by youths, parents, school nurses, and community agency workers was institutional distrust of researchers, healthcare providers, and the healthcare system in general. School nurses discussed how the demographic characteristics of the researchers, especially if they are different from those of the focal community, could cultivate distrust and be a barrier to recruitment. The possibility for distrust identified by all stakeholder groups clarifies the importance both of who represents and who provides information about the research study.

Topic Difficulty.—Echoing the earlier comments about language concerning weight and weight management in the recruitment materials, the school nurses and community agency workers discussed the ways in which the difficulty of this topic for youths could continue to be a barrier throughout the recruitment process, particularly since youths tend to be self-conscious. In addition, school nurses communicated how complicated obesity interventions and healthy living can be, especially because these are such multifaceted phenomena within the family. This insight identified multiple potential barriers to recruitment; specifically, families may not be interested in an intervention if other factors beyond "healthy living" may be contributing to overweight or obesity. Both of these stakeholder groups recommended engaging with care about the topic of weight and obesity with both youths and parents throughout the recruitment process.

Discussion

This qualitative study explored the perspectives of youths, parents, school nurses, and community agency workers to inform recruitment practices in weight-management interventions among systematically marginalized youths and their families. Overall, the findings align with previous empirical literature with youths, parents, other stakeholders, and research personnel concerning the ways to bolster recruitment efforts of systematically marginalized youths and their parents in weight-management intervention research.[7,9–10] However, this study addresses a gap in the literature by including the perspectives of systematically marginalized youths, in combination with those of other relevant stakeholder groups, concerning both recruitment materials and processes. Drawing upon ecological systems theory,[16] these findings are contextualized alongside prior research, and effective recruitment practices are organized across the *microsystem, mesosystem, exosystem, macrosystem,* and *chronosystem* (Table 4).

At the *microsystem* level, stakeholder feedback reflected facilitator themes (research involvement as an opportunity, accessible information, critical information, design of recruitment materials, humility) and barrier themes (unclear information, fear, lack of representation). The importance of researchers actively recruiting youths into research, as opposed to just getting buy-in from parents, aligns with prior research on weight-management intervention research with youths and their families.[10] In this study, stakeholders built upon this recommendation by offering specific, actionable suggestions about how to make recruitment materials more accessible and appealing to youths (e.g., use bright color schemes, include pictures of fun, youth-centered activities).

Although prior research has outlined ways in which prospective participants, particularly those from systematically marginalized communities, may distrust and be fearful of research entities,[4] participants in this study detailed the specific ways in which recruitment materials could be designed to directly address these concerns. The focus group participants detailed how research materials should specify study parameters, confidentiality and privacy, any medication associated with study participation, and the specifics of incentives, childcare, and transportation. Finally, they emphasized the importance of humility by the research team, echoing other research that highlights the value of treating participants as collaborators in research endeavors rather than as "subjects."[4] Participants in this study expanded upon this by discussing the use of nonrepresentative or unrelatable images in the recruitment materials (e.g., images that appear generic), all of which may dissuade prospective participants from further exploring the study. Research teams must meaningfully and continually learn about prospective participants to ensure that recruitment materials and processes are sensitive to the needs and values of the focal population.[4,8]

At the *mesosystem level,* the focus group participants identified the facilitator theme (community engagement) and barrier theme (institutional distrust) in affecting recruitment materials and processes. Numerous studies have emphasized the value of community engagement in recruiting youths and families into weight-management intervention research.[4,6,8–9] Specifically, the study participants articulated the value of using a peer-to-peer model for recruitment. This suggestion supports other research underscoring the

value of community engagement in building trust and recruiting systematically marginalized youths and families in weight-management intervention research.[7–9,30]

At the *exosystem* level, focus group participant responses reflected both facilitator themes (community engagement, recruitment for the family) and barrier themes (institutional distrust). The participants' recommendations to widely advertise across community centers (e.g., libraries, recreation centers) and across child-serving systems (e.g., schools, pediatric offices) supports other literature emphasizing the value of actively distributing research information in the community rather than expecting families to come to the research entities.[7–9,30] Notably, parents and community agency workers in this study specifically expressed concerns about recruiting through various healthcare providers and using healthcare-specific language (e.g., BMI). This finding reflects other general research on the role of trust in the healthcare provider-patient relationship[31–33] and studies on recruitment practices for youths and families in health-intervention research that report challenges with participant referrals through primary care[8,34] and school settings.[13] The findings from this study, coupled with previous literature, stress how carefully attuned researchers must be to community-based relationships between prospective participants and various child- and family-serving systems.

At the *macrosystem level*, focus group participant responses also reflected facilitator themes (research involvement as an opportunity, thoughtful language) and barrier themes (weight perceptions and sensitivity, lack of representation, lack of awareness, topic difficulty). Notably, participants in this study contributed knowledge about the ways in which recruitment material images, particularly those intended to reflect diverse families, may be perpetuating biases about systematically marginalized families. They reflected on the need for research teams to be thoughtful about the language used to approach families about concerns regarding weight, and consider how youths and parents may think about weight and weight management given broader cultural conversations about health, weight management, and especially, the ways in which overweight/obesity are stigmatized in our society.[10] The participants underscored the value of framing studies as focused on health promotion and disease prevention, as opposed to being focused on weight management, which supports previous literature suggesting that this approach may be more effective for recruitment.[10,15,30]

At the *chronosystem level*, the focus group participants considered the importance of weight perceptions and sensitivity, topic difficulty, and institutional distrust (barrier themes). Weight management is a difficult topic for youths, given their developmental tendency toward self-consciousness. Furthermore, parents and community stakeholders may have personal sensitivities about weight that could influence their interest in taking part in or collaborating in weight management research. In addition, parents and community stakeholders may have perceptions about weight that are in opposition to participation in a weight management study. One such perception mentioned by participants is that BMI is an invalid and/or biased measure of health. This notion has been reported by others and is supported by evidence that shows racial/ethnic variations in risk for diabetes according to BMI category.[35–37] Given historical atrocities perpetrated in the name of science, particularly against systematically marginalized communities, researchers must understand these legacies and the reasons

why the proposed research may be particularly concerning for parents of youths in these communities. Researchers can also make efforts to cultivate a sense of trustworthiness and safety with prospective participants by implementing many of the stakeholders' recommendations, such as community engagement and establishing a community advisory board to review all components of the recruitment process.[8]

Limitations

Despite this study's contributions, there are limitations. First, convenience sampling was used to recruit participants into focus groups, and other sampling approaches, such as stratified, purposeful sampling, could have led to a sample that was more representative of the community and prospective participants. Second, while youths were active participants in their focus groups, their responses to each question were, overall, rather brief. It is possible that youth participants would have benefited from a longer focus group with built-in time for relationship-building activities to create more ease with other participants and the focus group leader, or repeated focus groups to foster comfort about participation. In addition, it would have been to the study's benefit to engage in member checking to verify and further refine results after consultation with stakeholder group members. Finally, while the researchers on this team were diverse in many respects (race, age, socioeconomic background, parenting experiences), none are currently raising youths. However, all four authors have actively worked with youths, either in research or in practice, which provides context for the interpretations of the data.

Areas for Future Research and Practice

This study offers some important insights into areas for future research and practice. Concerning community-based research, it is critical to continue to build knowledge about how to best recruit systematically marginalized families and youths in weight-management intervention research.[4,8–9] This is essential to be able to best serve these communities affected by child overweight/obesity. Continuing to involve youth (and parent) perspectives in studies examining recruitment efforts for youths in weight-management intervention research is an essential step to improving recruitment practices. Being mindful of how ecological systems relate to recruitment efforts, future researchers should implement recommendations proposed by their study focus groups to bolster facilitators and minimize barriers to recruitment, as well as examine whether or not these practices do improve recruitment efforts. Researchers must consider barriers, such as distrust in the healthcare system,[4, 30–32] which may complicate a family's capacity to engage in obesity research trials. Researchers will better serve their participants by exploring these other factors and further understanding the strengths and challenges experienced by youths and their families in addressing overweight/obesity. Amplifying these strengths and reducing these challenges may be an essential part of the recruitment process and weight-management intervention research.[10–11]

Conclusion

Through focus groups with stakeholder youths, parents, school nurses, and community agency workers, this study identified facilitators and barriers in recruitment materials and processes for adolescent weight-management intervention research among systematically

marginalized youths and their families. By including the youths' and other stakeholders' perspectives, our findings support those in existing literature and add additional considerations for recruitment materials and processes in youth weight-management intervention research. By contextualizing findings within an ecological systems framework, this study offers recommendations for effective and culturally humble recruitment practices to facilitate research involvement of systematically marginalized youth and their families into weight-management intervention research.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgements:

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Table 1

Demographic characteristics of focus group participants (N = 48)

Demographic	Youths (Y) M (SD) or n (%)	Parents (P) M (SD) or n (%)	School Nurses (SN) M (SD) or n (%)	Community Agency Workers (CW) M (SD) or n (%)
Age in years	11.87 (1.16)	37.10 (4.76)	49.65 (12.22)	42.58 (16.15)
Gender				
Boy/Man	8 (61.54)	2 (16.67)	0 (0.00)	0 (0.00)
Girl/Woman	5 (38.46)	10 (83.33)	11 (100.00)	12 (100.00)
Race				
Black	10 (76.92)	11 (91.67)	4 (36.36)	5 (41.67)
Multiracial	3 (23.08)	0 (0.00)	0 (0.00)	1 (8.33)
White	0 (0.00)	1 (8.33)	7 (63.64)	6 (50.00)
Ethnicity				
Hispanic/Latinx	1 (7.69)	0 (0.00)	1 (9.09)	0 (0.00)
Not Hispanic/Latinx	8 (61.54)	11 (91.67)	10 (90.90)	12 (100.00)
Unknown	4 (30.77)	1 (8.30)	0 (0.00)	0 (0.00)
Marital Status				
Not married	-	8 (66.67)	6 (54.55)	9 (75.00)
Married	-	4 (33.33)	5 (45.45)	3 (25.00)
Education				
Less than high school	-	1 (8.33)	0 (0.00)	0 (0.00)
Some college	-	11 (91.67)	0 (0.00)	1 (8.33)
Baccalaureate degree	-	0 (0.00)	7 (63.64)	3 (25.00)
Graduate degree	-	0 (0.00)	4 (36.36)	8 (66.67)
Employed status				
Full-time	-	8 (66.67)	11 (100.00)	10 (83.33)
Part-time	-	1 (8.33)	0 (0.00)	1 (8.33)
Disabled/Retired	-	1 (8.33)	0 (0.00)	1 (8.33)
Looking for work	-	1 (8.33)	0 (0.00)	0 (0.00)
Other	-	1 (8.33)	0 (0.00)	0 (0.00)

Table 2

Recruitment materials facilitator and barrier themes: Materials

Facilitators to recruitment in the recruitment materials	
Theme	**Sample quotes**
Research involvement as an opportunity	It's nice because she's [the PI] helping us. (Y)
	I would make it more fun...make it lively. (P)
	Maybe explaining what fun things they might get to do, or will be doing, or what they'll learn. (SN)
	I think of framing this study as an opportunity, because it is [an opportunity]. This is a great opportunity to participate in something that's meaningful. How about saying, 'You and your preteen are invited to be part of a great opportunity!' (CW)
Thoughtful language	I think [the word for kids' weight] was appropriate. (Y)
	There's nothing that really takes me aback. I mean, we're all parents, so we all see the doctor. I was told my kid was obese when they were one [year old], because they were overweight for their height and weight. (P)
	I am relieved that it doesn't say anything about obesity. I was thinking back to some of my experience when we had to write letters home for kids who are over a certain BMI [body mass index]. Parents would call and be incensed if we talked about that or if our charts showed that their BMI was too high and that they should take care. It's good that it [the recruitment material] doesn't mention obesity and it mentions healthy living. (SN)
	I like the suggestion to add more words like 'Are you concerned about your preteen's health?' or 'Would you like to help your preteen be more healthy?' (CW)
Accessible information	I think it's easy to read. (Y)
	The advertisement puts everything to a point and you don't have to worry about reading through two or three paragraphs to understand it, so it's all right there, easy to read. There are no words that I wouldn't be able to understand. Most parents would be able to [understand it]. (P)
	I think they like 'free.' They understand 'free.' I will sometimes say to my students, 'complimentary,' [but] they don't understand what that means. I say, 'It's a fancy term for 'free,'' but they don't understand that. They understand 'free.' (SN)
	Not a lot of parents made it past high school, so make sure to keep it at a lower reading level. (CW)
Critical information	I would put all ages [eligible for the study]. (Y)
	A good thing about [the study flyer] is that it does say, 'This is not a medication study.' That caught my eye, and then I was like 'Oh good,' because some people are like 'Don't give my kid medication.' (P)
	It might be better to say, "Father, mother, or guardian," and you can say, "grandparent" [on recruitment materials]. (SN)
	I think that it needs to be mentioned, 'This is totally confidential with strict adherence.' Not those words, but simpler ways of saying that 'We will abide by confidentiality and you are protected.' (CW)
Design of recruitment materials	The pictures of families caught my eye. (Y)
	You guys should put people doing sports on the front [of the brochure]. (Y)
	I might try to brighten it up. If it's a little bit brighter, kids may keep it or actually pass it along to a parent. (P)
	I like that [the brochure] has different families. (P)
	Maybe showing a picture of a playground with whatever realistically our kids are doing during the day that are healthy activities. (SN)
	I think that the incentives should be bolder so that [people will] look at that and see that. (CW)

Barriers to recruitment in the recruitment materials	
Theme	**Sample quotes**

Weight perceptions and sensitivity	My middle son will benefit from this study. However, if I received a letter and it said, 'Your child is at a weight that puts them at risk for serious health problems,' I would probably [think], 'Here they go with the white doctor measurements. My son is healthy. He's going to outgrow it as soon as he gets two inches taller.' (P)
	When my pediatrician tells me my son is overweight, I don't hear anything else he says after that. (SN)
	I regularly take my child to the doctor and the doctor keeps saying to me as a parent, 'Your daughter is within this range, and she's practically heavy, maybe ten pounds over.' I would walk right past this [recruitment advertisement] and think that she was okay. (CW)
Unclear information	[The recruitment flyer] goes on to talk about these different activities that the groups will be doing. What activities would these be? That way they could get a full understanding of what they'd be involved in. (P)
	Looking at this, it's kind of hard to say or to tell what it's about. It just says 'healthier living,' but it's kind of vague. (SN)
	In the pictures in here, everyone looks really thin and healthy. I don't think [potential participants] would have any clue what this [study] is [about] ... what health problems they're talking about. (CW)
Fear	[As] soon as you see 'diabetes,' 'Oh, I'm calling the pediatrician: 'Hey. I need to get my child tested.' You understand? That's a panic. (P)
	A lot of people have fear of the medical profession, so specifying [the measurements taken in the study] would be great. (CW)
Lack of representation	No [the pictures don't look like me]. (Y)
	You have a Hispanic family, and then at the top, you have a white couple bicycling like they're healthy. So, to me, that doesn't really generalize that everybody's fit. (P)
	I know that the consensus is that there are a lot of single Black women, but there are a lot of single women, period, that are raising their kids. I just think they should try to get away from the race thing, because that was the first thing that I noticed. (P)
	The mother on here, this flyer, is the only one who looks somewhat obese. The rest of them all look like healthy-weight people. (SN)
	I'm also thinking about bike riding—most of the kids in our population don't ride bikes. So, maybe put a Hi-Stepper or the [dance] steps that they do to attract that group of students, if you want them in that study, because I don't see them riding a towpath or riding a bike. (SN)
	Have some regular-looking [people in recruitment materials]. Have somebody with some braids, or a little thick girl and her mom. It could be a family eating, because nothing on [the pamphlet] talks about eating. (CW)

Note. Y = youth quote, P = parent quote, SN = school nurse quote, CW = community agency worker quote

Table 3

Recruitment process facilitator and barrier themes: Process

Facilitators to recruitment in the recruitment process	
Theme	**Sample quotes**
Humility	The communication, the design, the where, and the who—all of the components. Meet people where they are and always try to come at it from their perspective and not from a researcher perspective. (CW)
	I just say, 'Can you please help us? This is what we're trying to do, but I want to do it better, and I need you,' and then nine times out of ten, they'll give me their contact info. (CW)
	Maybe the input they give isn't part of the [weight management] study, but now it gives you a wealth of information in which to ask the research questions, because [research] is all about asking great questions. So, the input really is valuable. Even if it's not going to feed into the results of the study, it can give you a new direction to go, or the right direction. (CW)
Community engagement	[Recruit at] sports games, like basketball and baseball. (Y)
	As far as the kids go, though, you may want to get someone closer to their age that knows and can explain the program, because, like he said, kids are going to open up to other kids before adults. (P)
	My kids go to the [school name] and they do a big International Fair. It's easy to slide in there, you can set up your own table, and then have your information as people come up. There's free food, so everybody shows up, and then you've got everybody at your disposal. You can approach anybody you want. (P)
	I don't think it's the person. I think it's the information being given and the help that's being offered that they would look at, more so than who's presenting [the information]. (SN)
	There's also something called 'Parent University' that [the school district] does on Saturdays. That might be a good forum for [the researcher] to get in front of and present information. Those parents are generally engaged. (SN)
	[Recruitment should be done by] a person that a family already trusts and knows or people from the community, people that sound like them, look like them, have the same feeling. (CW)
	In conducting outreach, to disseminate the information, to link the targeted population to your study or to your activity, [it] goes back to communication and trust. If a peer is involved in the dissemination of information, that puts a level of trust into what is being shared and then [potential participants] can be further motivated and encouraged to link with [the research team]. (CW)
	You should be going to the libraries and the community centers. (CW)
Recruitment for the family	[I would like to hear about the study from] a kid, like they know what's going on. (Y)
	If you really wanted to get more people to listen, you might want to start with the kids, instead of the parents, and work your way up, because the parents will come, if the kids are interested, and vice versa. (P)
	I notice when families come in, they usually [have] about ten other kids that are with them, so if [the research team] offered childcare or to feed the whole family, the whole family can come. (SN)
	I'd go to the recreation centers where there's a lot of children, and the children can get their parents to come. If anybody can get the parents to come, the children can get them to come. Talk to the kids about it, and then they could talk to their parents about it. So, that's how you get the parents—you have to get to the children. (CW)

Barriers to recruitment in the recruitment process	
Theme	**Sample quotes**
Lack of awareness	I've seen multiple [medical reports] that were for an obese child. I did see that there was a recommendation or a referral for a nutritionist. Nursing-wise, we do what we can as far as educating them about making healthy food choices. Kids are getting snacks and treats and candy and pizza and everything that we're not aware of. We have diabetic students that need to be monitored. So, it's like trying to get everybody onboard. (SN)
	The [parents] don't come and participate because a lot of them don't know, but then some of them are 'iffy' [uncertain] about it. (SN)
	People think that being healthy is not for poor people, because it sounds expensive, and in some instances, it is [expensive]. Buying fresh vegetables is more expensive than buying something canned or just giving my kid whatever is on the dollar menu. (CW)

Institutional distrust	No [I wouldn't feel comfortable getting a brochure from a stranger]. (Y)
	I would not want to hear [about the study] from [healthcare providers]. (P)
	I wouldn't market [the study] with [healthcare providers] because they don't have popularity [with families]. (CW)
Topic difficulty	Ten- to 12-year-olds feel targeted, so [weight and weight management] can be used to feel bad about themselves. You don't want to call up that problem for them, or make them self-conscious in a different way than they already are. Or, if they're not self-conscious at this point, are they going to be made self-conscious? (SN)
	There are so many aspects to healthier living, so in a way, you don't want to target just obesity. Maybe you want to target 'healthy living,' and then that sort of spreads out further. There are various reasons for obesity. Obviously, a kid isn't necessarily in control of what [food] gets served at home, or doesn't get served. (SN)
	Talking to teens/kids about their personal weight is a tough area to navigate. I think 10-year-olds and 12-year-olds are smart and they have their own thoughts, and being aware of not [saying], 'YOU need to lose weight. How can we help you?' but more like, 'We want to—as a community—be healthier.' (CW)

Note. Y = youth quote; P = parent quote; SN = school nurse quote; CW = community agency worker quote

Table 4

Stakeholder recommendations for recruitment design for systematically marginalized youths and their families

System Level	Materials / Process	Recruitment design recommendation
Microsystem (interpersonal)	*Materials*	Describe participation as an opportunity Describe and show fun activities associated with participation Show relatable and representative images Use bright color schemes Use accessible language Clearly state consent, privacy, and safety protections Clearly state that no medication is used in the study Be specific about measurements or tests Indicate incentives, childcare, and transportation offered by study
	Process	Actively recruit both youths and parents Learn and practice humility when interacting with participants
Mesosystem (interacting microsystems)	*Process*	Use peer-to-peer recruitment at sociocultural community events
Exosystem (broader community environment)	*Materials*	Advertise study information across community hubs/events, child-serving systems, and social media Engage with community partners to vet recruitment materials
	Process	Be aware of/address other participation obstacles (e.g., transportation, childcare) Engage with community partners to vet recruitment process
Macrosystem (cultural environment)	*Materials*	Be mindful that images do not highlight biases or stereotypes or may be perceived as such
	Process	Think through cultural conversations about weight Highlight research participation as a contribution to community/society
Chronosystem (time over the life course–historical and current)	*Materials & Process*	Be mindful of youths' developmental self-consciousness Be aware that stakeholders' experience with their own weight may influence their perceptions and interest Reflect understanding of the ways that research has historically taken advantage of systematically marginalized communities Cultivate safety and trustworthiness