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Recruiting Underserved Mothers to Medical Research: Findings from North Carolina

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Abstract

Representative samples are required for ethical, valid, and useful health research. Yet, recruiting participants, especially from historically underserved communities, can be challenging. This paper presents findings from in-depth interviews with 40 mothers about factors that might influence their willingness to participate or allow their children to participate in medical research. Saliency analysis organizes the findings. Frequent and important salient themes about research participation included concerns that it might cause participants harm, hope that participants might gain a health benefit, and recognition that time and transportation resources could limit participation. Ultimately, we propose that a theoretical model, such as the Theory of Planned Behavior (TPB), will facilitate more systematic evaluation of effective methods for recruitment and retention of participants in medical research. Future research should explore the utility of such a model for development of effective recruitment and retention strategies.

Keywords

Health research; recruitment; women; children; underserved populations

Recruiting participants to medical research from historically underserved populations (e.g., women, people belonging to racial/ ethnic minority groups, and rural residents) can be challenging.^{1–4} The research literature documents myriad barriers to recruitment and participation.^{5–6} Logistical, informational, socio-cultural, and attitudinal factors are commonly cited barriers to participation in research, especially among underserved communities.⁵ Despite such hindrances, representative sampling and recruitment is crucial to ethical and valid research, and for developing clinically relevant and broadly applicable conclusions. Without assurance of representative samples, some studies may suffer from selection bias that, minimally, undermines generalizability and, at worst, contributes to Type II error and false conclusions. Improved understanding of individuals' willingness to

participate in research will facilitate the development of more effective strategies for recruiting underserved populations to biomedical research.

This paper uses in-depth interview data collected from rural mothers belonging to racial/ethnic minority groups about factors that would influence their decisions to participate or allow their children to participate in biomedical research of varying levels of invasiveness including biological and genetic sampling, in-depth interviews, and environmental exposure assessment. It has three aims. First, structured by saliency analysis, it describes attitudes and practical concerns that women suggested would influence their decisions to participate or allow their children to participate in medical research. This description also highlights variations in theme salience that appeared associated with educational attainment. Second, it presents women's suggestions for how researchers might improve recruitment to future medical studies. Third, it demonstrates how the insights provided by such data could inform recruitment strategies for future health research.

Methods

Data were collected as part of a feasibility assessment for a study of atopic dermatitis among infants and young children from rural and minority communities. Forty mothers who were members of underserved populations (low-income, members of racial/ethnic minority group(s), or rural) from five counties across North Carolina were recruited from August 2009 through August 2010. Women were included in the sample if they had at least one child under the age of 13 months. A site-based recruitment strategy was employed to obtain a representative, non-random sample.¹⁵ *Sites* are places, organizations, or services used by members of the population of interest. They were identified as part of the community entrée process and through interviews with community leaders and service providers. Sites that served a variety of racial/ethnic groups, as well as low, middle, and upper-income people were selected, including health and social service agencies, private pediatric offices, public libraries, childcare centers, and social organizations. Specific recruitment procedures varied according to the type of site and gatekeepers' preferences. At some sites (e.g., social service agencies), the site director introduced the interviewer to potential participants. In other settings (e.g., social organizations and public libraries), the interviewer gave a short presentation about the project and asked for volunteers. Finally, in other locations (e.g., health and social service agencies) the interviewer approached individuals, introduced the study and informational materials, and asked women to participate.

Data collection was based on in-depth, semi-structured interviews that lasted approximately one to two hours. Interviews were conducted in places and at times convenient for participants and included topics such as participants' demographics and their perceptions of various forms of research (i.e., "research," "medical research," "genetic research," and "exposure assessment research"), thoughts about the participation of infants and children in medical research, and attitudes toward progressively more invasive data collection methods (i.e., in-depth interviews, observational cognitive and home environmental exposure assessments, urine and stool sampling, saliva and buccal sampling, and finger-stick and veni-puncture blood sampling). Women were asked to describe factors that would influence their willingness to participate or allow their children to participate in each form of research

and data collection method, as well as how they would make their decisions about participation and whom they would consult in their decision-making process. Participants were also asked to suggest ways researchers might increase participation. The Wake Forest Health Sciences Institutional Review Board approved the study protocol, and written consent was obtained from participants before each interview.

Interviews were transcribed *verbatim* and coded for thematic content by at least two members of the research team using ATLAS.ti qualitative data analysis software (ATLAS.ti Scientific Software Development GmbH, Berlin). Saliency analysis of the coded texts was conducted. Saliency analysis explores thematic patterns among multiple texts by evaluating recurrent themes based on their frequency of recurrence, participants' emphasis on the theme, or the explanatory capacity of the theme as recognized by the researcher.^{16–17} Thus, within a group of interview transcripts, salient themes may not necessarily be discussed by every individual, but they will be discussed in detail and with emphasis throughout the sample or provide some insight or explanation of the phenomenon. Consequently, quotations regarding the factors that might encourage or discourage women's participation or allowance of their children's participation in various forms of medical research were analyzed and noted themes were ranked according to their frequency, participants' emphasis, and explanatory capacity.^{16–17} The salient themes were categorized based on their relative recurrence throughout the sample (high or low) and their importance or explanatory capacity and emphasis by participants (high or low). Variations in theme salience associated with age, race/ ethnicity, educational level, or rural/ urban residence were also explored.

Results

Participants included mothers from a variety of racial and ethnic groups who ranged in age from 16 to 41 years (Table 1). Over half of the participants were identified as non-Hispanic Black women (52.5%), with non-Hispanic White women constituting the second largest number of women (35%), and Hispanic (10%) and American Indian (2.5%) women completing the sample. Most participants (n=29) were aged between 20 and 29 years of age. Eight participants had not completed a high school education, 25 participants had completed high school or the equivalent, and seven had completed a two-year post-secondary degree or more. Theme salience varied only by educational attainment and not by age, rural or urban residence, or ethnicity and, although there were a number of salient themes, only those classified as being of high importance will be discussed here (Box 1). Exemplar quotations are marked with the random participant ID number and educational attainment level (e.g., "R#xxxx" and "<HS" for less than high school, "HS" for high school, GED, or some college, and "PS" for a two-year post-secondary (college) degree or more).

Attitudes

The most important and recurrent discouraging attitude about participation in medical research was that it could cause participants unspecified harm or negative health consequences. As one woman explained, "[I]t's everything from messing with your mind to actually messing with your body" [R#6827, HS]. Many women maintained that the potential harm of participation would vary with each research study and that they would evaluate their

willingness to participate or allow their child to participate on a case-by-case basis. An associated belief was that participation in research might cause participants physical pain (as might occur with needle-punctures or other invasive procedures). Thinking about participation in blood sampling procedures, another mother stated: “That hurts. ... [But] I’d be agreeable. ... [But] not for [my children]. ... [T]hey’d cry” [R#9104, HS].

Another salient apprehension about research was that women might not understand research rationales and procedures. Regarding stool sampling for research, one woman explained: “I don’t know why a person would be getting tested with a stool sample. I don’t know [how I’d feel about participating]” [R#1020, PS]. For many, a lack of understanding would make them hesitant about participation, especially for their children. Often associated with this concern for understanding research was the belief that participation might give them a general sense of unease or awkwardness. As one mother protested, “It would just seem ... extremely weird” [R#2656, <HS]. In many instances, women explained that participation in research without understanding the rationale behind the particular data collection methods would make them feel strange or uncomfortable. Similarly, many women suggested that the need to interact with and trust previously unknown and mistrusted researchers would inhibit their participation in research. One woman was insistent that she would have to possess some knowledge of the researcher before she would consent to participate. She explained: “I’m not going to let somebody come to my house that looks crazy” [R#3594, PS].

In addition, many women suggested that participation in research might involve encounters with needles and that their generalized fear of needles would deter them from participation in such research. For example, one mother was adamant about her refusal to participate in blood sampling, “No, no, no, no, no ... because I’m scared of needles” [R#9727, <HS]. This fear of needles was not an aversion to the pain associated with needle puncture, but a generalized fear of needles themselves. To illustrate the distinction, one participant expounded on her ability to endure the pain associated with obtaining a tattoo, but said she would not even consider participating in research that involved needles. This generalized fear of needles was most commonly expressed by women with less education.

One important discouraging attitude about participation was less frequently cited but was especially significant for women with more education: belief that research rationales and procedures might conflict with one’s personal ethical standards. As one woman explained, “I would want to make sure they were going to do it ethically. ... [L]ike the embryos, I’m against that kind of study” [R#4481, PS]. While none of the women with less than a high school education expressed this concern, over a quarter of the women with a high school education and over half of the women with some college education expressed this concern. Women’s ethical concerns were both concrete and abstract. Some expressed specific concerns about DNA manipulation or use of embryonic materials for research. Others expressed a more vague worry that research might be “pushing things too far” or contributing to general changes in the nature of sex and gender.

The most salient encouraging attitudes about participation were that a participant might receive some general or health related benefits through participating. Though most women lacked ready examples of non-health benefits, after some thought, nearly all mentioned

some sort of material benefit, including coupons, gift cards, or other material goods that they considered useful or engaging. Potential health benefits ranged from learning about the nature, prevention, and treatment of a given disease to obtaining cutting-edge medical treatment for a specific condition. One participant explained her willingness to participate in health research thus: “It would be okay because I would like to know more about my health and my kids’ health ... to help protect ourselves” [R#5448, HS]. Similarly, attitudes about research that suggested one’s participation might provide general or health benefits to others were also salient. Most women were unclear about the ways that their participation might help others, but they often asserted that their participation might help cure, treat, or prevent illness in other people. Regarding her general willingness to participate in medical research, one woman explained: “[I would participate] ... knowing that ... we were helping people, learning more about diseases” [R#7510, PS]. Finally, although it was less commonly cited, the belief that participation might provide some financial benefit was also a salient attitude for a number of women. This belief was generally expressed separately from the belief that participation might provide some material or health benefit for participants.

Practical concerns

One of the most salient perceptions about behavioral control was that scheduling might be a problem, as many women were concerned that they would not have the free time required for participation. For most, concerns about coordinating daily life activities with those required for participation in research weighed heavily against their willingness to participate or allow their children to participate in research. Women generally considered their work and school schedules, their children’s school and extracurricular activities, and other social obligations to be more important than their participation in research. One mother defended her hesitance to participate: “I have other stuff I’ve got to do. I’ve got a job. ... I already have running around with my children.” [R#2158, PS]. Even though most of the women in the sample (n=21) were not employed or enrolled in school, they explained that the activities that are necessary to maintain one’s family, social relations, health, and livelihood are sufficiently important to limit research participation.

Concerns about travel logistics were also salient in women’s considerations of research participation. Nearly half of the women in the sample (n=19) lacked transportation, had limited access to personal transportation, or relied on others to provide them with transportation. In many instances, women asserted that participation requiring a commute was an unnecessary imposition, especially upon transportation-providers, and would discourage their participation. For women who possessed their own means of transport (n=21), the cost of gas for such travel was given as a potential barrier to their participation or that of their children. One mother explained that researcher-provided transportation would be crucial to her participation in some research projects: “[Having transportation] would make a big difference ... [knowing] I can get to where I’m going” [R#4434, <HS].

Suggested methods to increase participation

Each participant offered suggestions for how researchers might increase recruitment and research participation. Only one suggestion was highly salient throughout the sample: increase individual awareness of research studies through public notification of current, on-

going research studies. Many women explained that if they had more knowledge of research studies and the rationales and procedures associated with them, then they would be more inclined to participate or allow their children to participate. As one woman argued:

You never receive anything in the mail, a packet in the mail talking about the research. Anytime you hear about a research problem going on it's like a little small paragraph that just tells you to call a number. There's never actually ... [any detail about] it. ... [I]t's not giving enough information. ... If I had more information and it explained to me exactly what the research is for and how it can help, I would probably participate in more research. ... [B]ecause if it's left up to me to go up and look up, well ... I'm not going to go and look it up and see what it is. ... I think [that if people were] receiving something in the mail or even like a better advertisement of exactly what research is for and ... how it can benefit a person, there would be more willingness to participate ... [R#3594, PS]

While some women discussed presenting such information in television or radio advertisements, most suggested that in-person recruitment and explanation of the project would be the best method and could facilitate increased word-of-mouth recruitment. Most women said that in-person recruitment and explanation of research would increase their trust of the researchers and facilitate their understanding of the study, thereby decreasing their fear of unknown or unfamiliar procedures and associated potential consequences. Some pointed out that in-person recruitment would allow researchers to build social relationships with potential participants, thereby increasing potential participants' trust in the researcher and creating a sense of social obligation that also promotes participation. Moreover, some women suggested that participant-centered data collection procedures would not only mitigate scheduling and transportation barriers but would also confirm the importance of participants' contributions to the success of a given study. By tailoring data collection to the lives of participants, many women believed researchers would demonstrate their appreciation of individuals' participation in the research process.

Discussion

Recruitment and retention of participants to medical research is an on-going concern. This analysis facilitates clear understanding of the factors shaping participation across a group, and variation within this group. With the heightened concern for representative sampling and inclusion of underserved populations in medical research, maximally effective and efficient recruitment methods are vitally important. The methods of analysis demonstrated in this paper facilitate proactive, socially and culturally tailored recruitment and, thereby, more successful and valid research. This analysis has provided insight into factors that should be addressed to facilitate recruitment of low-income, minority, and rural mothers with varying educational attainment. This knowledge will allow researchers to tailor their recruitment methods, informational packets, and advertisements to the concerns and interests of that target population.

Attitudes

Recruitment to research faces many challenges, especially among underserved populations and the findings presented here confirm this.^{3,6,18–19} By and large, most of the salient themes voiced by participants in this study were attitudes, especially discouraging attitudes, and many have been highlighted in the literature. Concerns about pain and other potentially negative consequences of participation have been widely noted and mistrust has been extensively reported, especially in minority communities.^{20–21} Regarding mistrust, while some have held that the U.S. Public Health Service Syphilis Study at Tuskegee study may exert some influence over African Americans' willingness to participate in research, foster mistrust, or influence individuals' considerations of medical research and participation in such endeavors, it is noteworthy that the study was never mentioned by participants in our project.^{22–24} This may be a consequence of the relatively young age of our participants and the lack of public, media attention to and discussion of the study in recent years. The lack of salience of the U.S. Public Health Service Syphilis Study at Tuskegee among this sample suggests that exploration of the broader salience of the study as a factor in individual evaluations of medical research and consideration of participation may prove enlightening for those of us concerned with recruitment and retention to medical research, especially from among underserved populations, as well as those concerned with matters of informed consent and research ethics.

A fear of needles is infrequently cited in discussion of barriers to participation in research but it has received attention in the clinical practice and psychological literatures.^{25–28} Described as a “blood-injury-injection phobia” (BIIP), fear of needles has been found to occur in approximately 3–6% of the population and is known to vary with educational attainment. No substantiated explanation for the seemingly inverse association between educational attainment and blood-injury-injection phobias has been offered but it has been suggested that “less educated subjects have had less exposure to health-care settings in which their phobias could be extinguished.”²⁹[p.1134]

Ethical concerns are not commonly cited in discussion of barriers to participation, that is, except in relation to genetic research.^{30–32} Objections that genetic material may be used for cloning, and fear that such research might upset the “natural order,” are common barriers to participation in genetic research and some have noted that such concerns can vary with educational attainment.^{30,33} The educational variation in the salience of ethical concerns is to be expected, as education (especially, college education) has been associated with increased comprehension of research rationales and procedures and increased awareness of research ethics.^{30,34–36} Educational variation has been linked with variation in science literacy, or individuals' command of specific scientific concepts, comprehension of the nature of scientific inquiry, and appreciation of science and technology's impact upon daily life, that results from higher levels of formal science education.^{37–38}

The salience of the belief that individuals' misunderstandings of research rationales and procedures would discourage participation in research, may also be linked to the generally low level of science literacy among adults in the U.S.^{37,39–42} Low science literacy and misunderstanding of research rationales and procedures are not commonly discussed in the literature as potential barriers to recruitment and retention of participants to research.

Scientific literacy is associated with educational attainment and seems to increase significantly with post-secondary exposure to science classes.⁴³ Without additional data from others regarding the role of science literacy in shaping individuals' decisions to participate in research, it is difficult to evaluate the extent to which this finding is common or unique.

Self-interest and altruism are among the most commonly cited motives for participation in research.³ Specifically, desires for personal health benefits and to improve the health of others are frequently cited motivators for participation.^{5,21,44} As in the literature, financial incentives were less commonly cited motives for participation among the women interviewed for the project described here.^{45–46} Nonetheless, among low-socioeconomic status persons, financial concerns are justifiable, especially if data collection procedures are not participant-centered and participants are forced to take time from paid employment to engage in research activities.

Practical concerns

Lack of time is a common barrier to participation but a lack of transportation is less cited.^{4,18–19,47–48} This discrepancy between the current findings and the literature may result from a general lack of research evaluating recruitment from rural populations. Of the 10 participants who stated that they lacked personal transportation, eight were from a rural community. For participants in urban areas where public transit is more readily available, a lack of personal transportation may be less salient. However, many of the women interviewed for this study were from rural areas where public transportation is less available and that may account for the increased salience of transportation within our sample.

Suggested methods to increase participation

Many studies have explored potential methods to address recruitment concerns but few have actually asked potential participants what they believe researchers should do to increase enrollment.²⁰ Women in this study echoed a common theme in the literature: increased information about research rationales and procedures would do much to increase enrollment, especially when it is conducted in-person by members of the research team.^{47,49–50}

Community-based participatory research (CBPR) also supports the direct interaction between researchers and potential participants and emphasizes community involvement throughout the research endeavor, including definition of research questions, participant recruitment, data analysis, dissemination of findings, and translation of results into social action.^{51–54} Increased interaction and co-learning between researchers and members of the target communities encourages greater mutual understanding and trust, which can facilitate increased recruitment and retention.³

Limitations

The results of this study should be interpreted in light of its limitations. The small, non-random sample does not allow for definite estimation of the representativeness of the findings. However, the purposive sampling method used in this study sought to capture a breadth of perspectives and provides a qualitative basis for broader statistical evaluation of generalizability. This study did not examine women's ultimate behavior. The study explored

the relationship of participants' attitudes and concerns and their hypothetical participation. Therefore, the ultimate influence of the various factors upon participant recruitment cannot be described. This study did not allow for control of period effects.⁵⁵ Because we were not recruiting women to participate in any of the aforementioned types of research or data collection methods nor did we provide a period for their reference while considering participation, their responses may have been influenced by the lack of immediacy and variable proximity of the hypothetical behavior (participation). Nonetheless, the findings are consistent with the established literature.

Conclusions and implications for practice

Research examining recruitment and retention of participants to medical studies lacks a comprehensive, conceptual model, which makes critical evaluation of recruitment methods difficult.⁵ The socially and culturally grounded information about motives and barriers to research participation that have been presented here can be useful in designing recruitment and retention methods. However, without an organizing framework to provide conceptual grounding and facilitate strategic development of methods, efforts may be haphazard and have only a suboptimal impact. A review of research on methods of participant recruitment to medical research shows that there is little consensus regarding an appropriate theoretical framework to organize and direct study of such methods. One article posited use of the Theory of Planned Behavior as an organizing framework for such efforts and our findings seem to support to that move.⁵

The Theory of Planned Behavior (TPB) addresses the individual, social, and practical issues that influence individuals' intentions and decisions to engage in a given activity, such as participation in medical research. For instance, regarding intentions to participate in research, the TPB evaluates individuals' attitudes about participation in medical research, subjective norms or their beliefs about the social norms that might influence their participation in medical research, and individuals' perceived behavioral control or ability to initiate and maintain participation in medical research.^{5,7-8} Most of the salient encouraging and discouraging themes that our research emphasized mirror *attitudes* and *perceived behavioral control* within the TPB framework. Though research such as ours may suggest locally appropriate recruitment and retention methods, a more systematic approach to the topic could facilitate streamlined and more rigorous development of effective recruitment and retention procedures. The utility of the TPB for understanding motivations and methods to encourage participation in other behaviors (e.g., blood donation, vegetable consumption, breast self-examination, treatment-seeking, and weight loss) suggests that application of the model to matters of research participation, recruitment, and retention may be appropriate.^{5,8-14}

The theoretical framework provided by the TPB may promote purposeful and systematic development of methods to address the cited barriers and motives, and, thereby, increase the scientific justification and potential impact of future recruitment methods within this population. Application of the TPB may also promote systematic evaluation of those methods in efforts to optimize the efficacy of participant recruitment techniques. For instance, the findings presented here suggest that in-person recruitment with the support and

in the offices of referring pediatricians could mitigate multiple negative attitudes that result in non-participation of underserved mothers. This is a hypothesis that remains to be tested but, with the aid of a theoretical framework, such as the TPB, efficient evaluation, modification, and implementation of recruitment techniques can be conducted.

Seeking the most effective survey methods, Don Dillman applied social exchange theory to the design and conduct of mail and phone surveys.⁵⁶ With an overarching “tailored design method,” he developed systematic and easily testable techniques that have proved useful for devising and executing successful survey research. Social exchange theory, though valuable, does not address the range of factors that influence individuals’ decisions to participate in research but, nonetheless, a similar approach is warranted for analyzing methods of participant recruitment to health research studies. Without an overarching theoretical framework, systematic development and evaluation of recruitment methods will be difficult.

Consequently, rigorous evaluation of the applicability and utility of the TPB to matters of participant recruitment and retention are presently lacking. Thus, future research should examine the utility of the TPB to the design of successful participant recruitment and retention methods. According to the women interviewed in this study, increased understanding of research and familiarity with researchers may significantly decrease mistaken fears, concerns, or mistrust that may have otherwise discouraged their participation. This is a hypothesis that should also be tested by future research.

The research community may also do well to systematically examine the impact of engagement in CBPR on future recruitment and retention rates. Community-based participatory research emphasizes the establishment of on-going, long-term relationships between professional researchers and the communities with which they are involved, as well as co-learning among academic- and community-based team members, and increased mutual understanding of team members’ goals, desires, and needs. Thus, it may help people overcome many of the barriers identified here while satisfying potential participants’ motives for participation. Nonetheless, a systematic analysis of such a relationship between research models and future recruitment is still required.

Similarly, in-person recruitment offers researchers the opportunity to explain the potential social or personal benefits of research participation. In this way, face-to-face methods may deliberately address potential participants’ self-interest and altruistic attitudes while allowing researchers to rectify any misunderstandings and ethical concerns that participants might have. This, too, should be systematically evaluated. The role of science literacy in shaping individuals’ decisions to participate or allow their children to participate in research should also be carefully examined.

Finally, scientists seeking to conduct medical research among underserved mothers in North Carolina may do well to consider participant recruitment as the first stage in the informed consent process. The research described here suggests that mothers may be more willing to participate in our research endeavors if they are first provided an explanation of the overall research rationale and specific data collection methods that they may encounter and, also, are able to establish an in-person relationship with someone from the research team.

Implementing such participant recruitment methods may be temporally and fiscally costly but they may improve overall recruitment and retention rates for those willing and able to make the investment.

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Notes

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Box 1			
SALIENCY ANALYSIS OF THEMES			
Importance	High Importance	Recurrence	
		High Recurrence	Low Recurrence
		<u>Attitudes</u> Discouraging <ul style="list-style-type: none"> Participation might harm me or my health. Participation might make me feel uncomfortable or cause me physical pain. I might not understand research rationales or procedures. I might not trust the researchers or research staff. Participation might involve needles and I am scared of needles. Encouraging <ul style="list-style-type: none"> Participation might help me or my health. Participation might help other people or their health. <u>Practical Concerns</u> <ul style="list-style-type: none"> Participation might conflict with my schedule. I might not be able to secure transportation to participate. 	<u>Attitudes</u> Discouraging <ul style="list-style-type: none"> The research rationales or procedures might be unethical. Encouraging <ul style="list-style-type: none"> Participation might provide some material benefit.
		<u>Attitudes</u> Discouraging <ul style="list-style-type: none"> My child might be too young to participate in research. Encouraging	<u>Attitudes</u> Discouraging <ul style="list-style-type: none"> The research topic might not interest me. Participation in research might compromise my privacy.
	Low Importance		

		Recurrence	
		High Recurrence	Low Recurrence
		<ul style="list-style-type: none"> Participation might satisfy my curiosity about research or the topic. 	<ul style="list-style-type: none"> Bad previous experiences with research or health-related activities would discourage my participation in research. Participation in research might cause me to feel embarrassed or ashamed of myself. Participation might force me to travel and I don't like travel. I might learn new medical information about myself or my child that I would rather not know. <p>Encouraging</p> <ul style="list-style-type: none"> Participation in research might make me feel good about myself.

Table 1**ETHNICITY, AGE, AND EDUCATIONAL ATTAINMENT OF SAMPLE**

	N	%
Ethnicity		
Non-Hispanic Black	21	52.5
Hispanic	4	10.0
Non-Hispanic White	14	35.0
American Indian	1	2.5
Age (years)		
15–19	4	10.0
20–29	29	72.5
30–39	6	15.0
40+	1	2.5
Educational Attainment		
Less than High School	8	20.0
High School, GED, or Some College	25	62.5
2-year College Degree or More	7	17.5