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Potential for Using Online and Mobile Education with Parents and Adolescents to Impact Sexual and Reproductive Health

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Abstract Research supports the central role of parents in the sexual health behaviors and outcomes of their adolescent children. Too often, parents and adolescents with the greatest sexual health disparities are difficult to reach and engage in preventative interventions. Online and mobile technologies (OMTs) represent an innovative opportunity to reach large numbers of youth and their parents. However, there is a dearth of information related to the feasibility and acceptability of OMT-delivered family interventions for reaching vulnerable youths—particularly, ethnic minority youths. The current manuscript addresses this gap in the empirical literature by examining the feasibility and acceptability of OMT-based parent-adolescent sexual health interventions for African American and Latino families. Focus groups were conducted with convenience samples of Latino and African Americans from six US cities. Fourteen focus groups (six parents and eight adolescents) with an average of 10–12 participants each provided data for the study. Researchers used inductive thematic analysis to evaluate data. The findings suggest that parents and adolescents were motivated to obtain sexual health information through OMTs due to their accessibility, widespread use, and ability to deliver large quantities of information. However, personalized and trustworthy information was viewed as less attainable through the Internet or similar digital means, presenting a potential barrier to delivering an adolescent sexual health intervention via OMTs. Sexual health interventions delivered through online and mobile mechanisms present a novel opportunity for reaching potentially at-risk ethnic minority adolescents and their parents. Feelings of discomfort surrounding OMT use with parents, generational differences, and parent-adolescent relationship quality must be considered when developing technology-based sexual health interventions for Latino and African American families.

Keywords Adolescents · Sexual health · Online and mobile education · Access to information

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Introduction

Many young people in the USA experience negative sexual and reproductive health outcomes, including unintended pregnancy, sexually transmitted infections (STIs), and HIV/AIDS that are largely preventable (Centers for Disease Control and Prevention, 2012). Despite increased public health efforts to reduce adolescent sexual risk behaviors and improve associated health outcomes, significant health disparities persist among racial/ethnic minority populations. Specifically, Latino and African American youth are more than twice as likely to experience a teen pregnancy than White youth (Ventura et al. 2012) and are at increased risk of contracting STIs and HIV/AIDS (Centers for Disease Control and Prevention, 2011a, b). These groups often have limited access to information and lower levels of sexual health service utilization due to structural barriers and socioeconomic inequalities that can make African Americans and Latinos difficult to reach for preventative interventions. Given the ongoing disparities in the sexual and reproductive health of adolescents, innovative,

sustainable, and cost-effective methods for reaching potentially at risk youths and their parents are warranted and sorely needed.

In efforts to reach a broad population of youth to address adolescent sexual and reproductive health disparities, novel intervention delivery mechanisms have emerged and represent innovative opportunities to further current prevention efforts. Particularly notable is the burgeoning interest in the development of technology-based sexual health interventions for adolescents (Bull et al. 2012; Guse et al., 2012). With the rapid growth of Internet and mobile use over the past decade among individuals of all ages (Brenner, 2013), technology presents new methods and opportunities for extensive reach and scale of interventions that may impact sexual health (Guse et al., 2012; Webb et al. 2010). Hence, the feasibility of online and mobile technologies (OMTs), which includes mobile phones, computers/laptops and the Internet, for sexual health promotion among young people has been increasingly examined, demonstrating OMTs' potential for reaching youth who are most in need of sexual health information (Gold et al., 2011; Guse et al., 2012; Selkie et al. 2011). However, consideration of the potential for involving parents in OMT-delivered interventions is missing from this research.

The instrumental role of parents on the sexual health outcomes of their adolescent children is widely accepted (Wight & Fullerton, 2013). Specifically, parental factors such as parent-adolescent communication and parental monitoring and supervision have been demonstrated to be associated with adolescent sexual behavior (Guilamo-Ramos et al. 2006; Wight & Fullerton, 2013). While evidence highlights parents as one of young people's main sources of health information, with significant influence on adolescent health outcomes, providing assistance to parents is largely neglected among interventions for sexual and reproductive health that target minority youth (Guilamo-Ramos et al., 2011; Hutchinson, 2003; Jaccard et al. 2002; Villarruel et al. 2010).

Moreover, in a recent review of existing interventions that involve parents to promote the sexual health of their children, none of the 44 evaluated programs utilized OMTs for behavioral change (Wight & Fullerton, 2013). The increased attention on new digital media in conjunction with our knowledge of the important role of parents on adolescent sexual behavior presents an opportunity for reaching youth and their parents for sexual health interventions. If digital tools are to be effective in influencing adolescent sexual health outcomes, they must take advantage of what we know about the factors that shape adolescent sexual behavior. Hence, OMTs for parent-adolescent sexual health interventions offer a potential link between innovative methods for increasing the reach of interventions and evidence-based factors that contribute to behavior change.

Unlike interventions in schools, which often compete for priority and are not mandated in every state (Kann et al. 2007), technology-based interventions can be delivered on devices that are widely available to both parents and adolescents, demonstrating specific advantages for reaching individuals who may be inaccessible through schools or community organizations (Guse et al., 2012). Extant research highlights the feasibility of digital technologies to impact behavior with certain approaches demonstrating greater efficacy relative to others (Guse et al., 2012; Webb et al., 2010; Ybarra & Bull 2007; Levine, 2011). Interventions with greater documented efficacy rely on a theory of behavior change, use many behavior change techniques, and utilize multiple modes of delivery such as a combination of emails and text messages (Webb et al., 2010). Hence, data from ethnic minority parents and adolescents regarding the feasibility and acceptability of online or mobile interventions for parent-adolescent sexual health interventions are critical for using this promising approach to impact adolescent sexual health.

This study sought to expand knowledge on user perspectives from Latino and African American families concerning the potential for online and mobile sexual health interventions for both adolescents and parents. To assess the acceptability of certain characteristics of technology-based approaches, we asked adolescents and parents to describe their current technology usage and preferences; whether and how they had sought out sexual health information, in general and through technology; and their willingness to engage in a sexual health intervention delivered via digital or mobile tools.

Methods

Trained facilitators conducted focus groups with Latino and African American parents and adolescents to elicit data on usage and preferences regarding cell phones and computers for a sexual health intervention. Fourteen focus groups, six parents and eight adolescent, were conducted in six different cities across the country: Los Angeles, CA; San Diego, CA; New Haven, CT; New York, NY; Sarasota, FL; and Washington, D.C. These cities were identified by Planned Parenthood Federation of America (PPFA) for programmatic purposes to obtain a range of perspectives from diverse locations across the USA. The focus group participants were selected through convenience sampling by Planned Parenthood affiliates.

The researchers developed separate semistructured interview guides for both parent and adolescent groups. Focus group questions prompted parents and adolescents to discuss their opinions on the feasibility, acceptability, and dissemination of online and mobile interventions for sexual health. Questions for adolescents focused on typical computer and cell phone use, whether they had used or would use a computer or cell phone to find information about sexuality, and what preferences and suggestions they had for receiving digital sex education. Adolescents were also asked for their opinions on engaging in an OMT-delivered sexual health

intervention with their parents (i.e., How appealing would it be to engage in a sexual health intervention that involved videos, games, or text messaging with your parents?). Questions for parents focused on their experiences seeking information or resources on sexual and reproductive health and how they could foresee using OMTs to access health interventions to help them communicate with their children about sexual health (i.e., How willing would you be to participate in an online program, on your phone or computer, that would help you to communicate with your adolescent child about topics related to sex and sexuality?). Sexual health information was broadly defined for parents and adolescents and encompassed several issues related to sex and sexuality, including bodies and how they work, human development, reproduction, differences and similarities between boys and girls and men and women, types of relationships and what makes a relationship healthy or unhealthy, sexual behavior, and preventing pregnancy and STDs.

Trained facilitators conducted separate parent and adolescent focus groups, in either Spanish or English, each lasting approximately 2 h. Participants were offered a $20 gift card incentive at the completion of each session. The sessions were videotaped and a staff person who was not facilitating recorded salient points and observations during the sessions. The tapes were subsequently transcribed for analysis.

Qualitative data analysis involved the systematic coding of the transcripts through an inductive process, using principles of thematic analysis that allow patterns and concepts to emerge directly from the data (Strauss & Corbin, 1998). This iterative process gave the researcher the flexibility to alter and modify analysis as ideas developed. After an initial review of the transcripts, trained researchers created unique codebooks for both the parent and adolescent focus groups. Throughout the coding process, researchers redefined the codes, identified associated codes, and created links between emerging concepts from the data. Two researchers independently coded segments of text and calculated an initial intercoder reliability score of 0.847. Researchers discussed and resolved any discrepancies in coding, which resulted in intercoder reliability score of >90 %.

Results

A total of 62 parents and 106 adolescents (N=168) participated in the study. The focus groups included both males and females and had an average of 10–12 participants. Two parent focus groups (Los Angeles and New York City) were conducted in Spanish; all other parent and adolescent groups were conducted in English. Of the adolescents who participated, 97 % were between 12 and 19 years of age, with a mean age of 15 years. Fifty-three percent of the adolescents identified as Black/African American and 34 % identified as Latino. Parents ranged from 21 to 65 years with a mean age of 44 years. Thirty-five percent of the parents identified as Black/African American, and 45 % as Latino. Regarding access to technology, 93 % of the adolescents reported having a cell phone and 94 % indicated that they had a computer at home. All parents reported having a cell phone, and 81 % owned a computer. Eighty-three percent of adolescents and 61 % of parents reported having Internet access on their phones. Table 1 presents participants' demographic information as well as ownership of OMTs.

Extensive Use of Digital Media and Online Mobile Tools

The overwhelming majority of parents and adolescents noted that they frequently used digital devices, reflecting national data trends. Adolescents eagerly discussed the wide range of activities conducted with OMTs and their regular engagement in such activities. Specifically, adolescents reported utilizing OMTs for text messaging, engaging in social networking sites, listening to music, watching videos, and playing games. One adolescent explained, "I wouldn't function if I didn't have my cell phone," highlighting the integral role that technology plays in a young person's daily life.

Parents reported using their phones primarily to make phone calls and their computers mainly for e-mail and information gathering. Parents also noted OMTs as an important means for connecting with, or becoming familiar with the whereabouts and interests of their adolescent and often conceptualized their use of OMTs as a mechanism for adolescent monitoring and supervision. One parent explained, "It's like a lifeline between me and the children, and that's what I use it for."

In addition to demonstrating regular usage of OMTs, the data presented two central themes that informed the feasibility and acceptability of OMT-based parent-adolescent sexual health interventions: (1) perceived benefits and concerns regarding technology use for sexual health information and (2) intentions to engage in a parent-based sexual health intervention via OMTs.

Perceived Benefits and Concerns Regarding Technology Use for Sexual Health Information

With their frequent use of digital and mobile devices, parents and adolescents identified OMTs among their most commonly used sources for sexual health information. The convenience, immediacy, and breadth of information on the Internet encouraged adolescents to seek information on sexual health through OMTs. Many adolescents reported "Googling" information as a well-known trend among information seekers, highlighted by one participant who described: "I know people who Google everything, if they have a question about anything—not only health—they Google it." Additionally, adolescents viewed the Internet as a particularly favorable resource for sexual health inquiries due to its seeming anonymity, which allows them to ask uncomfortable questions.

Table 1 Parent and youth participant demographics

Group characteristics	Parent (n=62)	Youth (n=106)
Gender		
Female	73.9 %	65.5 %
Male	26.1 %	34.5 %
Mean age	44 years	15 years
Race/ethnicity[a]		
Black/African American	34.5 %	52.8 %
Latino/Hispanic	44.8 %	34.0 %
Other[b]	20.8 %	12.3 %
Have a computer		
Yes	80.7 %	94.3 %
No	16.1 %	5.7 %
Have a cell phone[c]		
Yes	100.0 %	93.4 %
No	0.0 %	6.6 %

[a] Race/ethnicity and age data was only available for the Washington D.C. and Sarasota youth focus groups and the New York parent focus groups

[b] Other includes American Indian/Alaska Native, biracial/multiracial, and White

[c] Two parent participants did not respond

Parents also noted the advantages of OMTs for finding sexual health information, emphasizing the Internet to be comprehensive with data and materials. One parent explained:

> You can go on there and access anything, so you can just get on and you know you are going to find out, you are going to Google that in and you see a whole mess of something. You are guaranteed to get some type of information and when you can't, you will view something that can help you get it.

Another parent emphasized:

> …sometimes I will get on the Internet, and I have liked it a lot because you will be looking for a little response, and it will give you…a history.

While parents and adolescents acknowledged OMT as an extensive resource with a plethora of information, many noted concerns about the accuracy of information and difficulties in accessing the specific information they sought. One adolescent explained:

> …it's not always accurate because anyone can say anything and they might not say what's real or like the truth or whatever. So, it's not always the safest thing to trust Yahoo Answers and things like that.

Confusion over which websites present accurate information and the overwhelming amount of material available online were mentioned as frequent barriers to utilizing the Internet to find resources for adolescent sexual health. Many parents also found the excessive amount of information on OMTs to be distracting, as described by one participant: "When you ask for something, and you don't [ask] a good question, they start to send you a lot of information without you asking for it."

Given the lack of specificity of information often presented online, parents and adolescents expressed the importance of tailoring intervention content in a way that reflects the personalization unique to face-to-face interactions. Participants noted that OMTs did not replace the value of asking direct questions to individuals with whom they have established relationships. Specifically, adolescents preferred sexual health information that was personalized and honest, which they frequently sought from trusted adults. While some adolescents mentioned doctors or teachers as resources, many identified their parents as an important resource for sexual and reproductive health and felt that reliable information required interpersonal understanding and communication. Over half of the adolescents in one focus group identified a parent or parent figure as their first resource when they have a sexual health question. One adolescent explained why she would prefer to go to her mother for sexual health information over any other person or resource: "Because they don't know me and I don't know them, so that's why I would go to my mom—because she raised me so she knows me inside and out."

Many parents reported that they obtain sexual health information for their adolescents through conversations with other parents, friends, or trusted professionals. The importance of a shared background or experience was noted as an advantage to obtaining adolescent sexual health information from specific individuals. One participant described:

> If you have a friend that has a child 1 or 2 years older than yours, sometimes it's good to talk to them and say, 'Well when your child was this age, was he doing this or how was he doing the other'? Sometimes people that are going through it at the moment know more than what you think because the process of going through it teaches other people.

While OMTs proved to be widely used among parents and adolescents and were recognized as a possible source of information, parents and young people highlighted the advantages of seeking sexual health information that was specifically tailored to their needs from sources that they already deem trustworthy. Additionally, relational aspects of in-person interactions were found to be desirable when discussing these matters.

OMTs as a Shared Family Activity or Distinct Components for Adolescents and Their Parents

Despite their frequent engagement with OMTs and the social nature of their use, adolescents had mixed intentions to engage

in online activities with their parents. Specifically, feelings of discomfort, generational or cultural differences, and relationship quality with their parents were identified as three main factors influencing adolescents' resistance to engaging in OMTs for a sexual health intervention with their parents.

Feelings of Discomfort Some adolescents expressed concerns about engaging in an OMT-delivered parent-adolescent sexual health intervention due to feelings of discomfort. Specifically, adolescents indicated that such an intervention could potentially be "awkward" and female adolescents, for example, said they would feel uncomfortable learning about sex from their fathers or a male figure. One participant explained:

> So I could probably do it [OMT activity] with my mom but not with my dad. So it's still kind of awkward though if I'm sitting with my mom and my dad is like, 'Hmmm…how do I talk about this now?'. So it depends on which parent.

Other adolescents expressed that the discomfort originated from the potential implications of engaging in a sexual health intervention with their parents, as described by one participant who said: "I don't think I would be comfortable…because they [parents] would automatically assume that I would have sex, that I'm having sex, and I don't want my parents to assume that."

Finally, many adolescents described their OMT usage to be peer oriented and suggested that OMT-based interventions for adolescent sexual health should be delivered separately for adolescents and parents, "just so it could have that boundary."

Generational and Cultural Differences Many adolescents cited cultural and generational differences between parents and adolescents as important factors influencing their willingness to engage in an OMT-based sexual health intervention with their parents. Some adolescents described their parents to be unfamiliar with technology and explained that it would be difficult to engage in an activity through mediums that their parents might have trouble using; as stated by one participant who said:

> I don't know if it would work trying to have, like, technology, like having them involved in technology because neither of my parents are good with technology—they don't use the computer, they don't text, they don't play games on their cell phones, and very few of them are really like comfortable with technology. So I don't know how that would work, personally.

Another adolescent explained,

> She [mom] doesn't know the technology that we're trying to incorporate with the sex education so, it would probably be… and I don't know how everybody else's parents are but my mom is so not on it so, I don't know how you would get her involved.

Some adolescents simply felt that sexual health-related content would deter parental involvement in an OMT-delivered intervention, which can be seen in the following participant statement:

> I feel like our generation, we're a lot more open to these things than our parents are and it's because we were all raised in different times so certain things weren't acceptable for them…I feel like some parents they just don't want to hear it [about sex].

Additionally, adolescents stated that online and mobile content are often not culturally specific, which would present barriers to engaging in interventions delivered through these modes. For example, one adolescent explained that the intervention content should come from a source that relates to their parents' ethnic background, clarifying that this factor would make it easier for parents to understand. Another adolescent noted language to be a primary issue of concern:

> I think about the language barrier, like most of the games that are up now they are English speaking. So if you put a maze or anything or if you're trying to get facts it has to be in the language that your parents would speak for you to actually interact with them while playing the game.

Parent-Adolescent Relationship Quality

The quality of relationships that adolescents had with their parents was a major theme when discussing intentions to engage in an OMT-based sexual health intervention with their parents. Adolescents who described positive relationships with their parents expressed enthusiasm for the idea. For example, one adolescent explained how her open communication with her parents facilitates her willingness to engage in such an intervention.

> I mean I wouldn't have a problem with it. It depends like if the communication with your parents and how you… if you're somebody that doesn't have good communication, your parent doesn't like talking about like sex or whatever—it's just a taboo—then it wouldn't be a good idea to bring them into it. Like, you'd have to create something else for that, for the parents.

In contrast, some adolescents expressed aversion towards the notion of a parent-adolescent sexual health intervention, explaining that many youth their age do not have the type of parent–child relationship where they can talk about any topic,

let alone sexual health. One participant stated that "A lot of teenagers would kind of stray away from that because, like, a lot of teenagers don't, like, would rather talk to a complete stranger than their parents."

Parent Intentions to Engage in an OMT-Delivered Sexual Health Intervention Parents, in general, were positive toward the idea of engaging in an OMT-based parent-adolescent sexual health intervention, citing it as a strategy to strengthen their relationship with their children. Though parents described frequent usage of OMTs, they noted that adolescents and their children were much more engaged with digital tools. One parent explained, "Our kids are now the kings of technology," illuminating the differences in level of engagement and familiarity also described by adolescents. As previously mentioned in the section on OMT usage, many parents' intentions to use OMTs often revolved around their children's behavior. Social networking tools such as Facebook or Twitter helped parents to become aware about the whereabouts or behavior of their children and their friends, as described by one parent who said:

> The only way that I can get a sense of what she [my daughter] is doing or know what really happened is through this medium [Facebook], but I use it [Facebook] for this purpose, not so I can be on it and have lots of friends like, supposedly, you're supposed to be doing.

This point is reiterated to illustrate that most parents already view OMTs as a means for connecting with their children. Hence, the notion of an OMT-based parent-adolescent sexual health intervention was viewed among parents as an opportunity to facilitate communication about a topic that can be difficult to discuss:

> It would be a little easier and more accessible… because really, when parents talk, there are still some taboos among certain people, that they need for example, to have something, like…something to show like a photo, something visible to be able to understanding things a little easier.

Discussion

Although a growing number of studies have examined adolescents' views on digital tools for sexual health education and the feasibility of utilizing OMTs to influence adolescent sexual behavior (Gold et al., 2011; Selkie et al., 2011; Vyas et al. 2012), no studies to our knowledge have examined the feasibility of conducting a family intervention for adolescent sexual health education delivered via OMTs. Our study extends upon the previous research by including the views of adolescents and parents to identify the feasibility and acceptability of using OMTs for parent-adolescent sexual health interventions among African American and Latino families.

Our findings suggest that technology is an integrated part of adolescents' lives and, in turn, adolescents are open to seeking and receiving sexual health information through cell phones and computers in a variety of formats. Parents indicated that they were motivated to increase OMT use in order to facilitate communication with their children and access information. These findings are in line with extant research on technology use for health information (Levine, 2011). Overall, our study demonstrates OMTs for parent-adolescent sexual health interventions are feasible provided that they (1) reduce potential discomfort adolescents may feel about using OMTs with their parents (2) are delivered in ways that are culturally specific and generationally relevant, and (3) address variability in the quality of parent adolescent relationships. Table 2 provides a focused set of recommendations for developing an OMT-delivered parent-adolescent intervention for African American and Latino families.

While parents and adolescents acknowledged the convenience of using OMTs to access sexual health information, their lack of tailoring to the specific needs of the user and trustworthiness in the source of information were noted as major concerns. Hence, adolescents identified in-person interactions with influential sources of guidance, such as their parents, as an available and frequently utilized resource for specific and reliable information. These results suggest the feasibility of OMTs for parent-adolescent sexual health interventions, provided they can take advantage of the accessibility and convenience of OMTs and the interpersonal aspect and influence of parent involvement. Moreover, OMT-based interventions can overcome concerns regarding online resources by integrating aspects of traditional in-person interactions, such as interactivity and specificity, which are desirable to users. As adolescents often view OMTs as "go-to" resources for questions and information, OMT-delivered parent-adolescent interventions are an opportunity to include trusted adults, who are influential in adolescent decision making, in adolescent sexual health education.

While OMTs for sexual health can present advantages in reach and access to adolescents and their parents, adolescents expressed concerns about digital interventions involving parents. As adolescents often view OMTs as a way to interact with their peers, many adolescent participants felt uncomfortable allowing parents into their digital and social space. This factor was a major barrier to the acceptability of OMT-delivered parent-adolescent interventions among adolescents, which may require innovative strategies to ensure confidentiality or media efforts to normalize the activity or behavior. Moreover, adolescents expressed anxiety about discussing sexual health with their parents. While important to note that adolescents in the focus groups described as part of this

Table 2 Recommendations for developing an OMT intervention for parents and adolescents

Use
1. Ensure that the intervention is relevant to the varying ways parents and adolescents engage in technology
2. Build upon the extensive use of technology among parents and adolescents
3. Format tools to take advantage of the immediacy of technology
Content
1. Tailor to the needs of parents and teens by providing specific information in interactive formats
2. Clearly define the specific goals and purpose of the intervention
3. Convey information that is scientifically accurate and trustworthy
4. Ensure that language and activities are developmentally appropriate
5. Target multiple parenting behaviors such as communication, monitoring and supervision
6. Operationalize the role of parents as experts for adolescents
7. Acknowledge and address potential feelings of discomfort surrounding sexual health
Delivery
1. Explore joint as well as separate activities for parents and adolescents that focus on the common goal to keep teens safe and healthy
2. Ensure confidentiality and privacy of the parent and adolescent
3. Deliver information with cultural sensitivity and provide tools in appropriate languages
4. Provide specific guidance and instructions for navigating the online or mobile tool

manuscript expressed concerns of discomfort, this is not unique to OMT-based sexual health interventions. Discomfort has been reported as a common barrier to sexual health communication among parents and adolescents; however, interventions that provide communication strategies and skills have demonstrated that discomfort can be effectively managed and parent-adolescent communication about sex improved (Guilamo-Ramos et al., 2008; Villarruel et al., 2008).

Generational differences were also cited among adolescents as a potential obstacle for parents to engage in OMT-delivered interventions. However, many parents reported moderate to advanced familiarity with technology, including social media sites and cell phone applications. Moreover, existing data reveal high levels of cell phone ownership and computer usage across race and ethnicity among adults (U.S. Census Bureau, 2012; Rainie, 2013), signifying that adolescents may misconstrue their parents' inability to utilize OMTs. Hence, OMT-based interventions need to demonstrate to be user-friendly, regardless of age.

Given the current advances in technology, OMT-delivered interventions can increasingly be tailored to the specific preferences of the user. This can address levels of familiarity with particular online or mobile tools and as well as specific cultural factors important to users. Cultural and contextual variables are influential in sexual health outcomes and were also identified among adolescents as important in their intentions to engage in OMTs. As a result, cultural specificity is particularly relevant for sexual health interventions designed for ethnic minority families.

Conclusion

Online and mobile tools can reach large numbers of youth and offer an opportunity to implement adolescent sexual health interventions with families. The present study suggests that parent-adolescent sexual health interventions delivered via OMTs are feasible, and reveals useful information on potential barriers to use. Our findings provide valuable insight for adolescent sexual health interventions; however, limitations of this qualitative study must be considered. First, data gathered from focus groups represents the perceptions and opinions of a small sample of African American and Latino adolescents and parents, limiting generalizations to the larger population. Planned Parenthood affiliates and collaborating organizations recruited all participants through convenience sampling. Therefore, some of the youth and parent participants' responses may have been biased towards particular ideas based on prior involvement with the organization. Lastly, this study is exploratory and further research is required to assess whether these populations will engage with digitally delivered interventions.

Despite these limitations, we believe the current study addresses an important gap in the public health literature on innovative strategies for reaching adolescents and their parents through effective OMT-delivered sexual and reproductive health education. A recent article on the future of HIV prevention for adolescents highlights family interventions and the use of new technologies as promising approaches for reducing adolescent risk behaviors (Lightfoot, 2012). Our study engaged both approaches by exploring the feasibility of OMT-delivered parent-adolescent interventions. Future research should examine not only the efficacy of OMT-based family interventions, but also consider their potential for use in conjunction with macrolevel efforts to reduce adolescent risk behavior and improve adolescent sexual and reproductive health (Prado et al. 2013).

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