

**Piloting a Sexual Health Smartphone Intervention to Reduce HIV Risk  
Among Young Latina & Black Females**

**Goals**

The goals of the proposed training and research are to:

- 1) Enhance my technological skills, specifically writing code for desktop, iphone, ipad, and android platforms, to run an app focused on sexual and reproductive health informed by the needs of young Latinas and Black women in New York City between 18 and 25 years old. This will inform current and future work.
- 2) Explore how the growing trend of mobile technology and apps providing sexual health information, including location enabled information on nearby services, influences sexually protective behavior and condom use, HIV/STI testing and other SRH services as needed (e.g., PEP, Plan B, drug treatment).

**Specific Aims**

Researchers need to better understand if and how smartphone applications can be leveraged for effective HIV, STI, SRH (sexual and reproductive health) prevention efforts among young urban Latinas and Black women aged 18-25 years old. Building on prior research conducted under a NIMH R25 award (R25MH083602, Krauss, B., Parsons, J., Roye, C. & Wheeler, D.), the proposed research study will:

Aim 1: Identify and explore the settings and situations where participants will use a location enabled SRH smartphone app, and further tailor the app content to meet the needs of the target audience.

Aim 2: Pilot an intervention to assess whether access to a SRH smartphone application, including push messages, versus self-directed SRH education improves knowledge and increases the use of SRH services such as Plan B, PEP, HIV, other STI, and pregnancy testing.

Hypothesis: Those with access to a SRH app will have better knowledge and greater use of SRH services.

To accomplish these aims, I will conduct focus groups and prepare an existing app for the specific SRH needs and design of this study and target population (Aim 1). 300 youth Latina and Black smartphone users will be randomized to receive the SRH app versus usual SRH education (Aim 2). The primary outcome of this study is knowledge and utilization of SRH services (such as where to access Plan B, PEP, HIV, STI, and pregnancy testing) will be assessed via interviews at 6 months after enrollment. Analysis will compare differences between 2-arms and include utilization patterns as well as social network analysis.

**Impact**

The proposed pilot project will expand researchers' limited knowledge about how best to educate and intervene among Latina and Black women ages 18-25 to prevent HIV/STIs and address its sequelae (such as late diagnosis, access to care, and the risk of poor health outcomes among those who contract HIV/STI), which has been shown to be worse among youth of color. Smartphone apps and mobile technologies more generally offer the potential to provide information allowing users to access it (e.g., proper condom use, directions to a testing site, PEP or Plan B) when it is needed most to a highly vulnerable population and their networks. Relevant findings will identify areas where existing interventions may be leveraged and adapted to work among this population. They will also inform the co-creation of other technological-driven, effective, culturally appropriate and innovative interventions, programming, and policies that can decrease the transmission of HIV and its sequelae in this population.

## **Background & Problem Statement**

**HIV incidence in youth.** Of the more than 1.7 million estimated people ever infected with HIV in the U.S., new infections are highest among young Latinas and young Black women.<sup>1</sup> Young people aged 13 to 29 accounted for the largest share of any age group, 39% of new HIV infections in 2009,<sup>2</sup> primarily via sexual transmission.<sup>3</sup> HIV incidence rates among youth in the U.S. have either remained constant or are increasing.<sup>2</sup> In addition, the HIV epidemic continues to disproportionately affect vulnerable communities, especially young people of color in urban areas.<sup>4</sup> Nearly a quarter of women receive an HIV diagnosis concurrently with an AIDS diagnosis; the implication being that they have not sought care to manage HIV and that those living with HIV may have been putting others at risk for contracting HIV unwittingly, since treatment reduces viral load and thus, transmissibility.<sup>5,6</sup> Moreover, total HIV diagnoses in NYC in 2011 are over-represented among Blacks and Latinos (77%).

**Youth utilization of smartphones.** As researchers struggle to find ways to decrease HIV among young people of color, an important area that is understudied and may offer new and innovative techniques to prevent HIV and other sexual and reproductive health (SRH) negative outcomes is the use of smartphone applications (apps), especially since smartphone owners (53%) now outnumber basic cell phone owners (47%).<sup>7</sup> Smartphones offer advanced computing options such as downloading apps and directions via built-in GPS systems, and internet connectivity. App downloading on cell phones remains concentrated among young adults, and those living in urban and suburban areas,<sup>8</sup> and younger adults living in urban areas are especially likely to report downloading an app that helps them track or manage their health.<sup>9</sup> However, it is unclear how smartphone apps may offer a potential for making inroads in HIV/STI/SRH prevention among young Latinas and Black women between 18-25 years old.<sup>10</sup> There is limited knowledge about how young Latina and Black females use smartphone apps specifically for SRH needs, if at all.

**Smartphone & Health 'Apps'.** Application ('app') development continues growing as does their value for influencing behavior change, tracking and sharing data, lifestyle education and management, continuing professional education tools.<sup>11-13</sup> For example, international mobile phone SMS (Short Message Service) has proven effective in helping women living with HIV/AIDS adhere to antiretroviral therapy.<sup>14</sup> At the Joint United Nations Program on HIV/AIDS, one app is being used to keep HIV researchers and educators up to date on data and other information. The goal of the UN AIDS AIDSinfo app is to better understand why and how HIV infection is spread and where treatment, care and support programs are needed. The key feature of the app is that it connects data on AIDS deaths and information about the number of people taking antiretroviral drugs and provides detailed country-by-country data at the touch of a button.<sup>13</sup> That graph can, in turn, be crossed with another graph showing funding for HIV/AIDS prevention, allowing a snapshot of a country's support for its programs, the level of external support, and the level of return on investment.

Health apps are of particular interest to those in public health and epidemiology. The Pew Internet & American Life Project reports that in 2010, 9% of all adult mobile phone users had an app that "helped them track or manage their health."<sup>12</sup> In 2010, and similarly in 2011, cell users who reported having health apps on their phones were more likely to be young, Black, Latino and live in urban areas.<sup>8</sup> Specifically, 15% of cell phone users age 18-29 reported having mobile health apps, compared with 8% of cell users ages 30-49. And while 15% of Black and 11% of Latino cell phone users had a health app on their phone, the same was true of just 7% of white users.<sup>8</sup> For these reasons, this project seeks to explore the use of the growing trend of smartphone use and how access to a SRH app influences the knowledge of SRH information and services among young Latinas and Black women (YLBW) between 18-25 years old.

Given the rapid adoption rate of smartphones among Latinos and Blacks, opportunities to utilize these technologies for HIV prevention may exist.<sup>15</sup> The development of a smartphone app informed by youth peer educators (18 to 21y.o.) not yet released in the market offers a unique opportunity to conduct an experimental design study to understand how YLBW use the app and how it influences knowledge of SRH services. Specifically, the pilot project I am proposing examines if young Latina and Black women ages 18-25 who use a smartphone app for SRH information can achieve increased knowledge and utilization of SRH services such as PEP, Plan B, HIV, STI, and pregnancy testing, and to other social services, such as

substance abuse treatment. This pilot project has strong public health merit. If successful, my work may facilitate youth's access to services and reduce young women's sexual risk. Using the smartphone medium, my proposed pilot has the potential to build a foundation for future larger scale innovative behavioral interventions via smartphones and reach a broad audience quickly and effectively.

### **Personas**

Below are some sample personas describing characteristics of the young women who might use this application.

**Dora** is 19 years old identifies as heterosexual but, in her words, "messes around" with and "talks to" i.e. dates and sometimes has sex with both men and women. She usually uses a condom, but not always. Her family life is complicated: when she turned 15 years old, she was expected to contribute to the family income, and that was more important than going to school. After a late night out, she wakes up next to someone she had sex with and is not sure if she used a condom and wants to find emergency contraception and PREP as quickly as possible. A month later she's not sure if she is pregnant and wants to find a pregnancy test and doesn't know where to start her search on where to get one for free.

**Myra** is 21 years old has a steady girlfriend since she was 15 years old, but they have an open relationship and both always use a condom with other people, but to demonstrate their trust, they usually do not use a condom with one another. Her home life involves getting high with her family including mom, an older sister, two younger brothers and his mother's boyfriends, who never contribute to supporting the family in productive ways. Most of the time the boyfriends are battling drug abuse and expose the family to mood swings and intermittent drug use/abuse. She likes to have safer sex information on hand to share with her younger siblings.

These young people live in urban areas but remain largely geographically isolated to their boroughs if not their immediate neighborhoods where trains and local buses are not close and are unreliable. The result of which increases their time walking through the neighborhood and being exposed to neighborhood drugs and violence, which is higher than seen in wealthier neighborhoods.

### **Preliminary Studies & Rationale for Execution of Project**

**Prior Research on Sexual and Reproductive Health (SRH) apps.** While apps around SRH do exist, there is little to no data on their ability to impact patient/consumer knowledge of available SRH or related services. For example, the New York City Department of Health and Mental Hygiene's (NYCDOHMH) Condom finder app allows users to determine their location through either global positioning system (GPS) technology on their smartphone or by manually entering an address. The application also provides specific directions (e.g., walking, public transportation) to specific venues where free condoms are available, the hours of operation for each location, the types of safer sex products available and helpful tips on condom usage. NYCDOHMH has almost 1,000 condom distribution locations throughout the five boroughs currently accessible through the mobile app.<sup>16</sup> However, NYCDOMH is unable to capture data on whether the app allows people to find and access free condoms throughout New York City (NYC). Anecdotally, the office managing the app and condom availability program uses data from individual venues to capture how many condoms are distributed and replenish supplies, as needed.<sup>17</sup> There is only one article that we are aware of describing the utilization of smartphones to address SRH among young women of color.<sup>18</sup> In a randomized controlled trial of 238 high-risk, predominantly African American young adult women in the urban Northeast, 12 weekly video episodes or weekly HIV risk reduction written messages to smartphones showed promising results and reportedly present investigators with new options to deliver innovative health interventions via the smartphone.<sup>18</sup> The focus of this study was on content delivery and did not explore factors related to sustained use, a focus of this pilot project.

Sonia K. González, MPH, Doctorate of Public Health Student has been awarded many small scholarships while enrolled in the CUNY School of Public Health, and as a master's student at Columbia University's Mailman School of Public Health she was awarded the Heilbrunn Department of Population and Family Health Latino Fellowship (2001). Additionally Ms. González has over a decade of program management experience. Since 2005, she has developed curricula; overseen program implementation, including SAMHSA approved evaluation and monitoring tools; submitted grant proposals and reports; communicated with funders to ensure sustainability of programs; and developed and sustained relationships with community organizations such as the Family and Adolescent Experiences at SUNY Downstate University, Health and Education Alternatives for Teens, Asian and Pacific Islander Coalition on HIV/AIDS, and the Red Hook Initiative.

The on-going project is part of Ms. Gonzalez's work as a NIMH fellow on a research-training grant (R25). Preliminary results revealed that young women in a geographically isolated area reported mistrust of using social networking sites (i.e., Facebook) and texting due to concerns about privacy. The proposed pilot is intended to address those concerns by providing a platform that is more private for individual consumers and their social networks and that gives the option of accessing user generated information with or without interacting with another individual until physically accessing services from a clinic, for example. In short, users are able to frame the use of the app for their individual needs, or share with their networks – a desired feature that was highlighted by the young people who piloted the CHAT app.

Her experience working with vulnerable young people in NYC and training in technology development have prepared her to execute this community-centered application project.

### **The Application in Practice**

**Development of a SRH app.** By posting a concept idea on the ITP Core II class blog (2012), the applicant was connected to Sarah Jenny Bleviss, MPS, designer and developer of Chat About That (CHAT), a mobile web SRH prevention app. As a component of her master's degree at New York University, Ms. Bleviss partnered with the Hetrick-Martin Institute (HMI), a NYC community-based organization, to conduct key informant interviews with 12 youth peer educators and 2 adult staff of the CHAT (Curbing HIV/AIDS Transmission) program. CHAT is a peer education program funded by the Office of Minority Health providing in person and online peer outreach via social networking sites (SNS) and blog to youth ages 13-24 of all sexual preferences, races, genders, and cultures.<sup>19</sup>For three months youth educators were engaged on SNS, and Bleviss observed trainings; a survey was conducted with 12 peer educators to assess how youth sought SRH knowledge, and the peer educators' technology access.

*CHAT Participant Demographics:* Peer educators were between 18 and 21 years old, queer youth of color (they self-identified as gay, lesbian, bi-queer, unsure, straight and bisexual) and ran the gamut of housing experience (i.e. living in secure homes, homeless, housing insecure).<sup>19</sup>All spoke English, many also spoke Spanish or Haitian Creole and they were Black or Latino. Nine of the 12 had a cell phone, 8 of which were smartphones. Research findings were consistent with national data suggesting young people were using the internet to access SRH information.<sup>20</sup>Thirty-three percent of educators identified using their phones, 42% used a computer, and 25% said they used neither a phone nor computer for SRH information seeking.<sup>19</sup>

*CHAT Exploratory Findings:* Focus group findings suggest youth were interested in utilizing an app pertaining to SRH and wellbeing. As two educators said, "it might teach me new things about sexual health info that I might not know of"; "it's interesting and accessible".<sup>17</sup> The pilot project will adapt the existing app for the study design (described below). Current functionality and proposed changes are captured in Table 1.

**Table 1. SRH App Current Functionality & Possible Augmentations**

Main Screen Option	Current Functionality	Possible Augmentation
<b>Safer Sex Tip of the Moment</b>	1) User receives a randomly selected safer sex tip from a series of arrays in Javascript (e.g., “Never brush your teeth within 30 minutes of sexual activity -- the brushing can cause small abrasions leaving your mouth more susceptible to bacteria and viruses. Worried about sexy breath? Opt for gum instead!”); 2) Can be “liked” on Facebook.	
<b>Topics</b>	1) Browse 17 topics, including: HIV/AIDS, HIV+ and safer sex, birth control options, condoms, morning after pill, PEP, pregnancy, sex toys, STIs, and testing for HIV and STIs; 2) Topic buttons can be clicked to navigate to a page with basic information and definitions of terminology; 3) Photos are available for many topic areas.	Others to be tailored to population of interest
<b>Resources Near You</b>	1) Page requests access the GPS on phone to determine location of user; 2) Coordinates are set to access a database that looks for the closest entries within a 25-mile radius; 3) Database is populated with youth services in NYC, focusing on sexual and health and general medical care.	Substance abuse treatment will be added; link to DOHNYC condom locator app; others to be tailored to population of interest
<b>Advice from Peer Educators</b>	Forum allows users to ask questions in four key areas: general inquiries, dating/relationships, sexual health, and sexuality and gender.	Connects to national peer educators such as Ask Alice or SexETC
<b>Sex Trivia</b>	Quiz script that asks a series of sexual health questions with multiple-choice answers. When a user answers incorrectly, a popup appears, notifying them of their incorrect answer and providing them with the correct answer before moving on to the next question.	Aggregate quiz score share via social networking sites
<b>Stay in Touch!</b>	Connects to CHAT on-line presence on social networking sites.	Push texts function will be added

**Theoretical Frameworks Guiding SRH Smartphone App Use with Young Women of Color**

This pilot project will draw from interactive technology pedagogy frameworks and public health theory including the social cognitive theory, and social network theory. Given the use of interactive technology for this pilot, another framework underlining this project draws from literature suggesting that technology has great potential to enhance learning for increasing access to knowledge and information and as a means to promote learning when used appropriately.<sup>35-37</sup> Particularly relevant for the proposed app is the interactive features allowing participants to learn through visualizations such as a graphic of how to properly put on a condom. The literature also suggests that new technologies can be especially effective in helping people learn concepts when they can learn by doing.<sup>35,37,38</sup> This will be an important consideration with the feedback collected during the qualitative data-gathering phase.

While this pilot’s focus is on the mode of communication and the information shared on SRH, specifically HIV/STIs, the applicant acknowledges that information sharing is occurring within the context of other influences in participants’ lives. The social cognitive theory (SCT) considers the environmental and individual factors that might influence individuals. Specifically, the social cognitive theory seeks to provide a comprehensive understanding of why and how people change individual behaviors.<sup>21,22</sup> The SCT has been widely used to guide HIV risk reduction and specifically used with young women of color.<sup>22-28</sup>

The Social Network Theory (SNT) examines social behavior not as an individual phenomenon but through relationships, and appreciates that HIV/STI risk behavior usually directly involves two or more people.<sup>29</sup> With respect to sexual relationships, social networks focus on both the impact of selective mixing (i.e. selection with whom individuals interact), and the variations in partnership patterns (duration and concurrency). The complexities within relationships and communication between a couple, the smallest unit of the social network, is critical to understanding HIV transmission.<sup>29</sup>The scope and character of one’s broader social network (those who serve as reference individuals and who sanction or disapprove behavior) are key elements to comprehending individual risk behavior. Experts underscore the importance of exploring real-world social networks, including circles of friends and sexual partners, since they have already proved to be strong predictors of STI risk.<sup>30-34</sup>Heckathorn, et al., found that certain network features, including geographically extensive networks and an abundance of ties across ethnic boundaries,

genders, ages and drug preferences, can further the spread of HIV/STIs. Ironically, the same network features increase the effectiveness of network-based HIV-prevention interventions, thus demonstrating that network interventions work best precisely when they are most needed, that is, when network structures facilitate the spread of HIV.<sup>31</sup> Given that the long-term goal of this project is to produce a smartphone app to be used in real life settings these theories are appropriate to guide this work.

## **Study Procedures**

A two-phase pilot is proposed to explore how the growing trend of smartphone use and access to a SRH app that utilizes GPS directions to nearby SRH services may influence sexually protective behavior and encourage condom use, HIV testing and other services as needed (e.g., PEP, Plan B, drug treatment). Both phases of the pilot will use Respondent-Driven Sampling<sup>39,40</sup>, which has been found to be an effective method of recruiting hidden or difficult to reach populations while minimizing bias found in traditional chain-referral sampling.<sup>37, 38</sup> Each enrolled participant will be given two codes to ensure that each participant will recruit only two other YLBW between 18 and 25 years old.<sup>40</sup>

***Phase I: Focus Groups.*** The app will be revised for the specific needs and design of this study (i.e., adding counseling and substance treatment sites). After receiving IRB approval, online recruitment for the focus groups will be launched. Focus groups will be conducted to explore the settings where participants will likely use the app, identify additional augmentations, and tailor the app content to meet the needs of the target audience.

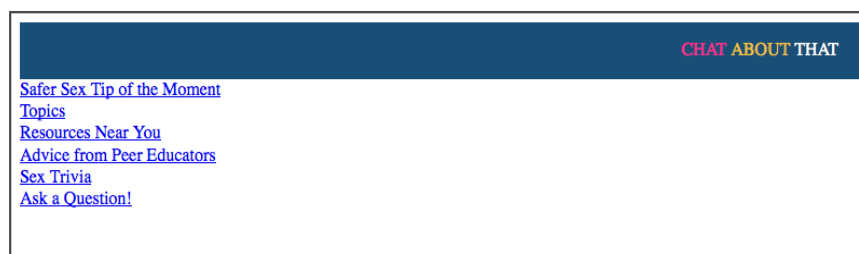
### **Phase I: App Adaptation Procedures.**

The mobile web app was composed with HTML, CSS, JQuery, Javascript, MySQL, Google Maps API, and PHP. A mobile web was chosen due to its crossplatform compatibility, as well as to work from existing skill sets as a front-end web developer. The mobile web app is currently accessible on iPhone, iPad, Android, and via a desktop computer. Future alterations to the application will be executed in collaboration with the creator of the application (see appendix). As proof of concept, two alterations were made to the existing application that I composed in html. The first change was to the main menu to alter text from “Get in Touch!” to “Ask a Question!” A second change was made to include options to privately chat with a peer educator. This option allows users to chat using their google accounts or their windows messenger accounts. To execute these changes, I took the existing html, drew from skills obtained in the workshop ran by Hadassah Hill and sought technical assistance from Ms. Hill during this execution. Using Text Edit, I altered the code, googled "online html editor free" and found a website that would allow me to test the html that I was writing. An example of my work is below.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<title>CHAT ABOUT THAT - sexual health information for teens</title>

<meta name="apple-mobile-web-app-capable" content="yes">
<meta name="apple-mobile-web-app-status-bar-style" content="black">

<script type="text/javascript">
if ('standalone' in navigator && !navigator.standalone && (/iphone|ipod|ipad/gi).test(navigator.userAgent)) {
document.write('<link rel="stylesheet" href="/add2home/style/add2home.css">');
}
```



Then I saved the file as an html file, clicked on that file and saw what it looked like in Firefox, Chrome, and Internet Explorer. I then sent the files to Sarah Jenny to upload on the live site. Future collaboration will allow me to alter the CSS files so that I can update the "style.css" to ensure it has the visual appeal and functionality Ms. Bleviss and I are seeking. As we test different versions of the new app, it makes sense not to upload everything live, once finalized a final version will be updated. After the app is revised with findings from the focus groups, phase II will begin.

***Phase II: RCT.*** The second phase of this project offers a robust evaluation design – an important and challenging component in technology application for public health purposes. Online recruitment and enrollment of a different cohort will be recruited for a 2-arm randomized controlled trial. After consent is provided, participants will then be asked to complete an initial baseline survey that asks about demographics, sexual activity, knowledge of and access to SRH services. After randomization, the intervention group will be provided with access and orientation to a SRH smartphone app, and will be compared to self-directed SRH education. In this way, the study aims to assess which method improves knowledge of the use of SRH services such as Plan B, PEP, HIV, STI, and pregnancy testing. The intervention group will also have the option to set push text messages with safer sex tips or other information from the app at the frequency of their choosing. Messages will be confirmed by a Committee Advisory Committee (detailed below) before they are used and might include, “need a condom, have a friend who needs an HIV test/pregnancy test/ STI testing?” Recently published evaluations of text-based programs suggest success with this approach with HIV prevention and other infections such as influenza.<sup>10,41</sup> Studies incorporating the use of reminder texts for up-coming appointments and drug adherence have shown results in viral suppression decrease for the majority of participants, even when the reminders were discontinued.<sup>10,42</sup> Ramanathan et al., found that when asked about optional reminders for STD and/or HIV tests, at a frequency chosen by the user, they said they would use this feature, web owners said this was the type of intervention they could see incorporating onto their sites and public health officials said they believed it could reduce the overall rates of HIV/STD transmission.<sup>42</sup>

***Hypothesis:*** We hypothesize that those who use the provided SRH app will have better knowledge of the use of SRH services at the end of study follow-up. Analysis will compare differences between 2-arms and will include social network analysis.

***Inclusion Criterion.*** For both the qualitative and quantitative portions of this study, participants must be between 18-25 years of age, self-identify as either Black or Latina, female, own a smartphone, live in New York City, and be sexually active within the last year. A diagram of the study process is captured in Figure 1.

### **Informed Consent**

**Phase I: Focus Groups.** Written participation and audio consent will be obtained from all participants at the focus groups.

**Phase II: RCT.** Based on successful practices based on the literature, participants for the RCT will be recruited and consented online.<sup>43-45</sup>

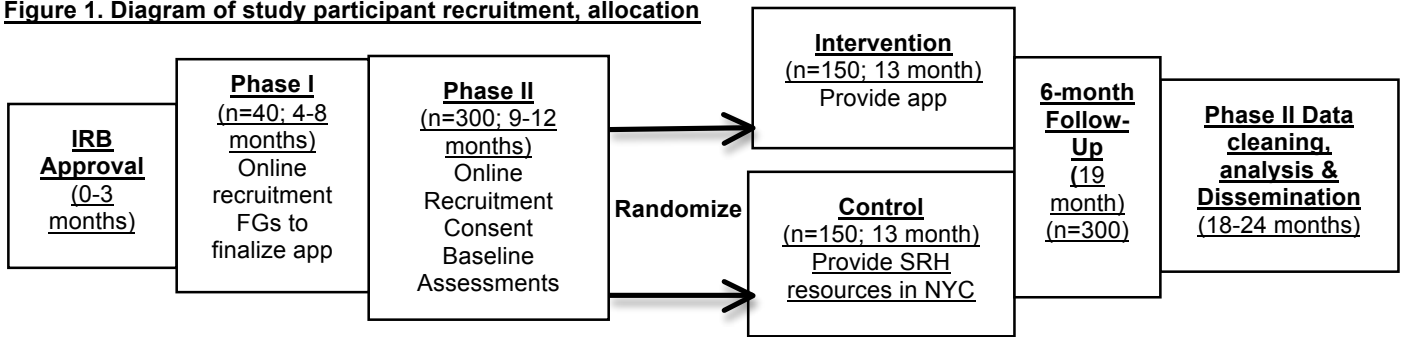
**Recruitment.** In order to both promote information about both phases of the pilot project and recruit 340 participants, I will meet in-person with 5 young adult key informants (KIs) matching the population of interest, as well as 4 adult KIs over the age of 25. The KIs will be men or women with at least 5 years experience working at local youth social service agencies with the population of interest. Of the 340 participants, 40 participants will participate in focus groups, 150 will be randomized to receive the app, and 150 will receive traditional information about SRH information and resources in NYC. I intend to utilize my resources and existing relationships within the community to identify and recruit KIs who already have an online presence on SNS. During these meetings, I will explain the purpose and goals of the study and each KI will be invited to be a member of the Committee Advisory Committee (CAC). After individual meetings with the KIs, there will be a group KI meeting to reiterate the study purpose and the expectations of the CAC, develop a list of possible on-line venues for sampling (i.e., specific SNS Facebook pages, Twitter, etc.) and determine the possible topics for discussion during the focus groups. The CAC will also be

involved in pre-testing instruments for their assessment of readability and appropriate literacy levels before data collection. After the initial CAC meeting, quarterly meetings will be held to address issues related to the target population that may impact the study.

**Incentives.** Appropriate incentives will be determined with input from the CAC. However, it is anticipated that all participants will receive a \$20 iTunes gift card for completing both the baseline and 6-month follow up. Focus group participants will be provided with \$25 and round trip MetroCards to cover transportation costs.

## Timeline

**Figure 1. Diagram of study participant recruitment, allocation**



The diagram above highlights how this work will be executed. IRB approval will be obtained before beginning any recruitment procedures for either phase of the research project. During this time, research protocols, consent forms, and other study procedures will be finalized and approved by the CUNY IRB. For execution of the technical pieces of the project, I will collaborate with Sarah Jenny Bleviss.

To date, my collaborator, Sarah Jenny Bleviss, has conducted a feasibility study and has developed a functional application, which we will modify for the purposes of this study. I have accessed the application and made modifications to it. This is a demonstration of our existing partnership and viable collaboration.

For the ITP independent study, I will:

- 1) Modify the application to enhance some current features as determined with Sarah Jenny Bleviss.
- 2) I will obtain IRB approval, recruit young women between 18-25 who meet the inclusion criterion to generate input from the target population on how the application can be further enhanced. This will be the focus of my independent study ITP project.
- 3) Through careful documentation of field notes on my process on a password-protected blog on CUNY Commons, I plan to collaborate with Amy Kwan and Janice Chisholm to develop a manuscript for publication. The focus of the manuscript will be three case studies of technology use in public health practice, each focusing on one of the following areas: research, pedagogy and community building. The blog has already been developed to capture field notes immediately. With Ms. Kwan and Ms. Chisholm, we will identify appropriate journals and forums for dissemination via publication and presentations.



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**Appendix: Letter of Support from App Designer**



**SWOP-NYC**  
**Sex Workers Outreach Project**  
**New York City**

swank@riseup.net  
www.swop-nyc.org  
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April 10, 2012

Sarah Jenny Bleiviss  
646 Argyle Rd., #8D  
Brooklyn, NY 11230

Dear Sonia,

I am pleased to serve as a collaborator for your proposed research project, "Piloting a Sexual Health Smartphone Intervention to Reduce HIV Risk Among Young Latina & Black Females". Your proposed study examining how exposure to a sexual health smartphone app, among young Latina and Black women 18-25 years old, affects HIV risk behavior and connects youth to services is both significant from a public health perspective and highly innovative. The better we understand how smartphone applications impact sexual risk taking and prevention among Latinas and Black women 18-25 year old, the more targeted our interventions can be using technology that is increasingly common among high-risk populations. Using the smartphone medium, your proposed study has the potential to build a foundation for future innovative behavioral interventions via smartphones and reach a broad audience quickly and cheaply.

As the conceptual, developer, programmer, and designer of the existing prototype sexual health smartphone app and given my additional expertise in the field of interactive telecommunications with a focus on sexual health, harm reduction, vulnerable populations and emerging technologies, I am uniquely qualified to serve as a collaborator for your project.

I am very excited to help with all phases of the study that pertain to the technological components of the application. I am committed to making myself available to you by telephone, email, text, and in person to consult on important content and theoretical issues in expansion of the sexual health app that I co-created with youth from a peer education program in New York City. This is an exciting study, and I am pleased to provide my support.

Sincerely,

Sarah Jenny Bleiviss, MPS  
Co-Founder, Community Organizer  
SWOP-NYC