

Pretesting an mHealth Intervention for At-Risk Adolescent Girls in Soweto, South Africa: Studying the Additive Effects of SMSs on Improving Sexual Reproductive Health & Rights Outcomes

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INTRODUCTION

Using mobile technology—termed “mhealth”—interventions for HIV/AIDS and STI-related health promotion is well documented, but few studies provide evidence of the impact of such programmes on behaviour change. A 2009 systematic review found 25 studies in 13 countries that met inclusion criteria. Most studies included one-way “push” messages and assessed disease management outcomes.

Through a participatory process, Grassroot Soccer (GRS) in partnership with the Praekelt Foundation and Western Cape Labs is designing a two-way SMS campaign to be delivered through *SKILLZ Street*, a single-sex, soccer-based HIV prevention programme for adolescent girls in South Africa. The SMS campaign, named *Coach Tumi*, is being built on an Unstructured Supplementary Service Data (USSD) line.

To explore the design requirements and content for *Coach Tumi*, GRS developed a prototype USSD line using Open Data Kit (ODK), an open-source application for building, collecting, and managing data using Android-enabled phones and tablets. The prototype was tested and feedback was gathered over five days in Soweto, South Africa with *SKILLZ Street* participants. We proceed to discuss the process through which the ODK prototype was conceptualized, built, and deployed. We present results from the prototype delivery and ways in which the results were used to inform the design of a pilot *Coach Tumi* SMS campaign, to be launched and evaluated from September through December 2013..

BACKGROUND

GRS's *SKILLZ Street* (SS) programme provides a unique platform for exploring the effects of a supplementary SMS campaign on sexual violence and sexual reproductive rights and health outcomes among adolescent girls in South Africa. Targeting girls ages 11-14, SS integrates HIV-education and soccer to: a) empower girls to make informed, autonomous sexual choices; b) build self-esteem and self-confidence through skills development and private conversations with powerful female role models; and, c) increase access to and uptake of sexual violence and reproductive health services. The *Coach Tumi* SMS campaign aims to: a) keep SS participants engaged with important discussions during and after the intervention by connecting with participants through weekly SMSs; b) increase SS participants' uptake of sexual violence and sexual reproductive health and rights services in their communities; and, c) reach SS participants regardless of whether or not they own mobile phones.



METHODS

The *Coach Tumi* prototype was delivered to 72 female participants and coaches at a five-day *SKILLZ Street* Holiday camp in Soweto, South Africa. All 72 participants and coaches completed a 10-item questionnaire, also built in ODK and delivered on Android-enabled phones. The questionnaire examined current mobile phone and social media usage and acceptability of the USSD prototype. Questionnaire results were analyzed using *ODK Aggregate*, an online platform for analyzing and managing data.

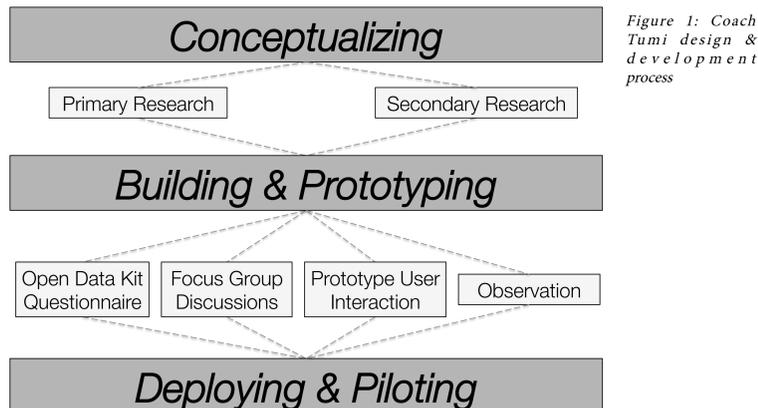


SKILLZ Street participant in Soweto takes ODK survey

Focus group discussions (FGDs) were conducted with coaches (N=1 group) and parents (N=1 group) to explore: the role of the *SKILLZ Street* coach in participants' lives; perceived impact of the *Coach Tumi* prototype messaging; availability of local services in the community; and acceptability of the prototype. Discussions were transcribed and analyzed for emerging themes. Participant observation was carried out by five GRS team members during the *SKILLZ Street* camp.

COACH TUMI DESIGN & DEVELOPMENT PROCESS

GRS employed an 8-month conceptualizing, prototyping, and piloting process to design and develop *Coach Tumi* (see Figure 1). We proceed to discuss each phase of the development process.

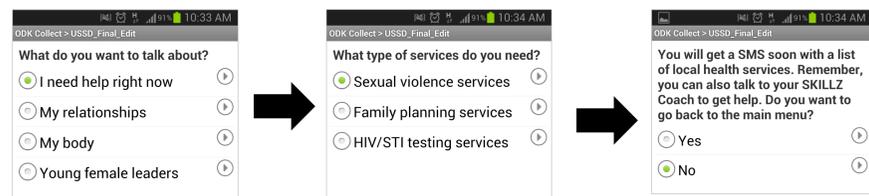


CONCEPTUALIZING

Using primary and secondary research, GRS explored and tested assumptions about adolescent girls' sexual reproductive health and rights. Specifically, GRS drew from internal research and relevant literature to conceptualize the pilot programme and content of the prototype. These findings point to the importance of informing adolescent girls about sexual reproductive health rights and connecting adolescent girls with adequate sexual violence and family planning services and information.

BUILDING & PROTOTYPING

Based on the findings from the conceptualizing phase, GRS built the *Coach Tumi* prototype, identifying four topics to present on the main menu of options: 1) “I need help right now”; 2) “My body”; 3) “My relationships”; and, 4) “Young female leaders.” The images below present a sample sequence of options a participant could select while interacting with the prototype—in this case, when selecting “I need help right now” from the main menu.



1. ODK Questionnaire findings

ODK questionnaire findings demonstrate that 55% of those surveyed reported owning a mobile phone; 85% of those surveyed reported that someone in their household owns a mobile phone, of which 48% said they could access the mobile phone in their household. A majority of participants were interested in and comfortable maneuvering through the *Coach Tumi* prototype: on a four-point likert scale, 68% of girls reported being “very interested” in the *Coach Tumi* prototype and 62% of girls reported feeling “very comfortable” while navigating through it.

2. Focus Group Discussion findings

FGD participants believed that the *Coach Tumi* prototype could provide a way to engage youth with knowledge and information about local sexual reproductive health and rights services in a private environment.

“...knowing that no one will judge you [about going to the clinic]. No one will ask you why you are there or ask you why you need the information. We can say, ‘I need the information for my own uses.’ I will be the only one reading about it [on my phone].”

According to coaches, the USSD model offers girls a safe space to ask private questions about their sexual reproductive health and rights outside of *SKILLZ Street* programmes. Finally, participants suggested integrating a game component to keep participants engaged after their first interaction with the *Coach Tumi* campaign.

3. Prototype User Interaction findings

On their first round of navigation through the *Coach Tumi* prototype, 38% of participants selected “Young female leaders” from the main menu; 27% selected “My body”; 18% selected “I need help right now”; and 13% selected “My relationships.” (see figure 2)

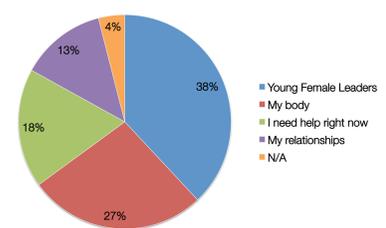


Figure 2: Responses to “What do you want to talk about?” screen

4. Observation findings

Participant observation over 5 days reinforced that the *Coach Tumi* format and content was well-received.

DEPLOYING & PILOTING

Findings from the prototype informed refinement of the USSD line prior to delivery of the pilot programme. GRS identified and connected with youth-friendly local clinics, building relationships deemed essential to the delivery of the programme—particularly given that 18% of participants selected the “I need help right now” option on the main menu of the USSD line prototype. Based on participants' desires for a “game,” content for the USSD line was designed using a quiz format (see Figure 3). The quiz content built on the structure of the curriculum to reinforce key messages and sexual reproductive health and rights knowledge.



Figure 3: Sample question and answer from a Coach Tumi quiz

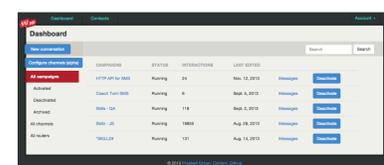


Figure 4: Vumi dashboard

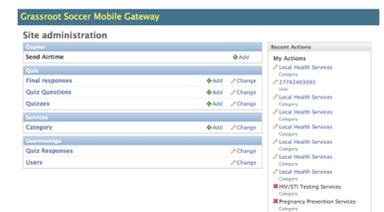


Figure 5: Western Cape Labs Content Management System (CMS)

To build the USSD line for the pilot programme on Praekelt's Vumi Go platform, Grassroot Soccer developed a partnership with the Praekelt Foundation and Western Cape Labs (see Figures 4 and 5). The system allows for the team to dynamically control the content participants receive, while aggregating all interactions from participants and storing data for analysis.

CONCLUSION

Results from the *Coach Tumi* prototype suggest that a USSD line offers a promising means of reaching adolescent girls ages 11-14 with important messages pertaining to sensitive health issues and access of services. FGDs reinforced findings, with coaches and participants also noting the added degree of privacy afforded by a USSD line. These results provide justification for delivery of the *Coach Tumi* USSD line during the pilot programme and assessment, beginning in September 2013. Should the pilot show promising results, GRS plans to implement and more rigorously evaluate a larger-scale SMS campaign in 2014.

ACKNOWLEDGEMENTS

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