

GOAL Trial: pilot results of a sport-based HIV prevention intervention to inform a cluster-randomized trial in South African schools

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Background

South Africa is enduring the world's most severe HIV epidemic, with more than 5.6 million infected and approximately 390,000 new infections per year. **Sport-based HIV prevention** interventions are becoming increasingly common across Africa, though supporting evidence for these interventions is limited. **Generation Skillz** is an eleven-session sport-based HIV prevention intervention delivered in secondary schools in South Africa, primarily focusing on age-disparate sex, multiple partnerships, gender-based violence, and male circumcision. This study presents results of a multi-site pilot to inform a three-year cluster-randomized trial (GOAL) that will assess Generation Skillz' effectiveness in reducing reported sexual risk behavior and HIV/HSV-2 incidence among young South Africans.



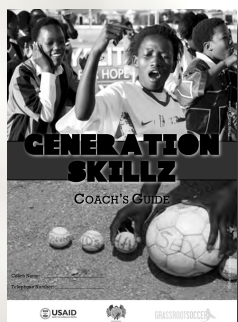
Methods

Between February and September 2011, a 20-item questionnaire assessing HIV-related **knowledge**, **reported attitudes**, and **reported communication** was administered before and after pilot interventions with Generation Skillz participants (n=612, 54% female, mean age 15.7 years) in Soweto, Mtubatuba and Khayelitsha, South Africa. Questionnaires were self-administered via pen-and-paper in schools. Questions were written in English, with oral translation into Xhosa and Zulu. McNemar's chi square analyses were used to assess changes on individual questions in the proportion of favorable responses. Paired-sample t-tests were used to assess overall effects.

Table 1: Characteristics of study participants (n=612)

| | Characteristic | Frequency | (%) |
|------|----------------|-----------|-------|
| Sex | Male | 283 | (46%) |
| | Female | 329 | (54%) |
| Site | Soweto | 415 | (68%) |
| | Mtubatuba | 178 | (29%) |
| | Khayelitsha | 19 | (3%) |
| Age | <15 | 126 | (21%) |
| | 15-16 | 328 | (54%) |
| | 17-18 | 131 | (21%) |
| | ≥19 | 27 | (4%) |

Generation Skillz uses soccer activities, themes and metaphors as the entry point into vital conversations on **age-disparate sex**, **multiple partnerships**, **gender-based violence**, and **male circumcision**. In support of the HIV prevention efforts of the Department of Basic Education and Life Orientation Educators, Grassroot Soccer coaches deliver the activities-based Generation Skillz curriculum during and after school.



Results

There was very strong evidence of positive effects on knowledge (t=27.2, p<0.001), reported attitudes (t=12.9, p<0.001), and reported communication (t=11.4, p<0.001), with **significant pre/post changes observed on 19 of the 20 indicators** (p<0.005). Overall, the mean number of favorable responses increased from 11.46 (SD=3.18) to 15.08 (SD=3.51) from pre- to post-intervention (t=28.3, p<0.001).

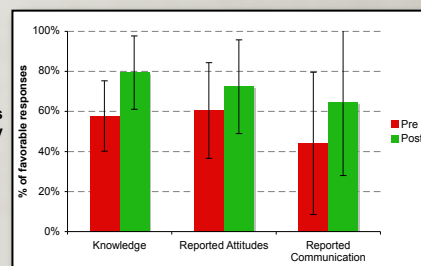


Figure 1: Pre/post changes in favorable responses by question type (n=612)

The strongest effects were observed in knowledge of **older partners** (RR=2.05, 95% CI=1.77-2.37), **alcohol and drugs** (RR=1.77, 95% CI=1.53-2.05), and **acute infection** (RR=2.74, 95% CI=2.30-3.26) as risk factors for HIV, as well as knowledge of **male circumcision** as an HIV prevention method (RR=1.75, 95% CI=1.50-2.05).

Table 2: Pre/post changes in favorable responses by question (n=612)

| Item | Pre | Post | Change | p value* |
|---|-----|------|--------|----------|
| Attitudes | | | | |
| It is a woman's responsibility to avoid getting pregnant. | 25% | 41% | 16% | <0.001 |
| I can resist peer pressure. | 50% | 70% | 20% | <0.001 |
| I would stay away from a classmate with HIV. | 74% | 79% | 5% | 0.003 |
| It is my responsibility to protect myself and others from HIV. | 83% | 87% | 4% | 0.004 |
| I would be willing to take an HIV test. | 78% | 87% | 9% | <0.001 |
| It is the man's responsibility to make decisions in a relationship. | 61% | 75% | 15% | <0.001 |
| There are times when it is ok for a man to hit his girlfriend. | 64% | 74% | 10% | <0.001 |
| Attitudes Average | 62% | 73% | 11% | <0.001 |
| Communication | | | | |
| I have talked about HIV with a parent or guardian in the past 2 months. | 37% | 58% | 21% | <0.001 |
| I have talked about HIV with a friend in the past 2 months (outside of Skillz). | 54% | 72% | 19% | <0.001 |
| Communication Average | 45% | 65% | 20% | <0.001 |
| Knowledge | | | | |
| Unprotected sex is the most common way HIV is spread. | 85% | 90% | 5% | <0.001 |
| Having more than one sexual partner increases your risk of getting HIV. | 79% | 92% | 13% | <0.001 |
| Having sex with an older partner increases your risk of getting HIV. | 44% | 90% | 46% | <0.001 |
| If a pregnant mother has HIV her baby will always be born with HIV. | 58% | 76% | 18% | <0.001 |
| Circumcision can reduce a man's risk of getting HIV. | 42% | 73% | 32% | <0.001 |
| Drinking alcohol and using drugs can increase your risk of getting HIV. | 46% | 81% | 35% | <0.001 |
| You are more likely to spread HIV in the first 6 weeks after getting infected. | 29% | 78% | 50% | <0.001 |
| Having only one faithful partner (prevention method) | 56% | 70% | 14% | <0.001 |
| Washing after sex (not a prevention method) | 91% | 92% | 1% | 0.225 |
| Using condoms during sex (prevention method) | 72% | 79% | 7% | <0.001 |
| Not having sex (prevention method) | 50% | 62% | 12% | <0.001 |
| Knowledge Average | 59% | 80% | 21% | <0.001 |
| OVERALL AVERAGE | 59% | 76% | 17% | <0.001 |

*Based on McNemar's chi-square, with 1 degree of freedom

Conclusions

This pilot study provides encouraging evidence that **Generation Skillz** produces a short-term positive effect on participants' knowledge, attitudes and communication related to HIV. Further research is needed to establish whether Generation Skillz effectively reduces sexual risk behavior and HIV and STI incidence. In collaboration with the London School of Hygiene and Tropical Medicine and the Wits Reproductive Health and HIV Institute, Grassroot Soccer is now conducting a **cluster-randomised trial of Generation Skillz**, with 46 schools and 5,000 adolescents in Cape Town and Port Elizabeth. The three-year trial (known as the GOAL Trial) draws on self-administered, mobile-assisted sexual behavior surveys as well as dried blood spots to assess HIV and HSV-2 incidence over three years. The GOAL Trial will play an important role in assessing the long-term effects of Generation Skillz and informing policy and strategy related to sport-based HIV prevention.

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