South Africa Project: Healthy Lifestyles Pilot

Reframing HIV Risks

Summary

Over 5 million people in South Africa are infected with HIV. Worryingly, teenage schoolgirls are three times more likely to be HIV positive than boys their age. One of the reasons behind this alarming phenomenon is thought to be the widespread tendency for young girls to have relationships with older men, who are more likely to be HIV positive. Addressing this problem is therefore crucial in the ongoing fight against HIV.

The Western Cape Government in South Africa asked ideas42 to find a behavioral solution to this major public health problem. Working with the Western Cape's Department of Health and researchers at the University of Cape Town, we identified an issue that leads to more teenage girls getting involved with older men: there is a misperception among some that older men are safer sexual partners, rather than the riskier choice they actually represent.

We designed a simple, computer-based "HIV risk game" to correct this misperception, drawing on the behavioral insights that people are:

1. More likely to learn something new if they have repeated exposure to the information; and

2. More likely to remember concepts that they teach themselves.

We developed a prototype game and tested it with teenagers from the target population in South Africa so that we could find out whether it was more effective than a traditional approach to providing information about HIV risk.

The results were striking. We found that the treatment group was significantly more likely to correctly identify which of two hypothetical individuals of different ages is more likely to have HIV after playing the game, answering twice as many questions correctly than those in the control group. Importantly, the results also suggested that these effects persisted over the next 3 months.

These findings have significant implications. In South Africa and other parts of Sub-Saharan Africa, practitioners face huge challenges educating at-risk groups about HIV. Sharing this information through an effective and inexpensive game has the potential to help stop the spread of HIV and save thousands – if not millions - of lives.

Defining the Problem

The overall HIV infection rate in Sub-Saharan Africa and South Africa masks large variations by gender and age. Women are disproportionately more likely to be HIV positive, accounting for 57% of all people living with HIV in Sub-Saharan Africa. The risk of HIV infection is particularly acute for girls and young women, compared with boys and young men of similar ages.

A number of studies have identified age-disparate partnerships - defined as heterosexual partnerships in which there is a difference in age of five years or more between partners - as one of the causes of this disparity. For example, a 2005 survey of the South African population found that 15-19 year old girls who had partners five years or more older than them were three times more likely to be infected with HIV than other girls in that age group.

This is at least partly because HIV prevalence peaks around 5 years later in men than among women; recent nationally representative data found that HIV prevalence among 20-24 year old South African men was seven times higher than among 15-19 year old men, and three times higher among 25-29 year old men compared to the 20-24 year old age group. In short, a young woman whose partner is older than her is more likely to be exposed to the HIV virus than a young woman with a partner of the same age. And these age-disparate relationships are common across Sub-Saharan Africa, with data showing that in South Africa almost a third of partnerships including a woman aged 15-24 had an age-gap of at least five years.

We therefore set out to design a low-cost, scalable behavioral intervention to reduce the number of women who were in intergenerational relationships with men in order to lower the HIV infection rate.

Problem Diagnosis

We conducted focus groups with girls from the target population to help us understand why a young woman might engage in a relationship with an older man. We also measured their values and perceptions through their implicit responses to images taken from previous marketing campaigns designed to address this problem. We learned that a major factor underpinning the girls' choice of partner was a misperception of risk: many of them wrongly believed that older men were safer partners because they seem to be more financially secure, responsible, and mature, and failed to consider their previous relationship history.

The academic literature also helped us to better understand this problem. Repeated studies have found that people find it very difficult to accurately assess probabilities, and rely instead on heuristics - or rules of thumb - that can sometimes lead them in the wrong direction. People have a tendency to use the information that is most 'available' to them to inform their view of risks. In this context, we hypothesized that teenage girls may be over-weighting the current, observable "promiscuity" of boys their own age (which is visible and therefore available, or "top of mind") while under-weighting the past sexual behavior of older men (which is not visible and therefore not similarly available).

Intervention Design and Testing

We used these insights to design a simple, scalable solution: a computer-based game to teach

teenagers the true relative risks of HIV, drawing on the behavioral insights that repeated exposure to information helps people learn new facts, and that people have a better recollection of concepts that they teach themselves (also known as "generative learning"). The premise of the game was simple: players were presented with the age and sex of two randomly generated individuals, and asked to choose which of the two was more likely to have HIV. After they answered, subjects received immediate feedback as to whether or not they had guessed correctly, and were given the estimated HIV infection rate for both individuals. If both individuals were male, they also received a salient message directly alerting them to the fact that older men were more likely to have HIV.

To evaluate the effectiveness of our prototype game, we tested it in a lab setting with 162 male and female teenagers from a low-income township in metropolitan Cape Town. We randomly assigned the teenagers to either the treatment or control group. Teens in the control group read a short essay about HIV, which included a brief discussion of relative risks by age – a more traditional approach to teaching people about the risk of HIV infection. Teens in the treatment group played 8 rounds of the prototype "HIV risk game". After these activities, both groups were asked the question: "Is a 20-year-old man or a 30-year-old man more likely to have HIV?" The results of this experiment showed a remarkably strong effect on beliefs about HIV: 80% of the teens that played the game answered the question about HIV risk and age correctly, compared to only 63% of the teens who read the essay.

Approximately 3 months after the study, we followed up with the teenagers to ask them the same question again. This allowed us to assess whether the game had any persistent effect on their understanding of HIV risk. While our results from this follow-up round are not conclusive because we only succeeded in contacting 70 of the original participants, they are nonetheless indicative that information was retained. The teenagers from our original treatment group who responded to the follow-up survey were 18 percentage points more likely to answer correctly than those formerly in our control group. Among the girls who took part in the experiment – our population of interest – the long-term effects were even more striking: 85% who had played the game answered the question correctly, compared with just 47% of those that read the essay. Small sample sizes and selection issues mean that these results are only suggestive, but they are nonetheless very encouraging.

Lessons for the Future

This experiment found that the prototype behaviorally informed HIV risk game we created successfully corrected the misperception that older men are safer sexual partners, confirming our hypothesis about the most effective way to educate our target population about relative risks. We also found some suggestive evidence that this learning is retained over several months. However, it is important to note that this experiment did not provide any insights on whether changing the perceptions of risk actually leads to a change in behavior - our ultimate goal and something we would like to test in the future.

Nonetheless, these findings have significant implications for the policymakers in the Western Cape Government that we worked with on this project, as well as other provinces and countries that are facing similar challenges. Correcting misperceptions of risk is an important component of efforts to change behavior and reduce HIV infections, and this project provides important lessons about the most effective ways to educate people about risk - lessons that could have a significant impact in the global fight against HIV/AIDS.