The entertaining way to behavioral change: fighting HIV with MTV

Victor Orozco, Oxford University and World Bank Research Group

Research with Abhijit Banerjee (MIT) and Eliana La Ferrara (Bocconi)
Outline

• Motivation
• MTV Shuga trial
• HIV Results
• Conclusions
Motivation: HIV epidemic

• In 2016, an estimated **1.2 million people** in Sub Saharan Africa became infected with HIV, with >1/3 being 15-24 youth (UNAIDS 2017).

• Systematic reviews of HIV behavior change programs in low- and middle-income countries (Fonner et al 2014, McCoy et al 2010), including Sub-Saharan Africa (Harrison et al 2010, Michielsen et al 2010, Mavedzenge et al 2011, Krishnaratne et al 2016), suggest behavior change campaigns improve knowledge and awareness, but have limited impacts on reducing risky sex.
Generalized HIV epidemics require targeting the **general population**

We need effective & low-cost interventions
Entertainment-education strategically uses media shows to promote socially-desirable attitudes and behaviors and dissuade socially undesirable ones (Singhal and Rogers 1999).

A contrast with traditional information campaigns that may become too repetitive too soon.

(Educational) TV dramas?

VS

STOP AIDS GET TESTED
Theories underpinning TV dramas

- Narratives are inherently easier to understand and remember than abstract concepts that lack a storyline (Fisher 1987).

- The fantasy-reality blur reduces counter-arguing (Slater & Rouner, 2002); or the need to provide counter-examples to challenging, new information.

- Characters can serve as role models and promote self-efficacy for achieving difficult/new behaviors (Bandura 1997). “If the character can do it, I can do it”.

- Shift perceptions of the “normal” and socially approved (World Development Report 2015). “If it’s on TV, it its likely to reflect new social realities”.

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Works in theory

Does it work in practice?

Embedded messages may be hard to get or easy to forget.

People may perceive storylines as unrealistic and not related to them or to their social contexts.

Etc etc.
Study contribution

• Field experiments showed:
  
  • **TV drama** increased **financial literacy and savings** in South Africa (Gunhild & Zia 2013),
  
  • **Documentary** increased awareness and days worked under a **public works program** in India (Ravallion et al 2015), and
  
  • **Radio-listening groups** reduced **intergroup prejudice** in Rwanda (Paluck and Green 2009).
  
  • **Complex interventions** in middle school-settings reduced risky sex in Gabon (Milleliri et al 2003); Kenya (Dupas et al 2011), and Cameroon (Dupas et al 2017).

• But limited effectiveness evidence of **TV dramas** for urban youth for **HIV** outcomes.

• Limited evidence of **social norms** and **edu-tainment mechanisms**.
• Produced by MTV Staying Alive Foundation.
• 3rd season (3 hours) shot in Nigeria.
• Broadcasted in all Sub Sahara Africa. #1 drama
South Africa’s largest TV channel (NPR 2017).
• Engaging stories.
Research questions

1. Can MTV Shuga improve knowledge, attitudes and most importantly HIV behaviors?

2. If so, what social and edu-tainment mechanisms may be driving these effects?
Evaluation Design

**T1:** Shuga only

Social mechanisms

**T2:** Shuga + “Announcement” interview and stats of peers’ views

**T3:** Invite friend to movie (cross cutting)

For Treatment & Control: sample friends not invited to movie → spillovers
Edu-tainment mechanisms

- **Program transportation index**
  You wanted to learn how program ended / The show affected you emotionally / Your mind wondered while watching the program, ...

- **Character identification index**
  When characters succeeded, you felt joy / During the show you felt you could read characters minds / You understand reasons why characters did what they did, ...
MTV Shuga trial

- Southwest Nigeria, urban & peri-urban locations


- No further exclusion criteria to make sample as representative of urban youth.
MTV Shuga trial

- 3 screenings in each of 80 locations
- Viewers invited through home visits, ticket to attend & participate in raffle
- **Treatment**: MTV Shuga 3; **Control**: Gidi Up (TV drama lacking HIV messages, positive or negative)
Data collection timeline

Baseline

Strongly agree
Agree
Disagree

8-10 months later (n=4,986)

Strongly agree
Agree
Disagree

Follow-up (self-reported)

Baseline
Intervention
Exit surveys

Objective measures

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MTV Shuga
Survey data (8-month follow-up)

- Knowledge about HIV transmission
- Attitudes towards HIV+ and HIV testing
- Behaviors, self-reported
  - HIV Testing
  - Sexual concurrency, condom use, inter-generational sex
- Chlamydia status
Objective measures
(10months, Follow-up only, at temporary clinics)

- Notes with information about the closest HIV testing center

- Participants were given the following choice: Condom package or financial equivalent?

- Biomarkers for Chlamydia

Nearest VCT centers

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Phone Number</th>
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<tr>
<td>Clinic Abuja</td>
<td>1400 Fuller St</td>
<td>234-9-12345</td>
</tr>
<tr>
<td>Clinc Lagos</td>
<td>1500 Mozart St</td>
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</tr>
<tr>
<td>Clinic Uyo</td>
<td>1600 Oak St</td>
<td>234-85-12345</td>
</tr>
</tbody>
</table>

code: AB12CD34
Clean identification strategy

- Baseline balance

- Low attrition rates for follow-up survey (3.5%) and temporary clinics (1.8%). Attending latter was financially encouraged.

- No systematic differences between respondents on their baseline outcomes.
Estimating regression

\[ y_{ilc1} = \beta \text{Treated}_{ilc0} + X'_{ilc0} \zeta + \delta_c + \epsilon_{ilc1} \]

- \( i \) = respondent, \( l \) = location (screening ctr), \( c \) = town
- Controls \( X \): gender, age, education, enrolled in school, single, Muslim, Yoruba, speaking English as main or 2nd language at home, not living w/ parents, hh size, wealth, homeownership, father or mother w/ secondary education
- Town fixed effects
- Std. errors clustered by screening center
- Regression run w/ and w/o lagged dep var
HIV results
Psychosocial outcomes

+ 0.13 SDs, Knowledge about HIV transmission

+ 0.10 SDs, Attitudes towards HIV+ and testing
Psychosocial outcomes

+ 0.13 SDs, **Knowledge** about HIV transmission

+ 0.10 SDs, **Attitudes** towards HIV+ and testing

e.g., + 8.8 p.p. (12.1% increase) allow HIV+ boy play football
HIV Testing

Tested less than 6 months ago (BEFORE follow up)

Went to HIV Testing center Pers (AFTER follow up)

Control  Treatment

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MTV Shuga
Condom use

Despite 4/5 of individuals noting they could get a condom in less than 10 minutes
Tested positive for Chlamydia

- Men: 2.8 (Control), 1.5 (Treatment)
- Women: 3.1 (Control), 1.3* (Treatment)

58% decrease in positivity rate.
Sexual concurrency

Number of concurrent partners by baseline partners

<table>
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<tr>
<th>Number of Partners</th>
<th>Probability</th>
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<td>1</td>
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<tr>
<td>2</td>
<td>-0.18</td>
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<td>3</td>
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Mechanisms
Mixed results on Social effects

- Informing viewers about what peers think (T2) had ST effects but LT effects are less clear.

- No difference when watching show alone vs with friends.

- Knowledge spillovers on friends of viewers, but no effects on friends’ attitudes and behaviors

Direct experience needed?
Program transportation and Character Identification Index

**Interaction Treatment*Edutainment term**

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>HIV knowledge (1)</th>
<th>HIV attitudes (3)</th>
<th>HIV testing (5)</th>
<th>Attitudes towards risky sexual behavior (7)</th>
<th>Risky sexual behavior (for sexually active) (9)</th>
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<td>Treated*Transportation</td>
<td>0.405*** (0.106) [0.001]</td>
<td>0.418*** (0.107) [0.000]</td>
<td>0.141** (0.066) [0.073]</td>
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<td>Treated*Identification</td>
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MTV Shuga
Impacts on HIV knowledge for 1 SD increase in Program transportation and Character Identification Index

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Impacts on HIV knowledge for 1 SD increase in
Program transportation \[+0.45 \text{ SD}\]
Character identification \[+0.30 \text{ SD}\]
Conclusions (1/2)

1. MTV Shuga improved HIV knowledge and attitudes. Evidence of knowledge spillovers.

2. It increased HIV testing and reduced risky sexual behaviors, halving sexual concurrency and Chlamydia infections for women.

3. No effects on condom use and inter-generational sex. Potential need of economic empowering interventions (Jones, Orozco and Rascon 2019).
Conclusions (2/2)

4. Social channels don’t explain program effects.

5. Greater program-transportation and character-identification improved HIV outcomes.

6. Edu-tainment can reach millions at low marginal costs, key for generalized epidemics like HIV
Thank You!

World Bank Research Program on Entertainment Education

DIME Edu-tainment (First Phase)
Mexico – Movies to prevent alcohol and drugs addictions
India – Documentaries and comics delivered through social media to reduce GBV
Nigeria - Social Norms Campaign to increase aspirations and school enrollment and attendance.
Nigeria – Mobile games and books for teaching how to read