NATIVE IT’S YOUR GAME:
ADAPTING AND EVALUATING A
CULTURALLY RELEVANT SEXUAL HEALTH
INTERVENTION FOR AMERICAN INDIAN AND
ALASKA NATIVE YOUTH

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Funded by the Centers for Disease Control & Prevention (CDC)
Adolescent Sexual Health

- 2012: AI/AN teens (15-19 y. o.) had the third highest teen birth rate reported among all races and ethnicities
  - 35 per 1,000
  - 29 per 1,000 for the nation as a whole

- 2010: AI/AN teens (15-19 y. o.) had the highest prevalence of repeat teen births among all races and ethnicities
  - 21.6%
  - 14.8% among White youth

- 2012: AI/ANs had the second highest rate of chlamydia reported among all races and ethnicities
  - 728.2 per 100,000
  - 4 times the rate of Whites (179.6 per 100,000)
Outline

- Adaptation Process
- Efficacy Study
- Dissemination Plans
Team

- Alaska
  - Connie Jessen
  - Jennifer Williamson
  - Taija Revels

- Arizona
  - Gwenda Gorman
  - Travis Lane

- Pacific Northwest
  - Stephanie Craig Rushing
  - Amanda Gaston

- UTSPH
  - Ross Shegog
  - Christine Markham
  - Jennifer Torres

CDC Project Officer: Helen Tavendale
Consultants: Carol Kaufman, Bill Lambert
Study goals

1) Adapt a computer-based version of IYG, called *It’s your Game-Tech (IYG-Tech)*, for AI/AN youth.

2) Evaluate the effectiveness of the adapted program for youth (12-14 years old) in three geographically dispersed AI/AN communities in Alaska, Arizona & Pacific Northwest.
Background: IYG

- Developed in 2004 by researchers from the University of Texas Health Science Center at Houston (UTHealth) School of Public health.
- Theory-based, multimedia program for 7th & 8th grade.
  - Based on Social Cognitive Theory, Theory of Triadic Influence, Social Influence Models, and empirical evidence.
- 2 randomized controlled trials.
- Effective outcomes by follow-up at 9th grade:
  - Delayed initiation of sexual intercourse.
  - Reduced frequency of sex.
  - Increased condom use.
  - Positive impact on psychosocial variables.

Source: Tortolero, 2010; Markham, 2012.
It’s Your Game-Tech

- Theory-based, online program for 8th grade urban minority youth
- RCT in 20 middle schools
- Effective outcomes by 9th grade follow-up
  - Less likely to initiate sex
  - Positive impact on psychosocial variables
  - Positive impact on inhibitive control (ECF).

Source: Peskin, 2015
<table>
<thead>
<tr>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Introduction</td>
</tr>
<tr>
<td>2 Healthy friendships</td>
</tr>
<tr>
<td>3 Personal rules &amp; risky situations</td>
</tr>
<tr>
<td>4 Effective refusal skills</td>
</tr>
<tr>
<td>5 Anatomy, physiology, and reproduction</td>
</tr>
<tr>
<td>6 Healthy dating relationships</td>
</tr>
<tr>
<td>7 Social, emotional, physical consequences of sex</td>
</tr>
<tr>
<td>8 Communication skills</td>
</tr>
<tr>
<td>9 Consequences of teen pregnancy</td>
</tr>
<tr>
<td>10 Consequences of STI/HIV</td>
</tr>
<tr>
<td>11 Condom and contraceptive use</td>
</tr>
<tr>
<td>12 Refusal and communication skills review; condom negotiation</td>
</tr>
<tr>
<td>13 Review, personal commitment</td>
</tr>
</tbody>
</table>
Study Activities

**PHASE 1**
- **Year 1**
  - Community Support
  - Review existing resources
  - Usability Testing (Pre)
- **Year 2**
  - Adaptation
  - Usability Testing (Post)

**PHASE 2**
- **Years 3 & 4**
  - Efficacy Trial
  - Dissemination of Results
## Adaptation Strategy

<table>
<thead>
<tr>
<th>Level</th>
<th>Strategy</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surface culture</strong></td>
<td>Peripheral</td>
<td>Clothing, music, colors, images, fonts, pictures of group members, places</td>
</tr>
<tr>
<td></td>
<td>Evidential</td>
<td>Epidemiological data</td>
</tr>
<tr>
<td></td>
<td>Linguistic</td>
<td>Language(s), terms, literacy level</td>
</tr>
<tr>
<td><strong>Deep culture</strong></td>
<td>Constituent-involving</td>
<td>AI/AN staff and lay health workers, AI/AN peers and elders</td>
</tr>
<tr>
<td></td>
<td>Sociocultural</td>
<td>Cultural values and beliefs; social, historical, environmental and psychological forces that influence target health behavior</td>
</tr>
</tbody>
</table>

Lesson 1: Pre-Game Show

Lesson 2: Keeping it Real...Among Friends

Lesson 3: Playing By Your Rules...SELECT DETECT PROTECT

Lesson 4: Protecting Your Rules

Lesson 5: Know Your Body

Lesson 6: Keeping it Real...Healthy Dating Relationships
Surface level changes
ADDING NATIVE YOUTH
Holistic Health
Sure... I want to be as good as you one day...

Plenty of choices, Datu... it is you who can make the right ones.

Well... like everything in life it's about the choices you make and the paths that you take...
Tribal Elders & native health expert
Fact Sheets

- Get the Facts About Body Art
- Get the Facts About Suicide
- Get the Facts About Drugs & Alcohol
- Get the Facts The 411 on Abuse Is Misuse
The final product: Native IYG

- Native IYG is a computer-based curriculum comprised of thirteen 30-50 minute interactive lessons.
- Can be used in the classroom, or as an extracurricular program.
- The program allows youth to use the program without the need for teacher facilitation.
- Includes three homework assignments that prompt parent and child communication.

[https://nativeiygteen.sph.uth.tmc.edu/](https://nativeiygteen.sph.uth.tmc.edu/)
Post-Adaptation Ratings

- Adult stakeholders responded favorably
  - Relevant and appealing for AI/AN youth
  - Most tribal communities would support implementation

- High youth usability ratings
  - Easy to use (79-100%)
  - Liked the lessons (68-94%)
  - Would help them make better choices (73-100%)
  - 86% felt Native IYG met the needs of AI/AN youth
Native IYG Conceptual Framework

**Distal Determinants**
- Problem-solving
- Personal Control
- Social support
- Decision-making
- Cultural beliefs
- Native identity

**Proximal Determinants**
- Knowledge
- Beliefs
- Perceived Norms
- Perceived Risk
- Self-efficacy
- Refusal
- Condom use

**Proximal Determinants**
- Healthy Friendships
- Healthy Dating Relationships
- Sexual Intentions

**Sexual Behavior Outcomes**
- Delay sexual debut
- Use condoms & contraception
- Decrease # of sexual partners
- Get tested for HIV/STI and pregnancy, if sexually active

**Social Environment**
- Peer Influence
- Parental Influence
- Media Influence
- Dating Violence
- Access to Services
- Access to Resources
- Access to Alcohol & Drugs
- Mental Health
Efficacy Study

- **RCT** - 2 study arms: Native IYG and Comparison Group
- **25** Tribal Sites randomized
- **3** regions: AK, NW, AZ
- **574** middle school aged youth enrolled
- **3** Surveys: Pre, Post, 12 month follow-up
Participant flow

Alaska Native Tribal Health Consortium
- 10 sites
- 94 youth consented

Inter Tribal Council of Arizona, Inc.
- 3 Sites
- 127 youth consented

Northwest Portland Area Indian Health Board
- 12 Sites
- 353 youth consented

25 sites randomized (574 youth)

154 youth from 11 sites assigned to the control group
- 136 youth completed baseline survey
- 5 youth withdrew from site
- 13 youth declined to participate

420 youth from 14 sites assigned to the treatment group
- 387 youth completed baseline survey
- 6 youth withdrew from site
- 27 declined to participate

115 youth completed 3 month follow-up survey
- 21 lost to follow up

292 youth completed 3 month follow-up survey
- 95 lost to follow up

74 youth completed 12 month follow-up survey
- 62 lost to follow up

296 youth completed 12 month follow-up survey
- 91 lost to follow up

74 youth completed 12 month follow-up survey
- 62 lost to follow up
First (3 month) follow-up (n=402)

Youth who took Native IYG reported:

- More reasons not to have sex
- Increased STI knowledge
- Increased condom knowledge
- More confidence obtaining condoms
- More confidence about using condoms
Analysis Plan

Analysis Objective:
Test for differences between intervention and control conditions on behavioral and psychosocial outcomes at 12 month follow-up

Models:
Linear and Logistic multilevel regression models to test for differences between treatment conditions on the 12 month psychosocial measures adjusted for ICC within site, age, gender, Native American (yes/no), time between measures, and the baseline value of the psychosocial outcome.
Participant characteristics of the analytic sample at baseline (n=371)\textsuperscript{a}

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th>Intervention (n =296)</th>
<th>Comparison (n = 75)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N\textsuperscript{b}</td>
<td>% or Mean (SD)</td>
<td>n % or Mean (SD)</td>
</tr>
<tr>
<td>Gender (% Female)</td>
<td>197 53.2</td>
<td>157 53.0</td>
<td>40 54.7</td>
</tr>
<tr>
<td>Age (Years)</td>
<td>367 13.0 (0.98)</td>
<td>293 12.9 (1.0)</td>
<td>74 13.3 (0.72)</td>
</tr>
<tr>
<td>Cultural Identification</td>
<td>305 7.8 (1.9)</td>
<td>238 7.8 (1.9)</td>
<td>67 7.7 (1.8)</td>
</tr>
<tr>
<td>Race (American Indian/Alaska Native)</td>
<td>319 86.2</td>
<td>251 84.8</td>
<td>68 91.9</td>
</tr>
<tr>
<td>Academic Performance (Usually As and Bs)</td>
<td>253 69.3</td>
<td>205 70.2</td>
<td>48 65.8</td>
</tr>
<tr>
<td>Household structure (2 or more adults)</td>
<td>237 65.8</td>
<td>192 66.7</td>
<td>45 62.5</td>
</tr>
<tr>
<td>Financial hardship/difficulty in past year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(No financial hardship)</td>
<td>146 39.9</td>
<td>115 39.4</td>
<td>31 41.9</td>
</tr>
<tr>
<td>Parental education (High school or greater)</td>
<td>167 45.1</td>
<td>141 47.6</td>
<td>26 35.1</td>
</tr>
<tr>
<td>Parental monitoring</td>
<td>349 2.7 (0.99)</td>
<td>280 2.7 (1.0)</td>
<td>69 2.7 (0.95)</td>
</tr>
<tr>
<td>Sexual experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never had sex (any sex)</td>
<td>340 96.0</td>
<td>271 95.8</td>
<td>69 97.2</td>
</tr>
<tr>
<td>Never had sex (Vaginal sex)</td>
<td>346 96.9</td>
<td>276 96.8</td>
<td>70 97.2</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Non-significant between group difference across variables.

\textsuperscript{b} Sample sizes vary due to missing data.
### Intervention effects$^a$ on psychosocial outcomes at 12 month follow up among the analytic sample (n=371)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>N$^c$</th>
<th>ICC</th>
<th>Beta (SE)</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom knowledge</td>
<td>314</td>
<td>0.000</td>
<td>0.181 (0.042)</td>
<td>0.099</td>
<td>0.264</td>
</tr>
<tr>
<td>HIV/STI knowledge</td>
<td>319</td>
<td>0.018</td>
<td>0.045 (0.050)</td>
<td>-0.054</td>
<td>0.144</td>
</tr>
<tr>
<td>STI signs and symptoms knowledge</td>
<td>302</td>
<td>0.000</td>
<td>0.019 (0.029)</td>
<td>-0.037</td>
<td>0.076</td>
</tr>
<tr>
<td><strong>Self-efficacy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual refusal self-efficacy</td>
<td>353</td>
<td>0.011</td>
<td>0.026 (0.097)</td>
<td>-0.164</td>
<td>0.217</td>
</tr>
<tr>
<td>Condom negotiation self-efficacy</td>
<td>332</td>
<td>0.000</td>
<td>0.045 (0.093)</td>
<td>-0.137</td>
<td>0.227</td>
</tr>
<tr>
<td>Condom use self-efficacy</td>
<td>337</td>
<td>0.000</td>
<td>0.201 (0.104)</td>
<td>-0.002</td>
<td>0.404</td>
</tr>
<tr>
<td>Condom availability self-efficacy</td>
<td>313</td>
<td>0.000</td>
<td>0.333 (0.092)</td>
<td>0.152</td>
<td>0.514</td>
</tr>
<tr>
<td><strong>Attitudes &amp; Beliefs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beliefs about sex</td>
<td>351</td>
<td>0.043</td>
<td>0.020 (0.111)</td>
<td>-0.199</td>
<td>0.238</td>
</tr>
<tr>
<td>Reasons not to have sex</td>
<td>303</td>
<td>0.000</td>
<td>-0.087 (0.342)</td>
<td>-0.757</td>
<td>0.583</td>
</tr>
<tr>
<td>Condom beliefs</td>
<td>329</td>
<td>0.042</td>
<td>0.134 (0.124)</td>
<td>-0.108</td>
<td>0.377</td>
</tr>
<tr>
<td><strong>Friend’s Perceptions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived friends’ beliefs about sex</td>
<td>347</td>
<td>0.002</td>
<td>-0.016 (0.081)</td>
<td>-0.175</td>
<td>0.143</td>
</tr>
<tr>
<td><strong>Parent Factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent-child communication</td>
<td>343</td>
<td>0.044</td>
<td>0.043 (0.137)</td>
<td>-0.227</td>
<td>0.312</td>
</tr>
<tr>
<td>Parental monitoring</td>
<td>335</td>
<td>0.047</td>
<td>0.142 (0.158)</td>
<td>-0.168</td>
<td>0.451</td>
</tr>
<tr>
<td><strong>Intentions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention to remain abstinent until the end of high school</td>
<td>350</td>
<td>0.000</td>
<td>0.075 (0.148)</td>
<td>-0.215</td>
<td>0.365</td>
</tr>
<tr>
<td>Intention to use a condom next time of sex</td>
<td>325</td>
<td>0.000</td>
<td>-0.122 (0.155)</td>
<td>-0.426</td>
<td>0.182</td>
</tr>
<tr>
<td>Intention to have oral sex in the next year</td>
<td>354</td>
<td>0.018</td>
<td>-0.074 (0.109)</td>
<td>-0.287</td>
<td>0.139</td>
</tr>
<tr>
<td>Intention to have vaginal sex in the next year</td>
<td>349</td>
<td>0.007</td>
<td>-0.035 (0.108)</td>
<td>-0.247</td>
<td>0.178</td>
</tr>
<tr>
<td><strong>Outcome$^b$</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational intentions beyond high school</td>
<td>359</td>
<td>0.010</td>
<td>2.22</td>
<td>1.161</td>
<td>4.235</td>
</tr>
</tbody>
</table>

$^a$ Models are adjusted for baseline measure, age, gender, Native American (yes, no), and time between measures.

$^b$ All psychosocial variables coded as protective factors except for oral sex intentions and vaginal sex intentions.

$^c$ Sample sizes vary due to missing data.; CI = confidence interval; SE = standard error; STI = sexually transmitted infection.
### Intervention effects on behavioral outcomes at 12 month follow up among the analytic sample (n=371)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>N</th>
<th>ICC</th>
<th>OR</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never had alcohol</td>
<td>304</td>
<td>0.000</td>
<td>0.52</td>
<td>0.210-1.273</td>
<td>0.136</td>
</tr>
<tr>
<td>Never used drugs</td>
<td>327</td>
<td>0.055</td>
<td>0.81</td>
<td>0.321-2.048</td>
<td>0.657</td>
</tr>
<tr>
<td>No boyfriend/girlfriend in past year</td>
<td>344</td>
<td>0.000</td>
<td>1.07</td>
<td>0.568-2.012</td>
<td>0.836</td>
</tr>
<tr>
<td>Was not a dating violence victim</td>
<td>152</td>
<td>0.013</td>
<td>1.83</td>
<td>0.740-4.504</td>
<td>0.192</td>
</tr>
<tr>
<td>Was not a dating violence perpetrator</td>
<td>143</td>
<td>0.080</td>
<td>1.32</td>
<td>0.300-5.800</td>
<td>0.714</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome</th>
<th>N</th>
<th>ICC</th>
<th>Beta (SE)</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance of risky situations that could lead to sex</td>
<td>336</td>
<td>0.000</td>
<td>-0.094 (0.083)</td>
<td>-0.257-0.069</td>
<td>0.260</td>
</tr>
</tbody>
</table>

---

a Models are adjusted for baseline measure, age, gender, Native American (yes, no), and time between measures.

b All behavioral variables coded as protective factors.

c Sample sizes vary due to missing data. CI = confidence interval; SE = standard error

d Prevalence of sexual behavior was too small to run models

CI = confidence interval; SE = standard error
Dissemination Plan

RAISING HEALTHY NATIVE YOUTH
THROUGH CULTURALLY RELEVANT HEALTH EDUCATION

ENGAGING. RELEVANT. EFFECTIVE.

HealthyNativeYouth.org contains health promotion curricula and resources for American Indian and Alaska Native youth. The site is designed for tribal health educators, teachers, and parents – providing the training and tools needed to access and deliver effective, age-appropriate programs.
Questions?