Challenges and Opportunities in Surveying Students: Real Examples from Bystander Evaluations
Background

- Public health promotes and protects the health of **people and the communities** where they live, learn, work and play. APHA.org

- Prevention
  - **Primary:** Interventions that are applied before there is any evidence of disease or injury
  - **Secondary:** Intervening to slow or stop its progression or to "catch it early."
  - **Tertiary:** Interventions designed to arrest the progress of an established disease and to control its negative consequences
The goal of sexual violence prevention is simple—to stop it from happening in the first place.

The most common prevention strategies currently focus on the victim, the perpetrator, or bystanders.

- Effective
- Promising
Bystander Intervention Program: Green Dot

Green Dot Program: Speeches and In-depth Bystander Efficacy Training with Peer Opinion Leaders

Training diffused through trainees’ peer networks to change norms supporting violence and its acceptance, identify risky situations, and increase bystander behaviors to interrupt or prevent violence.

Ultimate test of program is a reduction in the continuum of interpersonal violence at the community level.
Gathering Evidence

Green Dot College Study (Coker)

Green Dot High School Trial (Coker)

Snapshot: Follow the Green Dot (Coker, Follingstad)

ConnectEd: Green Dot w/Substance Abuse College Trial (Bush, Coker)

McBEE: Green Dot College Study (Coker, Bush)
Logic Model

**INPUTS**
- Campus SaVE Policy
- Evidence of program efficacy
- Modes of bystander program administration
- Role of alcohol in SV/IPV
- Program cost and cost effectiveness

**ACTIVITIES**
- Participation in different bystander modalities
- Integrate alcohol & SV/IPV prevention in bystander interventions

**OUTPUTS**
- Exposure to bystander messaging and materials (dose)
- Participation by target population (reach)
- Recognizing potentially risky situations
- Diffusion of responsibility to bystander

**SHORT-TERM OUTCOMES**
- Recognize opportunities
- Increased bystander efficacy (skills)
- Increased bystander behaviors

**CONTINUING**
- Opportunities over time
- Peak opportunities identified
- Bystanding Behaviors measured over time
  - Context
  - Strategies
  - Consequences
  - Dynamic frequency
  - Qualitative descriptions

**INTERMEDIATE OUTCOMES**
- Decreased acceptance of
  - SV/IPV
  - Alcohol’s role in sexuality
  - Alcohol use/abuse

**LONG-TERM OUTCOMES**
- Reduced risk taking behaviors influencing alcohol & SV/IPV
- Reduced Binge Drinking

**Reduced impact of SV/IPV**

**ASSUMPTION:** All members of a community have a role in SV/IPV and alcohol abuse prevention.
Challenge #1: Students or Schools?

- Randomized Trial
  - Goal is to compare outcomes over time for those who got the intervention condition relative to those who did not

- Who are those?
  - Usually: Study Subjects
  - In the Green Dot HS trial: Schools

- Diffusion means
  - Not all students will actually receive the intervention condition
  - Attending a school is the student’s “treatment”
  - Schools, not students are tracked over time
Overview of the High School Trial

• 26 High Schools
  • Intervention (N = 13)
  • Control (N = 13)

• Longitudinal @ School-level
  • Goal was to evaluate school-level change
  • All-school, anonymous student surveys each Spring

• Intervention schools had a significant reduction in sexual violence (perpetrated > experienced), with the greatest differences occurring after the intervention was fully implemented. (Coker 2015 CDC Final Report)
Outcome: Bystander Behaviors

- Do students in high schools with Green Dot report more bystander behaviors?

In the past 12 months, how often did you:

75. Tell someone to stop talking down to, harassing, or messing with someone else.
   A. 0 times
   B. 1-2 times
   C. 3-5 times
   D. 6-9 times
   E. 10 or more times
   F. Didn't see or hear someone doing this

- School-level totals (Outcome)
  - created by summing students’ frequency of behaviors by school and by year
Analysis Plan

• Longitudinal data (schools only)
  • Schools are the unit of analysis (N=26)

• Compare school-level totals of bystander behaviors reported over time using linear mixed models
  • Group (Intervention vs Control)
  • Time (Baseline, Y1 – Y4)
  • Group*Time Interaction (groups change differently over time)

• Adjustments
  1) Student school attendance and baseline values
  2) Above & bystander training received (measure of intervention dose)
School-Level Reported Bystander Behaviors Over Time

Control

Intervention
The Intervention Worked

Green Dot changed the school environment

School Totals of Victimization

Year 1  Year 2  Year 3  Year 4
Green Dot  Control
## Accounting for Environment

### Mean School-Level Totals of Bystander Behaviors

<table>
<thead>
<tr>
<th>Year</th>
<th>I</th>
<th>C</th>
<th>I - C (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>5310</td>
<td>5893</td>
<td>-583 (-3094,1929)</td>
</tr>
<tr>
<td>Year 2</td>
<td>4815</td>
<td>5584</td>
<td>-769 (-2885,1346)</td>
</tr>
<tr>
<td>Year 3</td>
<td>3426</td>
<td>5019</td>
<td>-1593 (-3605,419)</td>
</tr>
<tr>
<td>Year 4</td>
<td>3776</td>
<td>4840</td>
<td>-1064 (-2779,651)</td>
</tr>
</tbody>
</table>

\[ F(3,72) = 1.05, p = 0.3739 \]

Outcome: Total Bystander Behaviors (Excluding Engaging Peers), adjusting for baseline, training, and total attendance
Time-Dependent Relationships

- School-based intervention, training implementation did not happen instantaneously (depends on time)
- School environment (school-level violence totals) is changing has intervention is implemented

- Adjustments may not provide the best approach to understanding these relationships
Overlay of Violence and Bystander Behaviors (Intervention Only)

School Totals of Victimization

SV Victimization

Bystander Behaviors

School Totals of Bystander Behaviors
Weighted Analysis (M-S Models)

- Estimate treatment selection weights
  - Logistic regressions were used to estimate probability of treatment
  - Numerator: without time-varying covariates
  - Denominator: with time-varying covariates
- Longitudinal analyses conducted
  - Group, Time, Group*Time
  - BUT weighted to account for the time-varying confounding
Environment is Time-Dependent

- Using marginal structural models, we can more appropriately account for relationship of training, opportunity, and bystander behaviors.

### Mean School-Level Totals of Bystander Behaviors

<table>
<thead>
<tr>
<th></th>
<th>Intervention</th>
<th>Control</th>
<th>Difference (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>7205</td>
<td>5311</td>
<td>1894 (548,3240)</td>
</tr>
<tr>
<td>Year 2</td>
<td>6704</td>
<td>4821</td>
<td>1884 (671,3097)</td>
</tr>
<tr>
<td>Year 3</td>
<td>5167</td>
<td>4376</td>
<td>791 (-249,1832)</td>
</tr>
<tr>
<td>Year 4</td>
<td>5582</td>
<td>4196</td>
<td>1385 (617,2154)</td>
</tr>
</tbody>
</table>

Outcome: Total Bystander Behaviors (Excluding Engaging Peers), adjusting for baseline and total attendance. F(3,72)=3.92, p=0.0119
Results

• Bystander behaviors are greater in intervention relative to control schools.
• Total Bystander Behaviors Combined ✓
• Reactive Bystander Behaviors ✗
• Proactive Bystander Behaviors ✓
  • Number of times you spoke up when you heard someone was forced to have sex
  • Number of times you saw or heard someone tell others to stop harassing someone else
  • Number of times you saw or heard someone speak up to someone who was bragging for forcing someone to have sex with them
• Engaging Peers ✓
• Identifying Opportunities ✓
Conclusion: Longitudinal evaluations of bystander programming are complex with many moving parts. For the program that effectively reduces violence, understanding the role of bystander behaviors requires (appropriate) accounting of the environment where bystander behaviors occur.
What we learned

• Measuring the frequency of bystander behaviors was needed to evaluate school-level changes.

• Opportunities and frequency of opportunities are important.

• An examination of the frequency of behaviors AND opportunities for the individual over time are needed.
Follow the Students

- Follow the Green Dot (Snapshot)
  - HS Seniors are surveyed and then followed for three years (graduation, workforce, college)

- Campus Attitudes Towards Safety (CATS)
  - College students are annually surveyed and followed over their academic careers at UK

- Bystander behaviors and opportunities can now be linked over time
Example from CATS

- How often did you suspect that someone was being led away for sex while they were too high on drugs or alcohol to realize what was really happening?
  - Never (0 Times)
  - Once (1 Time)
  - Sometimes (2-5 Times)
  - Often (6+ Times)

- How often did you (or someone you asked) try to stop or change the situation?
  - Never (0 Times)
  - Once (1 Time)
  - Sometimes (2-5 Times)
  - Often (6+ Times)
Example from CATS

Once 2-5 Times 6+ Times

% Doing Nothing

Frequency of Opportunity

Trained  Not Trained
What we learned

- Recognizing the opportunity is an important outcome, too.
- Training appears to increase bystander behaviors performed when opportunities are uncommon, but as opportunities become more common, the effect of training appears to wane.
Challenge #2: Survey Fatigue

- Surveying students = unique opportunities
  - Speed to complete
  - Boredom

- Asking frequency of opportunity with behaviors...
  - Could tire students (doubles the number of questions)
  - Could confuse students (questions look similar)
  - Does provide insights that we might have missed

- Do events happen frequently enough to ask frequency?
Survey, but do it quickly and often

- Randomized trial to compare content and modalities of bystander programming (ConnectEd)
  - Randomize incoming students to conditions
  - Follow students (before classes, end of Fall, end of Spring)
- Use micro-surveys to capture opportunities and behaviors more frequently
Measuring Opportunity and Behavior

Bystander Micro Survey (Past Week)

This past week did you see someone so drunk that they could have risky sex?

- Yes
- Maybe
- No

What did you do?

- Nothing
- Got someone (not official) to help
- Created a distraction
- Confronted a person
- Called UK police or other authority

Did you hear or see another potentially dangerous situation?

- Yes
- Maybe
- No

Please describe the situation you witnessed.
## Success of the Pilot

<table>
<thead>
<tr>
<th>Micro-Survey</th>
<th>All Trainings (N=186)</th>
<th>Green Dot (N=87)</th>
<th>Wellness (N=99)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro-Survey 1 (Sent 3/7/16)</td>
<td>144 (77%)</td>
<td>71 (82%)</td>
<td>73 (74%)</td>
</tr>
<tr>
<td>Micro-Survey 2 (Sent 3/21/16)</td>
<td>135 (73%)</td>
<td>67 (77%)</td>
<td>68 (69%)</td>
</tr>
<tr>
<td>Micro-Survey 3 (Sent 4/4/16)</td>
<td>132 (71%)</td>
<td>68 (78%)</td>
<td>64 (65%)</td>
</tr>
</tbody>
</table>
Planned Surveys

- June - July: Baseline
- First Week: Micro #1
- H.
- Jan - Feb: Follow-up
- Spring Break: Micro #2
- End of Classes: Micro #3
- April - May: Micro #4
Micro-Survey Update

• First week of classes
  • Launched 8/29/16 @ Noon
    Sent to all students who consented and “completed” baseline survey (N = 1,832)
  • As of 8/30/16 @ 9PM
    • 1197 (65%) completed the micro-survey
    • 314 (26%) indicated yes/maybe to seeing someone so drunk or high you were worried...
    • 94 (8%) saw another potentially dangerous situation [situation provided via free text]
Challenge #3: Click on the link?

<table>
<thead>
<tr>
<th>Fall 2015 Pilot</th>
<th>All Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Eligible Students</td>
<td>5114</td>
</tr>
<tr>
<td>Completed Baseline Survey</td>
<td>406/5114 (8%)</td>
</tr>
<tr>
<td>Informed Consent=Yes</td>
<td>380/406 (94%)</td>
</tr>
<tr>
<td>Informed Consent=No</td>
<td>26/406 (6%)</td>
</tr>
<tr>
<td>Signed up for Training (Fall 2015)</td>
<td>290</td>
</tr>
<tr>
<td>Completed Training (Fall 2015)</td>
<td>186</td>
</tr>
</tbody>
</table>

Summer 2016 Launch:
Of the 5,727 students who were sent an invite:
1,832 (32%) with a survey
1,480 (26%) completed training
What we are learning

• Students prefer shorter (more frequent) micro-surveys
• Students are reluctant to click on a link in email
• Timing is important
  • Student participation
  • What if we had a way of “triggering” the surveys?
    • Social Media
    • Event-based sampling
    • What if this could be used as intervention boosters?
The Evolution of Capturing Bystander Behaviors

- Bystander Behaviors
  - Performed (Yes/No)
  - Frequency

- Opportunities & Behaviors
  - Frequency
  - Frequency

Frequently Ask:
- Observed (Yes/No)
- Performed (What)
- Event-based Sampling?
From Challenge to Opportunity

Research Partners and Team

- KASAP, Eileen Recktenwald
- Office of the President
- VIP, Rhonda Henry
- WISE, Drew Smith & Kelsey Hinken
- See Blue U Staff
- UK Analytics, Adam Recktenwald
- Candace Brancato
- Emily Clear
- Kelsey Rutheford
- Suann Reese