Exploring the Impact of Suicide Prevention Research in Schools

Moderator: Nathan Belyeu
Meeting Orientation

- Audio is streaming through your computer speakers. If you cannot listen through computer speakers, call 855-257-8350
- Type any technical questions or questions for the presenters into the Q&A box on the left.
- This meeting will be recorded and archived.
Moderator

Nathan Belyeu
Senior Prevention Specialist, Suicide Prevention Resource Center (SPRC)
Speakers

Peter Wyman, Ph.D.  Holly Wilcox, Ph.D.
School-Based Suicide Prevention: A Brief Review Focused on Population-Based Strategies

Peter A. Wyman, PhD
University of Rochester
Adolescent Suicide in Perspective

- 40,600 Suicides in the US in 2012
- 4,870 Suicide Deaths among ages 15–24

Public health importance most apparent when take into account suicidal behavior

- ~1,000,000 million adolescents attempt suicide each year (7.8% on YRBS in 2011)
- ~2.4% of youth a serious enough attempt to require medical attention (YRBS 2011)
Adolescent Suicide Differences

- Rates vary by region/culture/sex/time
  - 2-5 times higher in rural areas (Brown, Wyman 2007)
  - Young Native American males highest rates (CDC)
  - Males account for 84% of suicide deaths in adolescents/young adults
  - Females 2-4 times more likely to attempt suicide
  - Methods: firearms most deaths. Trends vary: in 2000s – increase in strangulation as means of suicide

Context of person/place/time influences suicide:
  Cultural heritage, local norms, access to means
Paradox of Adolescent Health

Healthiest period physically, yet increased deaths due to emotional, cognitive, social changes

• **Rapid Changes in Developmental Systems** (physiological, cognitive, social)
  – Adolescent Vulnerability Hypothesis
  – Emotional reactivity, risk-taking

• ‘Executive’ control centers of brain (PFC) lag behind other emotional, physical changes

• **Changing relationships w/ adults, peers**
  – Autonomy striving vs. help-seeking

• **Magnified Social/Peer Influences**
Importance of Schools for Suicide Prevention

- Schools serve the largest youth populations
  - Most adolescents who attempt suicide
  - By contrast: youth in juvenile justice facilities 3X higher suicide rate— but only 0.25% of population (Gallagher & Dobrin, 2016)

- Setting for peer socialization beginning in elementary schools
  - Relationships with adults, access to services

- System-level factors: risk-protective effects above and beyond individual factors
Which groups are at very high risk?

- Youth with Mental Health, Substance Use Disorders (Shaffer et al., 1993; Gould et al., 2003, Fleischmann et al., 2005)
- 88% of suicides had a diagnosis in autopsy studies
- Other evidence that youth suicide more impulsive and shorter history of mental health problems (Brown et al. 2007)

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Increased Risk Ratio</th>
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<tr>
<td>Major Depressive Disorder</td>
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<td>Substance Abuse/Dependence</td>
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<td>Conduct Disorder</td>
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<td>Psychosis</td>
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Other Individual Risk Factors

- **Adverse Life Events** (Felitti et al., 1998)
  - Sexual assault; Abuse/maltreatment history
  - ‘Triggers’ for suicidal crisis
  - Altered trajectories, Altered gene expression-emotional, cognitive, behavioral phenotypes (Turecki, 2012)

- **Social Ties/Disrupted Relationships**
  - Fewer positive ties to adults/peers
  - Suicidal peers
  - Break-ups, family conflicts
Treatment-Promotion Continuum
Where is Suicide Prevention?

- Prevention
  - Universal
  - Selective
  - Indicated
- Treatment
  - Case Identification
  - Standard Treatment for Known Disorders
  - Compliance with Long-term Treatment (Goal: Reduction in Relapse and Recurrence)
  - After-care (including Rehabilitation)

Promotion
Recovery
Current Focus
‘Case-Identification’- Secondary Prevention

- **Screening school populations** – for depression, substance use, suicidality (Shaffer, 1993)
  - Fairly accurate in identifying high-risk youth
  - Safe to screen (Gould et al., 2005)
  - Logistic challenges – parent consent; miss youth who enter high-risk period

- **Gatekeeper Training** – adult training to recognize/respond to warning signs
  - Increases knowledge of warning signs, attitudes (King, Smith 2000; Wyman et al., 2008)
  - Minimal evidence that more suicidal youth are identified (Wyman et al., 2008)

**None of these approaches have shown to reduce suicide in the population**
Gatekeeper Programs
Unlikely to Reduce Suicide Rates By Themselves

Gatekeeper training secondary school (2004 – 06) Cobb County (Georgia)

QPR Gatekeeper Training (Question, Persuade, Refer)
32 schools; 52,000 students; randomized (NIMH)

Impact

- Training increased knowledge, attitudes of staff
- Increase ‘communication’ with suicidal youth only occurred among small # staff already engaged in those conversations
- Detecting suicidal student required adults actively engaged w/ distressed students - not ‘surveillance’ at a distance

Signs of Suicide

- Curriculum and Self-screening; depression is treatable; Getting help for self/others (Aseltine et al. 2007, 2012)
- Two evaluations – randomized wait-list post-only assessments
  - After 3 months – reduce self-reported suicide attempts in SOS group
  - Not due to self-reported increased help-seeking

Youth Aware of Mental Health Program (YAM)

- Awareness and skills for stress, suicide behavior;
- Reduced attempts over 1 yr in European trial of 3 interventions (Wasserman et al., 2015)

Limitation – both based on student self-reports; long-term impact unknown and impact on suicide
Other Programs

- **Zuni American Indian Life Skills** - Coping skills tailored to culture/heritage; Decreased hopelessness (Laframboise et al., 2008)

- **Reconnecting Youth** — youth at risk for school drop out; increased school performance, decreased drug involvement (Eggert 1995) – not replicated
Even in most optimistic case, strategies limited to high risk youth alone are unlikely to produce dramatic reductions in suicide rates.
Developmental-sequenced upstream approach for suicide prevention: Demonstrated impact by adolescence of illustrative programs

Wyman (2014) AJPH

<table>
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<tr>
<th>Social System</th>
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<td>APPROACH</td>
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<td>Impact in Adolescence</td>
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<td>Family</td>
<td>Parenting skills for children under family stress</td>
<td>New Beginnings Program</td>
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<td>Mental Health problems</td>
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<td>Parenting skills for adolescent risk behaviors</td>
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<td>Substance use</td>
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<td>School</td>
<td>Strengthen Classroom Behavior, Reduce Aggression</td>
<td>Good Behavior Game</td>
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<td>Suicide attempts</td>
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<td>Delinquency Substance use</td>
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<td>Substance use</td>
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<td>Life Skills</td>
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<td>Substance use</td>
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<td>Peers</td>
<td>Peer norms in social networks</td>
<td>Sources of Strength</td>
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<td>Coping</td>
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<td>Connectedness</td>
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<td>Community</td>
<td>Community-wide prevention system</td>
<td>Communities that Care</td>
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<td>Delinquency</td>
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<td>Substance use</td>
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Teen Peer Leaders-Change Agents

Sources of Strength
Healthy Coping Norms, Adult Connections

Model - Natural Supports

Engage ‘Trusted Adults’

Engage Peers to Apply
Cluster Randomized Controlled Trial (NIMH, SAMHSA funding)

18 Schools; 465 Peer Leaders; 2,700 students [1 Semester]

Peer Leaders

• Increased healthy coping attitudes/norms (ES .22-.75)
• More connections to adults (M +1 connection)
• 4X more likely to refer peer to adults

School Population

• Increased help-seeking acceptability (ES .58)
• Increased perception that adults help suicidal peers (ES .63)
• Largest gains for suicidal students

Wyman et al. (2010). *American Journal of Public Health*

Phase 2 ongoing: Effectiveness Trial with 40 High Schools including social networks (see next Figure)
Node size: local network density

Shading: suicide homophily

Attempt

Ideation
Positive-Themed Suicide Prevention Messages Delivered by Adolescent Peer Leaders: Proximal Impact on Classmates’ Coping Attitudes and Perceptions of Adult Support

Petrova, Wyman, Schmeelk-Cone, & Pisani (2015)  
*Suicide & Life Threatening Behavior*

36 Classrooms in 4 schools (N=706) randomized to

- Peer leader modeling of healthy coping
- Modeling plus audience involvement (name ‘trusted adults’)
- Control

Results

- PL modeling: + classmates’ coping attitudes, perceived adult support
- Involvement enhanced perceptions of adult support
- Largest Impact for students w/ suicidal ideation past 12 mos

*Peer Leaders’ positive modeling of coping narratives, active engagement of peers – messaging that has impact*
Promising Programs for Adolescents and 1 elem.
Progress made in identifying programs with curriculum that have promise in reducing suicide risk (with SOS combined with screening)

Missed Prevention Windows
For many youth who die by suicide there are opportunities for intervention before imminent risk and problems develop

Programs for Population Groups
Reducing suicide rates requires approaches for entire schools, communities – universal interventions

Close Knowledge Gaps
Identify pathways to reducing suicidal behavior/deaths
Effective programs and how to implement

• Peter A Wyman, PhD
• Peter_Wyman@urmc.rochester.edu
• School and Community Prevention Program
Good Behavior Game

• A universal preventive intervention carried out in classrooms (Barrish, Saunders & Wolfe, 1969)

• Precisely aimed at aggressive, disruptive behavior

• Replicated over 20 times in smaller studies prior to the Baltimore trial
Core Elements of GBG

• Define Rules:
  – Teachers with children define rules for classroom behavior

• Establish Teams:
  – Classroom divided into 3-4 teams evenly matched in terms of behavior

• Play the Game:
  – During the game teacher counts rule infractions
  – No more than 5 minutes to start

• Announce Winners:
  – All teams can win the game

• Distribute Rewards:
  – Social Praise + Material Rewards (e.g., blow bubbles for 30 seconds) for low rule infraction counts
GBG as Tested in Baltimore

- GBG was played 3 times a week for 10 minutes early in year. Time and frequency are extended over course of year.
- It was carried out in first and second grades.
Study Design

• 19 schools in matched sets of 3–4 in 5 urban areas in East Baltimore

• Random assignment of schools within sets to:
  – external matched control school
  – reading achievement (ML) school
  – classroom management (GBG) school
Study Design

- 2 consecutive cohorts of 1st graders
  - 1st Cohort: 40 hours of training in addition to supportive mentoring and monitoring through year
  - 2nd Cohort: No additional training and minimal support-- sustainability trial.
Participants & Assessments

Participants

• 2,311 1st graders (mean age=6.3, +/-0.45y)
• Baltimore city schools in 1985 & 1986
• 50.2% male, 65.5% African American
• 52.6% qualified for free or reduced lunch
• Retention at ages 19-22 = 80%, 67% at age 30

Dx and Psychosocial Assessment (grades 1-8, ages 19/20, 21/22, 30)

• Data collected from children, teachers, peers and parents
• Public records gathered on arrests, criminal convictions & deaths
• Reported on suicide ideation and attempt at ages 19, 21 and 30
• At age 30, collected blood/saliva samples
Volume 95 Suppl. 1 1, June 2008

Editorial
Effects of a universal classroom behavior program in first and second grades on young adult outcomes
S.G. Kellam, J. Reid, R.L. Balster

Full length reports
Effects of a universal classroom behavior management program in first and second grades on young adult behavioral, psychiatric, and social outcomes
Impact of the good behavior game, a universal classroom–based behavior intervention, on young adult service use for problems with emotions, behavior, or drugs or alcohol
Developmental epidemiological courses leading to antisocial personality disorder and violent and criminal behavior: Effects by young adulthood of a universal preventive intervention in first- and second-grade classrooms
The impact of two universal randomized first- and second-grade classroom interventions on young adult suicidality
Methods for testing theory and evaluating impact in randomized field trials: Intent-to-treat analyses for integrating the perspectives of person, place, and time
## Summary of Published Results

<table>
<thead>
<tr>
<th>Condition</th>
<th>GBG</th>
<th>Standard Program</th>
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<tbody>
<tr>
<td><strong>Drug Abuse/Dependence Disorders</strong></td>
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<tr>
<td>Males Only</td>
<td>19%</td>
<td>38%</td>
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<tr>
<td>Highly Aggressive, Disruptive Males Only</td>
<td>29%</td>
<td>83%</td>
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<tr>
<td><strong>Alcohol Abuse/Dependence Disorders</strong></td>
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<tr>
<td>Both Genders Combined</td>
<td>13%</td>
<td>20%</td>
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<tr>
<td><strong>Regular Smoking</strong></td>
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<tr>
<td>Males Only</td>
<td>7%</td>
<td>17%</td>
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<tr>
<td>Highly Aggressive, Disruptive Males Only</td>
<td>0%</td>
<td>25%</td>
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<tr>
<td><strong>Antisocial Personality Disorder (ASPD)</strong></td>
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<tr>
<td>Both Genders Combined</td>
<td>17%</td>
<td>25%</td>
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<tr>
<td>Highly Aggressive, Disruptive Males Only</td>
<td>41%</td>
<td>86%</td>
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<td><strong>Juvenile Court and/or Adult Incarceration Record for Violent and Criminal Behavior</strong></td>
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<tr>
<td>Highly Aggressive, Disruptive Males Only</td>
<td>34%</td>
<td>50%</td>
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<tr>
<td><strong>Use of School-Based Services for Problems with Behavior, Feeling or Drug and Alcohol</strong></td>
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<tr>
<td>Males Only</td>
<td>17%</td>
<td>33%</td>
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<tr>
<td><strong>Suicide Ideation</strong></td>
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<tr>
<td>Females Only</td>
<td>9%</td>
<td>19%</td>
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<tr>
<td>Males Only</td>
<td>11%</td>
<td>24%</td>
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<tr>
<td><strong>Suicide Attempt</strong></td>
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<tr>
<td>Females Only</td>
<td>10%</td>
<td>20%</td>
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<tr>
<td>Males Only</td>
<td>10%</td>
<td>18%</td>
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SAMHSA awarded grants to 29 communities to implement PAX-GBG

- San Francisco Unified School District, CA
- Syracuse City School District, NY
- Houston Independent School District, TX
- The School Board of Broward County, FL
- Wheatland School District, CA
- School District 1J Multnomah County, OR
- Fond du Lac School District, WI
- Region IX Education Cooperative, NM
- Farmington Municipal Schools, NM
- Greene County Educ. Service Center, OH
- Sacramento City Unified School District, CA
- Crockett Independent School District, TX
- Confederated Salish & Kootenai Tribe, MT
- Lancaster County School District, SC
- Jackson County Board of Education, TN
- Polk Education Foundation, FL
- Seattle School District 1 of King County, WA
- Elkton-Pigeon-Bay Port Laker Schools, MI
- Jackson Public School District, MS
- Chicago Public Schools, District #299, IL
- Mt. Adams School District, WA
- Poudre School District, CO
• “An example of a coordinated approach addressing multiple issues that share risk and protective factors is the **Good Behavior Game**. This universal classroom behavior management method, used in first- and second-grade classrooms, has been shown to contribute to the prevention of suicidal ideation, as well as.... (page 30)
Q: How many suicide deaths/attempts could be averted:

by fully implementing _______ intervention

with _______ subgroup

in _______ setting?
Reaching the 20% Reduction Goal

For school-based prevention of youth attempts (model developed by Francis Lynch, using data from Wilcox et al 2008):

25% of all first grade children (~1 million) receive the Good Behavior Game (optimal effects). This is repeated for 15 first grade cohorts.

12% attempts averted or 542,096 attempts requiring medical care (ages 13-22) and 687 suicide deaths
Future Directions

• Who benefits and under what conditions?
• Netherlands, Belgium, Alberta, Estonia
• Manitoba: 213 schools randomly allocated to PAX-GBG or Control Grade 1 classes (2011/2012) (about 9,000 children)
  – Of these - 42 First Nations schools
    • 20 were in PAX-GBG; 22 in control
  – Population-based registers
Impact of GBG on aggressive, disruptive behavior for Cohort 1 Males through 7th Grade based on GGMM (3 classes)

The GBG trajectory is shown in bold, Control = Dotted Lines, GBG = Solid Lines


Grade (F = Fall; S = Spring)
Mediator of GBG Impact

• “Which children do you like best?”
• “Which children don’t you like?”
<table>
<thead>
<tr>
<th>(Picture of Child 1)</th>
<th>(Picture of Child 2)</th>
<th>(Picture of Child 3)</th>
<th>(Picture of Child 4)</th>
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<td>1</td>
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<td>(Picture of Child 5)</td>
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<td>(Picture of Child 9)</td>
<td>(Picture of Child 10)</td>
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<td>(Picture of Child 17)</td>
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GBG & Peer Preference Scores

• Individuals assigned to the GBG intervention did not receive significantly higher social preference scores.

• Highly aggressive children assigned to GBG received significantly higher peer preference scores compared to highly aggressive, disruptive control children.
Take Home Points

• First grade classrooms are incredibly important to later behavioral, academic, and mental development.

• Teachers need tested tools to manage classrooms, i.e., to teach children how to be students.

• Higher risk children are at markedly increased risk in poorly managed classrooms but many can improve with GBG--a universal classroom intervention.

• Children can be identified who need additional services.
Thank you!

hwilcox1@jhmi.edu
(410) 502-0629
Questions?

Next webinar:
Exploring the Impact of Suicide Prevention Research in Faith-Based Communities
Tuesday, May 19, 2-3 pm ET
Registration coming soon

Please complete this brief evaluation:
https://www.surveymonkey.com/r/BBHJ9XM