NONSUICIDAL SELF-INJURY AND RISK FOR SUICIDAL BEHAVIOUR: IDENTIFYING STUDENTS MOST AT RISK IN SCHOOLS

February 17, 2017
OVERVIEW

- Nonsuicidal self-injury vs suicidal behavior
- The link between nonsuicidal self-injury and suicidal behavior
- Series of studies (1-4)
- Implications for research and practice
- Responding to NSSI in schools
- Discussion period
TEST YOUR SELF-INJURY KNOWLEDGE

- Take a minute to complete the survey....
NONSUICIDAL SELF-INJURY (NSSI)

- Direct and deliberate destruction or alteration of bodily tissue in the absence of suicidal intent (DSM-5)

- As many as 7-10% of elementary students, and 20-30% of secondary and post-secondary students report having engaged in NSSI (Hamza & Willoughby, 2014; Hankin & Abela, 2011; Hilt et al., 2008; Swannell et al., 2014)

- Gender differences? (Bresin & Schoenleber, 2015)
SUICIDAL BEHAVIOR

- Directly self-injurious behaviors that are engaged in with the intent to end one’s life (DSM-5)

- As many as 4-8% of adolescents and young adults report having made at least once suicide attempt (Hamza & Willoughby, 2013; Whitlock & Knox, 2007)

- *Informing the future: Mental Health Indicators of Canada*, published by the Mental Health Commission of Canada in 2015
DIFFERENTIATING FORMS OF SELF-INJURY

- **Intention**
  - NSSI as a form of coping behavior (Klonsky & Glenn, 2009)

<table>
<thead>
<tr>
<th>Intrapersonal Functions</th>
<th>Interpersonal Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I self-injured I was...</td>
<td></td>
</tr>
<tr>
<td>• Affect regulation: “reducing anxiety, frustration, anger, or other overwhelming emotions”</td>
<td></td>
</tr>
<tr>
<td>• Self-punishment: “expressing anger towards myself for being stupid or worthless”</td>
<td></td>
</tr>
<tr>
<td>When I self-injured I was...</td>
<td></td>
</tr>
<tr>
<td>• Interpersonal boundaries: “creating a boundary between myself and others”</td>
<td></td>
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<tr>
<td>• Interpersonal influence: “seeking care or help from others”</td>
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</tbody>
</table>
WHY CHOOSE NSSI OVER OTHER COPING BEHAVIORS?

- Social learning hypothesis
- Pragmatic hypothesis
- Social signalling hypothesis
- Self-punishment hypothesis
- Implicit identification hypothesis

Nock (2010)
THE LINK

- Distinct, but related....

- Shared risk factors?

- Could NSSI be a risk factor for suicidal behavior?
Extensive review of the literature

NSSI was associated with suicidal ideation and attempts (see Asarnow et al., 2011; Prinstein et al., 2008; Wilkinson et al., 2011)

Sex, age, SES

Lack of longitudinal research which is necessary to assess whether NSSI precedes development of suicidal behavior
THE LINK - A THEORETICAL MODEL

Joiner’s Theory for Suicide

Psychosocial risk → Suicidal Desire → Suicidal attempts → Acquired Capability

Pain tolerance
Fearlessness about death

Hamza, Stewart & Willoughby (2012). Clinical Psychology Review
WHAT WE NEED TO KNOW NEXT...

- Compelling theory, but is there empirical evidence?
- Lack of longitudinal research
STUDY 1: HAMZA & WILLOUGHBY (2016)

- Longitudinal examination of the link between NSSI and suicidal behavior

- The Brock Mental Health Project
  - 1132 (Mage = 19 years) undergraduate students who participated in the first five waves of a larger ongoing longitudinal research project (assessments were one year apart)
**STUDY 1: METHOD**

|NSSI| Inventory of Statements about Self-Injury (ISAS, Klonsky & Glenn, 2009)  
- Frequency of NSSI |
|---|---|
|Suicidal Behavior| Suicide Behavior Questionnaire Revised (SBQ-R, Osman et al., 2002)  
- Suicidal attempts and age of attempt  
- Past year ideation |

Hamza & Willoughby (2016). *Journal of Adolescent Health*
• Students who had a history of NSSI in first year university were 2.04 times more likely to experience suicidal ideation across the university years.

• Students who had a history of NSSI in first year university were 3.46 times more likely to make a suicidal attempts across the university years.

Hamza & Willoughby (2016). *Journal of Adolescent Health*
STUDY 1: DISCUSSION

- Study supports findings from research review

- Interpersonal Theory of Suicide – useful framework for understanding link between NSSI and suicidal behavior

Hamza & Willoughby (2016). Journal of Adolescent Health
WHAT WE NEED TO KNOW NEXT...

- Which students with a history of NSSI are most likely to attempt suicide?
- Targeted prevention efforts
- Lack of research examining variability among students engaging in NSSI
STUDY 2: HAMZA & WILLOUGHBY (2013)

- NSSI characteristics (e.g., frequency, methods, etc.) and suicidal risk

- First wave of The Brock Mental Health project (subsample of students engaging in NSSI)
  - N = 439 students
## STUDY 2: METHOD

<table>
<thead>
<tr>
<th>NSSI</th>
<th>Inventory of Statements about Self-Injury (ISAS, Klonsky &amp; Glenn, 2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Frequency of NSSI</td>
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<tr>
<td></td>
<td>- Most recent NSSI</td>
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<td></td>
<td>- Number of methods of NSSI</td>
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<td></td>
<td>- Physical pain during NSSI</td>
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<td></td>
<td>- Time elapsed between urge and injury</td>
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<td></td>
<td>- Whether they self-injured alone</td>
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<tr>
<th>Suicidal Behavior</th>
<th>Suicide Behavior Questionnaire Revised (SBQ-R, Osman et al., 2002)</th>
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<tbody>
<tr>
<td></td>
<td>- Lifetime suicidal ideation/attempts</td>
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<td></td>
<td>- Past year ideation</td>
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<tr>
<td></td>
<td>- Disclosure of suicidal behavior</td>
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<td></td>
<td>- Future likelihood of suicide attempt</td>
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</tbody>
</table>

Hamza & Willoughby (2013). *PLOS ONE*
### STUDY 2: METHOD

#### Intrapersonal risk factors

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Hassles, self-esteem</td>
<td>Rosenberg (1965)</td>
</tr>
<tr>
<td>Social anxiety</td>
<td>La Greca &amp; Stone (1993)</td>
</tr>
<tr>
<td>Depressive symptoms</td>
<td>Radloff (1977)</td>
</tr>
<tr>
<td>Behavioral inhibition</td>
<td>Carver &amp; White (1994)</td>
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</table>

#### Interpersonal risk factors

<table>
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<th>Risk Factor</th>
<th>Measure</th>
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<tbody>
<tr>
<td>Parental attachment</td>
<td>Armsden &amp; Greenberg (1987)</td>
</tr>
<tr>
<td>Parental criticism</td>
<td>Barber (1996)</td>
</tr>
<tr>
<td>Parental psychological control</td>
<td>Frost (1990)</td>
</tr>
<tr>
<td>Friendship quality</td>
<td>Armsden &amp; Greenberg (1987)</td>
</tr>
</tbody>
</table>

Hamza & Willoughby (2013). *PLOS ONE*
STUDY 2: PLAN OF ANALYSIS

- Latent class analysis in Mplus
  - a statistical procedure used to identify unobserved classes or groups of individuals that score similar to each other on measures of interest

- self-injury characteristics as class indicators
  - NSSI frequency, recency, pain, time elapsed, methods, alone, suicidal ideation, attempts, disclosure and future attempt

- ANOVA and follow-up comparisons in SPSS

Hamza & Willoughby (2013). PLOS ONE
STUDY 2: DISCUSSION

- Majority of individuals who engaged in NSSI were not at high risk for suicidal behavior
- Only Class 3 (high frequency NSSI/high risk for suicidal behavior) met the clinical cut-off score for high suicide risk

Hamza & Willoughby (2013). *PLOS ONE*
WHAT WE NEED TO KNOW NEXT...

- NSSI may lead to increased acquired capability for suicide

Joiner’s theory:

NSSI → Acquired capability

OR

Alternative hypothesis:

Acquired capability → NSSI

- The link between NSSI and acquired capability for suicide over time

- The Brock Mental Health Project: 4th and 5th waves of data collection

## STUDY 3: METHOD

<table>
<thead>
<tr>
<th>NSSI</th>
<th>Inventory of Statements about Self-Injury (ISAS, Klonsky &amp; Glenn, 2009) - Frequency of NSSI within the past year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquired capability for suicide</td>
<td>Acquired Capability for Suicide Scale – shortened version (Van Orden et al., 2008)</td>
</tr>
</tbody>
</table>
| Covariates | Age, sex and SES  
Anxiety symptoms (Carver & White, 1994)  
Borderline personality disorder characteristics (Zinarini et al., 2003) |

STUDY 3: RESULTS

- Path analysis in AMOS - Autoregressive cross-lagged model

STUDY 3: RESULTS

STUDY 3: DISCUSSION

- Unidirectional link between NSSI and acquired capability for suicide (consistent with Joiner’s theory)

- Inconsistent with hypothesis that individuals who have heightened acquired capability for suicide are more likely to engage in NSSI

WHAT WE NEED TO KNOW NEXT...

- Which students who engage in NSSI are most likely to develop acquired capability for suicide (particularly, pain tolerance)?
• NSSI and tolerance to pain (one measure of acquired capability for suicide)

• Sample drawn from The Brock Mental Health Project
  • 82 students invited to participate in a lab-based study with 3 group conditions
  • NSSI + self-punishment (N = 31)
  • NSSI + no self-punishment (N=25)
  • No NSSI (N = 26)
<table>
<thead>
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<td>- Whether they self-injured alone</td>
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<td></td>
<td>- Whether they wanted to stop self-injuring</td>
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<td></td>
<td>- 6 motivations for engaging in NSSI</td>
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</tbody>
</table>

Hamza, Willoughby & Armiento (2014). *Archives of Scientific Psychology*
STUDY 4: METHOD AND PROCEDURE

- Stress check
- Stress Task
- Stress check
- Cold pain task
- Questionnaires

## STUDY 4: RESULTS

<table>
<thead>
<tr>
<th></th>
<th>NSSI + punish</th>
<th>NSSI + no punish</th>
<th>No NSSI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pain threshold</strong></td>
<td>30.97 (32.54)</td>
<td>19.31 (21.73)</td>
<td>15.29 (12.23)</td>
</tr>
<tr>
<td><strong>Pain intensity at threshold</strong></td>
<td>5.50 (2.01)</td>
<td>5.86 (1.62)</td>
<td>5.98 (1.45)</td>
</tr>
<tr>
<td><strong>Pain tolerance</strong></td>
<td>60.78 (42.81)</td>
<td>40.54 (29.53)</td>
<td>38.02 (27.82)</td>
</tr>
<tr>
<td><strong>Pain intensity at tolerance</strong></td>
<td>7.63 (2.43)</td>
<td>8.88 (0.85)</td>
<td>8.88 (1.30)</td>
</tr>
</tbody>
</table>

Hamza, Willoughby & Armiento (2014). *Archives of Scientific Psychology*
STUDY 4: DISCUSSION

- NSSI + punish (greater pain tolerance)

- Consistent with Joiner’s theory that NSSI may habituate individuals to pain

- But we extend Joiner’s work by demonstrating that motivational factors also are important

SUMMARY OF STUDY FINDINGS

- Responded to need for additional research on NSSI and suicidal behavior

- Key findings:
  - NSSI was a risk factor for suicidal ideation and attempts
  - However, significant variability in suicidal risk among individuals engaging in NSSI
SUMMARY AND IMPLICATIONS

• “Warning signs” for school mental health practitioners:
  • Frequent NSSI
  • Multiple methods of NSSI
  • Recent NSSI
  • Self-injuring alone
  • Self-punishment motivations for NSSI
  • Suicidal ideation
RESPONDING TO NSSI IN SCHOOLS

• Schools uniquely positioned to address the mental health needs of students

• Strong consensus in the field that schools should have a policy on NSSI (Bubrick et al., 2010; Hamza & Heath, forthcoming; Hasking et al., 2016; Lieberman et al., 2009; Toste & Heath, 2010)
RESPONDING TO NSSI IN SCHOOLS

Self-injury → Response → Assessment → Intervention
DEVELOPING A SCHOOL PROTOCOL


Returning to your survey about self-injury knowledge...

- Nonsuicidal self-injury is a widespread mental health concern, and as many as 20-30% of adolescents have engaged in NSSI.

- Gender differences are not as pronounced as one thought, although there are differences in the types of behaviors students used.

- Students engage in NSSI to regulate overwhelming social and emotion situations (e.g., distress, feelings of worthlessness) as well as to communicate their distress to others.

- NSSI is a risk factor for suicidal behavior (distinct, but related behaviors), and frequency, method, duration, motivations and social context can all be used to help discern high risk students.

- All members of the school community should be involved in developing a policy to identify and respond to NSSI in schools.
THANKS!

Dr. Shannon Stewart
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