Intersection between Mental Health and Violence

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Learning Objectives

Examine...
1. link b/w bullying and mental health (MH)
2. temporal sequence
3. heterogeneity in MH outcomes

Scope of the Problem

1. 15-20% of Canadian youth have serious MH problems
2. 50-75% of adult MH disorders began in childhood
   - Before 15
   - Kim-Cohen et al., 2003; Kessler et al., 2001; 2007; Weisz, 1998
3. MH problems in childhood and adolescence leading cause of health-related burden
   - In adults, depression is the leading cause of disability worldwide

• Adults with a childhood MH disorder 6X > to have at least 1 adverse adult outcome and 9X > to have 2 or more indicators

UNICEF, 2008; Whiteford et al., 2013
Most children with MH problems do not receive services and if they do, the services are often not evidence-based

Evidence-Practice Gap

90% of children live in LMIC

Kieling et al., 2011

Call for action…

MH problems by bullying

WHY?

bullying ➔ MH problems

What is bullying?

• A person is being bullied if he or she is exposed repeatedly and over time, to negative actions on the part of one or more persons.

  – Three Criteria:
    repeated over time
    imbalance of power
    intentionality

• Systematic abuse of power.

Prevalence Rate

• Prevalence rate
  – 30% are bullied occasionally
  – 7-10% are bullied on a daily basis

Source: Vaillancourt et al., 2010a, 2010b

Link b/w bullying and MH

• MH profile of targets
• MH profile of perpetrators

Long term consequences

• academic difficulties
• school truancy/avoidance
• increased absenteeism
• somatic complaints
• stress-related illness
• physical health problems
• low self-esteem
• depression
• social withdrawal/isolation
• social anxiety
• loneliness
• suicide
• aggressive behaviour

Temporal Sequence

• Do children and youth become unwell as a consequence of poor treatment?
  
  OR

• Are children and youth bullied because they are unwell to begin with?

  - Bullied ➔ poor MH?
  - Poor MH ➔ bullied ➔ poorer MH?

[Image of a table and a graph]
Internalizing Problems

- Peer victimization linked to internalizing problems in ensuing years
  - Arseneault et al., 2006; Goodman, Stormshak & Dishion, 2001; Hanish & Guerra, 2002; Hodges, Boivin, Vitans, & Bukowski, 1999; Hodges & Perry, 1999; Kampilainen & Rasani, 2000; Schwartz, Gorman, Nakamoto, & Toblin, 2005; Snyder et al., 2003; SweETING, Younger, West & Der, 2006; Troop-Gordon & Ladd, 2009; Vaillancourt et al., 2011; Zwierzynska, Wolke, & Lereya, 2012.
  - see also meta-analyses by Reijntjes, Kamphius, Prinzie, & Telch, 2010; Ttofi, Farrington, Loe, & Loeber, 2011

Externalizing Problems

- Peer victimization linked to externalizing problems in ensuing years
  - Barker, Arseneault, Brendgen, & Maughan 2008; Hanish & Guerra, 2002; Ladd & Troop-Gordon, 2003; Smith, Talamelli, Cowie, Naylor, & Chua, 2004; Yeung & Ladd, 2010; see also meta-analysis by Reijntjes et al., 2011

Symptom Driven Pathway

- Meta-analytic work supports observation...
  - internalizing challenges can also antecede peer victimization although the reverse direction is stronger
  - Reijntjes et al. 2010
  - externalizing symptoms are sometimes observed to precede peer victimization
  - Reijntjes et al., 2011

Academic Functioning

- Knowledge is more limited and associations less straightforward
  - pathways are often indirect or are not found
  - Beran, 2008; Hanish & Guerra, 2002; Kochenderfer & Ladd, 1996
  - some longitudinal studies show that victimized children fare less well academically and avoid school more over time
  - Buh et al., 2006; Gastic, 2008; Kochenderfer & Ladd, 1996; Nansel, Hefner, & Simons-Morton, 2003; Schwartz et al., 2005
MH profile of children who bully others

But when controlling for family hardship and childhood psychiatric disorders:
- Targets at risk
  - poor health, wealth, & social-relationship outcomes in adulthood
- Perpetrators were not at risk

Bullying Is Power: Implications for School-Based Intervention Strategies

Much of what is known about bullying and bullying behaviors emanates from longitudinal studies of early childhood. Bullying in which children who are physically bullied have a higher risk of subsequent victimization, emotional distress, and poorer academic performance. This may be due to the power relations in bullying that can lead to chronic stress and impaired social and emotional development. These findings are consistent with traditional, non-experimental studies of bullying as a predictor of subsequent victimization, emotional distress, and poor academic achievement. However, more longitudinal research is needed to further understand the mechanisms underlying the relationship between bullying and subsequent outcomes.

Fig. 2. Associations between childhood risk in bullying and young adult mental health outcomes: scales transformed for childhood, adult mental health, and childhood psychiatric problems. Across all domains, negative scores indicate worse than the mean for the total sample, and positive scores indicate better than the mean. The figure illustrates standardized beta coefficients from the multivariate regression models, indicating significant difference between the two groups (p < .05).

Impact of Bullying in Childhood on Adult Health, Wealth, Crime, and Social Outcomes


Abstract

Bullying is a serious problem for schools, parents, and public policymakers alike. Bullying creates risks of health and social problems in childhood, but it is unclear whether these risks extend into adulthood. A large number of children who are exposed to bullying, harassment, or child abuse in childhood may be at an increased risk of poor health, wealth, and social relationship outcomes in adulthood even after we controlled for family hardship and childhood psychiatric disorders. In contrast, poor health, wealth, and social relationship outcomes in adulthood were not at increased risk of poor health, wealth, and social relationship outcomes in adulthood even after we controlled for family hardship and childhood psychiatric disorders. Our findings suggest that interventions aimed at reducing the risk of bullying in childhood may be effective in improving the well-being of children and adolescents.
Heterogeneity in MH outcomes

Why is it that some youth are so adversely affected by bullying while others seem to cope better?

Divergent Pathways

Exposure to Bullying

Targets

Perpetrators

• Interferes with their fundamental need to belong.
• Does not interfere with their fundamental need to belong.
• Linked to high status.

Moderators

• Environmental characteristics
  – Youth with better home environments fare better when bullied than youth with poorer home environments
    • Baldry & Farrington, 2005; Flouri & Buchanan, 2002
  – In classrooms where victimization emerges as central, the negative impact of victimization on mental health outcomes is greater
    • Huitsing et al., 2012

Moderators cont.

• Personal Characteristics
  – Peer victimization at age 8 was associated with suicide attempts before age 25 for females but not for males (controlling for conduct and depressive symptoms).
    • Klomke et al., 2009
  – Internalizing problems persisted even after the bullying had stopped for girls, but not for boys.
    • Rueger et al., 2011
Divergent Pathways

Exposure to Bullying

Biology?

Poor Outcomes

Better Outcomes

Not Drama Queens!

Serotonin Gene, Experience, and Depression: Age 26

Replicated with bullied youth

Banny et al., 2013

Benjet et al., 2010

Iyer et al., 2013

Sugden et al., 2010

Kretschmer et al. 2014*

*Allele= 1 of 2 or more forms of a gene

Bullying gets under the skin

1 Experience of being bullied by peers becomes biologically embedded in the physiology of the developing person.

2 These invisible scars change a person’s capacity to deal with subsequent stressors and negatively modifies their future health and learning trajectories.

- “...persistent social acceptance of some types of violence against children...”
- “...corporal punishment and other forms of cruel or degrading punishment, bullying and sexual harassment, and a range of violent traditional practices may be perceived as normal, particularly when no lasting visible physical injury results.”

I feel like, emotionally, they have been beating me with a stick for 42 years

“Criticism may not be agreeable, but it is necessary. It fulfills the same function as pain in the human body. It calls attention to an unhealthy state of things”

Sir Winston Churchill (1874-1965)

Neurophysiological Evidence

- People can relive and re-experience social pain more easily than physical pain and the emotions they feel are more intense and painful.
  - Chen, Williams, Fitness, Newton, 2008
- Physical pain is often short lived whereas social pain can last a life time.

Parts of the cortical physical pain network are also activated when a person is socially excluded
- Physical and social pain share similar neural structures
- Linked to evolution
Neural Alarm

- Rejection is differentiated in less than 500 ms by children
  - Using event-related potentials (ERPs) to study neural activity that occurs when a person is rejected

Crowley et al., 2010

Neuroendocrine Evidence

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- Using event-related potentials (ERPs) to study neural activity that occurs when a person is rejected

Crowley et al., 2010

Neuroendocrine Evidence

- Repetitive nucleotide sequence (TTAGGG) at the end of chromosomes
  - Promotes chromosomal stability and regulates cells’ cellular replicative lifespan

Kirsch-Glaser et al., 2011, p. 16
Telomere Erosion

- Linked to normal processes like aging and health behaviour e.g., smoking and obesity
diseases e.g., cancer, dementia, diabetes, and cardiovascular problems
- Shorter telomere length linked to psychological stress and mortality.

Vaillancourt et al., 2013, 2017 for reviews

Epigenetic Evidence

- Biological mechanism environmental signals are translated into molecular events.
  - Buk et al., 2012; see also Vaillancourt et al., 2015
- Example: DNA methylation changes gene expression by activating or silencing the gene
  - Vaillancourt et al., 2013, 2017

- Childhood adversity linked to changes in DNA methylation which has an effect on later stress reactivity
  - see Vaillancourt et al., 2015, 2017 for reviews

- Found that:
  - higher DNA methylation of the serotonin transporter gene between ages 5 and 10 for bullied twins but not for non-bullied twins, and
  - this was associated with blunted cortisol response to stress.
What does this all mean?

- We do not know if the biological scars can be reversed…
  - it seems prudent to fight the root cause directly
  - by encouraging policy makers and practitioners to prioritize the reduction of bullying
  - which will help improve MH