Trauma and Gun Violence

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• Michael McCloskey, PhD—Temple University, Philadelphia, PA
Grant Funder

- Louisiana Clinical and Translational Science Center (LaCATS)
Gun Violence and Mental Health

• Despite public perception, severe mental illness (SMI) accounts for a very small portion of gun violence incidents (Constans & Nanney, in press)

• If all individuals with SMI were stopped from engaging in any gun violence, rate would drop by 4% (Swanson et al., 2015)

• Stereotypes regarding SMI inaccurate

• Factors surrounding mental health contribute
Gun Violence and Mental Health

• More research is needed to understand the interplay between mental health and violence
  
  • Minimal research specific to gun violence (Nanney et al. in press)

• But intuitively, there must be something . . .

• Myopic focus on SMI -> neglect other factors
What are we missing?
Complex Trauma

- Begins early in life
- Interpersonal
- Chronic/multiple
- Often perpetrated by individuals within “circle of trust”

- Associated with more complicated and severe trauma-related outcomes (Wamser-Nanney & Vandenberg, 2013; Wamser-Nanney, 2016)
Childhood Trauma Matters in the Context of Gun Violence
Trauma and Gun Violence

• “Cycle of violence” theory (Widom, 1989)

• Gun violence is concentrated among young, urban, Black men (Hennekens, Drowos, & Levine, 2013).
  - Violence trauma exposure is also disproportionate (Breslau et al., 2004)

• Social proximity to gun violence/violent victimization defines those at the highest risk (Papachristos, Hureau, & Braga, 2013).

• Gun injury has high conditional risk for PTSD development (Powers et al., 2014)
Trauma and Gun Violence

- DSM-5 Conceptualization of PTSD
  - Re-experiencing Symptoms
  - Avoidance Symptoms
  - **Negative Alteration in Cognition and Mood**
    - Beliefs about Self, World, and Others
    - Vulnerability, Humiliation, Shame, Anger
  - Hyperarousal
    - Hypervigilance
    - Explosive Emotional Reactions
    - Aggression

- PTSD may facilitate cognitive biases and aggressive behavior

- Many with subthreshold symptoms
  - Evidence of subthreshold symptoms among complex trauma survivors (Green et al., 2003)
Trauma and Gun Violence

- Ties between trauma and PTSD and gun violence largely uncharted (Montgomerie et al., 2015)

- 4 decades of PTSD research

- Number of studies focused on PTSD and guns
Trauma and Gun Violence

- 4 studies have examined PTSD in relationship to gun behaviors
  - 2 in Vietnam-era veterans
  - 2 in nationally representative data set
  - None specific to those at highest risk of urban community violence
Trauma and Gun Violence

- Nascent body of literature suggests PTSD is related to gun violence
  - Veterans with PTSD more likely to carry weapons, “patrol” property, and threaten others compared to those without (Freeman et al., 1994, 2003)
  - In national sample, those with PTSD more likely to own weapons and threaten others (Casiano et al., 2008; Swanson et al., 2015)
- No studies linking traumatic stress reactions to gun-violence in those at highest risk of urban community violence
Trauma and Gun Violence

• Aims

  • Determine relationship of trauma exposure and its effects to gun violence among those in high-risk network

  • Identify specific psychological mechanisms that link trauma exposure to gun violence

  • Develop evidence-based treatments to address underlying mechanisms and reduce trauma-related gun violence
Childhood Trauma and Gun Violence (Wamsler-Nanney, et al., under review)

• Patients (n = 72) hospitalized immediately following GSW in NOLA Level I Trauma Center

• Examined relationship of childhood trauma ecologies, gun behaviors, and gun violence risk factors
Childhood Trauma and Gun Violence
(Wamser-Nanney, et al., under review)

Physical Abuse

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### Childhood Trauma and Gun Violence (Wamser-Nanney, et al., under review)

#### Domestic Violence

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## Childhood Trauma and Gun Violence (Wamser-Nanney, et al., under review)

### Community Violence

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Childhood Trauma and Gun Violence (Wamser-Nanney, et al., under review)

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Childhood Trauma and Gun Violence (Wamser-Nanney, et al., under review)

- Forms of childhood trauma differ in relationship to violence/violence risk factors
  - DV and CV strongest ties to gun violence and gun violence risk factors.
  - Teach that world is a dangerous place and violence may be necessary for protection
  - Witnessing DV in childhood may teach use of violence as a means of exercising power and dominance over others
  - DV exposure also strongly related to hyperarousal/reactive aggression
Cycle of Gun Violence

Database study examined criminal record and frequency of injury among all victims of violence admitted to NOLA Level I Trauma Center 2007 – 2011 (n = 1243) both before and after violent injury (Nanney et al., 2015)

- GSW victims compared to those violently injured otherwise:
  - Similar gun crime before injury
  - 3x gun crime after injury
  - Similar in all other crimes after injury
  - Only gun crime after injury associated with re-injury risk
Trauma and Gun Violence

- Cycle of Gun Violence

- Psychological Mechanisms of this cycle not well understood.
Patients (n = 51) hospitalized immediately following GSW

Baseline prior armed victimization (#) associated with

Overall PTSD (r = .28)
- Traumatic flashbacks (r = .28)
- Cued reactivity (r = .23)
- **Negative beliefs about self/world/others** (r = .26)
- Self-blame (r = .23)
- Avoidance (r = .25)

Merely witnessing community violence not significantly related to any of these variables

Linear dose-response relationship
Trauma, PTSD, and Gun Violence Perpetration among Victims of Gun Violence (Nanney et al., in prep)

- Baseline prior armed victimization (#) associated with
  - Impulsive behavior when upset \(( r = .36)\)
  - Reactive aggression \(( r = .29)\)
  - “Code of the Street” Beliefs
    - Believe in use of violence in response to disrespect \(( r = .33)\)
    - Believe in use of threats to receive fair treatment \(( r = .22)\)
  - % time carrying gun \(( r = .30)\)
  - # days carrying gun \(( r = .27)\)

- Merely witnessing community violence not significantly related to any of these variables

- Linear, dose-response relationship
Trauma, PTSD, and Gun Violence Perpetration among Victims of Gun Violence (Nanney et al., in prep)

- PTSD and Gun Violence (baseline)
  - Overall PTSD symptoms marginally associated with self-reported shooting at someone in the past year ($r = .26$).
  - PTSD negative alterations in cognition/mood and hyperarousal clusters significantly associated with self-reported shooting of others in past year ($r = .31$; $r = .33$).
Trauma, PTSD, and Gun Violence Perpetration among Victims of Gun Violence (Nanney et al., in prep)

- Longitudinal Relations of PTSD and Subsequent Gun Behavior/Beliefs
  
  - PTSD symptoms at initial follow-up significantly predicted gun related arrest in the next 6 months ($r = 0.48$) and self-reported gun use ($r = 0.39$)
  
  - Each PTSD symptom cluster was significantly associated with gun arrest/gun crime.
  
  - PTSD a significant predictor of long-term Code of the Street beliefs ($r = 0.42$) and beliefs in the protective/deterrent function of gun carrying ($r = 0.39$).
  
  - Pro-violent beliefs and belief in protective functions of guns predicts self-reported gun use ($r = 0.50$; $r = 0.41$)
Trauma, PTSD, and Gun Violence Perpetration among Victims of Gun Violence (Nanney et al., in prep)

- Longitudinal Relations of PTSD and Subsequent Beliefs and Gun Behavior
Treat Trauma to Reduce Gun Violence?

• If gun violence is a function of psychological trauma, then treatments for PTSD may be useful in its prevention
  • Psychotherapy for PTSD works.
  • Cognitive Processing Therapy (CPT; Resick & Schnicke, 1992)
    • Gold standard treatment for PTSD
    • Developed at UMSL
    • Efficacy well established for sexual assault and combat trauma
    • No prior research and development of CPT for gun violence
Cognitive Processing Therapy (CPT; Resick & Schnicke, 1992)

Beliefs about the meaning of trauma keep people “stuck” in PTSD

- “If I had only had a gun”
- “I was humiliated and must seek revenge”
- “This defined me as weak”
- “If I carry a gun I will be safer”
- “I must be violent to get respect”

CPT systematically challenges these beliefs
Treat Trauma to Reduce Gun Violence?

• CPT Model of Gun Violence

Violent Trauma (GSW) → PTSD
  • Negative Beliefs About Trauma
  → Code of the Street
    Belief in Protective Function of Guns
  → Gun Violence

• Emphasis on beliefs or narrative of trauma’s meaning and implications
Cognitive Processing Therapy (CPT; Resick & Schnicke, 1992)

- CPT needs to be developed and tested with this specific population with emphasis on efficacy in reducing gun violence
- Our group is piloting of CPT for high-risk patients (e.g., ex-gang members) to reduce PTSD and gun violence risk
- CPT components may be useful for individuals who have some trauma-related beliefs about guns/aggression, even if they do not have PTSD
Lessons Learned

- Therapy needs to “fit” the individual and the social context
  - Unique pattern of beliefs may be operating
    - Degree and manner of engagement with high-risk network
    - Focus on power and control
  - “No [weak] [stuff]”

- Balance between taking seriously traumatic history without allowing it to be used to justify bad behavior/escape responsibilities.
  - “Trauma is not a blank check.”
Next steps

• Larger samples and more advanced analyses

• Develop better measure of gun-related beliefs

• Link to CPT Motivational Interviewing for Victims of Violence (MI-VoV)
  • Engage and begin pulling out of network
  • Immediately begin influencing the meaning of trauma

• Supplement CPT to address emotion dysregulation reactive aggression (e.g., CBAT; McCloskey et al., 2008)
Next steps

- Evaluate what works under what circumstances.
  - How does degree of involvement in violent milieu influence treatment?
    - Neighborhood level factors
    - Degree of relationship to network
    - Perceptions of network’s interpretation of trauma
    - Group-focused interventions

- **Work together to build a multidisciplinary strategy.**