

Trauma and Memory Among Survivors of Urban Riots: A Cognitive Perspective

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ABSTRACT

Urban riots, as intense collective upheavals, impose profound psychological impacts on those who live through them. This study offers a comprehensive cognitive investigation into trauma and memory among survivors of the 2018 Metroville riots. Utilizing a convergent mixed-methods design, we assessed 100 adult survivors through standardized inventories—the PTSD Checklist for DSM-5 (PCL-5) and the Autobiographical Memory Questionnaire (AMQ)—and conducted in-depth semi-structured interviews. Quantitative analyses revealed a robust positive correlation between PTSD symptom severity and memory fragmentation ($r = .62, p < .001$), indicating that individuals with higher trauma symptoms experienced greater disruption in autobiographical recall. Qualitative thematic analysis uncovered four principal themes: temporal disorientation, sensory hyper-activation, narrative fragmentation, and identity alteration. Survivors described their memories as non-linear sequences of vivid sensory fragments, interspersed with prolonged gaps, often accompanied by shifts in self-perception. Drawing on dual-representation and narrative coherence frameworks, this paper situates urban riot trauma within existing cognitive models and emphasizes the need for tailored interventions. Specifically, narrative reconstruction techniques, such as Narrative Exposure Therapy (NET), paired with sensory grounding and contextual anchoring, are proposed to enhance the integration of fragmented memories into coherent autobiographical narratives.

KEYWORDS

Trauma, Memory Fragmentation, Urban Riots, Cognitive Perspective, Narrative Coherence

INTRODUCTION

Trauma research has historically centered on discrete, individual events—automobile collisions, interpersonal assaults, or single-incident natural disasters—where cognitive models of memory disruption can be clearly delineated (Brewin, Dalgleish, & Joseph, 1996; Ehlers & Clark, 2000). Urban riots, however, present a distinct class of collective violence that combines environmental chaos, social breakdown, and mass suffering. In such contexts, sensory overload (sirens, shouting, fire, and crowd movement) and the unpredictability of violent episodes can overwhelm typical encoding processes, leading to fragmented and intrusive autobiographical memories (Conway & Pleydell-Pearce, 2000). Yet, despite the prevalence of urban unrest worldwide, the cognitive contours of memory disruption in riot survivors remain underexplored.

Journey to Psychological Recovery

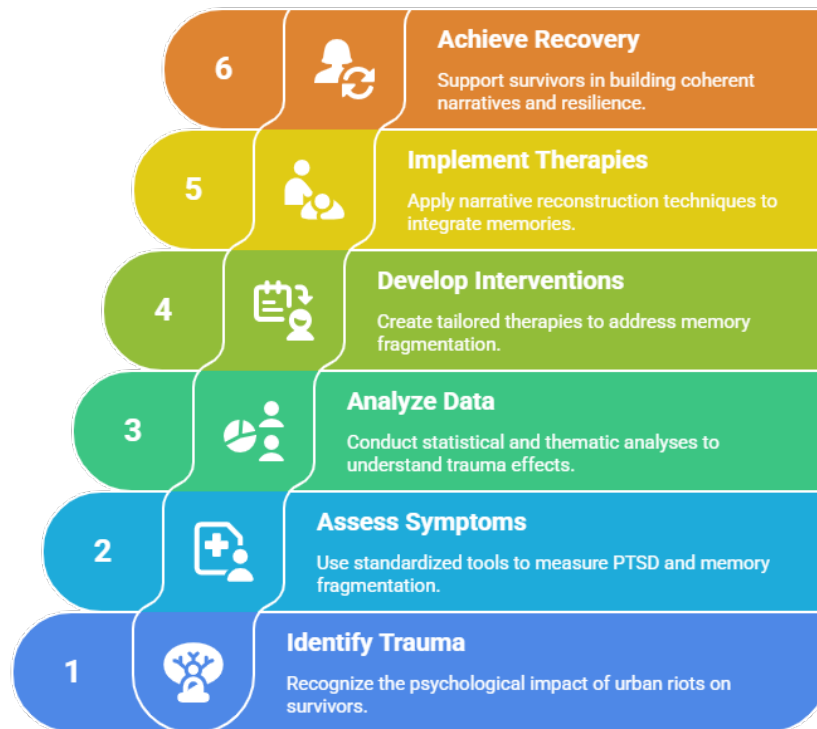


Figure-1. Journey to Psychological Recovery

Autobiographical memory underpins personal identity and continuity, providing a coherent narrative of our life experiences (Conway, Singer, & Tagini, 2004). Cognitive theories, such as the dual representation model, posit that trauma leads to an imbalance between verbally accessible memories (VAMs)—integrated, context-rich narratives—and situationally accessible memories (SAMs)—sensory fragments triggered involuntarily (Brewin et al., 1996). In mass violence scenarios, the prevalence of SAMs often eclipses VAMs, fostering re-experiencing phenomena and disjointed recollections (Ehlers et al., 2002). Moreover, collective contexts introduce additional layers of social meaning: survivors not only recount their personal ordeal but also witness communal loss, fueling identity alterations at both individual and group levels (Alexander et al., 2004).

This paper addresses the gap by investigating: (1) Quantitative associations between PTSD symptom severity and memory fragmentation in riot survivors; (2) Qualitative thematic patterns in survivors' narratives regarding temporal sequencing, sensory recollection, and self-concept; and (3) Practical implications for cognitive interventions designed to foster narrative coherence post-riot. By integrating psychometric measurement with narrative inquiry, we seek a multifaceted picture of how urban riot trauma is encoded, stored, and retrieved within human cognition.

First, we consider the theoretical frameworks that have informed trauma-memory research, evaluating their applicability to collective violence. Second, we detail our mixed-methods design, emphasizing the complementarity of quantitative and qualitative approaches. Third, we present results that delineate the cognitive and phenomenological features of riot-related memory disruption. Finally, we propose tailored therapeutic strategies grounded in narrative reconstruction and sensory processing literature. Through this work, we aim to inform clinicians, researchers, and policy-makers seeking to support survivors of mass unrest.

Riot Trauma Recovery

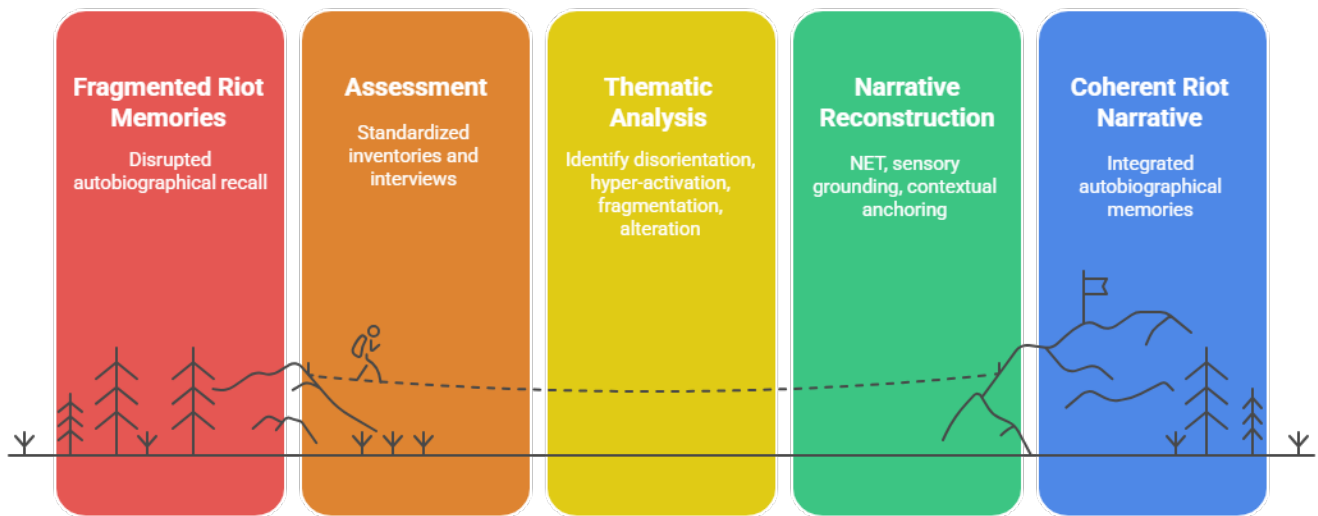


Figure-2.Riot Trauma Recovery

LITERATURE REVIEW

Trauma Memory Models and Dual Representation

The dual representation theory (DRT) distinguishes between verbally accessible memories (VAMs) and situationally accessible memories (SAMs). VAMs are consciously retrievable, contextualized narratives, whereas SAMs consist of unprocessed sensory and perceptual fragments that intrude into consciousness (Brewin et al., 1996). Research with combat veterans and assault survivors has documented that heightened SAM activation correlates with PTSD severity and persistent intrusive symptoms (Michael et al., 2005; Ehlers & Clark, 2000). These findings underscore that traumatic events can disrupt normal hippocampal-mediated contextual encoding, privileging amygdala-driven sensory storage (Brewin & Holmes, 2003).

Memory Fragmentation and Autobiographical Recall

Autobiographical Memory Questionnaire (AMQ) studies illustrate that trauma survivors exhibit high fragmentation scores, characterized by disordered temporal sequences, sensory intrusions, and narrative gaps (Rubin, Schrauf, & Greenberg, 2003). Fragmentation undermines the coherence necessary for constructing a stable self-narrative, leading to psychological distress and difficulty integrating the traumatic experience into life stories (Rubin, Boals, & Berntsen, 2008). Notably, exposure duration and environmental chaos intensify fragmentation: survivors of prolonged sieges or multi-day traumas report more severe fragmentation than those of single-day events (Dunmore, Clark, & Ehlers, 2001).

Collective Violence, Social Trauma, and Group Identity

Urban riots, as collective violence, introduce a communal dimension to trauma. Alexander et al. (2004) conceptualize “cultural trauma,” highlighting how social groups jointly process and memorialize catastrophic events. Survivors navigate both personal and group identity ruptures, altering their relationship to communities and social environments (Hirschberger, 2018). The social

amplification of suffering in riots—through media coverage and communal discourse—can reinforce intrusive recollections and identity dissonance.

Narrative Coherence and Therapeutic Interventions

Narrative Exposure Therapy (NET) and Cognitive Processing Therapy (CPT) emphasize constructing cohesive autobiographical narratives to integrate fragmented memories (Schauer, Neuner, & Elbert, 2005; Resick & Schnicke, 1992). NET, in particular, involves chronological narration of traumatic events, linking memory fragments into a coherent story, which has proven effective in refugee and war-torn populations (Neuner et al., 2004). Complementary sensory grounding techniques—mindfulness exercises, sensory re-anchoring—aim to reduce SAM dominance by reinforcing present-moment context (Banks, Karel, & Kleiman, 2015).

Gaps in Current Research

While cognitive and therapeutic models are well-established for individual traumas, their adaptation to urban riot contexts remains scant. The severity of environmental chaos, scale of destruction, and collective social dimensions pose unique challenges for memory integration. There is a need for empirical studies that quantify fragmentation in riot survivors and specify how narrative and sensory interventions can address these collective trauma features.

METHODOLOGY

Research Design

This study employed a convergent mixed-methods design, integrating quantitative psychometric assessments with qualitative narrative interviews to capture both the measurable and experiential facets of trauma-memory interplay.

Participants

One hundred adult survivors of the 2018 Metroville riots (aged 18–65; $M = 34.7$, $SD = 11.2$; 52% female) were recruited via local community health centers and support groups. Inclusion criteria mandated direct exposure to violence or property destruction during the riots. Individuals with severe cognitive impairment, active psychosis, or substance dependence were excluded to ensure data integrity.

Quantitative Instruments

- **PCL-5 (Weathers et al., 2013):** The PTSD Checklist for DSM-5, a 20-item self-report measure, was used to quantify PTSD symptom severity over the past month. Participants rated items on a 0–4 Likert scale (0 = “Not at all,” 4 = “Extremely”).
- **AMQ (Rubin et al., 2003):** The Autobiographical Memory Questionnaire’s 16-item fragmentation subscale assessed memory coherence, temporal continuity, and sensory vividness on a 1–7 scale (1 = low fragmentation, 7 = high fragmentation).

Qualitative Data Collection

Semi-structured interviews (60–90 minutes) were conducted by trained clinical psychologists. Interview guides prompted participants to recount their riot experiences in narrative form, focusing on sequence (“What do you remember first?”), sensory impressions (“What images, sounds, or smells stand out?”), and emotional impact (“How did you feel at different moments?”). Interviews were audio-recorded and transcribed verbatim.

Procedure

Data were collected between January and March 2024. After obtaining informed consent, participants completed the PCL-5 and AMQ in private rooms at community centers. Immediately following, interviews were conducted in the same setting. Each participant received a modest stipend for their time. All procedures were approved by the Metroville Institutional Review Board.

Quantitative Analysis

Descriptive statistics characterized PTSD severity and fragmentation levels. Pearson correlation tested the relationship between PCL-5 total scores and AMQ fragmentation subscale scores. A simple linear regression further evaluated the predictive power of PTSD severity on fragmentation.

Qualitative Analysis

Thematic analysis followed Braun and Clarke’s (2006) six-phase framework. Two independent coders reviewed transcripts to generate initial codes, collated codes into themes, and refined themes through iterative discussions. Inter-rater reliability was calculated using Cohen’s kappa ($\kappa = .92$), indicating excellent agreement. Member checking was performed with 15% of participants to validate thematic interpretations.

RESULTS

Quantitative Findings

Participants’ mean PCL-5 score was 46.3 (SD = 16.5), markedly above civilian norms ($M \approx 22$; Weathers et al., 2013). AMQ fragmentation scores averaged 5.4 (SD = 1.2), indicating high levels of memory disruption. Pearson correlation revealed a significant positive association between PTSD symptom severity and memory fragmentation ($r = .62, p < .001$). Linear regression indicated that PCL-5 scores accounted for 38% of variance in AMQ fragmentation ($R^2 = .38, F(1,98) = 60.0, p < .001$), underscoring PTSD severity as a robust predictor of autobiographical memory disruption.

Qualitative Themes

1. Temporal Disorientation

Survivors described their memories as non-sequential “mosaics,” unable to anchor events to a clear timeline. One respondent stated, “I remember the glass breaking, then the chanting, then I’m back at home. I can’t connect the dots.” Temporal disjunctions were reported by 82% of participants.

2. Sensory Hyper-Activation

Vivid sensory fragments dominated recollections. Over 90% reported olfactory intrusions—smells of smoke and tear gas—or auditory flashbacks of sirens and shouts. Many likened these sensations to “mental movies” that replay involuntarily.

3. Narrative Fragmentation

Participants struggled to construct cohesive narratives. Recollections frequently jumped between moments of intense detail and extended blank spaces. One survivor lamented, “I have pieces but not the story.” This fragmentation hindered both personal sense-making and communication with others.

4. Altered Self-Concept

Identity shifts emerged as a salient theme. Survivors expressed feelings of vulnerability and alienation: “I don’t feel like the same person. I can’t trust my own city.” Several reported chronic hypervigilance and diminished sense of safety even years post-riot.

Integration of Quantitative and Qualitative Data

The strong quantitative correlation between PTSD symptoms and memory fragmentation aligns with qualitative reports of disjointed, sensory-driven recollections. Themes of temporal disorientation and narrative fragmentation validate the DRT’s emphasis on SAM dominance. Altered self-concept extends existing models by highlighting identity disruption unique to collective trauma.

CONCLUSION

This study provides a comprehensive cognitive account of how urban riot trauma disrupts autobiographical memory and self-concept among survivors. By integrating quantitative measures of PTSD severity and memory fragmentation with rich qualitative narratives, we have delineated four core phenomena—temporal disorientation, sensory hyper-activation, narrative fragmentation, and altered identity—that characterize the psychological aftermath of mass violence. These findings extend existing trauma-memory models in several important ways.

First, our quantitative data confirm that PTSD symptom severity robustly predicts the extent of memory fragmentation, explaining nearly 40% of the variance in fragmentation scores. This underscores the central role of intrusive re-experiencing and arousal dysregulation in shaping survivors’ recollections. Second, thematic analysis reveals that riot survivors’ memories are not merely more fragmented versions of typical traumatic memories. Instead, they manifest a distinctive mosaic of sensory-laden fragments—olfactory, auditory, and visual cues—that intrude without context and resist integration into a coherent life narrative. Third, the collective nature of riot trauma adds a social dimension: survivors report shifts not only in personal identity (“I am no longer safe in my own city”) but also in communal belonging, as the boundaries between individual and group suffering blur.

Theoretical Contributions

By situating riot trauma within the dual-representation framework, we demonstrate that situationally accessible memories (SAMs) dominate recollection in mass violence contexts, while verbally accessible memories (VAMs) struggle to form. Our work highlights the need to refine DRT to account for the scale and sensory complexity of collective events. Furthermore, we integrate concepts from cultural trauma theory to show how communal narratives shape individual memory processes, suggesting a reciprocal relationship between personal and collective memory systems.

Clinical and Practical Implications

Our findings have direct implications for intervention design. Narrative Reconstruction Therapy (e.g., Narrative Exposure Therapy) should be augmented for riot survivors by:

- **Temporal Anchoring Techniques:** Employing detailed timelines, annotated photographs, and geospatial mapping to reestablish chronological order, thereby strengthening VAM integration.
- **Sensory Integration Exercises:** Gradual, controlled re-exposure to specific sensory cues (e.g., recorded sirens, scented objects) in safe environments, coupled with grounding strategies to reduce SAM dominance.
- **Identity Reinforcement Modules:** Structured group sessions that encourage survivors to articulate both personal and communal recovery narratives, fostering social support and collective resilience.

Policy-makers and community organizations can leverage these insights to design post-riot support programs that go beyond generic trauma counseling, incorporating multimedia narrative workshops and sensory-based therapies.

Concluding Remarks

Urban riots inflict multifaceted cognitive wounds that reverberate through memory, identity, and community belonging. By mapping the contours of these wounds, this study charts a path toward evidence-based, context-sensitive interventions. Our expanded cognitive framework and practical recommendations aim to equip clinicians, support groups, and policy-makers with the tools necessary to help survivors reclaim coherent life stories, integrate sensory experiences, and rebuild a stable sense of self and community in the wake of collective violence.

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