



“Numbers That Speak”: Digital Witnessing and Moral Trust in the *War in Gaza* Dataset

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Presentation Outline

A comprehensive overview of our research on digital witnessing and moral testimony through quantitative data.

Research Agenda

- ★ Introduction to digital witnessing and moral testimony
- ★ Methodology for analyzing the War in Gaza dataset
- ★ Quantitative findings of temporal and regional patterns
- ★ Qualitative insights from thematic analysis
- ★ Conclusion on digital testimonies and moral reception

02

Research Context & Background

Understanding the landscape of conflict documentation and digital witnessing.

Problem Domain & Current State

Current Challenges in Conflict Reporting **The Digital Documentation Landscape**

- ✦ Traditional reporting faces severe fragmentation due to geopolitical constraints
- ✦ Information suppression creates significant gaps in historical records
- ✦ Competing narratives and social trauma complicate objective documentation
- ✦ International legal frameworks offer inconsistent accountability mechanisms

- ✦ Proliferation of digital documentation since October 2023 across open data repositories
- ✦ War in Gaza dataset systematically aggregates daily casualty and incident data
- ✦ Numerical archives serve as alternative to traditional reporting mechanisms
- ✦ Each data entry functions as a unit of testimony documenting Palestinian experiences

Motivation & Research Objectives

1

Core Research Questions

How can quantitative data serve as moral testimony in contexts of information suppression? What mechanisms establish credibility in digital witnessing?

2

Primary Objectives

Examine the War in Gaza dataset as digital witnessing, demonstrate numerical data's moral function, and provide insight into Palestinian experiences through data.

3

Expected Impact

Develop new approaches to establish credibility and preserve memory through digital documentation in conflict zones.

Related Work & Literature Review

- ★ **Previous approaches:** Traditional journalism, human rights documentation, oral history collection
- ★ Digital humanities methods for conflict documentation and memory preservation
- ★ Critical data studies examining power dynamics in information ecosystems
- ★ **Limitations:** Emotional compression through statistical representation, abstraction from human dignity
- ★ **Our differentiation:** Integration of quantitative patterns with qualitative narrative analysis treating data as collective memory

03

Research Methodology

Mixed-methods approach integrating quantitative and qualitative analysis.

Research Design & Approach



Detailed Methodology - Part 1

Quantitative Methods

- ★ Temporal pattern analysis across October 2023 - March 2024
- ★ Regional distribution analysis across Gaza and West Bank
- ★ Inferential statistical modeling of incident frequencies
- ★ Standard deviation calculations for casualty data reliability

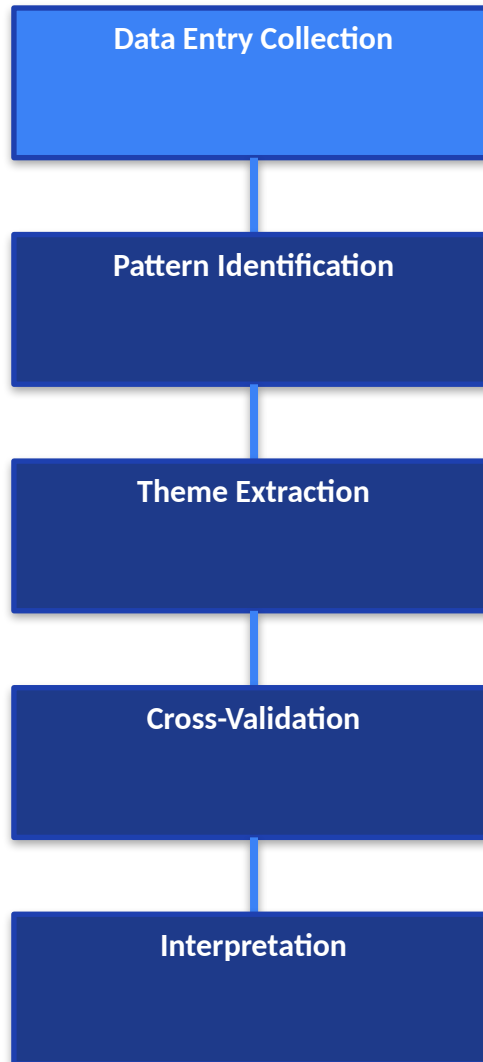
Qualitative Methods

- ★ Thematic coding of incident descriptors using validated codebook
- ★ Analysis of narrative elements attached to numerical entries
- ★ Examination of community communication through data platforms
- ★ Investigation of institutional framing of conflict information

Methodological Constraints & Assumptions

- ★ Competing historical narratives generate multiple interpretations of events
- ★ Social trauma influences how communities process and communicate experiences
- ★ Information ecosystems reflect power imbalances determining voice amplification
- ★ International legal frameworks offer inconsistent accountability mechanisms
- ★ Dataset completeness depends on verification processes and source accessibility

Algorithm Design & Analytical Framework



Experimental Setup & Data Characteristics

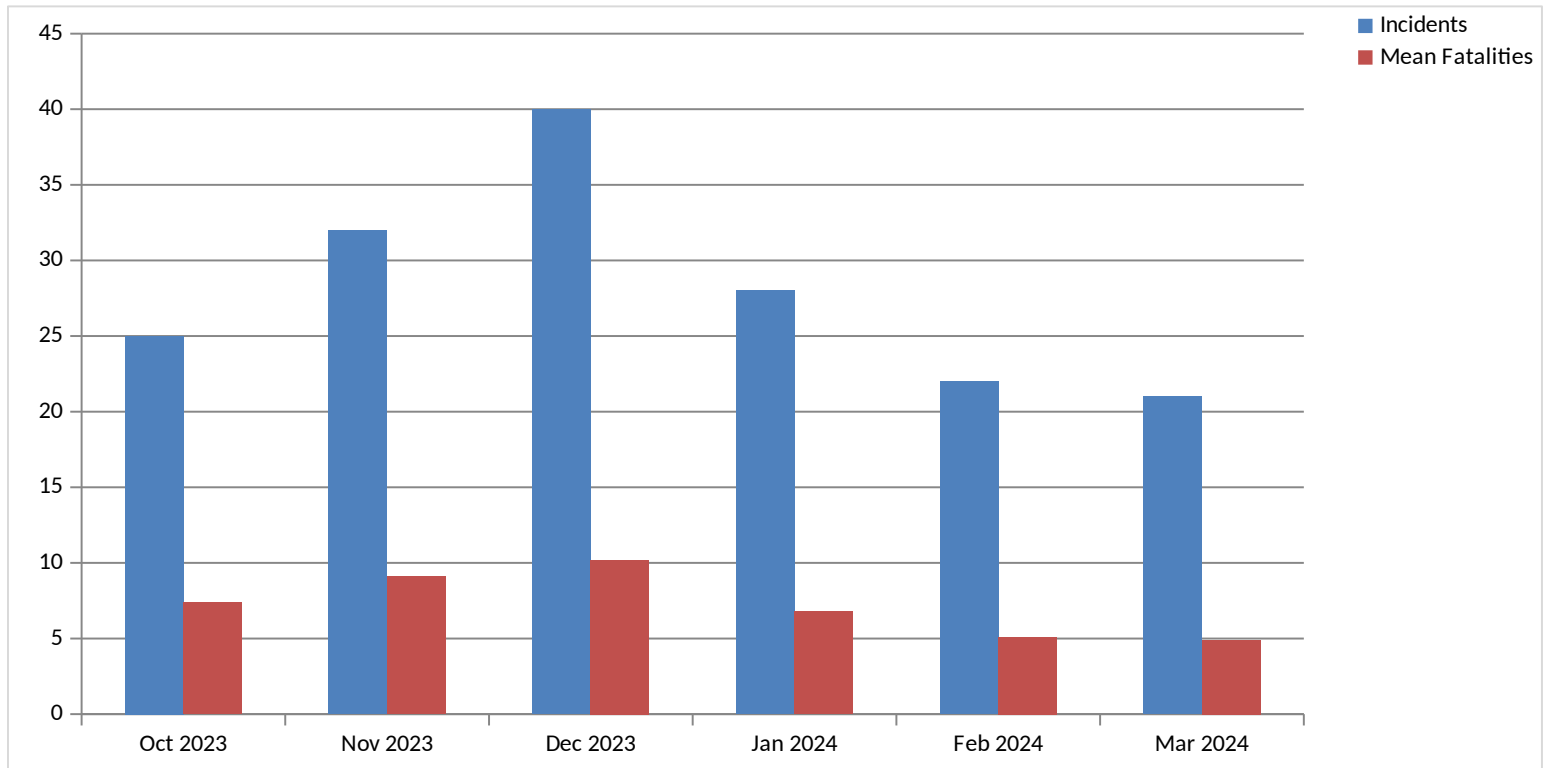
Data Aspect	Specification	Time Period	Sources
Dataset Scope	War in Gaza dataset	Oct 2023 - Mar 2024	Verified open data repositories
Data Types	Incidents, casualties, locations, descriptors	Daily aggregation	Health ministries, local volunteers
Verification	Multi-source cross-referencing	Continuous	International press where available
Analysis Period	Six-month comprehensive study	Oct 2023 - Mar 2024	Systematic sampling

04

Research Findings

Quantitative patterns and qualitative insights from the War in Gaza dataset analysis.

Quantitative Findings: Temporal Patterns



Key Quantitative Results - Part 1

- ★ November-December 2023 showed highest incident frequency (72 incidents, 45.8% of total)
- ★ December 2023 recorded peak mean fatalities (10.2) with highest standard deviation (3.6)
- ★ Clear downward trend observed from January 2024 onward in both incidents and fatalities
- ★ **October 2023 baseline:** 25 incidents with 7.4 mean fatalities (SD: 2.1)
- ★ **March 2024 showed lowest levels:** 21 incidents with 4.9 mean fatalities (SD: 1.7)

Regional Distribution Analysis

Region	Incident Count	Mean Fatalities	Mean Injuries	Population Density Correlation
Gaza City	High	9.8	24.3	Strong positive
Northern Gaza	Medium-High	7.2	18.6	Moderate positive
Southern Gaza	Medium	5.4	12.9	Weak positive
West Bank	Variable	3.1	8.4	Inconsistent

Qualitative Insights: Thematic Analysis

1

Digital Witness as Survival

Technological mediation of memory - 'local volunteers documented the scene immediately after the raid to ensure it was not forgotten'

2

Anonymity and Collective Voice

Shift from individual to collective suffering representation through aggregated data

3

Data as Moral Replacement

Dataset serving where traditional media coverage was absent - 'no international press in the area, figures reported by the health ministry'

4

Temporal Anchoring and Urgency

Descriptors emphasizing precise timestamps ('shortly after dawn,' 'during the night raid') adding qualitative immediacy to quantitative records

Case Studies: Representative Examples

- ★ **Case 1:** Raid documentation in Gaza City - Repetition of 'raid' terminology functioning as collective lexicon of resistance
- ★ **Case 2:** Youth arrest incidents - 'youth arrested' descriptors highlighting specific demographic targeting patterns
- ★ **Case 3:** Health ministry reporting - Data serving as primary source when international press access was restricted
- ★ **Case 4:** Volunteer documentation - Community-led data collection ensuring events were not erased from historical record

Results Discussion & Interpretation

Key Interpretations

- ★ Numerical data carries significant moral weight despite statistical abstraction
- ★ Temporal patterns reveal systematic nature of violence documentation
- ★ Qualitative descriptors provide crucial context to quantitative entries
- ★ Dataset functions as collective memory unit for Palestinian experiences

Significance & Implications

- ★ Digital witnessing extends moral testimony beyond traditional paradigms
- ★ Integration strengthens evidentiary value of conflict documentation
- ★ Reveals how communities utilize digital tools for memory preservation
- ★ Addresses gaps created by geopolitical constraints on traditional reporting

Key Contributions Summary

1

Digital Witnessing Framework

Establishes War in Gaza dataset as systematic form of digital witnessing documenting incidents, casualties, and locations (2023-2024)

2

Moral Testimony Function

Demonstrates how numerical data can function as moral testimony where traditional reporting faces constraints

3

Methodological Integration

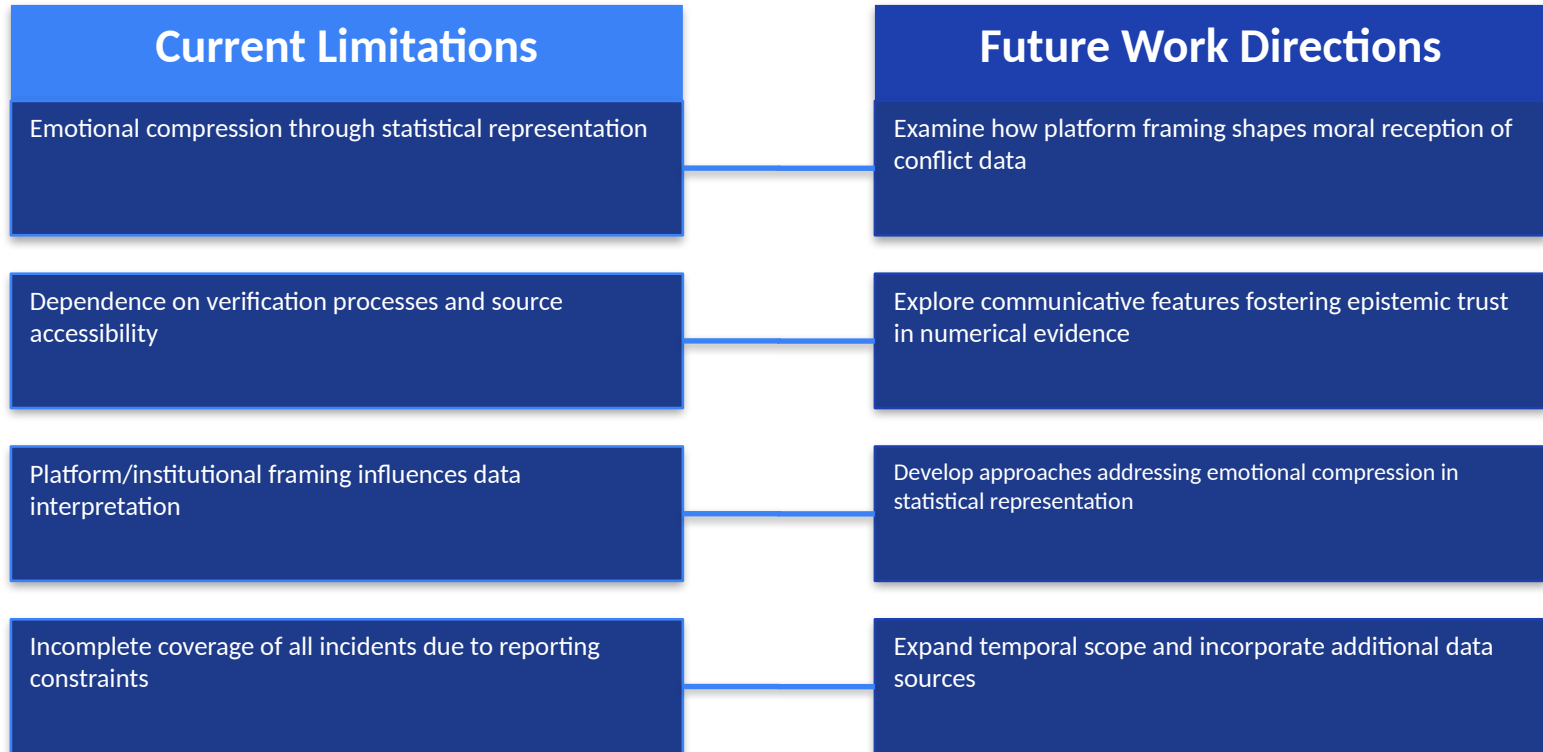
Integrates quantitative analysis of temporal/regional patterns with qualitative thematic coding of incident descriptors

4

Collective Memory Approach

Treats each data entry as a unit of collective memory providing insight into Palestinian experiences

Limitations & Future Research Directions



Conclusions

- ★ Numerical data from conflict zones functions as digital witnessing through systematic documentation mechanisms
- ★ Quantitative patterns combined with qualitative descriptors create powerful moral testimony where traditional reporting is constrained
- ★ The War in Gaza dataset serves as collective memory unit, preserving Palestinian experiences through digital documentation
- ★ Digital witnessing extends moral testimony paradigms, addressing fragmentation caused by geopolitical constraints and information suppression

References & Acknowledgments

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- ★ **Data Sources:** War in Gaza dataset contributors, local volunteers, health ministry reports

Thank You!

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Project Archive: github.com/digital-witnessing-gaza