



# Text Analysis of the Conflict in Gaza Reveals the Civilian Impact

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([https://github.com/klinares/airwars\\_scraping\\_project](https://github.com/klinares/airwars_scraping_project))

# Israel-Hamas Conflict, 1 Year Later

- **Background:** 10/7/2023 Hamas attacks Israel killing 1,200 people, Israel retaliates. Estimated dead ~44,000.
- **Problem:** Hamas Ministry of Health (MoH) reports casualties, cannot be corroborated.
- **Claim:** “Women & children disproportionately killed” [UN-OHCHR](#)
- **Research Question:** To what extent can open-source data be used to identify patterns in the targeting of Palestinian civilians in Gaza?



# Methodology: Analyzing Casualty Incidents

**Data Source:** [Airwars](#) tracks civilian incidents from conflicts.

**1. Web Scrape:** ~ 800 incidents (~9,000 deaths, ~10,000 injured) store in SQLite.

**2. JSON Parse:** Incident characteristics & casualties. Extract geocoordinates from “Assessment” (65% of incidents).

**3. Reverse Geocoding:** Submit incident coordinate queries to the [Nominatim API](#), keep location type (i.e., school, hospital).

**4. Sentiment Analysis:** Derive emotional tone from assessments. [DistilRoBERTa-base](#), classifies text into Ekman’s 6 basic emotions.

**5. Clustering Analysis:** Explore geographic w/ sentiment features to unpack geographic associations with child & women casualties.

The screenshot shows three separate incident cards from the Airwars platform. Each card includes details such as incident date, location, summary, and a 'View Incident' button.

- Incident 1:** August 28, 2024, at Al-Manfouhi School, Deir al-Balah, Gaza Strip. Summary: An Israeli drone strike hit a group of civilians sheltering in front of the school, killing at least ten civilians and injuring dozens. A woman was reportedly injured by an alleged Israeli sniper shortly before 3:15 PM on August 24th, 2024. Many sources such as the Palestinian Refugee Portal and the Palestine Post reported on the sniper shooting, however...
- Incident 2:** August 24, 2024, at Deir al-Balah, Gaza Strip. Summary: A woman was reportedly injured by an alleged Israeli quadcopter drone that fired shots at a school housing displaced people in Deir al-Balah on August 22nd, 2024. Multiple sources - Sa'at al-Balad, AJA Palestine, Voice of Palestine Radio...
- Incident 3:** August 22, 2024, at Deir al-Balah, Gaza Strip. Summary: Two people, one of them Ramiz Madhat Abu Ajina "Abu Madhat", were killed by an alleged Israeli quadcopter drone that fired shots at a school housing displaced people in Deir al-Balah on August 22nd, 2024. Multiple sources - Sa'at al-Balad, AJA Palestine, Voice of Palestine Radio...

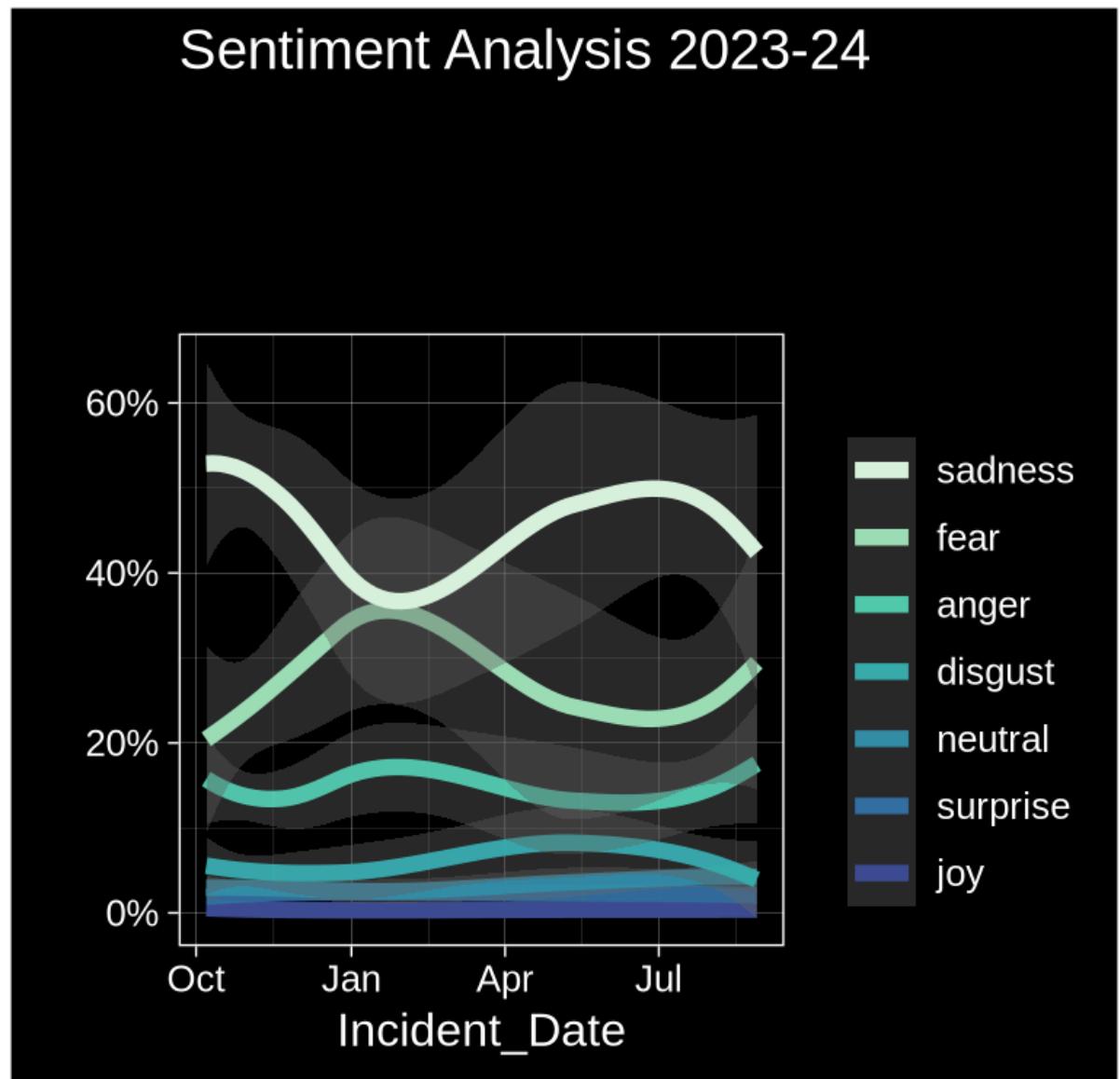
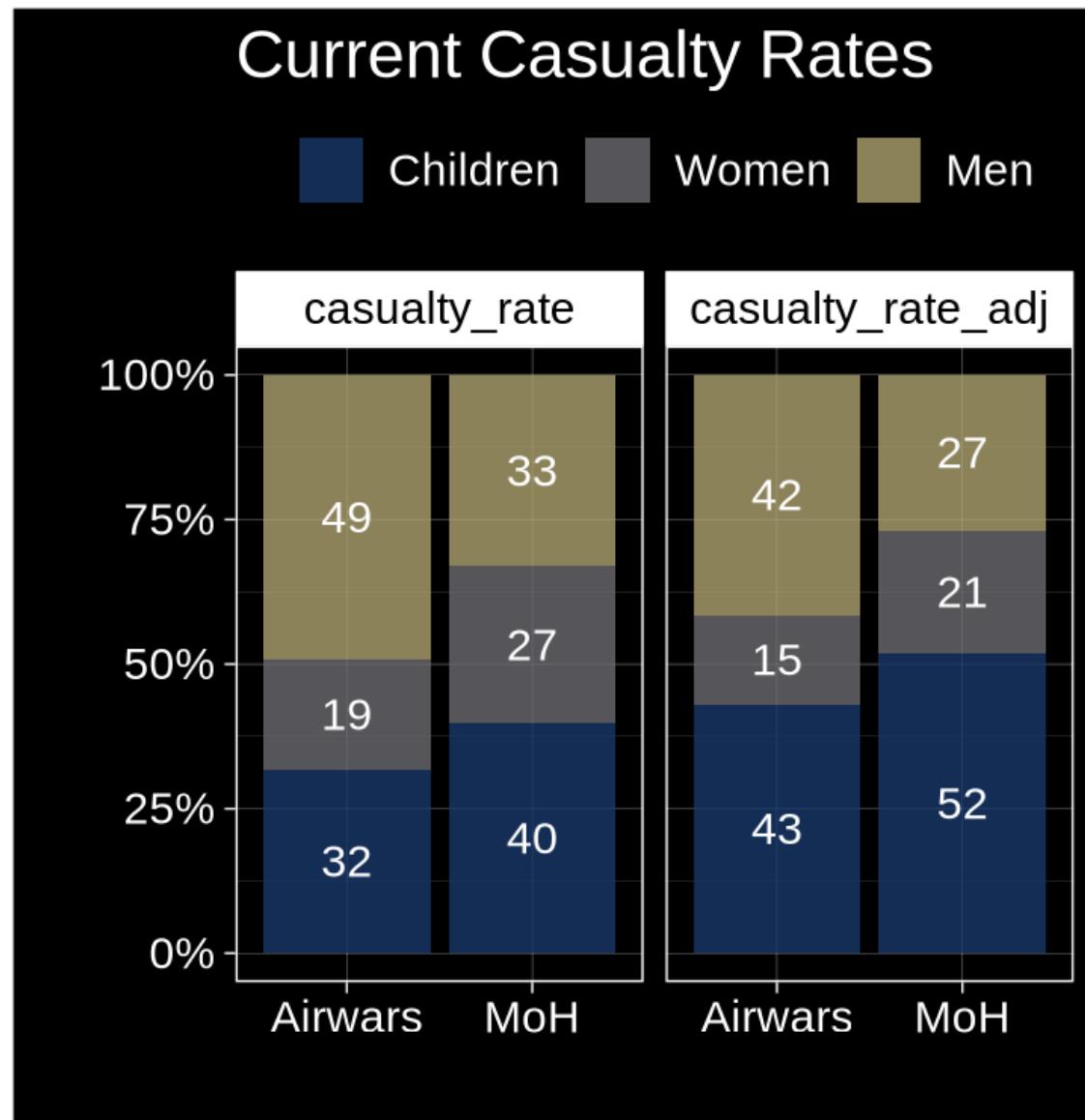
The screenshot shows a detailed view of an assessment from the Airwars platform. It includes sections for summary, strike status, infrastructure, harm reported, and sources.

**Summary:** Strike status: Likely strike; Strike type: Airstrike; Civilian infrastructure: IDP or refugee camp, Residential building; Civilian harm reported: Yes.

**Sources (12):** Includes links to various social media platforms like Twitter, Facebook, and Arabic forums.

# Results: Casualty Rate, Sentiment Analysis

- Children & Women likely to be killed after adjusting for population size.
- Sadness is the prominent emotional tone, followed by fear, varies across time.



# Results: Hierarchical Clustering

- Cluster 3 (39%), higher average of children killed associated with anger, disgust, fear, number of injured, & occurring in refugee camps.

