



The Background: What We Know

Outbreaks, epidemics, and pandemics are associated with social unrest and violence [1-5]. In the 14th century, the Black Death led to mass expulsions and executions, and in the 19th century, cholera outbreaks triggered violent riots [1]. More recently, the 2014 – 2016 Ebola outbreak in West Africa led to violent attacks against health and government officials and protests of mitigation strategies [1,3,4]. In fact, SARS (2003), H1N1 (2009), MERS (2012), Ebola (2014), and Zika (2016) outbreaks all significantly contributed to increased social unrest and civil disorder [5].

During the COVID-19 pandemic, evidence shows that levels of social unrest and violence also continued and increased [6].



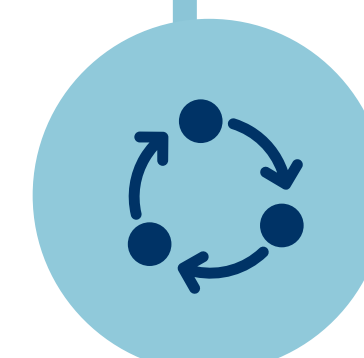
The Gap: What We Don't Know

There is little documentation on the types of unrest and violence that occur during pandemics, like COVID-19, and how they relate to the implementation and enforcement of mitigation strategies.



The Aim: What We Did

We reviewed web-scraped COVID-19 articles published during the first six months of the pandemic to explore the types and extent of unrest and violence associated with the pandemic.



The Method: How We Did It

- Identified Relevant Articles:** Using machine learning text classification models, we identified 1,370 articles that referenced 1) unrest or violence and 2) COVID-19 mitigation strategies. We then manually identified articles that discussed unrest or violence as directly associated with a mitigation strategy.
- Developed List of Unrest and Violence Codes:** We developed and refined a list of the types of unrest or violence by reading and coding all relevant articles. We used content analysis to summarize and quantify the types of unrest and violence presented in the articles, and their association with COVID-19 mitigation strategies [7].
- Categorized Types of Unrest and Violence:** We classified and organized the final list of unrest and violence codes. We used the World Health Organization's (WHO) Typology of Violence as a preliminary framework for our categorization [8]. We expanded the typology to capture all findings.

The Key Message

Our expanded Typology of Violence is the first framework that allows public health researchers to capture and categorize all acts of unrest and violence during and related to public health events.



The Results: The Original Framework

WHO defined violence to include ideas of intentionality and power while covering a range of physical and mental outcomes [8]. Their Typology of Violence serves as a framework for understanding "complex patterns of violence" [8]. The typology includes:

- | | |
|--|---|
| 1) Who committed the acts | 2) The nature of violent acts |
| <ul style="list-style-type: none"> Self-directed Interpersonal Collective | <ul style="list-style-type: none"> Physical Sexual Psychological Deprivation or neglect |

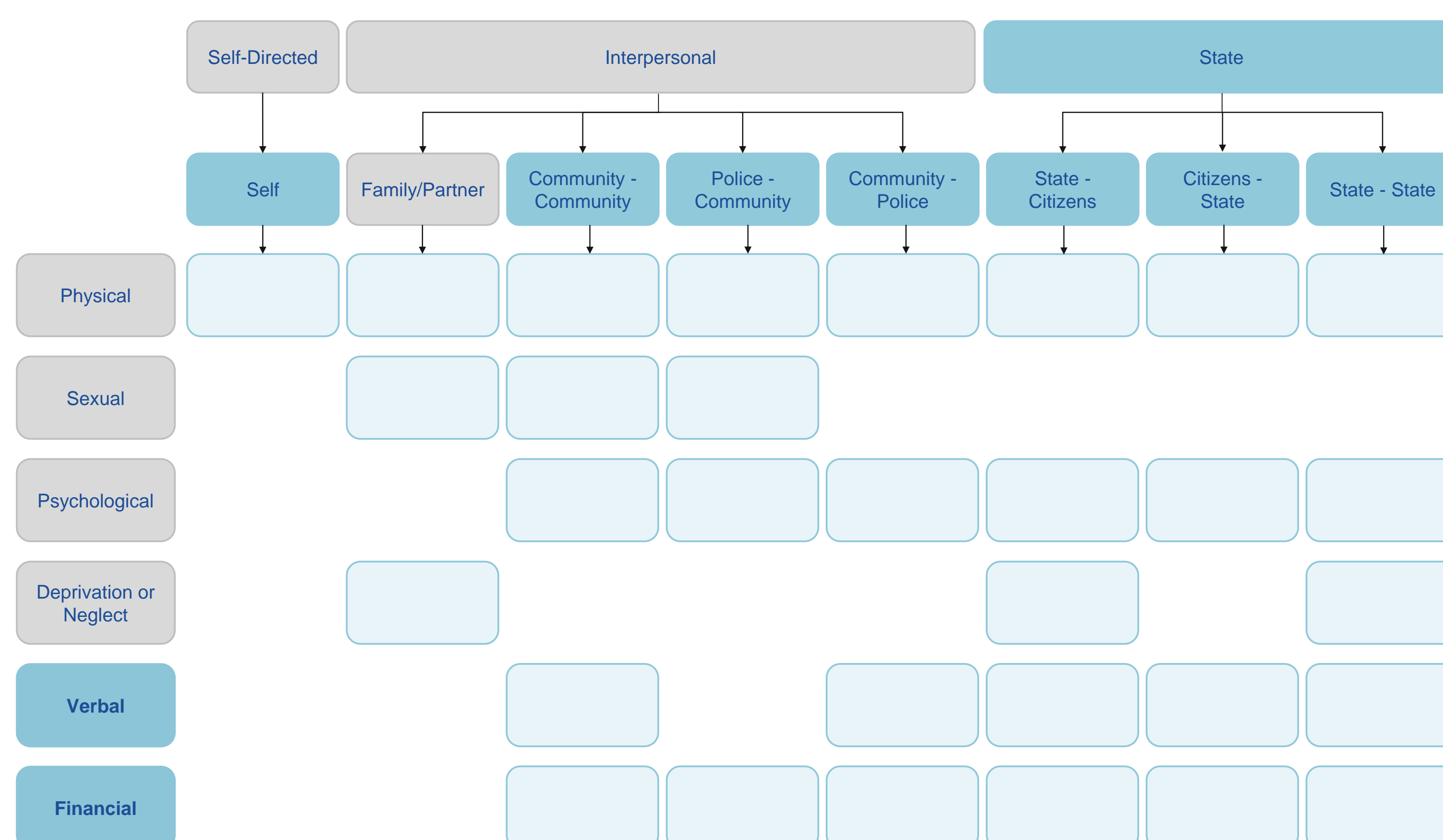


The Results: The Adapted Framework*

Our typology intends to capture all acts of unrest and violence, whether justified or traditionally considered violent, to showcase the breadth of negative actions/reactions related to the pandemic.

We expanded the definition of violence to include *social unrest*. We added the perpetrator of violent acts, and the perpetrator-victim categories. We replaced the collective section with "state," which encompasses government officials and military forces. We added to the nature of violent acts. Our Typology includes:

- | | |
|---|--|
| 1) Who committed the acts | 2) The nature of violent acts |
| <ul style="list-style-type: none"> Self-directed Interpersonal State | <ul style="list-style-type: none"> Physical Sexual Psychological Deprivation or neglect Verbal Financial |



*Note: this typology only showcases examples of unrest or violence found in our news article dataset. Other combinations of who committed the acts and the nature of violent acts may exist.



The Contribution: Why Is This Important?

Our adapted typology can help us understand the extent of unrest and violence during and related to public health events, so we understand how to better prepare for community engagement and minimize harms. We recommend applying this adapted Typology of Violence to other public health events and when analyzing data from different sources to test its reliability and validity in other contexts.

References:

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For more information:
 Manon Billaud, MPH: mbillaud@rti.org
 Alex Paulenich, MSPH: apaulenich@rti.org