Before and beyond MeToo: Measuring changes in power and agency within sexual abuse news stories over time

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1 Introduction

The way sexual abuse is represented in the media can drive public opinion. We use NLP techniques to analyze representation of sexual abuse in New York Times (NYT) articles over three time periods, ending with the era of MeToo. We use computational methods to surface sentences in articles involving victims and perpetrators, which we annotate for victim and perpetrator demographic information. We use power and agency connotation frames to measure if and how ascribed power and agency of victims and perpetrators in news articles have changed over the years. We find that women are ascribed more agency in sentences describing abuse of women victims over time, and power ascribed to male perpetrators has decreased over time.

2 Background

Major legislation on sexual abuse and women’s rights in the United States was passed from 1970 to 2000. Key legislation included “rape shield” laws, Title IX (1972), Marital Rape Laws (1993), Megan’s Law (1994), and the Violence Against Women Act (1994) (Mashel, 2020). We analyze this period of major legislative change from 1970-2000 and contrast it to the years prior to and following the MeToo movement, using NLP methods to examine trends in media representation over time.

Media framing and attribution of reported events can affect public perception, indicating the importance of studying how the media portrays these sensitive issues (Siefkes-Andrew and Alexopoulos, 2019). We know that media has shifted from portraying sexual abuse as an individual-level problem to portraying it as a societal-level problem (Weatherred, 2017), but other studies note persistent victim disempowerment and stereotyping of female victims as either “virgins” or “vamps” in news (Carter et al., 1998; Johnson, 1994). These findings underscore the importance of measuring victim and perpetrator power and agency in news, and NLP techniques can scale this kind of analysis.

Qualitative work on the MeToo movement includes Benedictis et al. (2019), an analysis of UK press, and Evans (2018), an analysis of NYT coverage of MeToo. We seek to confirm and eventually scale these papers’ findings using computational methods as well as consider the eras before the MeToo period. We use Sap et al. (2017) for our mixed methods analysis. The connotation frames lexicon from Sap et al. (2017) contains power and agency scores for a list of verbs, each denoting the implied authority differentials between the subject (agent) and the object (theme) of the verb. For instance, the sentence “he begged her for mercy,” the verb “begged” implies “he” is in a submissive position to “her.” Agency connotation frames likewise imply a person’s thoughts and actions that express their individual power. Power connotation frames imply a person’s influence upon another. We use these power and agency scores to measure agency and power in articles about sexual abuse.

3 Data

We used a short keyword list to retrieve articles from the NYT Article API over time. We manually confirmed topic relevance, and excluded op-eds and very short articles from our sample. We randomly sampled articles from each of the three periods for further annotation, proportional to relative incidence of articles in those time periods in the NYT. This yielded a data set of 64 articles in the 1970-2000 period, 37 in 2000-2015, and 95 in 2016-2021. We annotate these articles for perpetrator and victim gender based on pronouns listed in the articles, yielding 226 female and 43 male victims as well as 251 male and 24 female perpetrators. Due to overall small sample sizes and imbalanced classes, we proceed with the most common victim-perpetrator gender pair of female
victim-male perpetrator for the next analysis, of which there are 208 unique instances.  

4 Methods

We surfaced Subject-Verb-Object (SVO) tuples using the SpaCy dependency parser, then manually reviewed and included tuples from sentences involving both victim and perpetrator, like “the man attacked the woman,” but not “the policemen arrested the man,” since the victim is absent in the latter. We converted (Sap et al., 2017)’s assignments of power and agency to either the agent or the theme into scores of 1 or 0. Each time either the agent received a score of 1 for power or agency, the theme received a score of -1, and vice versa. A sentence like “the man attacked the woman” received a perpetrator power score and agency score of 1 each, and a victim agency and power score of -1.  2 We summed these scores within unique victim-perpetrator pairs to get a power score and agency score for both victim and perpetrator within an article. 3 We run linear regressions to examine the relationship between agency and power descriptions of victims and perpetrators over time.

5 Results

We predict incidence of descriptions of agency of female victims in an article, agency of male perpetrators, power of female victims, and power of male perpetrators as a function of time, controlling for text length of the article. In Table 1, we see that women are ascribed more agency in descriptions over time, a statistically significant result at the .05 significance level. We find that the agency of male perpetrators does not significantly change over time. 4

6 Discussion

This research investigated power and agency of victims through long historical eras, shedding additional context on ongoing analyses of media framing since MeToo. The changes we discover may be due to a combination of shifting societal perceptions of these issues as well as active changes by newsrooms to portray them differently. Because of the media’s power in shaping public perception of sexual abuse, scalable methods for analyzing its representation are critical to promoting ongoing analysis of these issues in the news. Our annotations could be used as training data for future tasks.

Table 1: Female victim agency predicted by time and text length (n = 208)

|                | Coef  | Std. Err. | P>|t| |
|----------------|-------|-----------|-----|
| Intercept      | -19.0312 ** | 8.225 | 0.022 |
| Time period    | 0.0097 ** | 0.004 | 0.019 |
| Text length    | 1.753e-05 | 1.49e-05 | 0.239 |
| R-sq.          | 0.043 | Adj. R-sq. | 0.033 |

Table 2: Male perpetrator power predicted by time and text length (n = 208)

|                | Coef | Std. Err. | P>|t| |
|----------------|------|-----------|-----|
| Intercept      | 23.9568 ** | 9.732 | 0.015 |
| Time period    | -0.0115 ** | 0.005 | 0.018 |
| Text length    | -4.585e-05 ** | 1.76e-05 | 0.010 |
| R-sq.          | 0.076 | Adj. R-sq. | 0.067 |

Next, we examine if power scores for male perpetrators and female victims change over time. We determine that power ascriptions do not change significantly for women over time, 5 but they do for male perpetrators. In Table 2, we see that there is a negative relationship between time and descriptions of male perpetrator power. These results add nuance to the findings of Field et al. (2019), which showed that despite the goals of the MeToo movement to empower victims, male perpetrators were often depicted as possessing greater individual power to carry out their needs and desires along with having greater power over their victims (Field et al., 2019).
to surface sentences mentioning both victims and perpetrators. This could help automatically analyze larger data sets of news for power and agency in the future.

Appendix: The keyword list we used to find related stories was: "rape", "sexual abuse", "sexual assault", "sexual harassment", "sexual violence", "incest", "stalking", "domestic violence", "molest", and "sexual exploitation".

References


