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Text Analysis of Fox News Articles on Unarmed Police Shootings

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Previous research has shown that reports on crime exaggerate crime rates and exhibit racial bias. Often times, there is an exaggeration of the rate of black criminal activity and depicting black suspects less favorably (Dorfman & Shiraldi, 2001). In Colombus, Ohio, a study found that journalists were most likely to report and over-represent crimes of black people against white people, despite the most common murders being within race. This effect was not noticed in other unusual pairs, such as white woman towards white man (Lundman, 2003).

In recent years police brutality has become a hot topic in American press. Police shootings become news reports and often gather massive attention. It has also been a racially charged issue, prompting the Black Lives Matter movement after the deaths of Trayvon Martin, Michael Brown and twelve-year old Tamir Rice at the hands of police (or in the case of Martin, a neighborhood watch.) All three were unarmed. A news publication, The Northwest Ohio Media Group, published a story reporting on the criminal history on Rice's parents - a criticized move that elicits victim-blaming (Politi, 2014).

This study will seek to uncover implicit differences in articles about shootings of black and white victims published on Fox News website. The articles in question are those on police shootings of unarmed people.

Methods

Names of black and white unarmed shooting victims were pulled from the years of 2015, 2016, and 2017 from database of police shooting deaths created by Washington Post. Each name was searched on Fox News' website. If the name had a

result, the article was saved. If there were many results, up to three articles on that person were saved. Articles were picked based on the focus on the victim and the initial event, rather than details regarding any subsequent trials or interviews with relatives or friends. 31 articles were found for black victims, and 23 for white victims.

All articles on black or white people were placed in one of two documents based on race. The composite documents were edited to remove victims' names and other identifying data, then run through CATPAC (version Pony).

Results

Figures 1 and 2 are Big Galileo Viewer plots for Black and White articles. Inspection of figures 1 and 2 show considerable differences in the overall structure of the semantic spaces generated from the articles.
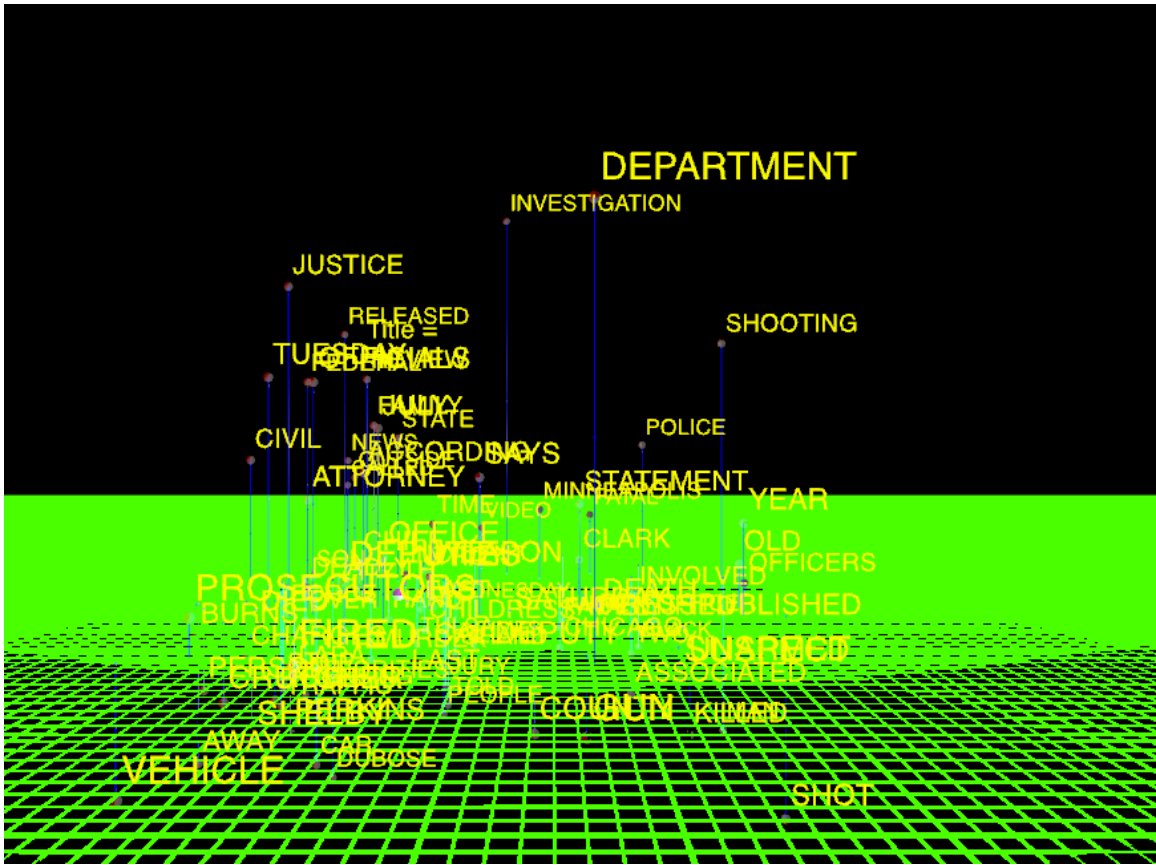
Figure 1: Galileo Space from articles on black unarmed shootings
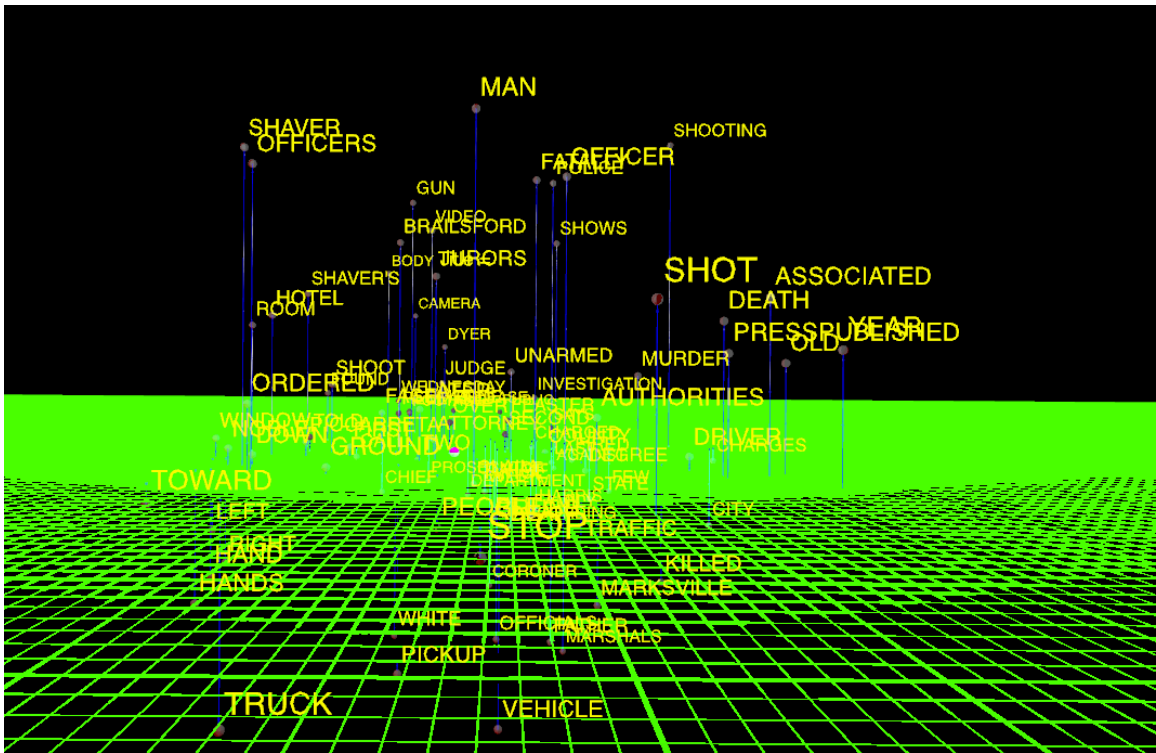
Figure 2: Galileo space from articles on white unarmed shootings

Figures 3 and 4 show the actual frequencies of occurrence of the various terms in articles about black and white victims.

```
TITLE:    unarmedb
DATA FILE: unarmed/unarmedb.txt


TOTAL WORDS           2085    THRESHOLD         0.000
TOTAL UNIQUE WORDS      94    RESTORING FORCE   0.100
TOTAL  WINDOWS        6228    CYCLES               1
TOTAL LINES          1132    FUNCTION          Sigmoid (-1 - +1)
WINDOW SIZE             7    CLAMPING          Yes
SLIDE SIZE              1
```

DESCENDING FREQUENCY LIST					ALPHABETICALY SORTED LIST				
WORD	FREQ	PCNT	CASE FREQ	CASE PCNT	WORD	FREQ	PCNT	CASE FREQ	CASE PCNT
POLICE	175	8.4	1172	18.8	ACCORDING	16	0.8	112	1.8
OFFICER	99	4.7	659	10.6	ASSOCIATED	25	1.2	175	2.8
SHOOTING	77	3.7	533	8.6	ATTORNEY	30	1.4	205	3.3
OFFICERS	59	2.8	404	6.5	AUTHORITIES	13	0.6	91	1.5
SHOT	51	2.4	355	5.7	AWAY	11	0.5	77	1.2
MAN	46	2.2	312	5.0	BLACK	35	1.7	242	3.9
YEAR	45	2.2	308	4.9	BURNS	26	1.2	164	2.6
COUNTY	41	2.0	287	4.6	CALL	15	0.7	103	1.7
OLD	37	1.8	257	4.1	CALLED	14	0.7	94	1.5
INVESTIGATION	36	1.7	247	4.0	CAR	26	1.2	178	2.9
BLACK	35	1.7	242	3.9	CHARGES	13	0.6	91	1.5
DEPARTMENT	34	1.6	233	3.7	CHICAGO	17	0.8	102	1.6
FAMILY	31	1.5	214	3.4	CHIEF	13	0.6	91	1.5
ATTORNEY	30	1.4	205	3.3	CHILDRESS	16	0.8	112	1.8
KILLED	30	1.4	210	3.4	CITY	11	0.5	75	1.2
CAR	26	1.2	178	2.9	CIVIL	11	0.5	77	1.2
GUN	26	1.2	172	2.8	CLARK	26	1.2	172	2.8
BURNS	26	1.2	164	2.6	COUNTY	41	2.0	287	4.6
CLARK	26	1.2	172	2.8	CRUTCHER	19	0.9	127	2.0
ASSOCIATED	25	1.2	175	2.8	DEADLY	11	0.5	75	1.2
VIDEO	25	1.2	162	2.6	DEATH	23	1.1	161	2.6
TWO	25	1.2	175	2.8	DEPARTMENT	34	1.6	233	3.7
GRAND	24	1.2	159	2.6	DEPUTIES	22	1.1	147	2.4
UNARMED	23	1.1	157	2.5	DEPUTY	16	0.8	109	1.8
DEATH	23	1.1	161	2.6	DIED	13	0.6	91	1.5
JURY	23	1.1	161	2.6	DUBOSE	15	0.7	97	1.6
SHELBY	23	1.1	159	2.6	EAST	13	0.6	87	1.4
SUSPECT	22	1.1	152	2.4	FAMILY	31	1.5	214	3.4
DEPUTIES	22	1.1	147	2.4	FATAL	13	0.6	91	1.5
INVOLVED	21	1.0	147	2.4	FATALLY	13	0.6	91	1.5
FIRED	21	1.0	147	2.4	FEDERAL	13	0.6	90	1.4
MINNEAPOLIS	20	1.0	133	2.1	FIRED	21	1.0	147	2.4
WEDNESDAY	19	0.9	133	2.1	FORCE	12	0.6	82	1.3
CRUTCHER	19	0.9	127	2.0	GRAND	24	1.2	159	2.6
PRESSPUBLISHED	18	0.9	126	2.0	GUN	26	1.2	172	2.8
TOLD	18	0.9	126	2.0	HAND	11	0.5	72	1.2
STATE	18	0.9	120	1.9	IDENTIFIED	15	0.7	100	1.6

Figure 3: Frequency of occurence for blacks

```
TITLE:      unarmedw.txt
DATA FILE: unarmed/unarmedw.txt


TOTAL WORDS            1518    THRESHOLD         0.000
TOTAL UNIQUE WORDS       95    RESTORING FORCE   0.100
TOTAL  WINDOWS         4147    CYCLES            1
TOTAL LINES             748    FUNCTION          Sigmoid (-1 - +1)
WINDOW SIZE               7    CLAMPING          Yes
SLIDE SIZE                1


   DESCENDING FREQUENCY LIST              ALPHABETICALY SORTED LIST


                       CASE CASE                             CASE CASE
WORD           FREQ PCNT FREQ PCNT    WORD           FREQ PCNT FREQ PCNT
-------------- ---- ---- ---- ----    -------------- ---- ---- ---- ----
POLICE           70  4.6  480 11.6    ACCORDING        10  0.7   70  1.7
OFFICER          69  4.5  464 11.2    AGAINST          12  0.8   84  2.0
OFFICERS         60  4.0  412  9.9    ASSOCIATED       17  1.1  119  2.9
SHOOTING         49  3.2  339  8.2    ATTORNEY         18  1.2  126  3.0
SHOT             47  3.1  325  7.8    AUTHORITIES      15  1.0  105  2.5
VIDEO            42  2.8  293  7.1    BODY             16  1.1  112  2.7
SHAVER           36  2.4  242  5.8    BRAILSFORD       21  1.4  147  3.5
YEAR             31  2.0  214  5.2    CALL              8  0.5   56  1.4
FIRED            29  1.9  203  4.9    CAMERA           13  0.9   86  2.1
MAN              29  1.9  200  4.8    CHARGED           9  0.6   63  1.5
CITY             28  1.8  192  4.6    CHARGES          16  1.1  111  2.7
NOBLE            28  1.8  191  4.6    CHIEF            10  0.7   70  1.7
OLD              24  1.6  165  4.0    CITY             28  1.8  192  4.6
DYER             22  1.4  154  3.7    CLAIM            10  0.7   66  1.6
BRAILSFORD       21  1.4  147  3.5    CORONER           8  0.5   56  1.4
DEATH            19  1.3  133  3.2    COUNTY           18  1.2  124  3.0
ATTORNEY         18  1.2  126  3.0    DEAF             10  0.7   69  1.7
PUBLIC           18  1.2  124  3.0    DEATH            19  1.3  133  3.2
COUNTY           18  1.2  124  3.0    DEGREE            9  0.6   60  1.4
HAND             18  1.2  103  2.5    DEPARTMENT        8  0.5   56  1.4
ASSOCIATED       17  1.1  119  2.9    DOWN             13  0.9   91  2.2
GUN              17  1.1  119  2.9    DRIVER           13  0.9   91  2.2
TWO              17  1.1  119  2.9    DYER             22  1.4  154  3.7
BODY             16  1.1  112  2.7    FACE              9  0.6   63  1.5
SHOWS            16  1.1  112  2.7    FAMILY           15  1.0   99  2.4
LAST             16  1.1  111  2.7    FATALLY           8  0.5   53  1.3
FEW              16  1.1  108  2.6    FATHER            8  0.5   56  1.4
CHARGES          16  1.1  111  2.7    FEASTER           8  0.5   56  1.4
TOWARD           16  1.1  104  2.5    FEW              16  1.1  108  2.6
FAMILY           15  1.0   99  2.4    FIRED            29  1.9  203  4.9
STATE            15  1.0  103  2.5    FIRST            10  0.7   70  1.7
INVESTIGATION    15  1.0  103  2.5    FOOTAGE           8  0.5   56  1.4
HARRIS           15  1.0  104  2.5    FOUND            11  0.7   77  1.9
AUTHORITIES      15  1.0  105  2.5    GROUND            9  0.6   57  1.4
VEHICLE          15  1.0  104  2.5    GRUBB            11  0.7   68  1.6
KILLED           14  0.9   98  2.4    GUN              17  1.1  119  2.9
SECOND           14  0.9   95  2.3    HAND             18  1.2  103  2.5
```

Figure 4: Frequency of occurrence for whites

There were some noticeable differences in word choice and frequency. The following words appeared in the top 20 (after removing individual names, cities, and "police/police officer") for white victims but not black: city, charges, body, public, shows, last, few. Next, we have the words listed in the top 20 for black victims that did not appear in the white list: black, killed, car, grand, jury, suspect, investigation, deputies, unarmed.

There were also words that, while not necessarily in the top 20, had considerable distance of frequency between races. The word death and murder more frequently appeared in the white articles than in black articles. Words regarding race in general (black, white) were nearly exclusive to the black victims list. Finally, while all deaths were unarmed, the word unarmed appeared much more frequently in the black articles than the white.

Discussion

Relatively similar words can have very different implications. While killed and murdered have similar definitions, murder is defined as a killing that is unlawful and with premeditation. Reporting black deaths by police as simply the person being "killed" does not specify that the person is a victim of a violent act. Frequently seeing the word murder when describing white people's deaths causes associations to be made in our minds, according to Hebb's Law.

Readers continuously consuming articles in which one race's death is referred to as a murder and the other is simply killed may enforce existing crime stereotypes and exhibits how the media does not afford the same level of victimization to people of color.

Another interesting find is that the word unarmed is more frequently seen in the articles on black police shootings. Perhaps there is a greater need to emphasize the unarmed aspect as to differentiate the victim from stereotypes of gang members or criminals.

Conclusion

       Using artificial intelligence to spot racial bias is the first step in eliminating it. Changes can only be made if there is awareness of the problem itself. Further analysis of other major network reports on police killings would have to be done to see if there is any effect in others news publications. By becoming more aware of this, hopefully the bias can be reduced and eventually eliminated.

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