

Non-traditional superhero movies sell in conservative media market

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The box office success of *Captain Marvel* is the latest demonstration that alt-right pop culture protests have minimal influence on conservative consumers. *Captain Marvel* is also further evidence that Marvel and DC have benefited from diversifying their superheroes movies. The nontraditional leads have drawn interest from an audience that was not engaged by prior ensemble films from the same story universe.

These are claims I made in a March 15, 2019 *Washington Post* article entitled “The smash success of Captain Marvel shows us that conservatives are ignoring the alt-right” (<https://wapo.st/2ObQb0H>). The article uses evidence from Google traffic for four superhero films with female or minority leads: *Captain Marvel*, *Aquaman*, *Black Panther*, and *Wonder Woman*. This memo gives additional details of the research.

1 Google search traffic

[Google Trends](#) provides information on the volume of Google searches for terms or topics over time and by location. Google transforms its search volume data

B. Lacina

in two ways before releasing it through Google Trends. First, searches in a geographic area are adjusted for population. Second, data is only provided in the form of comparisons: one time period to another, one location to another, etc. The volume that these comparisons represent is proprietary. Google Trends gives users the option of searching by “topics,” which are groups of closely related search terms.

I collected Google Trends data for the topic “Captain Marvel (film)” from the Friday, Saturday, and Sunday of the film’s opening weekend (March 8, 2019 to March 10, 2019). The estimates are provided according to Nielsen media market. There are 210 media markets in the US. Like US counties and states, media markets vary hugely by population. The largest—New York and Los Angeles—each hold about 20 million people. The smallest is Glendive, Montana, with a population of 13,000. 28 media markets have less than 200,000 inhabitants apiece.

2 How well can a Marvel superhero movie be expected to sell?

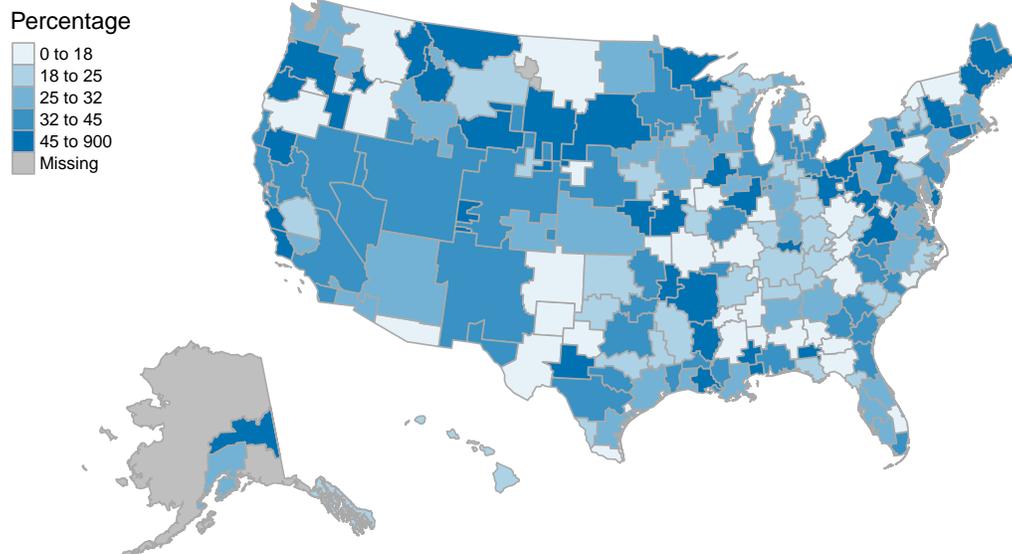
Salt Lake City, UT was the 5th best market for *Captain Marvel* in terms of Google search traffic over opening weekend. Salt Lake was also the 9th strongest area for *Ant-Man and the Wasp* when it opened in summer 2018. The city was *Avengers: Infinity War*’s 12th best market in spring 2018. In short, any Marvel film should play well in Salt Lake. I need to adjust interest in *Captain Marvel* to take that into account.

For my primary analysis, I benchmarked *Captain Marvel* (2019) against *Avengers: Age of Ultron* (2015). I calculate search traffic for *Captain Marvel* on its opening weekend compared to traffic for *Ultron* when it opened. If *Captain Marvel* generated as much interest in a media market in 2019 as *Ultron* generated there in 2015, *Captain Marvel* traffic was 100% of *Ultron* traffic. Numbers over 100% indicate more interest in *Captain Marvel* than *Ultron*. Numbers under 100% indicate the reverse.

Figure 1 shows the comparison to *Ultron* market by market. Nationally, Google searches for *Captain Marvel* were at about one-third (30%) of the level of searches for *Ultron*. The map shows no obvious clustering of the film’s strongest and weakest markets.

B. Lacina

Figure 1: A map of opening Weekend Google searches for *Captain Marvel* measured as a percentage of opening weekend Google searches for *Avengers: Age of Ultron* in the same media market



B. Lacina

3 Captain Marvel in conservative and liberal places

Box office figures are enough to show *Captain Marvel* sold a lot of tickets. My question is whether that success is masking a conservative consumer backlash. Perhaps *Captain Marvel* did much worse than other superhero movies in conservative parts of the US but made up for the damage with sales in liberal areas.

Figure 2a is a scatterplot of Google search traffic for *Captain Marvel*. On the vertical axis the scale is *Captain Marvel* traffic as a percentage of Google searches for *Age of Ultron*.

If there was a conservative backlash against the film, I would expect below average interest in the film in more conservative media markets. The political composition of US media markets is on the horizontal axis in Figure 2a. Republican Party vote share in a media market was averaged across the 2018 House races and 2016 presidential race.

The formless cloud of dots implies that *Captain Marvel* received about equal attention-relative-to-other-superhero-movies in conservative and liberal markets. The line drawn through the dots is from an ordinary least squares regression after weighting media markets by their logged population. The estimated slope of the line and the p-value for that estimate are included on the graph.

I also compared *Captain Marvel* to the summer 2018 film *Avengers: Infinity War*. (The *Ultron* comparison is convenient because I also analyzed *Black Panther*, which debuted before *Infinity War*. *Ultron* is the ensemble film that preceded both *Black Panther* and *Captain Marvel*.)

Figure 2b is based on comparing searches for *Captain Marvel* to searches for *Infinity War*. This figure shows even less evidence of a conservative boycott than the previous graph. If anything, in this analysis *Captain Marvel* over-performed in Republican media markets.

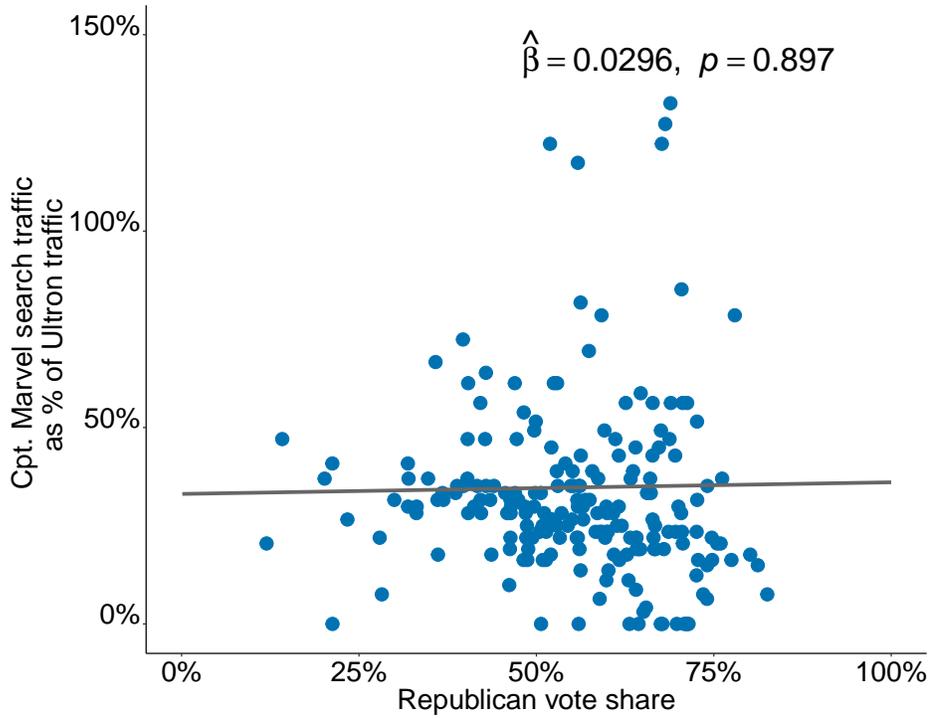
4 Four film analysis

I gathered data on three more superhero films with non-traditional heroes that were criticized by alt-right commentators. Each film's search traffic is compared to an earlier ensemble film. Opening weekend Google searches for *Black Panther* (2018) are compared to searches for *Avengers: Age of Ultron*. I also use search data for *Aquaman* (2018) and *Wonder Woman* (2019). These films take place in the DC cinematic universe. The ensemble film preceding them both is *Batman v Superman: Dawn of Justice*.

B. Lacina

Figure 2: How *Captain Marvel* fared relative to Marvel ensemble films in liberal and conservative media markets

(a) Search traffic for *Captain Marvel* relative to *Avengers: Age of Ultron*



(b) Search traffic for *Captain Marvel* relative to *Avengers: Infinity War*

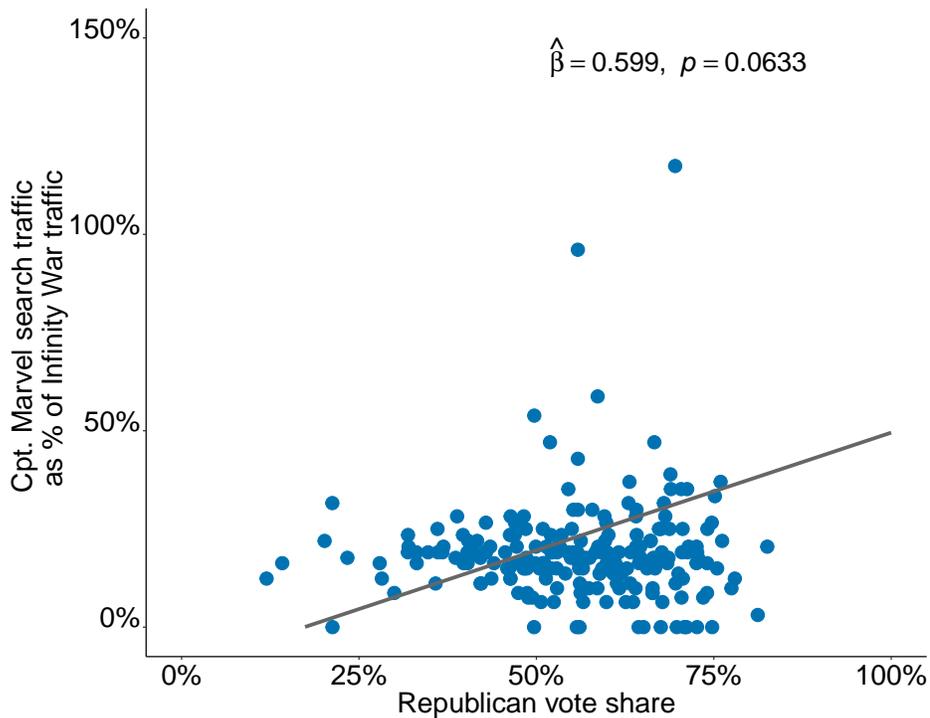
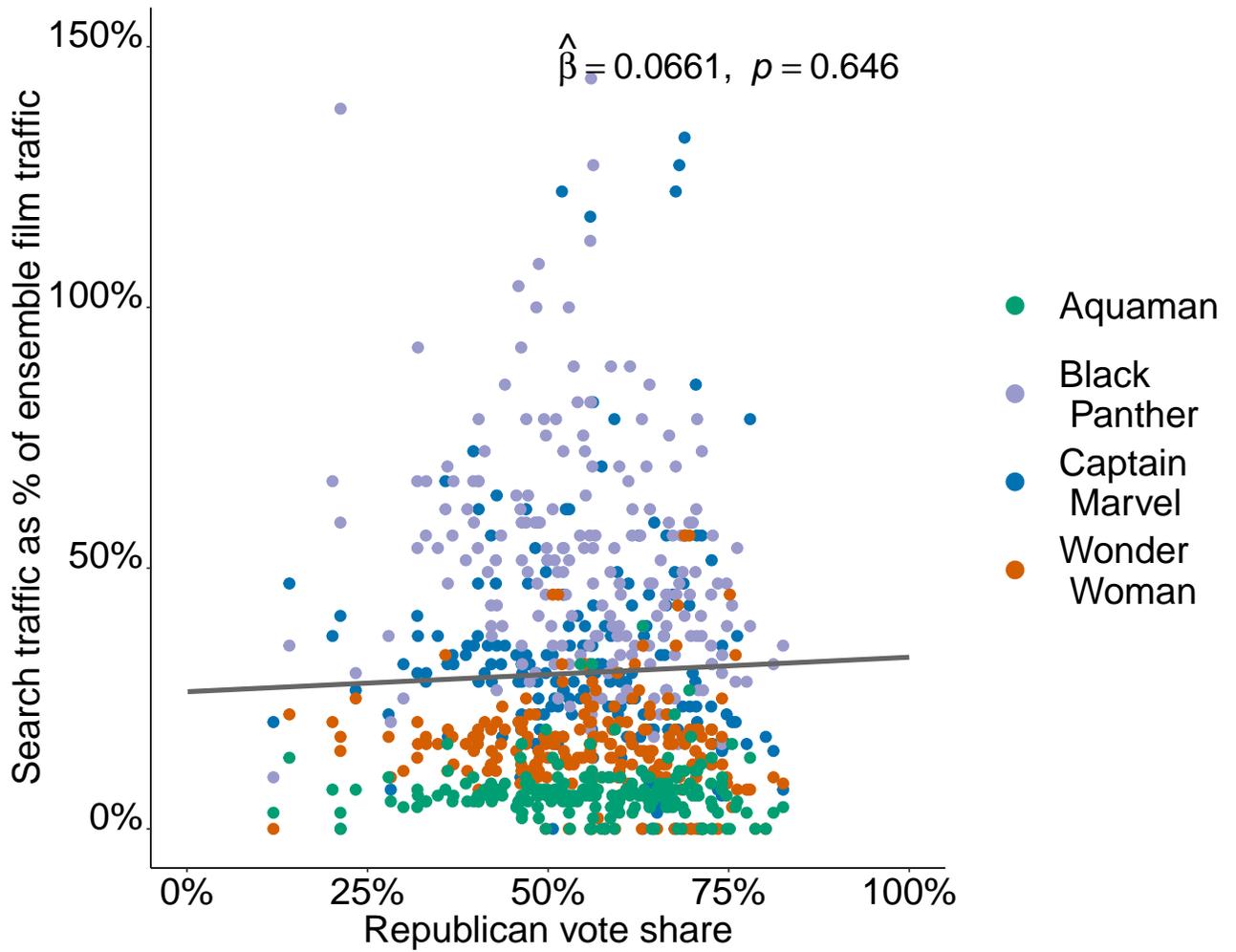


Figure 3: How four non-traditional superhero movies fared in liberal and conservative media markets compared to related ensemble superhero films



B. Lacina

Figure 3 shows the results of the four film analysis. Once again, there is no evidence that these non-traditional superhero films underperformed in conservative areas compared to similar films led by white men.

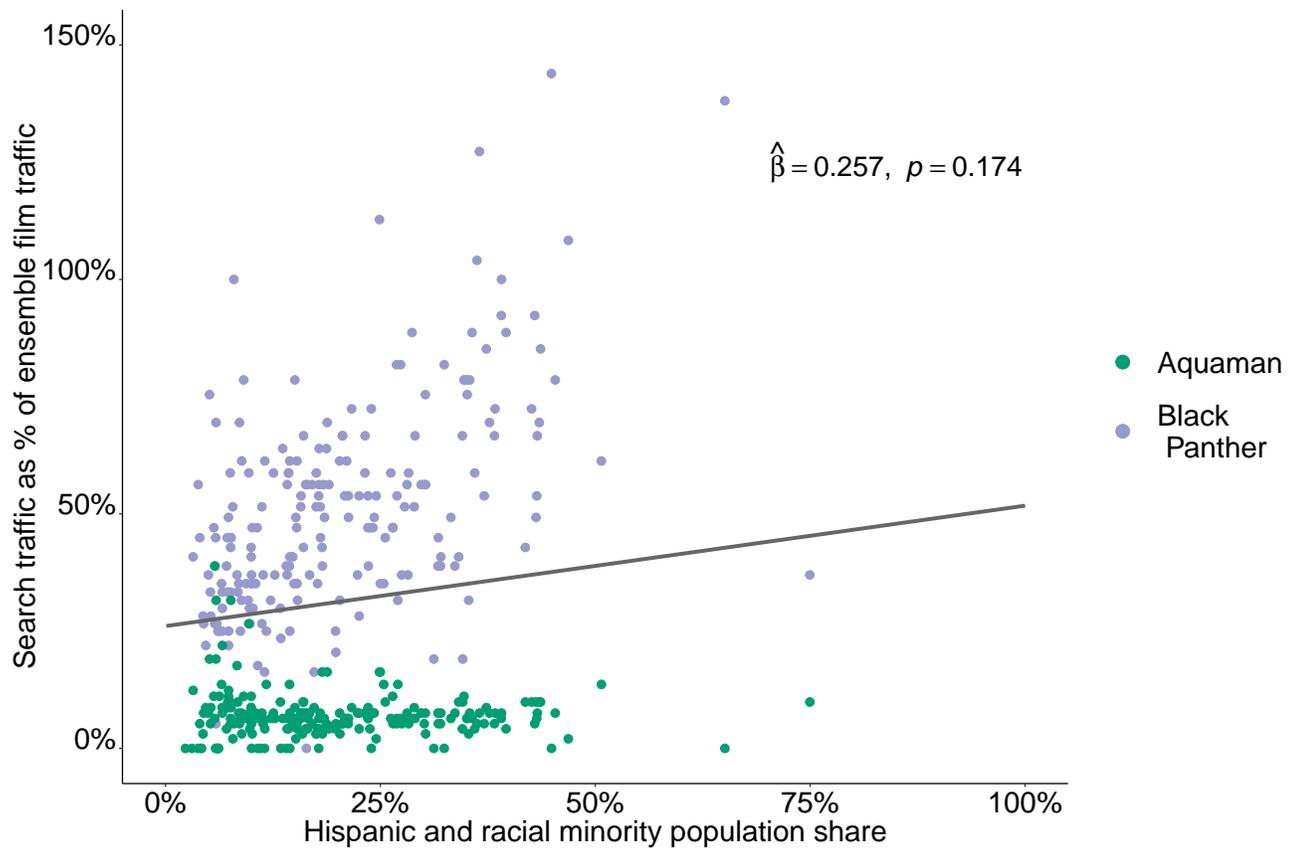
5 Drawing in minority audiences: *Black Panther* and *Aquaman*

Figure 4 is a scatter plot similar to those above including only *Black Panther* and *Aquaman*. *Black Panther*'s lead actor, Chadwick Boseman is black. Jason Momoa, who plays *Aquaman*, has a Native Hawaiian father. I compared interest in their films (again, benchmarked against the relevant ensemble movie) to the share of the population in a media market that was Hispanic or from a racial minority background.

The graph implies a clear and positive relationship between these variables. *Black Panther* and *Aquaman* performed better than would be expected based on other superhero films in media markets with a larger non-white population. In unreported analysis, I find that this relationship is driven by heightened interest in *Black Panther* in media markets with a large African-American population.

There are only 15 media markets in the US where the Asian-American share of the population is above the national average. That concentration makes it more difficult to determine whether *Aquaman* drew Asian-Americans who would not have seen a traditional superhero movie to the theater. *Aquaman* did over-perform in the Honolulu media market, getting about 50% more Google traffic than expected based on interest in *Batman v Superman*. Honolulu is the only media market where Asian-Americans are close to a majority of the population. It is also the only media market where people of Native Hawaiian/Pacific Islander ethnicity are more than 2% of the population.

Figure 4: Interest in *Black Panther* and *Aquaman* compared to the share of media market population that is people of color



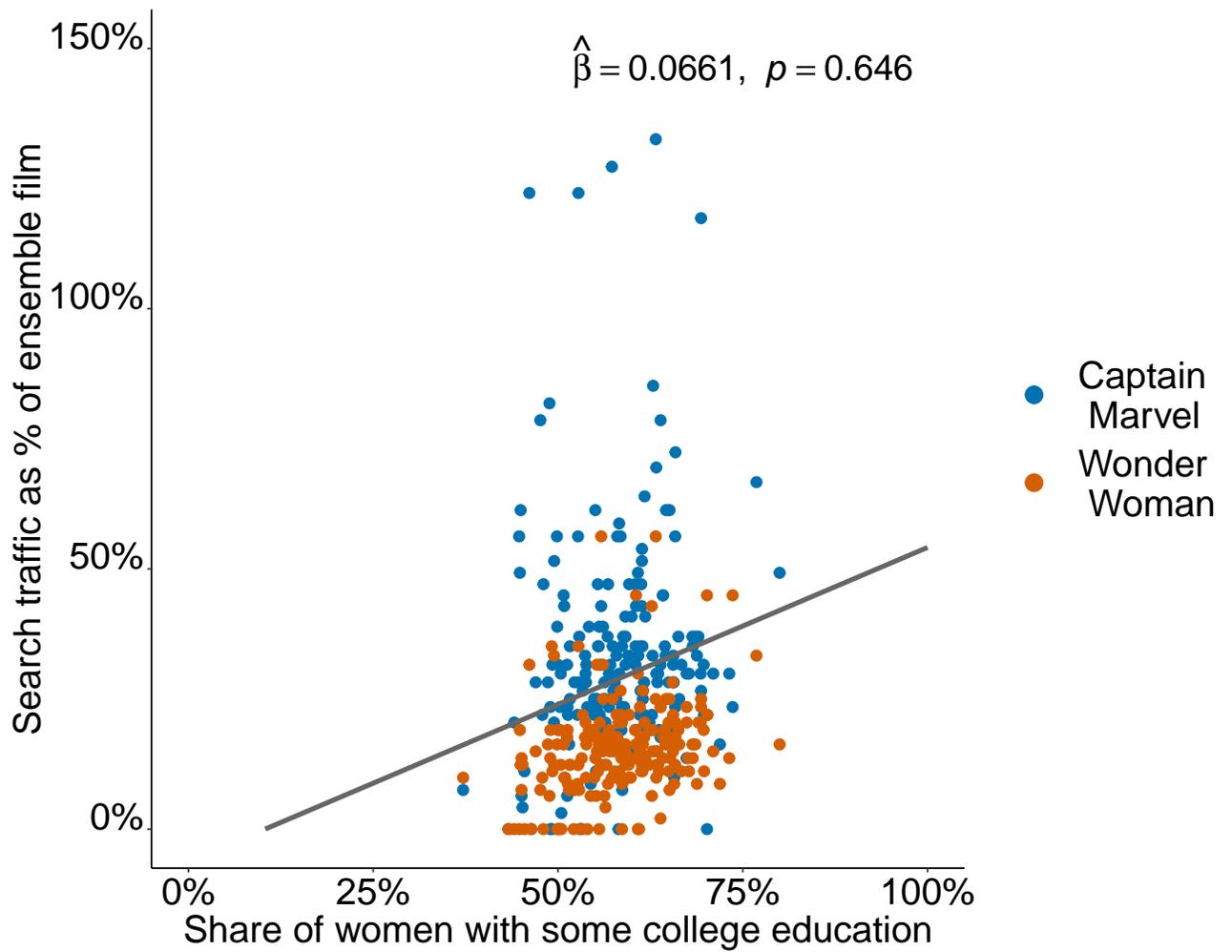
B. Lacina

6 Did Captain Marvel and Wonder Woman bring women to the theater?

Geography presents different challenges for studying whether women turned out to *Captain Marvel* or *Wonder Woman* more than other superhero movies. The portion of the population that is female does not vary much by media markets. However, I can identify variation in the share of women likely to hold the most liberal views of gender. Left-wing beliefs about gender inequality and policy are most [common among women with post-secondary education](#).

Figure 5 shows how interest in female-led superhero films differed across media markets according to what share of the women there who had some college or more. The best-fit line in the figure slopes upward, implying more interest in *Wonder Woman* and *Captain Marvel* (relative to past superhero films) in areas where there were more highly educated women. The relationship is subject to a high degree of statistical uncertainty, however.

Figure 5: Interest in *Captain Marvel* and *Wonder Woman* compared to the share of women in a media market with some post-secondary education



7 Does Google interest indicate outrage?

Could internet traffic in conservative markets reflect anger rather than interest? Probably not. Conservative rage on that scale would have shown up in mainstream conservative media. I looked for evidence of that kind of backlash using FOX news coverage. Like other news outlets, FOX plays both a reporting role and a tastemaker role for its audience. It covers a hybrid of what its viewers already care about and what the network believes they will care about. FOX viewers are mostly older than the core demographic for superhero films. That does not necessarily rule out covering superhero controversies. FOX covers liberalism in higher education extensively, despite its older audience.

I first used the [TV News Archive](#) to find stories on Captain Marvel in the week before it opened and over opening weekend: March 4, 2019 to March 10, 2019. I found one relevant segment, from FOX and Friends, March 8, 2019 (<https://bit.ly/2UGN03G>).

Kevin McCarthy reviewed the film. The segment is front loaded with his discussion of positive points about the film and his enthusiasm for Marvel movies. There is an explanation of how CGI was used to de-age Samuel L. Jackson. However, the review ends by saying the movie is “underwhelming” compared to *Infinity Wars* and that he preferred *Triple Frontier*.

[Rachel Leishman](#) and others have pointed out casual sexism in reviews of *Captain Marvel*. (Paid movie reviewers are [primarily white men](#).) McCarthy’s review might be susceptible to that criticism.

Nonetheless, the critical point for my argument is that nothing in the segment tells viewers that there is a conservative boycott of the film, mentions controversial remarks made by the cast, or suggests the film has liberal story content.

7.1 FOX coverage of Aquaman

I searched FOX news for opening week coverage of the other three films in my analysis, as well. I found no FOX coverage of *Aquaman* in the period December 17, 2018–December 23, 2018.

7.2 FOX coverage of Black Panther

Black Panther was the subject of two FOX stories in the week before it opened. On February 13, *FOX and Friends First* did a short segment (<https://bit.ly/2XVgkp7>) on a Change.org petition calling on Marvel to donate proceeds from *Black Panther*

B. Lacina

to black communities. The tone of the segment implies that the petition was an example of liberal excess.

On February 16, 2018's episode of *Tucker Carlson Tonight* (<https://bit.ly/2TK7lYz>), Carlson notes that *Black Panther* is "getting pretty good reviews." He reads a tweet from a white woman who says she is staying away from the opening weekend out of concern for black audience's sensibilities. Carlson denounces that impulse as a return to segregation.

Finally, on February 18, 2018, *Fox and Friends Sunday* included a human interest story on a movie theater that showed the wrong film at a screening of *Black Panther* (<https://bit.ly/2TPMzqi>). The hosts discussed their desire to see the film and one of them related a enjoyable meeting with Chadwick Boseman.

7.3 FOX coverage of Wonder Woman

The May 29, 2017 edition of *The Five* included the hosts mentioning that *Wonder Woman* would open that weekend and expressing their desire to see the film (<https://bit.ly/2TIqLOR>).

FOX and Friends First included Kevin McCarthy's review of the film on June 2, 2018 (<https://bit.ly/2T2xsWh>). McCarthy gives *Wonder Woman* a five star review and remarks that he is happy "that people can look up to a female superhero now." The segment includes an interview by McCarthy of Gal Gadot and Chris Pine. They discuss reshoots done while Gadot was pregnant.

An episode of *Your World With Neil Cavuto* (June 2, 2017, <https://bit.ly/2HmnsWs>) is the sole example I found of FOX coverage of an alt-right perspective on a superhero film. Cavuto opens the segment saying that some (unspecified) people are critical of *Wonder Woman* for portraying the character as less American than in previous renderings. Her costume has been changed to red, white, and gold.

A guest, Dion Baia, argues that the film is less patriotic than previous versions in order to sell the film internationally. He mentions that GI Joe was made less American in a recent live action movie and Cavuto brings up changes to Captain America. (He's referring to [remarks](#) made by *Captain America: The First Avenger* director Joe Johnson but the point is lost in crosstalk).

The segment received critical coverage in other media outlets (e.g.: [EW.com](#)). On his June 5 show, Cavuto (<https://bit.ly/2F3wILo>) addressed the criticism. He argues that the previous segment is being described incorrectly and that he and his guests were happy about the new film. Cavuto reads several tweets making fun of the segment and mildly refutes them. He twice mentions that it is silly to care about a comic book movie. Cavuto pivots to the unfair and mean-spirited

B. Lacina

coverage of him by other outlets.

This follow-up segment gives the sense that Cavuto believes the *Wonder Woman* story did not achieve its desired effects. His main fear seems to be that viewers found the segment silly. He steers away from criticizing pop culture to discussion of a more familiar enemy: the media.

B. Lacina

Sources

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