

# Fox News's Effect on Social and Moral Preferences

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## Abstract

This paper examines how Fox News influences social and moral preferences, which is crucial to how people make many decisions. I conduct a survey among Americans aged 45 or older and use the variation in the channel positions of Fox News and MSNBC across different towns and cable providers as instruments for Fox exposure. I confirm that these channel positions do not predict voting patterns before Fox was launched. I find evidence that Fox shifted moral values to be more communal, some suggestive evidence that it decreased altruism and trust, and that Fox does not appear to affect negative reciprocity. In addition, these treatment effects are concentrated among those who did not vote for Bill Clinton or Bob Dole in the 1996 election.

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## I. Introduction

Social and moral preferences are an important part of who people are and how they make certain decisions. Previous literature has shown that Fox News Channel shapes individual behavior on topics such as voting and pandemic stay-at-home behavior (Martin and Yurukoglu, 2017; Simonov et al., 2022). However, does Fox News shape people’s actions by providing information, or by changing people’s underlying social and moral preferences, which in turn change behavior? We know that a person’s moral and social preferences are highly correlated with a wide range of behavior such as political attitudes and having friends and family they could count on (Enke, 2020; Falk et al., 2018). If Fox viewership directly changes people’s social and moral preferences, we may expect its impact on society to extend well beyond the subjects that it covers on air.

In this paper, I investigate Fox News’s effect on these preferences. I collect a novel survey dataset that captures individual-level measures of altruism, trust, negative reciprocity, and the relative importance of universalist versus communal morals, following the methodologies of Falk et al. (2018) and Enke (2020). I use the channel positions of Fox News as an instrument for Fox viewership following Martin and Yurukoglu (2017). Fox News is located on different channels across different zip codes and tv providers. When Fox News is located in a lower channel position—say 25 instead of 65—it gets watched more. In my survey, I collect data on where individuals lived and their TV providers in 2023, 2018, 2013, and 2008. I then match them to a TV provider dataset and look up the Fox News channel position on their TV in those four years.

My analysis begins by verifying the validity of our instrument, finding that channel positions do not predict voting behavior in 1996, the year Fox News was launched. The coefficients are consistently signed but statistically insignificant. The same reduced form regression with voting for Trump in 2020 as an outcome variable yields consistently statistically significant and practically large effects: a one standard deviation decrease in the Fox channel position results in a 7.84 percentage point increase in the probability that someone votes for Trump in 2020 ( $p = 0.007$ )<sup>1</sup>. In fact, this coefficient is over ten times larger than the effect size found in the literature (Ash et al., 2022). I attribute this mostly to the granularity of my data. My coefficient is estimated on individuals who watch cable TV at home, and I use the Fox channel matched to them based on their town and cable provider. Ash et al. (2022) and others in the Fox News channel positions literature use aggregated county or zip-code level voting data, and aggregated county or zip-code level channel positions.

A first stage regression of Fox channel positions on Fox viewership yields a generally

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<sup>1</sup>This coefficient is from my preferred specification in Table 8.

statistically insignificant relationship, with a first stage effective F-stat of 1.467 in the pre-registered specification. However, a closer look reveals meaningful heterogeneity in the effect of channel positions on Fox viewership. With my unique individual-level dataset, I show that the first stage is almost entirely driven by those who did not vote for Bill Clinton or Bob Dole in 1996. Channel positions also affect the probability this sub-sample watches MSNBC: A one standard deviation increase in Fox channel position leads to a 12.4 percentage point increase in the probability that someone has ever watched MSNBC ( $p = 0.022$ ). This suggests that, while the effect of channel positions on Fox viewership is weak on average, they may induce particularly persuadable voters into watching Fox News instead of MSNBC, which in turn leads to large effects on voting behavior.

IV regressions on my outcome variables show that Fox News increase votes for Trump in 2020 and support for communal moral values. While my estimates are likely contaminated by OLS bias, these two results survive under certain weak-instrument robust tests. In reduced form regressions, I also find a significant effect of Fox channel positions on voting. I also find that lower channel positions lead to lower altruistic attitudes. Similar to the effect of channel positions on Fox viewership, the effect on altruism is larger coefficients among non-Clinton/Dole voters, where a one standard deviation decrease in the Fox News channel position leads to a 0.325 standard deviation decrease in altruism ( $p = 0.029$ ).

Overall, my findings provide evidence that Fox News shapes moral attitudes in a manner consistent with conservative values and offers suggestive evidence of a decrease in altruism and trust. We do not find any effect of Fox News on negative reciprocity. This study builds on the literature investigating the effect of Fox News (Martin and Yurukoglu, 2017; Crabtree and Poyker, 2021; Li and Martin, 2022), the effect of media (Djourelouva, 2023; Enikolopov, Petrova and Zhuravskaya, 2011; Chen, 2021), and how social preferences are shaped (Nunn and Wantchekon, 2011; Kosse et al., 2020).

The paper is organized as follows. Section II provides an extensive literature review and presents the case that studying the effect of media on individual preferences is an important endeavor. Section III provides information on data collection and methodology. Section IV presents summary stats, OLS results, IV validity checks, first stage regressions and the heterogeneity behind them, IV and reduced form results, and some exploratory qualitative evidence. Section V provides a discussion and interpretation of results, and section VI concludes.

## II. Background and Literature Review

Individual decision making is central to economics, and social and moral preferences are deep underlying drivers of how people make certain decisions. Falk et al. (2018) surveyed

preferences and attitudes related to altruism, trust, negative reciprocity, positive reciprocity, patience, and risk across 76 countries and discovered numerous correlations between preferences and choice. On an individual level, those who self-report to be altruistic are more likely to make donations, volunteer, help strangers, and have friends/family that they can count on. Those who have higher trust tend to volunteer more, and those who have higher negative reciprocity are more likely to voice their opinion to a government official. On the country-level, countries with higher negative reciprocity tend to experience more conflicts. The association between trust on economic growth goes away once one controls for other attitude measures, but other causal studies find a positive effect of trust on growth (Horváth, 2013; Bjørnskov, 2012).

Importantly, social preferences could have implications for policymakers, as the optimal policy may depend on individual preferences. Alfaro et al. (2022) looks at the differential impact of COVID-19 lockdowns on mobility based on cities' social preferences measured in Falk et al. (2018). They find that regions with more altruism, patience, trust, and exhibit less negative reciprocity are likely to reduce their mobility well before lockdown measures are implemented. In other words, regions with more altruism, patience, and trust "need" government interventions less, and lockdowns are especially effective in reducing mobility in regions with more negative reciprocity. Using an SIR model that accounts of endogenous choices which depend on altruism and patience attitudes, the authors show that the optimal policy shifts based on these attitudes in their working paper (Alfaro et al., 2020). Specifically, they show that the presence of altruism leads to a lower optimal share of locked down activities. Other studies on the impact of social preferences on pandemic behavior include Bazzi, Fiszbein and Gebresilasse (2021), who found that the rugged individualism expressed in areas with more frontier exposure had less mask use, social distancing, and government policies designed to stop the spread of COVID-19.

Analyzed through the lens of moral foundations theory, moral preferences could be broken down into five dimensions: care, fairness, authority, loyalty, and purity (Graham et al., 2013). Individuals value these foundations to different degrees. How much someone values a certain moral is highly correlated with their political views, with conservatives focusing more on authority, loyalty. Enke (2020) investigates the relationship between politics and moral foundations in-depth. He show that moral attitudes is one of the most important predictors of voting behavior. Other studies have leveraged the connections between moral values and political leanings to construct effective arguments that frame support for a traditionally liberal (conservative) policy position using conservative (liberal) morals (e.g., "The military provides a fair chance for minorities and the poor" and "The absence of universal healthcare in the United States practically ensures that we will have unclean, infected, and

diseased Americans walking among us”) (Feinberg and Willer, 2015).

Despite their importance, however, economists have only recently begun to seriously investigate the origins of moral and social preferences and how they change<sup>2</sup>. When it comes to making policy that tries to change people’s behaviors, economists typically like to change payoffs (via taxes and benefits), change the rules of the game (via market and mechanism design), or provide people with information instead of directly changing individual preferences.

One promising and scalable intervention for changing individual social and moral preferences is mass media. Randomized controlled trials have provided evidence that media could increase people’s aspirations. Riley (2022) randomly assigned secondary students in Uganda to watch *The Queen of Katwe*, an inspirational movie about an Ugandan girl succeeding in chess, or a control movie, *Miss Peregrine’s Home for Peculiar Children*. Female students who watched *The Queen of Katwe* were much more likely to pass their math exams (82% instead of 68%) and 13 percentage points more likely to be admitted to universities. Bernard et al. (2022) showed rural individuals in Ethiopia a short documentary of how other poor individuals were able to escape extreme poverty through their own hard work and found that treated households had higher labor supply, more assets, and their children received more schooling five years later. Other studies provide examples of how mass media shaped racial attitudes and behavior (Ang, 2022; Chen, 2021; Adena et al., 2015; Yanagizawa-Drott, 2014), as well as political attitudes and behavior (Djourelouva, 2023; Xiong, 2021; Wang, 2021; Gagliarducci et al., 2020). Finally, perhaps more related to the social and moral preferences that this paper focus on, Olken (2009) looks at the effect of TV on social capital in rural Indonesia. He finds that increased TV reception leads to less participation in social activities, and that villages with better reception has less social groups.

One specific mass media platform that might have an effect on the social and moral attitudes of its viewers is Fox News Channel, or Fox News. Launched on October 7, 1996, it slowly rolled out in various cable systems throughout the United States. By 2000, it was available in the cable systems of over 80% of subscribers. The network was significantly right of all major news channels, and has shifted rightwards from 2000-2010 (Groseclose and Milyo, 2005; Martin and Yurukoglu, 2017). As of 2022, it has been the most watched cable news channel for 21 consecutive years (Flood, 2022).

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<sup>2</sup>A perhaps extreme example of attitudes towards studying preference formation comes from the late Gary Becker, who stated that “Since economists have little to contribute ... to the understanding of how preferences are formed, preferences are assumed not to change substantially over time, nor to be very different between wealthy or poor persons, or even between persons in different societies and cultures” (Becker, 1976, p. 5). Recent literature studying preference formation include Kosse et al. (2020); Ananyev and Guriev (2018); Jang and Lynham (2015); Dohmen et al. (2011), and Nunn and Wantchekon (2011).

Past studies have leveraged the quasi-random channel position of Fox News (and MSNBC, a left-leaning network which also started broadcasting in 1996) as an instrumental variable to obtain causal estimates of Fox exposure and viewership. Local cable providers in different zip codes have different positions for different channels. For example, if you’re a Comcast subscriber in Modesto, CA, Fox News is currently on channel number 19. If you’re a Comcast subscriber in Fremont, CA, Fox News is on channel 59<sup>3</sup>. Martin and Yurukoglu (2017) shows that the channel positions are correlated with the best possible position at the time it was added, which depend on various historical factors such as the local system’s negotiations with other media providers. They argue that these ideosyncratic factors means that Fox channel positions is essentially random.

Martin and Yurukoglu (2017) show that a one standard deviation decrease in the channel position results in 2.3 extra minutes of Fox watched per week on average in a zipcode, which in turn increases votes for the Republican presidential candidate by 0.3 points. Follow-up studies have explored the effect of Fox News on judge sentencing (Ash and Poyker, 2021), police killings of Blacks (Crabtree and Poyker, 2021), stay-at-home behavior during the pandemic (Ash et al., 2020; Ananyev, Poyker and Tian, 2021; Simonov et al., 2022), and the rise of the Tea party movement (Li and Martin, 2022). Finally, Ash et al. (2022) examines the effect of Fox News on other elections, as well as partisan attitudes. They ran various reduced form regressions using Fox channel position, and find that Fox News channel positions leads to statistically significant increases in votes for Republican Presidential candidates after 2008 at the county level, but not before. Using National Annenberg Election Survey (NAES) and Cooperative Congressional Election Study data, they also find that lower Fox Channel positions in a given county lead to more individuals identifying as Republicans and more conservative policy attitudes. Specifically, the effect on policy attitudes are statistically significant starting in 2006 but not before. This is further evidence that the channel positions instrument is exogenous (i.e., place that are more conservative before the introduction of Fox did not systematically get lower channel positions).

In a review, La Ferrara (2016) gives three potential channels through which mass media could shift people’s behavior: information, preferences, and time use. We may ignore the time-use channel when considering the effect of Fox News on the behaviors mentioned above. However, it’s not clear whether Fox’s various effects is driven by the information or preferences channel. If it is through the information channel, one might expect the effect Fox has on society to be more limited to political related domains. If Fox changes moral and social preferences, however, then one might imagine its impact to be much broader.

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<sup>3</sup>For the remainder of the paper, I will always refer to the *ordinal* channel positions when mentioning channel positions. In this case, Fox News is the 18th channel in Modesto and 57th in Fremont.

### III. Methodology

#### Data

I conducted a survey with 750 participants through Cloudresearch Connect between March 29th, 2023, and April 7th, 2023<sup>4</sup>. Connect is a service launched by CloudResearch, a company more known for its MTurk toolkit. It is an online platform researchers could field surveys for a pool of online respondents. I chose this platform because they were offering a “no fees for 30 days” promotion, which allowed me to obtain a much larger sample size given funding constraints. The sample is limited to those who live in the US and are over the age of 45 (i.e., those who were potentially eligible to vote in the 1996 Presidential election). I also used various demographic quotas to make my sample more representative, and I oversampled Republicans to increase the number of respondents who watch Fox News.

I paid participants \$1.50 for what was designed to be a six-minute survey. The median completion time was 8 minutes and 21 seconds. Data quality among those who passed the attention checks appears to be excellent, as demonstrated by the fact that 262 out of 279 individuals who reported watching Fox News answered an explicitly optional qualitative question on how Fox has changed their views, if at all.

#### Survey questions

I follow the same questions and weighing procedure devised in Falk et al. (2023) to measure my three social preference outcome variables: trust, altruism, and negative reciprocity. That is, I had one question for trust, two for altruism, and three for negative reciprocity. Responses to each question would be standardized to have mean zero and standard deviation one. A composite measure for each attitude is computed using a linear combination of the questions using weights from Falk et al. (2023), and the final measure re-standardized to have a standard deviation of one.

The standard method of measuring moral attitudes in the moral foundations theory literature is the moral foundations questionnaire (MFQ), which has six questions per each of the five moral foundations. I focus on the “relative importance of universalism” measure used in Enke (2020)<sup>5</sup>. In the interest of brevity and budget considerations, I used only eight questions to measure relative importance of universalism. I took the 24 questions that measured care, fairness, authority, and loyalty and conduct a principal component

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<sup>4</sup>This is before the firing of Tucker Carlson, which occurred on April 24th, 2023.

<sup>5</sup>This moral foundations theory-based measure is different from the universalism measures used in newer works such as Enke, Rodríguez-Padilla and Zimmermann (2022) and Enke, Rodríguez-Padilla and Zimmermann (2020). These measures use focus on the *relative difference* in altruistic attitudes towards those close to someone versus those further away (e.g., donations to local food bank versus Against Malaria Foundation).

analysis (PCA) on nationally representative survey data collected by Enke (2020). The first principal component showed positive weights for all questions, making it a measure of “importance of morality” in general, rather than the relative measure I was interested in. The second principal component assigned different weights to universalist and communal morals questions. I selected the eight questions with the highest absolute weights on the second principal component.

After collecting my own data, I aggregate responses on those eight questions into a single measure of the relative importance of universalist morals by adding up the scores for fairness and care morality questions and subtracting the scores of the loyalty and authority questions. I also conduct a PCA on my survey responses and use the weights from the first principal component—which assigned different signs to universalist morals questions than communal morals questions—to construct a measure for relative importance of universalist morals<sup>6</sup>. For clarity, when I refer to a variable as “Universalism”, it refers to the relative importance of universalist morality constructed using uniform weights. The variable constructed using weights from PCA are referred to as *UnivPCA*<sup>7</sup>.

Finally, I ask three questions for exploratory analysis. The first question was taken from the MFQ on the purity moral foundation, which asked whether participants considered “Chastity” to be an important virtue. Since none of the MFQ questions directly ask about universalist and communal values, I wrote two questions that explicitly address the two categories. Participants were informed that “some people like to classify moral values into two groups.” I defined universalist values as being characterized by “individual rights and justice for all” and communal values as “being loyal and being someone who respects authority and tradition”. I then ask participants how important each category of morals is to them. After collecting responses, I decided to report outcomes for the question directly asking individuals about their preference for communal values, which I refer to as “communal” in regression tables. All the moral values measures are also standardized to have a standard deviation of one and a mean of zero.

After questions on my key outcome variables, I ask respondents where they live currently (2023), five years ago, ten years ago, and fifteen years ago. I also ask them which TV provider they used if they watch TV at home. The location-cable company data is then matched with channel lineups shown on [tvpasport.com](http://tvpasport.com). That is, I match all individuals to the current channel lineup for a given town regardless of when they lived there. Previous papers relied on the Nielsen FOCUS dataset, which contains historical channel positions. However, I elected

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<sup>6</sup>Weights can be found in the Appendix.

<sup>7</sup>Universalism is the main outcome variable specified in the pre-analysis plan and the method used by Enke (2020), although I also stated that I would “explore aggregation weights obtained through PCA.”



to use tvpassport.com’s dataset due to funding constraints. Ash et al. (2022) argues that channel positions are largely static and endogenous channel position changes are unlikely to have occurred, suggesting that using the current channel positions would not lead to endogeneity or power loss issues (p. 3, 9). For each lineup, we record the ordinal channel positions of CNN, Fox News Channel, and MSNBC. When more than one unique lineup was available, we take the average channel position<sup>8</sup>.

Knowing where someone lives at the town level and their TV provider allows me to match individuals to channel positions with much higher precision. Previous studies that used survey data matched individuals based on zip code and year (Martin and Yurukoglu, 2017) or based on county (Ash et al., 2022). Since different cable providers in the same locale could have different channel positions, previous studies took either the average of channel positions or the channel position from the most commonly subscribed provider.

The downside of an individual-level matching scheme is that only those who are subscribed to a cable provider with national variation in channel positions (and can be found in the tvpassport database) are matched to a Fox/MSNBC channel position. For individuals who are subscribed to satellite TV/internet TV, there is no variation in channel positions across the US. Since we always use TV provider dummies in regressions with channel positions, we may assign these any position we wish, and the results would not change. In the raw data, they are assigned a position of  $-10$ . I refer to channel positions that are not  $-10$  as “matched” channel positions.

I then ask about individual voting behavior in the 2020, 2016, 2000, and 1996 presidential elections. Subsequently, I provide participants with a list of news channels and ask them if they “have ever watched it frequently (at least an hour a week during a three months period).” If they watched Fox News, I ask when they started and when they stopped watching (if they did stop). I also ask if they think Fox News has changed their views, and an open-ended question asking participants to elaborate on how Fox has influenced their views and “how [they] live their life, if at all?”

Key survey questions are available in the Appendix in section VII. A pre-analysis plan of the paper is registered on aspredicted.org<sup>9</sup>. One deviation from the PAP at this stage is that I intended on dropping observations where individuals stated that they started watching Fox News before 1996 when the network launched. I decided to instead assign these individuals to 1996. The original concern is that respondents may not be paying attention and making up random years. However, given other indications of data quality, I think it is more likely

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<sup>8</sup>This was the case for 88 respondents for the channel position of Fox News in 2023, the remainder had only one Fox Channel position.

<sup>9</sup>Url: [aspredicted.org/1JQ\\_5ZR](https://aspredicted.org/1JQ_5ZR)

that individuals who have watched Fox for over 25 years do not remember when they started.

In our pre-analysis plan, we stated that 750 responses would be collected. As specified in the PAP, the sole respondent who spent less than 2 minutes and 20 seconds on the survey was dropped. One respondent had a TV provider in 2023 that did not offer MSNBC, and that observation was dropped when the 2023 MSNBC channel position is included as a regressor. Furthermore, five respondents did not fill in their educational experience, and one did not fill out their age. Due to a survey error, three participants had missing altruism measures. Thus, some regressions below would have 749 observations, and some 739.

## Econometric Analysis

We are interested in the causal effect of Fox News exposure on our outcome variables. However, a naive regression of outcome variables on Fox News suffers from selection bias. For example, it is likely that someone who held strong communal moral values in 1995 would be more likely to start watching Fox News, which would cause us to overestimate the true effect of Fox News exposure.

A first attempt at controlling for selection is to control for preferences held before the introduction of Fox, as well as exogenous demographic variables. I run the following OLS regression:

$$y_i = \beta_0 + \beta FoxExposure_i + \delta Demographics_i + \alpha P_i^{1996} + u_i \quad (1)$$

Where  $Demographics_i$  includes a linear function of age as well as dummies for race, education, income quartile (defined nationally), and gender.  $P_i^{1996}$  refers to dummies for who someone voted for in the presidential election in 1996. The dummies are Bill Clinton, Bob Dole, Ross Perot, “some other candidate,” and those who did not vote or were not eligible to vote. Finally,  $FoxExposure_i$  refers to some measure of Fox News exposure. In this paper, I use four different measures of Fox News exposure. The first is a binary variable indicating whether someone has ever watched Fox News ( $FoxEver$ ), the second is the years of Fox News someone has watched ( $FoxYears$ ), the third is the number of years since someone first started watching Fox ( $SinceFox$ ), and the fourth is a set of dummies indicating if someone has never watched Fox News, if they’ve watched it for 1-10 years, 10-20 years, or 21 and more years ( $FoxCat$ ). In the pre-analysis plan, I focus mostly on  $SinceFox$  and  $FoxEver$ .

The hope is that someone’s political attitudes in 1996 would be correlated with their underlying moral and social attitudes and could act as an imperfect control for selection into treatment. However, it could be that Dole voters who and selected into watching Fox

News are still different from Dole voters who decided to not watch Fox. Following Martin and Yurukoglu (2017), we also employ an instrumental variables (IV) approach using the channel positions of Fox News on a given respondent’s TV as an instrument for Fox viewership. We run the first stage regression

$$FoxExposure_i = \theta_0 + \boldsymbol{\theta}Chn_{t,i} + \boldsymbol{\gamma}TvP_{t,i} + \boldsymbol{\rho}Demographics_i + \boldsymbol{\pi}P_i^{1996} + v_i \quad (2)$$

Here,  $Chn_{t,i}$  refers to a vector of four imputed ordinal Fox News and MSNBC channel positions from the individual’s town in time  $t \in \{2023, 2018, 2013, 2008\}$ , standardized to have a standard deviation of one when the not matched channels are removed. In some regressions below, I also use  $Chn\_M_{t,i}$ , which is the channel position for matched individuals (i.e., dropping all non-matched observations)<sup>10</sup>.  $TvP_{t,i}$  is a vector of dummies across the four different years for the TV provider (e.g., Comcast, Spectrum) that an individual uses. Those who cannot remember their TV provider, uses internet TV, or cannot be matched to a channel position in the tvpassport dataset are assigned a single dummy (named “Internet and other TV”)<sup>11</sup>.

I deviate from the PAP in three ways with respect to creating  $Chn_{t,i}$  and  $TvP_{t,i}$ . The first is that I add a dummy for those using antenna TV. This option for the TV provider was added after the survey received some responses and many individuals reported using antenna TV<sup>12</sup>. The second is that those who use a cable provider that has ten or fewer users in a year would get assigned to a single “other cable” category. This avoids saturating the first stage regression with lots of dummies that identify very few individuals.

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<sup>10</sup>Thus, I have fewer observations of  $Chn\_M_{t,i}$  than  $Chn_{t,i}$ .  $Chn\_M_{t,i}$  have no negative values and a standard deviation of one. Whereas  $Chn_{t,i}$  only have a standard deviation of one after the non-matched channel positions are removed.

<sup>11</sup>Thus, if someone stated that they use Comcast at home, but we cannot match them to a Comcast lineup, they are assigned to the “Internet and Other TV” category.

<sup>12</sup>The sole individual who uses both Sling and antenna TV was assigned to “internet and other TV.”

Table 1: Distribution of TV providers in 2023

TV Provider	Count	Percent
Antenna TV	94	12.55%
AT&T	17	2.27%
Comcast / Xfinity	108	14.55%
Cox	16	2.14%
DirectTV	42	5.61%
Dish	20	2.67%
Internet and Other TV	230	30.57%
No TV/ lives outside US	89	11.88%
Other cable	15	2.00%
Spectrum	94	12.55%
VerizonFios	24	3.20%
Total	749	100.00%

Thirdly, due to many outliers, I winsorize all channel positions above the 97th percentile to the 97th percentile<sup>13</sup>. That is, for each channel-year (such as Fox News channels in 2018), I calculate the 97th percentile channel position and set all channel positions larger than that value to the 97th percentile. This procedure is conducted *before* I divide  $Chn_{t,i}$  by the standard deviation of its matched positions<sup>14</sup>.

<sup>13</sup>Ash et al. (2022) also winsorized channel positions at the top and bottle deciles (See Appendix S.1.1 of their paper).

<sup>14</sup>An earlier version of the paper does not winsorize channel positions, and obtain largely similar results. In my case, winsorizing resulted in fewer statistically significant results, although this fact is not clear *ex ante*.

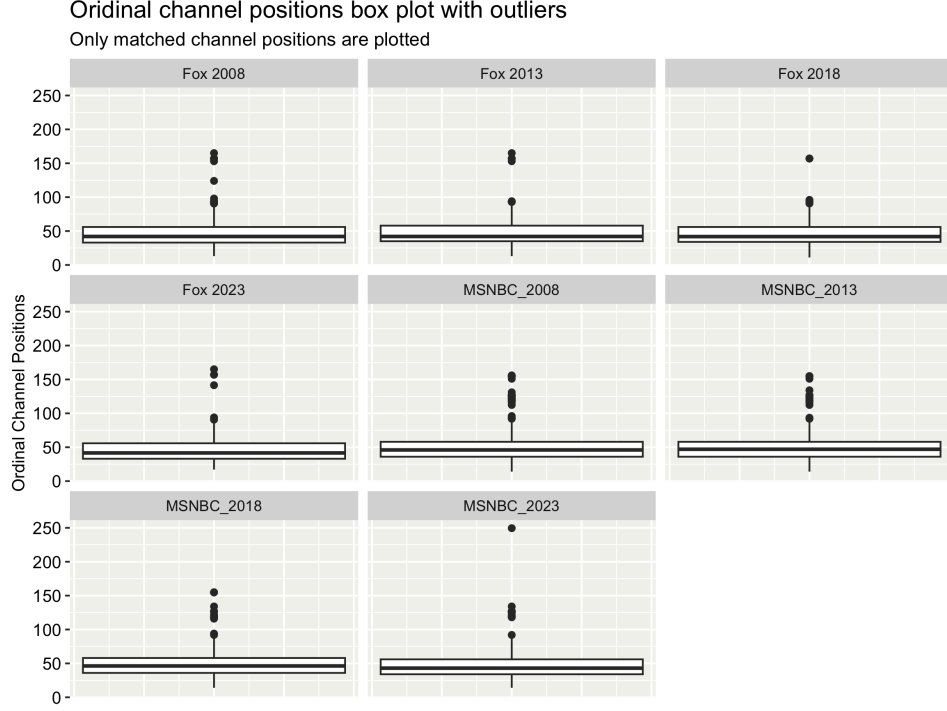


Figure 1: A set of box plots using the sample of matched channel positions pre-winsorization. Values that are 1.5 times the IQR more the 75th percentile as recorded as outliers.

From our first stage, I obtain our instrumented  $\widehat{FoxExposure}_i$ , and run a two stage least squares (2-SLS) instrumental variable regression (3).

$$y_i = \beta_0 + \beta_1 \widehat{FoxExposure}_i + \alpha P_i^{1996} + \delta Demographics_i + u_i \quad (3)$$

## IV. Results

### Summary stats and OLS Coefficients

I first present some tables and figures providing summary statistics and coefficients from OLS regressions.

Table 2: Summary Statistics From Fox and Non-Fox Viewers.

Demographic Variables		
	Never Watched Fox	Watched Fox
Count	470	279
Mean age	55.397	55.785
Percent White	82.34%	82.80%
Percent women	57.45%	54.84%
Percent Republican	24.26%	70.61%
Percent above national median income	44.78%	47.46%
Percent with bachelor's degree or More	59.36%	53.76%
Fox Viewership, Voting, and Outcome Variables		
	Never Watched Fox	Watched Fox
Median hours of Fox Watched per Week	0.000	4.000
Mean years of Fox News Watched	0.000	14.770
Mean years since first watching Fox	0.000	16.305
Voted for Bob Dole in 1996	10.21%	26.52%
Voted for Trump in 2020	21.91%	74.55%
Altruism	0.026	-0.037
Negative reciprocity	-0.001	-0.003
Trust	-0.018	0.024
Universalism	0.303	-0.512
<i>UnivPCA</i>	0.306	-0.517
Purity	-0.230	0.387
Communal values	-0.119	0.201

My sample is more educated, poorer, and contains more women than the US population at large. I also have good geographical coverage, with respondents from every state except Alaska and Nebraska. However, I do not anticipate the effect of Fox News to be considerably different in my sample compared to the population of those aged 45 or older: Coppock, Leeper and Mullinix (2018) replicate studies conducted on nationally representative samples in online convenience samples and find similar average and conditional average treatment effects in both samples. Thus, unless there is some specific reason to expect that CloudResearch Connect users would experience a different treatment effect compared to the population at large, the results from this study should have external validity.

The measure of universalism constructed from the principal component weights is largely identical to those obtained through PCA weights. The PCA weights vary from 0.264 to 0.423 in absolute values, with the three universalist morals questions having a different sign than the communal value morals. More information on the PCA can be found in Appendix section VIII.

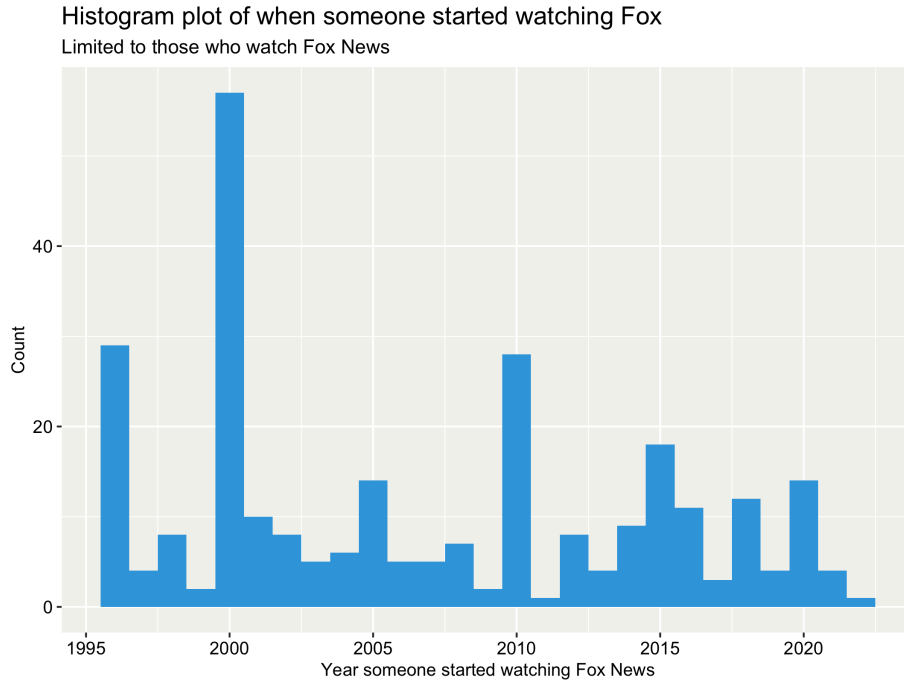


Figure 2: Distribution of Fox Viewership for those who watch Fox

Respondents are told to “make a guess” if they do not remember precisely when they started watching Fox News, which is likely why we see masses around 2000, 2010, and also 2005 and 2015. There is another mass point at 1996 since those who reported watching Fox before that point are assigned to 1996, when the news network launched.

Figure 3 presents a set of conditional means, and Figure 4 is a coefficient plot of various *FoxCat* dummies after controlling for demographic variables and voting in 1996.

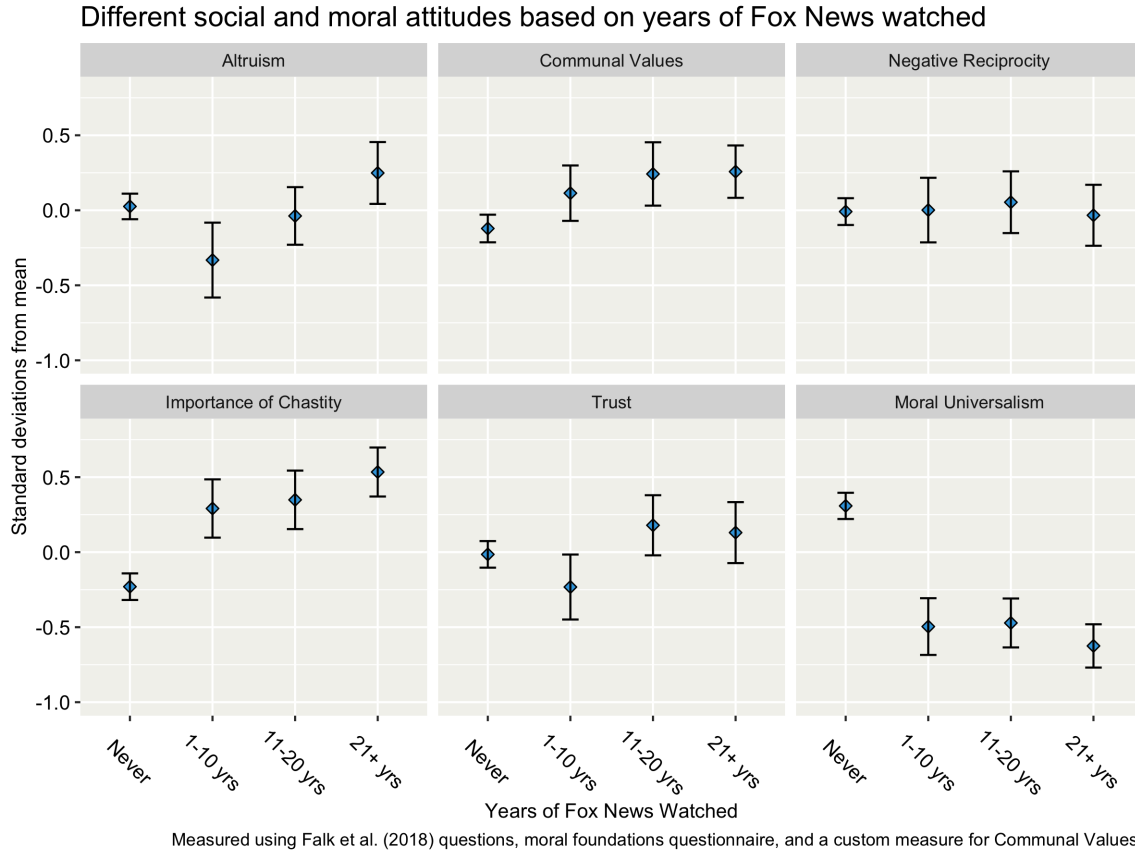


Figure 3: Conditional means based on *FoxCat*

In these conditional means, we see that the difference in moral attitudes between Fox viewers and non-viewers is what one would expect given the partisan divide in moral attitudes. Appendix Figure 8 shows the same set of conditional means based on self-reported party affiliation, which also shows that Democrats and Republicans aged 45 and more have remarkably similar levels of negative reciprocity, echoing the little variation of negative reciprocity among Fox viewers. The result on altruism and trust seems more mixed. Looking at Figure 8, we see that Democrats and Republicans seem to have similar levels of trust, while those who chose a different party has lower levels than both groups.



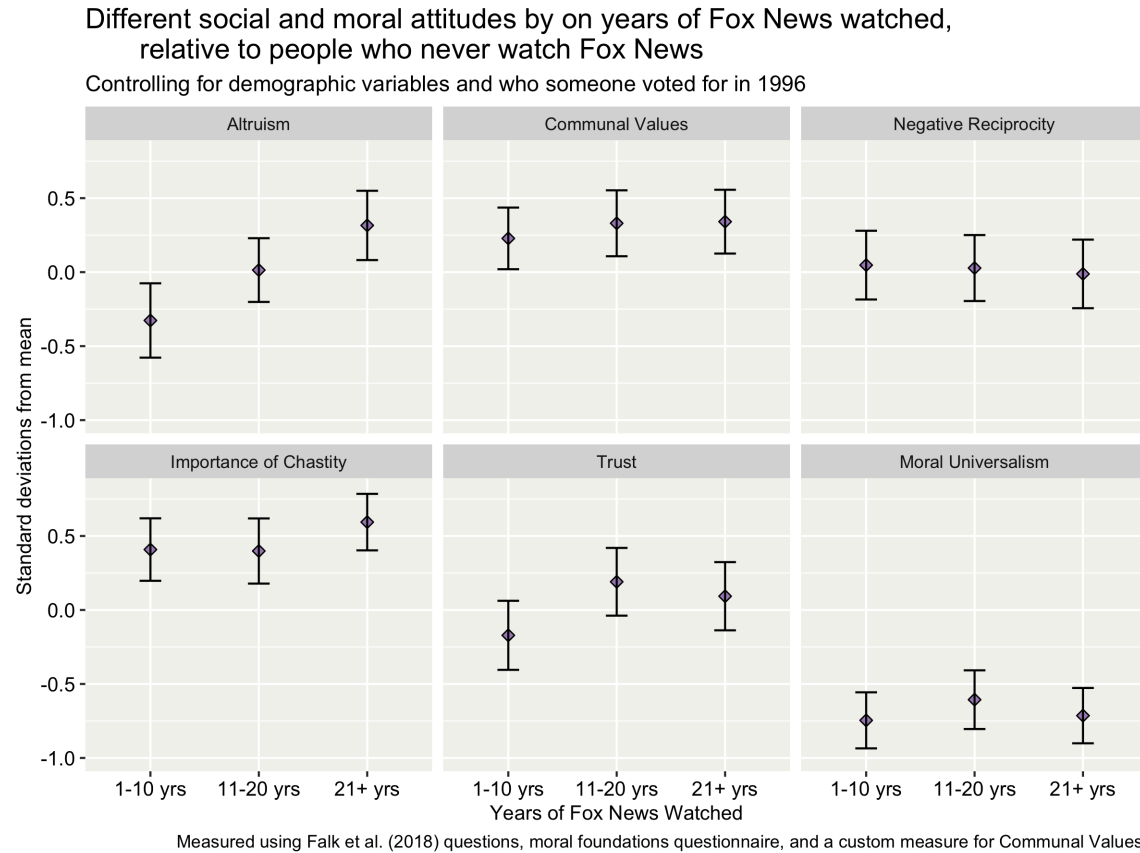


Figure 4: Coefficient plot after adding controls. We see that adding controls does not shift our estimates significantly.

Instead of the preceding coefficient plot, I stated that I would on dummies for each value of *SinceFox* in my PAP. However, as the histogram in Figure 2 illustrate, the distribution of the number of years of Fox watched is highly uneven. Thus, I used *FoxCat* to bin responses in Figures 3 and 4, which also gives us much more reasonably sized standard errors.

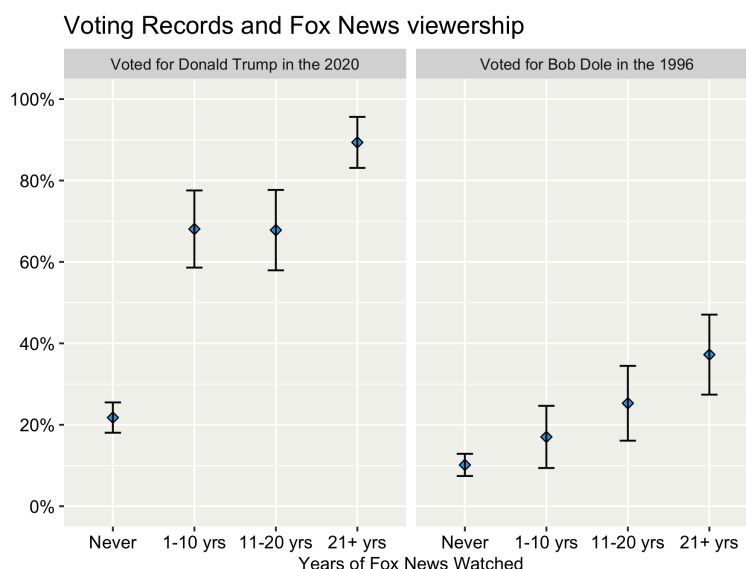


Figure 5: Here we see a suggestive evidence for a treatment effect as Fox viewers voted much more often for Trump in 2020 compared to Dole in 1996.

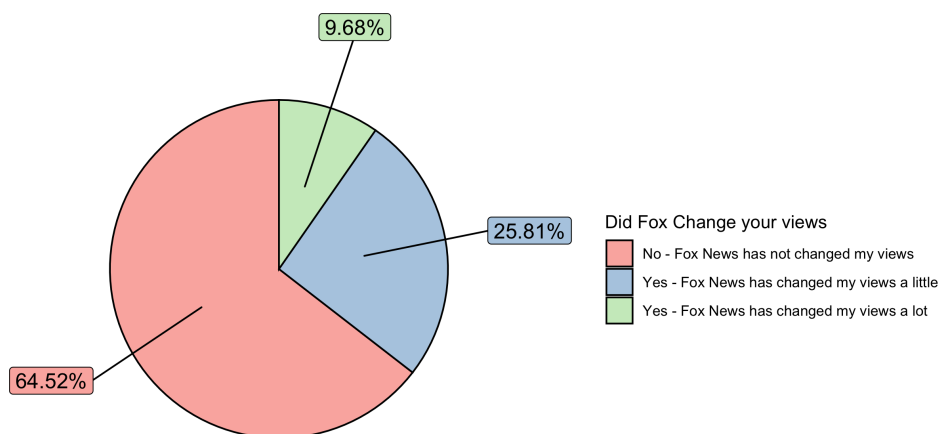


Figure 6: The majority of individuals say that Fox has not changed their views.

Overall, naive comparisons and OLS regression results suggest that Fox News could have a potentially large treatment effect on voting behavior—replicating the results of Martin and Yurukoglu (2017) and Ash et al. (2022)—as well as on morality, which Enke (2020) shows is highly correlated with voting behavior. It seems that Fox exposure is not correlated with an individual’s negative reciprocity, and has unclear associations with altruism and trust.

We also see evidence of selection into watching Fox News. Indeed, those who voted for Bob Dole in 1996 have watched 10.7 years of Fox News on average, compared to 3.5 for Clinton voters and 5.3 for those who did not vote (see Appendix Figure 9). Finally, by simply asking participants if Fox has changed their views, we see that about a third indicates that it has. These are all suggestive evidence that a causal relationship may exist. I now directly test for these relationships using an instrumental variables strategy.

## IV: Validity

Let us first ensure the validity of my instrumental variables: ordinal Fox and MSNBC channel positions. Table 1 suggests that the majority of individuals were not matched to a Fox channel position because they are subscribed to internet or satellite TV. Indeed, looking at the four years for which we have data, only in 2013 does a majority of individuals get matched to a channel.

Table 3: Summary stats on matching to Fox Channel positions

Year	Individuals Matched	Prop Missing
2023	274	63.42%
2018	338	54.87%
2013	376	49.80%
2008	362	51.67%

To ensure the robustness of my findings, I also provide regression results limited to only those with matched Fox Channel positions. More information on channel positions and TV providers for participants can be found in Appendix section XI.

### Exclusion Criterion

A natural test for the exclusion criterion is to see if Fox and MSNBC channel positions predict behavior from before Fox was introduced. Thus, I run reduced form regressions with voting for Bob Dole, the Republican Presidential Candidate in 1996, as the outcome variable. Here,  $Dole96$  is a dummy that is equal to 1 if someone votes for Bob Dole, and 0 otherwise.

$$Dole96_i = \theta_0 + \boldsymbol{\theta}Chn_{t,i} + \boldsymbol{\gamma}TvP_{t,i} + \boldsymbol{\rho}Demographics_i + v_i \quad (4)$$

Table 4: Reduced Form Regressions on Voting for Bob Dole in 1996

VARIABLES	(1) <i>Dole96</i>	(2) <i>Dole96</i>	(3) <i>Dole96</i>	(4) <i>Dole96</i>	(5) <i>Dole96</i>
<i>Fox</i> <sub>23</sub>	0.0258 (0.0384)	-0.0135 (0.0296)			
<i>Fox</i> <sub>18</sub>	-0.0252 (0.0348)		-0.0314 (0.0269)		
<i>Fox</i> <sub>13</sub>	-0.0404 (0.0454)			-0.0206 (0.0244)	
<i>Fox</i> <sub>08</sub>	0.0235 (0.0419)				-0.00333 (0.0256)
<i>MSNBC</i> <sub>23</sub>	-0.0520 (0.0350)	-0.0134 (0.0252)			
<i>MSNBC</i> <sub>18</sub>	0.0373 (0.0363)		0.0114 (0.0247)		
<i>MSNBC</i> <sub>13</sub>	-0.0365 (0.0385)			0.00496 (0.0224)	
<i>MSNBC</i> <sub>08</sub>	0.0537 (0.0348)				0.0449* (0.0251)
Constant	-0.549 (0.433)	-0.565 (0.353)	-0.493 (0.340)	-0.476 (0.310)	0.103 (0.333)
Observations	742	742	743	743	743
R-squared	0.162	0.097	0.102	0.109	0.113

Robust standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Since a regression on channel positions from all four years yields uninterpretable coefficients on the channel positions in each year, we focus on the single-year regressions<sup>15</sup>. These results provide some suggestive evidence that the instrument maybe be endogenous. However, when I replicate the above regression using voting for Trump in the 2020 election as the outcome variable, I obtain much larger and consistently significant coefficients<sup>16</sup>. This suggests that, even if the instruments are slightly endogenous, we can still detect treatment effects previously found in the literature.

<sup>15</sup>The correlations between channel position across years, which for  $Chn_{t,i}$  and  $Chn_{t+1,i}$  is always more than 0.60, also increases the size of standard errors.

<sup>16</sup>Using dummies of voting for Biden in 2020 and Clinton in 1996 yields in reduced form regressions yields coefficients with expected signs, but there is more noise.

Table 5: Reduced Form Regressions on Voting for Donald Trump in 2020

VARIABLES	(1) <i>Trump</i> 20	(2) <i>Trump</i> 20	(3) <i>Trump</i> 20	(4) <i>Trump</i> 20	(5) <i>Trump</i> 20
<i>Fox</i> <sub>23</sub>	-0.0511 (0.0529)	-0.0944*** (0.0363)			
<i>Fox</i> <sub>18</sub>	0.0113 (0.0531)		-0.0720** (0.0343)		
<i>Fox</i> <sub>13</sub>	-0.0608 (0.0564)			-0.0837*** (0.0316)	
<i>Fox</i> <sub>08</sub>	-0.0205 (0.0503)				-0.0799** (0.0315)
<i>MSNBC</i> <sub>23</sub>	0.00303 (0.0459)	0.0481 (0.0308)			
<i>MSNBC</i> <sub>18</sub>	0.0521 (0.0466)		0.0533* (0.0306)		
<i>MSNBC</i> <sub>13</sub>	-0.0175 (0.0480)			0.0377 (0.0284)	
<i>MSNBC</i> <sub>08</sub>	0.0209 (0.0429)				0.0497* (0.0295)
Constant	-0.362 (0.528)	-0.105 (0.463)	0.112 (0.442)	-0.205 (0.414)	-0.0265 (0.415)
Observations	742	742	743	743	743
R-squared	0.156	0.095	0.098	0.107	0.104

Robust standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

The coefficients in this table are more than ten times larger than the ones previously found in the literature (see Ash et al. (2022) Appendix Table S.4). I attribute this to two reasons: first, I sampled only individuals 45 years and older to control for pre-Fox variables; second, I can match individuals to their channel positions much more precisely in my data. The estimates on the channel position variables are driven by those who have cable TV at home. On the other hand, Ash et al. (2022) used much more aggregated data: channel position aggregated to the county level and the overall Republican vote share in a county. In other words, the effect recovered in the literature relied on imperfectly measured channel positions and voting behavior averaged across all voters, including satellite TV viewers and individuals with no TV at all.

Note that these are the current channel positions for where individuals lived in year  $t$ , not the historical channel positions, which are found only in a much more expensive dataset. As a reminder to the reader, if we expect a *positive* relationship between Fox News exposure

and an outcome variable, the coefficient on the channel position should be *negative*, since a *lower* channel position implies *more* Fox News exposure.

Appendix Table 12 and 13 show that the preceding results hold when I use only matched channel positions, and Tables 14 and 15 show that the results on voting for Trump in 2020 are generally robust to controlling for voting in 1996.

## **IV: First stage**

The channel position instrument is weak on the individual level. Martin and Yurukoglu (2017) explores individual-level data sourced from Mediamark/Simmons in Appendix E of their paper. Even with around 200,000 observations, they do not find an F-stat larger than 5.7 in any specification. My F-stat across different specifications is even smaller, and limiting to only those who have a matched channel position does not meaningfully increase the F-stat (see Appendix Table 16).

Table 6: First stage regression on *SinceFox*. We also report Olea and Pflueger (2013) effective F-stats.

VARIABLES	(1) <i>SinceFox</i>	(2) <i>SinceFox</i>	(3) <i>SinceFox</i>	(4) <i>SinceFox</i>	(5) <i>SinceFox</i>
<i>Fox</i> <sub>23</sub>	-0.820 (1.067)	-0.790 (0.811)			
<i>Fox</i> <sub>18</sub>	1.462 (0.964)		-0.219 (0.729)		
<i>Fox</i> <sub>13</sub>	-1.515 (1.066)			-0.637 (0.582)	
<i>Fox</i> <sub>08</sub>	0.116 (0.967)				-0.702 (0.626)
<i>MSNBC</i> <sub>23</sub>	1.382 (0.935)	1.312* (0.711)			
<i>MSNBC</i> <sub>18</sub>	-1.942** (0.918)		0.592 (0.611)		
<i>MSNBC</i> <sub>13</sub>	2.114** (0.910)			1.401** (0.585)	
<i>MSNBC</i> <sub>08</sub>	-0.341 (0.703)				0.775 (0.630)
Constant	8.528 (10.97)	10.40 (9.236)	8.926 (8.521)	12.73 (7.921)	5.070 (8.472)
Observations	742	742	743	743	743
R-squared	0.176	0.132	0.112	0.122	0.130
Robust F-stat	1.877	2.587	1.347	2.05	2.649
Effective F-stat	1.467	2.388	1.269	1.87	2.229

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Weak instruments mean that our IV estimates are biased towards the OLS estimates<sup>17</sup>. Thus, I focus my analysis on reduced form regressions and conduct weak-instrument robust tests.

### Heterogenous treatment effect of the first stage

Huntington-Klein (2020) shows that unless the effect of the instrument is a binary set  $\{0, c\}$ , the canonical two-stage least squares estimate obtains a treatment effect weighted by the degree to which individuals are affected by the first stage. In our case, this means that our coefficients are skewed towards the treatment effect on those who are the most affected by channel positions. Therefore, it is crucial to investigate which individuals are

<sup>17</sup>In fact, they are so similar, the control function coefficients are all statistically insignificant, regardless if we use *SinceFox*, *FoxYears*, or *FoxEver* as our endogenous variable.

most impacted.

We can explore these differences using split sample regressions<sup>18</sup>. In Appendix Table 17, I find that the channel positions’ effect is primarily driven by those who did not vote for Democrats or Republicans in the 1996 election<sup>19</sup>. I also replicate Table 6 but limit the sample to those who did not vote for Clinton/Dole in 1996 in Table 18. I find that every single coefficient in columns 2-5 is larger in absolute magnitude. These individuals are also likely to watch MSNBC due to channel positions: A one standard deviation increase in Fox channel position in 2008 increases the probability that someone who did not vote for Clinton/Dole watches MSNBC by 12.4 percentage points ( $p = 0.022$ ) (see Table 19). Even if the relationship between channel positions and Fox/MSNBC viewership is too weak to allow these positions to be effective instruments, it is still a practically significant finding.

I further create dummy variables for Fox viewers who claim that Fox has not changed their views (foxnotchange), and Fox viewers who say that Fox has changed their views a little or a lot (foxchange). I then regress these dummy variables on the Fox channel positions. Tables 20 and 21 in the Appendix show that high MSNBC channel positions could lead to Fox viewers who report that Fox has changed their mind, but not Fox viewers who say that Fox has not changed their mind.

The combination of these findings suggests that channel positions tend to encourage individuals less politically aligned with the Republican or Democratic parties to begin watching Fox News. Those induced to watch Fox through channel positions are then more likely to change their views due to the channel. Indeed, we can “stack” the two findings and show that the channel positions affect the probability of one becoming a Fox viewer who says that Fox has changed their mind mostly in the sub-sample of non-Clinton/Dole voters (Appendix Table 22).

The fact that channel positions only affect viewership among this small sample of individuals also explains why the effect on viewership is weaker on voting. Channel positions may not meaningfully affect most people’s Fox News consumption. But by inducing a subset of persuadable viewers to watch Fox News instead of MSNBC, they may play an outsized role in shifting voting patterns.

In conclusion, subgroup analysis suggests that the findings I uncover below are likely to be focused on individuals who have less politically formed opinions or are less aligned with the major parties when they first started watching Fox News, as opposed to a broader average treatment effect. However, this does not diminish the practical importance of our

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<sup>18</sup>These analyses are not pre-registered.

<sup>19</sup>In my sample, I have 321 Clinton voters, 122 Dole voters, 66 Perot voters, 24 who said they voted for some other candidate, and 216 who did not or was not eligible to vote in the 1996 election.



results. As generations of prospective voters grow up, there will always be people who are new to politics starting to watch Fox News. Furthermore, since young people today grow up in a world with Fox News, they have more opportunities to interact with the platform before they form political views compared to my sample.

## IV: Results

Table 7: Estimates obtained from two-stage least squares.

	(1) Trump20	(2) Altruism	(3) Trust	(4) Neg. Reciprocity	(5) Universalism	(6) Communal	(7) Chastity
<i>SinceFox</i>	0.0168*** (0.00538) [0.00540]	0.0112 (0.0132) [0.0122]	0.0155 (0.0144) [0.0132]	-0.0122 (0.0140) [0.0122]	-0.0234* (0.0126) [0.0109]	0.0334** (0.0148) [0.0128]	0.0130 (0.0128) [0.0104]
Constant	0.0766 (0.136)	-0.592* (0.346)	-0.336 (0.310)	0.605* (0.333)	-0.155 (0.318)	-0.167 (0.325)	-0.188 (0.309)
Observations	742	739	742	742	742	742	742
R-squared	0.375	0.096	0.066	0.047	0.228	0.038	0.183

Robust standard errors in parentheses, stata nonparametric bootstrap standard error from 1000 reps in brackets  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 (assigned according to robust errors)

In the pre-analysis plan, I mentioned conducting Chernozhukov and Hansen (2008)/Anderson-Rubin test based confidence intervals as a part of exploratory analysis. However, these confidence intervals are too large to be informative. For all variables, at least one side of the confidence interval bound is more than ten standard errors away from the estimate, as calculated using the `ivDiag` package (Lal et al., 2023) (In fact, it is entirely possible for these confidence sets to be infinitely large (Andrews, Stock and Sun, 2019)). Weak-instrument robust tests from Moreira and Poi (2003) similarly fail to reject the null for most outcome variables. The two exceptions are Trump20 under the asymptotic Wald test, and Communal values under the asymptotic Likelihood ratio test, the asymptotic Wald test, and Wald test using critical values obtained from monte carlo simulations<sup>20</sup>.

I perform reduced form regressions according to the specification below. These analyses are not pre-registered.

$$y_i = \theta_0 + \boldsymbol{\theta}Chn\_M_{t,i} + \boldsymbol{\gamma}CableP_{t,i} + \boldsymbol{\rho}Demographics_i + \boldsymbol{\alpha}P_i^{1996} + v_i \quad (5)$$

Here,  $y_i$  is either a 0 or 1 dummy for voting for Trump in 2020 or an outcome variable standardized to have a standard deviation of one. I limit my sample to only those with a matched channel position ( $Chn\_M$ ). I still control for TV provider, but in this case all TV

<sup>20</sup>Output from the `condtest` command is available in Appendix XVII

providers are cable providers (*CableP*). I control for the same set of demographic variables, as well as for voting in 1996.

To make coefficients interpretable, I use channel positions from a single year: 2008. Looking at Figure 2, we see that most Fox viewers started watching Fox before 2008, and thus an earlier channel position is likely to matter more. It also has a relatively higher first stage f-stat.

Table 8: Reduced form regressions using only the matched sample. Other than Trump20, none of the outcome variables had coefficients significant at the five percent level for channel positions in years 2023, 2018, and 2013.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Trump20	Altruism	Trust	Neg. Reciprocity	Universalism	Communal Values	Chastity
<i>Fox</i> _M <sub>08</sub>	-0.0784*** (0.0290)	0.124** (0.0609)	0.0608 (0.0724)	0.0631 (0.0739)	0.0382 (0.0598)	-0.0355 (0.0770)	-0.0450 (0.0698)
<i>MSNBC</i> _M <sub>08</sub>	0.0294 (0.0262)	-0.0509 (0.0681)	-0.0518 (0.0652)	0.0627 (0.0600)	0.00114 (0.0544)	-0.0300 (0.0538)	0.0226 (0.0626)
Constant	0.381 (0.278)	-0.364 (0.576)	0.297 (0.596)	-0.373 (0.666)	-0.975* (0.536)	1.455*** (0.524)	-0.141 (0.584)
Observations	362	359	362	362	362	362	362
R-squared	0.302	0.103	0.091	0.076	0.204	0.096	0.181

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Motivated by previous findings about the heterogenous treatment effects in the first stage, I also run reduced form regressions for the sub-sample of individuals who did not vote for Clinton or Dole in 1996 in Table 9. Once again, we see coefficients of larger magnitudes and the same sign almost everywhere, with column five being a notable exception.

Table 9: Reduced form regressions using only the matched sample that did not vote for Clinton or Dole in 1996

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Trump20	Altruism	Trust	Neg. Reciprocity	Universalism	Communal	Chastity
<i>Fox</i> _M <sub>08</sub>	-0.0853 (0.0590)	0.325** (0.147)	0.142 (0.140)	0.124 (0.116)	-0.110 (0.0959)	-0.187 (0.152)	-0.0864 (0.126)
<i>MSNBC</i> _M <sub>08</sub>	0.0377 (0.0542)	-0.128 (0.151)	-0.136 (0.104)	0.130 (0.0999)	-0.0288 (0.107)	0.0570 (0.0961)	0.0589 (0.108)
Constant	0.567 (0.561)	-0.554 (1.065)	-0.118 (1.188)	-0.380 (1.083)	-0.254 (0.993)	1.630* (0.959)	0.0230 (1.015)
Observations	131	129	131	131	131	131	131
R-squared	0.225	0.172	0.197	0.165	0.217	0.217	0.101
Sample	Non-Clinton/Dole voters						

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 10: Reduced form regressions using only the matched sample that voted for Clinton or Dole in 1996

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Trump20	Altruism	Trust	Neg. Reciprocity	Universalism	Communal	Chastity
<i>Fox</i> <sub>M<sub>08</sub></sub>	-0.0606* (0.0326)	0.0898 (0.0719)	0.0452 (0.0955)	0.0817 (0.110)	0.0963 (0.0832)	0.0756 (0.0761)	-0.0263 (0.0901)
<i>MSNBC</i> <sub>M<sub>08</sub></sub>	0.0307 (0.0280)	-0.00724 (0.0680)	-0.0427 (0.0867)	0.0162 (0.0762)	-0.0122 (0.0704)	-0.0876 (0.0629)	-0.00759 (0.0783)
Constant	0.333 (0.331)	-0.923 (0.710)	0.353 (0.687)	-0.669 (0.899)	-1.162* (0.669)	0.834 (0.592)	-0.0585 (0.775)
Observations	231	230	231	231	231	231	231
R-squared	0.414	0.142	0.081	0.091	0.272	0.153	0.293
Sample	Clinton/Dole voters						

Robust standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Although many of these coefficients are statistically insignificant, I note that my estimates are fairly noisy and the confidence intervals include practically large effects. For example, the point estimate suggests that a one standard deviation decrease in the Fox channel position leads to a 0.142 standard deviation decrease in trust attitudes among non-Clinton/Dole voters. This is over a third of the trust gap between Whites and Blacks in the sample (which is 0.396 standard deviations).

Finally, in Appendix Table 23, I explore reduced form regressions on every individual survey question, and adjust for multiple hypothesis testing by providing q-values calculated using the do file provided by Anderson (2008). None of the q-values are below 0.10.

## Qualitative evidence

To better understand how Fox changes people’s views and what viewers themselves think about the platform, I asked Fox viewers an open-ended question towards the end of the survey (henceforth referred to as the FoxQual question):

“How would you say watching Fox News has affected your views, knowledge, and how you think about the world in general? How has it changed how you live your life, if at all? You do not have to answer this question, but may receive a small monetary bonus if you do”

In total, 263 individuals responded to this prompt, with the median participant writing 32 words. A preliminary read-through reveals several themes. The first is that Fox viewers often cite Fox as an information source that tells stories other media ignores (e.g., “Fox News reports news that other stations ignore”). Some explicitly compare it to other media sources, and how Fox has shown them how biased they are (e.g., “Fox News has truly exposed

how biased, and corrupt, all of the other media has become, and how they push the liberal stance on everything”). Out of all responses, only one person explicitly mentions any change in their values due to Fox News. There is also very little mention of social preferences, although several individuals mention how Fox has made them more paranoid and angry (e.g., “Fox news began to radicalize me and turned me into an angry hateful person so I stopped watching it”).

The participant’s focus on the *information* produced by Fox is suggestive evidence that the information channel may be larger than the preference channel in shaping voting behavior. Broockman and Kalla (2022) also focuses on the differential information provided by different partisan cable TV channels. They report that, from August 31st, 2020 to September 25, 2020, the top three topics covered by CNN are Trump’s failures to protect the US and his support from COVID-19, the severity of COVID-19, and Racism as a problem in the US. The top three Fox News stories were Biden and the Democrat’s support for extreme racial ideologies and protests, the negative consequences of said ideology and protests, and information downplaying the severity of COVID-19. During that same period, they randomly incentivized Fox viewers to also watch CNN. They found that watching CNN increases knowledge on topics that CNN covers more than Fox and also changed the viewers’ attitudes to be less in line with conservatives<sup>21</sup>. However, it is entirely possible that both the preference and the information channel are at play, and that individuals are either unaware or less willing to admit that Fox has changed their social and moral preferences.

## V. Discussion

Fox’s effects on social and moral preferences are less precise and consistently estimated in my study compared to its effect on voting. However, several themes emerge from the results. Consistently across conditional means, OLS regressions, IV regressions, and reduced form regressions, we see that Fox News exposure leads to individuals valuing chastity, communal values more, and universalist morals relative to communal values less<sup>22</sup>. Among this set of regressions, the only statistically significant causal regression robust to weak instruments is the IV regression on communal values, where we can reject the null of no effect under the Wald and asymptotic likelihood ratio test. However, the fact that the signs almost all point in the same direction strongly suggests that Fox induces viewers to hold moral positions close to conservatives.

Moving on to social preferences, we see that Fox likely has little effect on an individual’s

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<sup>21</sup>However, a second survey fielded two months after the incentivized period ended showed that participants have largely returned to their old media viewing habits and that the attitude shifts cease to be statistically significant (although they also become more noisily measured).

<sup>22</sup>The only exception is column five of Table 9.

negative reciprocity, if any. None of the regressions or comparisons shows a meaningful difference between Fox and non-Fox viewers. One possible explanation is that Democrats and Republicans do not differ very much in their attitude towards negative reciprocity<sup>23</sup>. In other words, there is no demand for a “conservative slant” along the dimension of negative reciprocity.

The story of altruism and trust is more complicated. These are two correlated measures, with a correlation of 0.231 in my sample and 0.158 in Falk et al. (2018)’s representative sample of the US. Examining figures 3 and 4, we see that viewers that watched less than ten years of Fox are significantly less altruistic than average, and those who have watched Fox for 21+ years are significantly more altruistic than average. Recent Fox viewers also appear to be less trusting, although the difference is statistically insignificant. One explanation is that the people who select into watching Fox early are different than those who joined later. Some suggestive evidence is that, while similar on many demographic variables, long-term (i.e., 21+ years of Fox News watched) Fox viewers tend to be more religious (See section XIX in Appendix). More interestingly, people who have watched Fox for 21+ years are more likely to be current Fox Viewers and less likely to have stopped watching Fox sometime between 2020 and 2021.

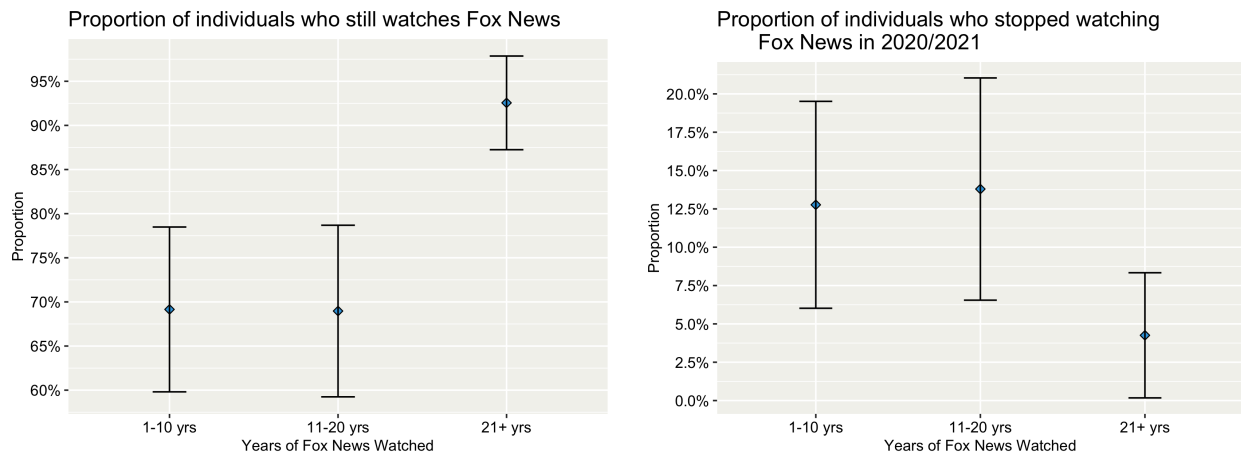


Figure 7: Fox stopping behavior differs based on group

News outlets have reported on Fox viewers who did not believe in the results of the 2020 election and switched to other sources when Fox called the election for Biden (Barr, 2020). Reading through responses to the FoxQual question for the 29 individuals who stopped watching Fox in 2020/2021, four mentioned election and three election fraud (e.g., “Right now

<sup>23</sup>see Figure 8. They also have similar second moments (sd = 0.987 for Republicans and 0.992 for Democrats).

I do not watch as they were involved in the election fraud.”)<sup>24</sup>. None of these four individuals watched Fox for 21+ years. This anecdotal evidence and charts give some evidence that long-term Fox viewers are different in meaningful ways.

Examining the IV and reduced form regressions on altruism and trust, we see that they suggest different directions for treatment effects. The signs on the IV regressions suggest that more Fox News leads to higher altruism and trust, while the reduced form regression suggests that higher Fox channel positions—which, again, leads to *less* Fox exposure—leads to higher levels of altruism and trust. Given that the IV estimates are likely to be contaminated by OLS bias and that the only statistically significant result is in the reduced form, it is reasonable to discard the IV estimates. While none of the channel positions in 2023, 2018, and 2013 have statistically significant effects on altruism, the sign of the coefficient is the same. Together with the results in Table 9, I conclude that there is suggestive evidence that Fox decreases altruism and trust among some of its viewers, and the effect on altruism is likely to be larger than that on trust. I hope that, with larger sample sizes, future research could obtain better estimates of Fox’s effects.

Throughout this paper, a consistent theme is that Fox may have a stronger effect among non-Clinton/Dole voters. This is also confirmed in qualitative data, as 40.6% of those individuals say that Fox has changed their views a little or a lot, compared to 31.1% of Clinton/Dole voters. In the literature, Djourelouva (2023) also finds a larger effect among moderates in her paper on the persuasive effect of slanted language in media. Specific to Fox, Ash et al. (2022) finds suggestive evidence of a stronger Fox effect among Democratic and liberal-leaning counties, while Hopkins and Ladd (2014) finds that any plausible Fox effect is likely concentrated among Republicans and independents.

## VI. Conclusion

This paper explores how media could shape social and moral preferences. Specifically, I examine the effect of Fox News on altruism, trust, negative reciprocity, and universalist morality using the channel position instrument introduced in Martin and Yurukoglu (2017). I collect data on social and moral preferences and Fox viewership a survey fielded on CloudResearch Connect and match individuals to Fox channel positions on the year-town-cable provider level. I verified that channel positions do not significantly affect how individuals voted in 1996, but they significantly and consistently increase the chance that participants voted for Trump in 2020. In fact, I recover a coefficient ten times larger than

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<sup>24</sup>Three more mentioned how they stopped because Fox was too left-leaning (e.g., “Fox news has drifted toward the center from being Republican in their views. I no longer watch them because of this.”). Three others mentioned that they stopped because of the conservative bias of Fox.

what is previously found in the literature. In my first stage, I find that the effect of Fox channel position on Fox viewership is primarily driven by individuals who did not vote for Clinton or Dole in 1996. Regarding social and moral preferences, I find evidence that Fox increases support for communal morals relative to universalist morals, and suggestive evidence that it decreases altruism and trust. I find no effect on negative reciprocity. Overall, this study provides evidence that Fox News changes people's underlying social and moral preferences in addition to their behavior.

## References

- Adena, Maja, Ruben Enikolopov, Maria Petrova, Veronica Santarosa, and Ekaterina Zhuravskaya.** 2015. "Radio and the Rise of The Nazis in Prewar Germany." *The Quarterly Journal of Economics*, 130(4): 1885–1939.
- Alfaro, Laura, Ester Faia, Nora Lamersdorf, and Farzad Saidi.** 2020. "Social Interactions in Pandemics: Fear, Altruism, and Reciprocity." National Bureau of Economic Research Working Paper 27134.
- Alfaro, Laura, Ester Faia, Nora Lamersdorf, and Farzad Saidi.** 2022. "Health Externalities and Policy: The Role of Social Preferences." *Management Science*, 68(9): 6751–6761.
- Ananyev, Maxim, and Sergei Guriev.** 2018. "Effect of Income on Trust: Evidence from the 2009 Economic Crisis in Russia." *The Economic Journal*, 129(619): 1082–1118.
- Ananyev, Maxim, Michael Poyker, and Yuan Tian.** 2021. "The safest time to fly: pandemic response in the era of Fox News." *Journal of Population Economics*, 34(3): 775–802.
- Anderson, Michael L.** 2008. "Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects." *Journal of the American statistical Association*, 103(484): 1481–1495.
- Andrews, Isaiah, James H. Stock, and Liyang Sun.** 2019. "Weak Instruments in Instrumental Variables Regression: Theory and Practice." *Annual Review of Economics*, 11(1): 727–753.
- Ang, Desmond.** 2022. "The Birth of a Nation: Media and Racial Hate." *HKS Faculty Research Working Paper Series RWP20-038*.
- Ash, Elliott, and Michael Poyker.** 2021. "Conservative News Media and Criminal Justice: Evidence from Exposure to Fox News Channel."
- Ash, Elliott, Sergio Galletta, Dominik Hangartner, Yotam Margalit, and Matteo Pinna.** 2020. "The Effect of Fox News on Health Behavior During COVID-19."
- Ash, Elliott, Sergio Galletta, Matteo Pinna, and Christopher Warshaw.** 2022. "The Effect of Fox News Channel on U.S. Elections: 2000-2020."



- Barr, Jeremy.** 2020. “Why these Fox News loyalists have changed the channel to Newsmax.” *Washington Post*.
- Bazzi, Samuel, Martin Fiszbein, and Mesay Gebresilasse.** 2021. ““Rugged individualism” and collective (in)action during the COVID-19 pandemic.” *Journal of Public Economics*, 195: 104357.
- Becker, Gary S.** 1976. *The Economic Approach to Human Behavior*. Chicago:University of Chicago Press.
- Bernard, Tanguy, Stefan Dercon, Kate Orkin, Giulio Schinaia, and Alemayehu Seyoum Taffesse.** 2022. “The Future in Mind: Aspirations and Future-Oriented Behaviour in Rural Ethiopia.”
- Bjørnskov, Christian.** 2012. “How Does Social Trust Affect Economic Growth?” *Southern Economic Journal*, 78(4): 1346–1368.
- Broockman, David, and Joshua Kalla.** 2022. “Consuming cross-cutting media causes learning and moderates attitudes: A field experiment with Fox News viewers.”
- Chen, Jennifer.** 2021. “Media Representation and Racial Prejudice : Evidence from The Amos 'n' Andy Show.”
- Chernozhukov, Victor, and Christian Hansen.** 2008. “The reduced form: A simple approach to inference with weak instruments.” *Economics Letters*, 100(1): 68–71.
- Coppock, Alexander, Thomas J. Leeper, and Kevin J. Mullinix.** 2018. “Generalizability of heterogeneous treatment effect estimates across samples.” *Proceedings of the National Academy of Sciences*, 115(49): 12441–12446.
- Crabtree, Charles, and Michael Poyker.** 2021. “Slanted media does not increase police killings.” Nottingham Interdisciplinary Centre for Economic and Political Research (NICEP) Discussion Papers 2021-06.
- Djourelouva, Milena.** 2023. “Persuasion through Slanted Language: Evidence from the Media Coverage of Immigration.” *American Economic Review*, 113(3): 800–835.
- Dohmen, Thomas, Armin Falk, David Huffman, and Uwe Sunde.** 2011. “The Intergenerational Transmission of Risk and Trust Attitudes.” *The Review of Economic Studies*, 79(2): 645–677.

- Enikolopov, Ruben, Maria Petrova, and Ekaterina Zhuravskaya.** 2011. “Media and Political Persuasion: Evidence from Russia.” *American Economic Review*, 101(7): 3253–85.
- Enke, Benjamin.** 2020. “Moral Values and Voting.” *Journal of Political Economy*, 128(10): 3679–3729.
- Enke, Benjamin, Ricardo Rodríguez-Padilla, and Florian Zimmermann.** 2022. “Moral Universalism: Measurement and Economic Relevance.” *Management Science*, 68(5): 3590–3603.
- Enke, Benjamin, Ricardo Rodríguez-Padilla, and Florian Zimmermann.** 2020. “Moral Universalism and the Structure of Ideology.” National Bureau of Economic Research Working Paper 27511.
- Falk, Armin, Anke Becker, Thomas Dohmen, Benjamin Enke, David Huffman, and Uwe Sunde.** 2018. “Global Evidence on Economic Preferences\*.” *The Quarterly Journal of Economics*, 133(4): 1645–1692.
- Falk, Armin, Anke Becker, Thomas Dohmen, David Huffman, and Uwe Sunde.** 2023. “The Preference Survey Module: A Validated Instrument for Measuring Risk, Time, and Social Preferences.” *Management Science*, 69(4): 1935–1950.
- Feinberg, Matthew, and Robb Willer.** 2015. “From Gulf to Bridge: When Do Moral Arguments Facilitate Political Influence?” *Personality and Social Psychology Bulletin*, 41(12): 1665–1681. PMID: 26445854.
- Flood, Brian.** 2022. “Fox News crushes CNN, MSNBC in 2022, finishes No. 1 among all of cable for 7th straight year.”
- Gagliarducci, Stefano, Massimiliano Gaetano Onorato, Francesco Sobbrío, and Guido Tabellini.** 2020. “War of the Waves: Radio and Resistance during World War II.” *American Economic Journal: Applied Economics*, 12(4): 1–38.
- Graham, Jesse, Jonathan Haidt, Sena Koleva, Matt Motyl, Ravi Iyer, Sean P. Wojcik, and Peter H. Ditto.** 2013. “Chapter Two - Moral Foundations Theory: The Pragmatic Validity of Moral Pluralism.” In . Vol. 47 of *Advances in Experimental Social Psychology*, , ed. Patricia Devine and Ashby Plant, 55–130. Academic Press.
- Groseclose, Tim, and Jeffrey Milyo.** 2005. “A Measure of Media Bias.” *The Quarterly Journal of Economics*, 120(4): 1191–1237.

- Hopkins, Daniel J., and Jonathan M. Ladd.** 2014. “The Consequences of Broader Media Choice: Evidence from the Expansion of Fox News.” *Quarterly Journal of Political Science*, 9(1): 115–135.
- Horváth, Roman.** 2013. “Does Trust Promote Growth?” *Journal of Comparative Economics*, 41(3): 777–788.
- Huntington-Klein, Nick.** 2020. “Instruments with Heterogeneous Effects: Bias, Monotonicity, and Localness.” *Journal of Causal Inference*, 8(1): 182–208.
- Jang, Chaning, and John Lynham.** 2015. “Where do social preferences come from?” *Economics Letters*, 137: 25–28.
- Kosse, Fabian, Thomas Deckers, Pia Pinger, Hannah Schildberg-Hörisch, and Armin Falk.** 2020. “The Formation of Prosociality: Causal Evidence on the Role of Social Environment.” *Journal of Political Economy*, 128(2): 434–467.
- La Ferrara, Eliana.** 2016. “Mass Media and Social Change: Can we use television to fight poverty?” *Journal of the European Economic Association*, 14(4): 791–827.
- Lal, Apoorva, Mac Lockhart, Yiqing Xu, and Ziwen Zu.** 2023. “How Much Should We Trust Instrumental Variable Estimates in Political Science? Practical Advice Based on Over 60 Replicated Studies.”
- Li, Zhao, and Gregory J Martin.** 2022. “Media and Ideological Movements: How Fox News built the Tea Party.”
- Martin, Gregory J., and Ali Yurukoglu.** 2017. “Bias in Cable News: Persuasion and Polarization.” *American Economic Review*, 107(9): 2565–99.
- Moreira, Marcelo J, and Brian P Poi.** 2003. “Implementing tests with correct size in the simultaneous equations model.” *The Stata Journal*, 3(1): 57–70.
- Nunn, Nathan, and Leonard Wantchekon.** 2011. “The Slave Trade and the Origins of Mistrust in Africa.” *American Economic Review*, 101(7): 3221 – 3252.
- Olea, José Luis Montiel, and Carolin Pflueger.** 2013. “A Robust Test for Weak Instruments.” *Journal of Business & Economic Statistics*, 31(3): 358–369.
- Olken, Benjamin A.** 2009. “Do Television and Radio Destroy Social Capital? Evidence from Indonesian Villages.” *American Economic Journal: Applied Economics*, 1(4): 1–33.

- Riley, Emma.** 2022. "Role Models in Movies: The Impact of Queen of Katwe on Students' Educational Attainment." *The Review of Economics and Statistics*, 1–48.
- Simonov, Andrey, Szymon Sacher, Jean-Pierre Dubé, and Shirsho Biswas.** 2022. "Frontiers: The Persuasive Effect of Fox News: Noncompliance with Social Distancing During the COVID-19 Pandemic." *Marketing Science*, 41(2): 230–242.
- Wang, Tianyi.** 2021. "Media, Pulpit, and Populist Persuasion: Evidence from Father Coughlin." *American Economic Review*, 111(9): 3064–92.
- Xiong, Heyu.** 2021. "The Political Premium of Television Celebrity." *American Economic Journal: Applied Economics*, 13(4): 1–33.
- Yanagizawa-Drott, David.** 2014. "Propaganda and Conflict: Evidence from the Rwandan Genocide." *The Quarterly Journal of Economics*, 129(4): 1947–1994.

# Appendix

## VII. Survey Questions

The moral and social preferences blocks are presented in random order, followed by the two questions directly asking about universal and communal morals. For our non-voting outcome variables, all questions within each block are presented in random order.

### Social preferences

The trait measured by each question is written in parentheses. The variables names, in order of appearance below, are: NR\_wilu, NR\_wilo, Altru\_will, Altru\_don, Trust, and NR\_desc. These correspond to the column titles in Table 23

#### Culture-willingness block

We now ask you for your willingness to act in a certain way. Please indicate your answer on a scale from 0 to 10. A 0 means “completely unwilling to do so,” and a 10 means “very willing to do so.”

(Negative Reciprocity) How willing are you to punish someone who treats you unfairly, even if there may be costs for you?

(Negative Reciprocity) How willing are you to punish someone who treats others unfairly, even if there may be costs for you?

(Altruism) How willing are you to give to good causes without expecting anything in return?

#### Altruism-donate block

Imagine the following situation: Today you unexpectedly received 1,600 U.S. dollars. How much of this amount would you donate to a good cause? Please enter a number

#### Culture-description block

How well does each of the following statements describe you as a person? Please indicate your answer on a scale from 0 to 10. A 0 means “does not describe me at all,” and a 10 means “describes me perfectly.”

(Trust) I assume that people have only the best intentions

(Negative Reciprocity) If I am treated very unjustly, I will take revenge at the first occasion, even if there is a cost to do so

(Attention Check) I consider myself someone who needs food and water to survive

## Moral preferences

The variable names are included in parentheses, which also contains the moral foundations. Ingroup refers to the loyalty foundation.

### Moral Foundations Questionnaire: Right or wrong

When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please rate each statement using this scale:

0 - Not at all relevant (This consideration has nothing to do with my judgments of right and wrong)

1 - Not very relevant

2 - Slightly relevant

3 - Somewhat relevant

4 - Very relevant

5 - Extremely relevant (This is one of the most important factors when I judge right and wrong)

(fairness\_rights) Whether or not someone was denied his or her rights

(fairness\_differently) Whether or not some people were treated differently than others

(harm\_cruel) Whether or not someone was cruel

### Moral foundations questionnaire: agreement

Please read the following sentences and indicate your agreement or disagreement

(Scale: 0 - Strongly Disagree; 1 - Moderately Disagree; 2 - Slightly Disagree; 3 - Slightly Agree; 4 - Moderately Agree; 5 - Strongly Agree)

(ingroup\_team) It is more important to be a team player than to express oneself.

(ingroup\_history) I am proud of my country's history.

(ingroup\_family) People should be loyal to their family members, even when they have done something wrong.

(authority\_women) Men and women each have different roles to play in society.

(authority\_soldier) If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.

(purity\_chastity) Chastity is an important and valuable virtue

## Directly Asking about Universal and Communal Morals

(Variable names are unival and comval)

Some people like to classify moral values into two groups. The first focuses on caring for all people. This sometimes means thinking about individual rights and justice for all.

We call these values "universalist values."

The second focuses on caring for your community and people close to you. This sometimes means thinking about being loyal and being someone who respects authority and tradition. We call these values "communal values."

Regardless of how you've answered the previous questions, please rate how important these values are to you:

Please rate how important universalist values are to you (0 - Not important at all; 1 - Not very important; 2 - Slightly important; 3 - Somewhat important; 4 - Very important; 5 - Extremely Important)

Please rate how important communal values are to you (0 - Not important at all; 1 - Not very important; 2 - Slightly important; 3 - Somewhat important; 4 - Very important; 5 - Extremely Important)

## News viewing

We now ask a bit about your TV viewing, both now and in the past. For the TV channels listed below, tell us if you have ever watched it frequently (at least an hour a week during a three months period). This could be watching the channel at home, at work, or in any other context (e.g., watching it at the gym).

(The list of options are organized in alphabetical order, and include: Bloomberg News, C-SPAN, CNN, Fox News, MSNBC, Newsmax, NewsNation, One America News Network (OAN), None of the above)

## Qualitative Fox Questions

Would you say that Fox News has changed your views? (Yes - Fox News has changed my views a lot; Yes - Fox News has changed my views a little; No - Fox News has not changed my views)

How would you say watching Fox News has affected your views, knowledge, and how you think about the world in general? How has it changed how you live your life, if at all? You do not have to answer this question, but may receive a small monetary bonus if you do

(I paid participants 0.1 dollars for every 45 words they wrote for this question, rounded down to the nearest tenth of a dollar).

## VIII. PCA

The variable names can be seen in the section above. They are also the same as those in Enke (2020)

```
> summary(pcabase)
```

Importance of components:

	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8
Standard deviation	1.6018	1.3058	0.9157	0.87975	0.79694	0.77757	0.71417	0.60565
Proportion of Variance	0.3207	0.2132	0.1048	0.09674	0.07939	0.07558	0.06375	0.04585
Cumulative Proportion	0.3207	0.5339	0.6387	0.73543	0.81482	0.89039	0.95415	1.00000

> pca\_df

# A tibble: 8 × 9

	qs	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8
	<chr>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
1	fairness_rights	-0.380	0.438	-0.171	0.00284	0.178	-0.256	0.375	-0.629
2	fairness_differently	-0.423	0.408	0.0318	-0.0182	0.144	-0.0878	0.242	0.752
3	harm_cruel	-0.359	0.399	-0.158	0.105	-0.329	0.361	-0.656	-0.0925
4	ingroup_team	0.264	0.390	0.629	0.180	-0.422	0.243	0.326	-0.0815
5	ingroup_history	0.381	0.265	-0.337	0.113	0.496	0.625	0.145	0.0185
6	ingroup_family	0.273	0.355	0.200	-0.798	0.174	-0.139	-0.269	-0.0300
7	authority_women	0.362	0.199	-0.625	-0.101	-0.566	-0.224	0.198	0.138
8	authority_soldier	0.358	0.308	0.0722	0.544	0.254	-0.526	-0.363	0.0511



## IX. Conditional means by party

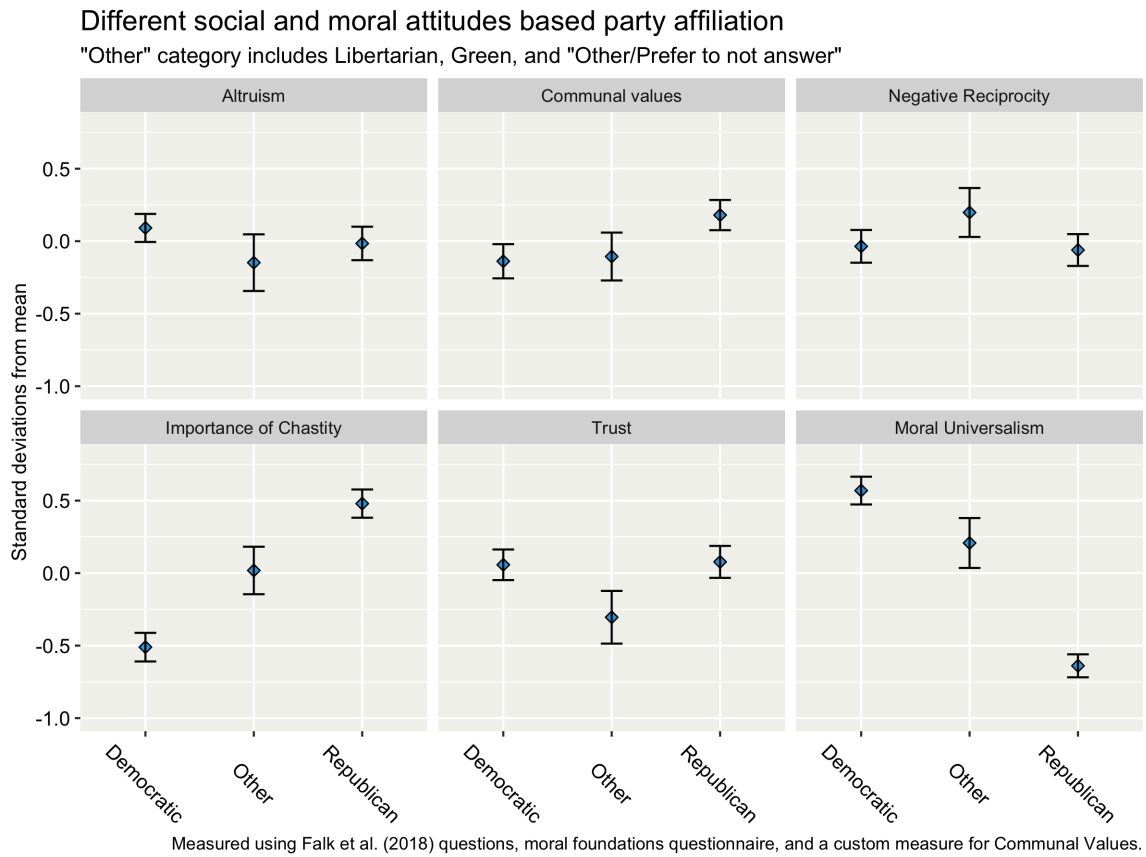


Figure 8: We see that the conditional mean difference between Republicans and Democrats are similar in sign to that of non Fox viewers and Fox viewers.

## X. Mean *FoxYears* based on 1996 voting

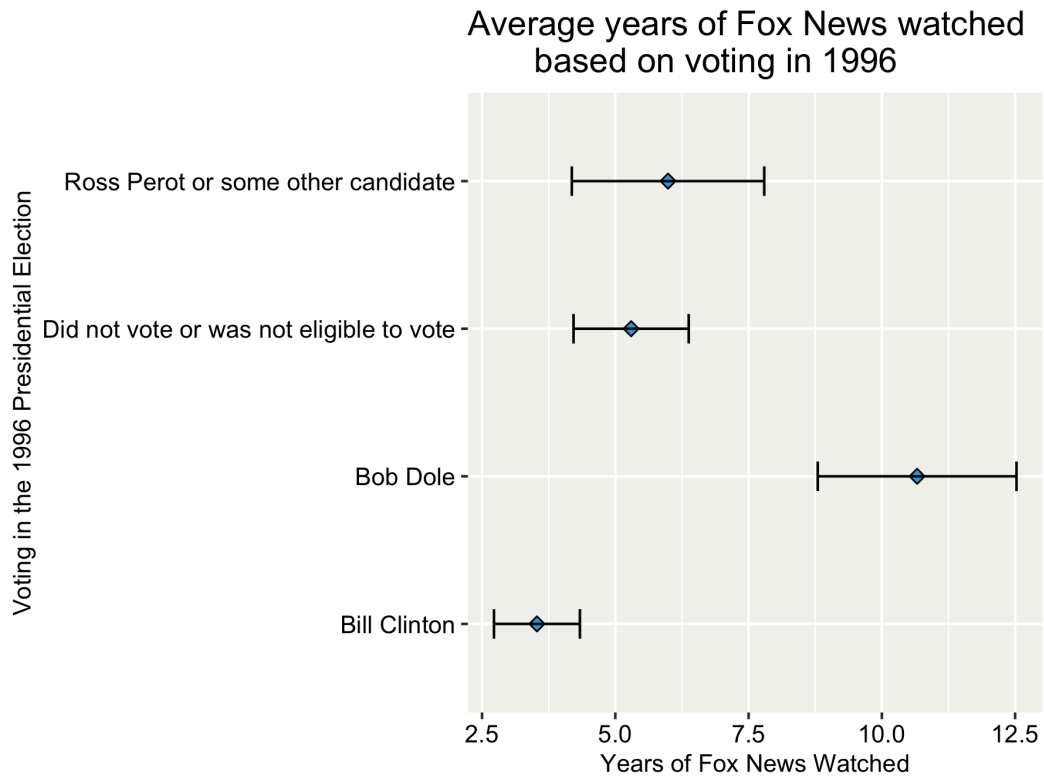


Figure 9: As expected, people who voted for Dole in 1996 have watched more Fox News than other groups

## XI. Summary stats on channels positions:

Table 11: Distribution of TV providers with valid Fox Channel Positions (all four years)

<i>TvP</i>	Count	Proportion
at&t	116	8.59%
comcast/xfinity	534	39.56%
cox	88	6.52%
othercable	81	6.00%
spectrum	406	30.07%
suddenlink/optimum	29	2.15%
verizonfios	96	7.11%

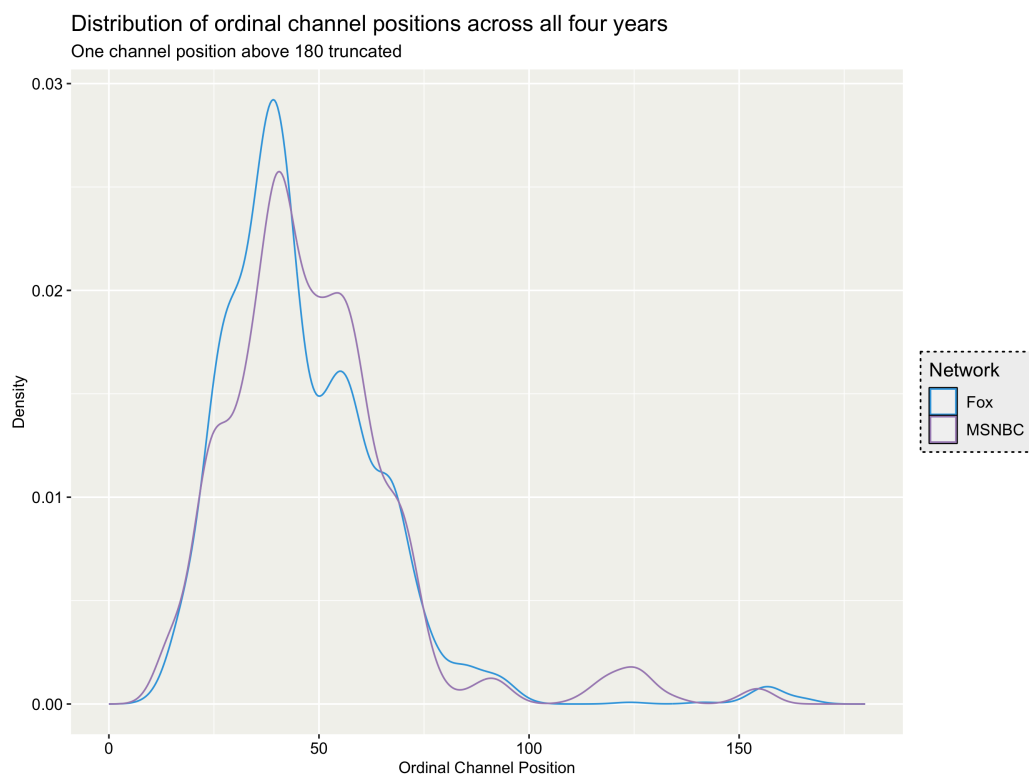


Figure 10: Distribution of all channel positions pre winsorization and standardization

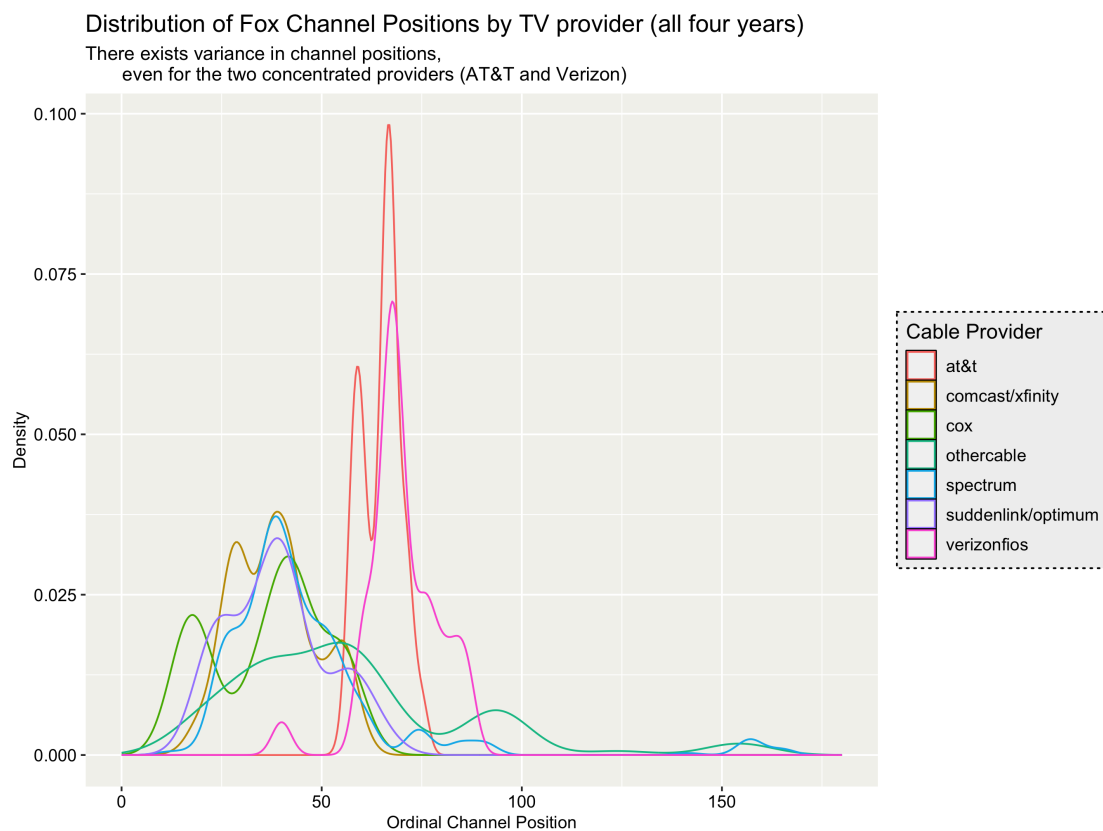


Figure 11: Distribution of Fox Channel positions across TV providers pre winsorization and standardization

## XII. Reduced form results: Voting

Table 12: Reduced form regression with only those who have matched channel positions:  
Voting for Dole

VARIABLES	(1) Dole96	(2) Dole96	(3) Dole96	(4) Dole96	(5) Dole96
Fox_M_23	0.118 (0.142)	-0.00827 (0.0299)			
Fox_M_18	-0.174 (0.152)		-0.0282 (0.0273)		
Fox_M_13	0.0136 (0.138)			-0.0157 (0.0251)	
Fox_M_08	0.0159 (0.128)				0.00418 (0.0268)
MSNBC_M_23	0.0287 (0.0515)	-0.00808 (0.0257)			
MSNBC_M_18	-0.0221 (0.0627)		0.0157 (0.0253)		
MSNBC_M_13	-0.200 (0.123)			0.00884 (0.0224)	
MSNBC_M_08	0.198 (0.141)				0.0496** (0.0252)
Constant	-0.212 (0.375)	-0.350 (0.265)	-0.441** (0.211)	-0.487** (0.191)	-0.733*** (0.197)
Observations	178	271	337	376	362
R-squared	0.313	0.150	0.139	0.152	0.182

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 13: Reduced form regression with only those who have channel positions: Voting for Trump in 2020

VARIABLES	(1) Trump20	(2) Trump20	(3) Trump20	(4) Trump20	(5) Trump20
Fox_M_23	0.0155 (0.181)	-0.0895** (0.0381)			
Fox_M_18	-0.138 (0.211)		-0.0633* (0.0352)		
Fox_M_13	0.224 (0.229)			-0.0758** (0.0326)	
Fox_M_08	-0.206 (0.207)				-0.0709** (0.0331)
MSNBC_M_23	0.0760 (0.0903)	0.0450 (0.0325)			
MSNBC_M_18	0.00863 (0.0998)		0.0508 (0.0323)		
MSNBC_M_13	-0.115 (0.166)			0.0396 (0.0290)	
MSNBC_M_08	0.119 (0.184)				0.0503 (0.0306)
Constant	0.0324 (0.522)	0.451 (0.340)	0.395 (0.302)	0.170 (0.267)	0.329 (0.295)
Observations	178	271	337	376	362
R-squared	0.226	0.137	0.112	0.104	0.114

Robust standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Table 14: Reduced form regressions: Voting for Trump in 2020, controlling for voting in 1996.

VARIABLES	(1) Trump20	(2) Trump20	(3) Trump20	(4) Trump20	(5) Trump20
Fox_23	-0.0295 (0.0485)	-0.0695** (0.0319)			
Fox_18	-0.00125 (0.0502)		-0.0566* (0.0307)		
Fox_13	-0.0178 (0.0504)			-0.0676** (0.0277)	
Fox_08	-0.0581 (0.0432)				-0.0817*** (0.0275)
MSNBC_23	0.0118 (0.0381)	0.0547** (0.0258)			
MSNBC_18	0.0330 (0.0415)		0.0537** (0.0252)		
MSNBC_13	0.0230 (0.0393)			0.0482** (0.0229)	
MSNBC_08	-0.00819 (0.0332)				0.0314 (0.0249)
e96 = 2, Bob Dole	0.576*** (0.0455)	0.589*** (0.0437)	0.576*** (0.0445)	0.575*** (0.0435)	0.583*** (0.0431)
e96 = 3, Did not vote/ not eligible	0.266*** (0.0424)	0.267*** (0.0414)	0.265*** (0.0416)	0.259*** (0.0419)	0.266*** (0.0421)
e96 = 4, Ross Perot	0.340*** (0.0651)	0.360*** (0.0637)	0.356*** (0.0640)	0.361*** (0.0630)	0.368*** (0.0629)
e96 = 5, Some other candidate	0.187* (0.105)	0.208** (0.104)	0.198* (0.103)	0.182* (0.104)	0.194* (0.109)
Constant	-0.311 (0.470)	0.0443 (0.411)	0.135 (0.397)	-0.0575 (0.363)	-0.368 (0.368)
Observations	742	742	743	743	743
R-squared	0.313	0.272	0.268	0.275	0.279

Robust standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

And finally, we see that the results for voting Republican in 2020 is generally robust to controlling for both 1996 voting patterns and limiting to the sample with valid Fox News channel positions.

Table 15: Controlling for voting in 1996 and using only the smaller sample of valid regressors.

VARIABLES	(1) Trump20	(2) Trump20	(3) Trump20	(4) Trump20	(5) Trump20
Fox_M_23	0.0399 (0.160)	-0.0653* (0.0343)			
Fox_M_18	-0.178 (0.185)		-0.0493 (0.0320)		
Fox_M_13	0.241 (0.173)			-0.0591** (0.0287)	
Fox_M_08	-0.192 (0.137)				-0.0784*** (0.0290)
MSNBC_M_23	-0.0365 (0.0912)	0.0467* (0.0268)			
MSNBC_M_18	0.0775 (0.0838)		0.0488* (0.0255)		
MSNBC_M_13	0.0538 (0.138)			0.0485** (0.0231)	
MSNBC_M_08	-0.00944 (0.143)				0.0294 (0.0262)
e96 = 2, Bob Dole	0.631*** (0.111)	0.600*** (0.0727)	0.663*** (0.0631)	0.624*** (0.0576)	0.603*** (0.0608)
e96 = 3, Did not/not eligible to vote	0.459*** (0.0983)	0.344*** (0.0701)	0.386*** (0.0620)	0.359*** (0.0606)	0.269*** (0.0645)
e96 = 4, Ross Perot	0.397** (0.156)	0.330*** (0.112)	0.373*** (0.100)	0.388*** (0.0909)	0.348*** (0.0929)
e96 = 5, Some other candidate	0.161 (0.322)	0.283 (0.178)	0.436** (0.188)	0.114 (0.198)	0.103 (0.258)
Constant	-0.560 (0.500)	0.122 (0.329)	0.105 (0.291)	-0.106 (0.264)	0.381 (0.278)
Observations	178	271	337	376	362
R-squared	0.428	0.337	0.359	0.328	0.302

Robust standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1



### XIII. First stage limited to individuals with valid channel positions:

Table 16: First stage on the matched sample

VARIABLES	(1) sincefox	(2) sincefox	(3) sincefox	(4) sincefox	(5) sincefox
Fox_M_23	-2.736 (3.622)	-0.812 (0.818)			
Fox_M_18	1.323 (4.239)		-0.0143 (0.754)		
Fox_M_13	0.239 (4.109)			-0.536 (0.607)	
Fox_M_08	0.179 (3.428)				-0.683 (0.661)
MSNBC_M_23	0.524 (2.175)	1.286* (0.733)			
MSNBC_M_18	-2.805 (2.251)		0.509 (0.639)		
MSNBC_M_13	8.594** (4.271)			1.511*** (0.581)	
MSNBC_M_08	-5.143 (4.817)				0.828 (0.649)
Constant	-3.961 (10.69)	6.116 (7.447)	1.419 (6.339)	0.666 (5.640)	9.544 (6.099)
Observations	178	271	337	376	362
R-squared	0.259	0.137	0.151	0.186	0.159
Robust F-stat	2.886	1.563	0.507	2.27	1.479
Efficient F-stat	0.939	1.456	0.482	2.038	1.343
Standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

### XIV. Heterogeneity in first stage effects

Since I am focusing on the interpretation of the channel positions coefficients, I drop the non-matched sample.

Table 17: We see that people who did not vote Republican or Democrat in 1996 are driving the results we see in the first stage.

VARIABLES	(1) sincefox	(2) sincefox	(3) sincefox	(4) sincefox	(5) sincefox	(6) sincefox
Fox_M.08	-0.683 (0.661)	-2.211* (1.233)	0.362 (0.868)			
MSNBC_M.08	0.828 (0.649)	1.203 (1.052)	0.745 (0.897)			
Fox_M.13				-0.536 (0.607)	-1.154 (1.280)	-0.128 (0.759)
MSNBC_M.13				1.511*** (0.581)	2.054** (0.940)	1.099 (0.794)
Constant	9.544 (6.099)	22.89** (11.22)	-0.377 (7.987)	0.666 (5.640)	4.210 (10.73)	-0.770 (7.044)
Observations	362	131	231	376	139	237
R-squared	0.159	0.218	0.200	0.186	0.178	0.239
Sample	All	Non-Clinton/Dole voters	Clinton/Dole voters	All	Non-Clinton/Dole voters	Clinton/Dole voters

Robust standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 18: First stage regression limited to only those who did not vote for Clinton/Dole. It is quite remarkable that every single coefficient in columns 2-5 are larger in magnitude when you restrict the sample

VARIABLES	(1) sincefox	(2) sincefox	(3) sincefox	(4) sincefox	(5) sincefox
Fox_23	-1.117 (2.073)	-1.281 (1.214)			
Fox_18	1.161 (2.229)		-0.959 (1.166)		
Fox_13	-0.0542 (2.318)			-1.162 (1.037)	
Fox_08	-2.123 (2.163)				-2.214** (0.979)
MSNBC_23	2.358 (1.431)	2.599*** (0.973)			
MSNBC_18	-0.0639 (1.805)		1.977** (0.969)		
MSNBC_13	1.693 (1.666)			1.793* (0.958)	
MSNBC_08	-1.553 (1.010)				0.800 (0.958)
Constant	8.274 (18.84)	19.70 (14.93)	13.82 (14.89)	9.154 (14.00)	-8.872 (13.77)
Observations	301	301	301	301	301
R-squared	0.236	0.127	0.115	0.133	0.132
Robust standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

## XV. First stage regression on MSNBC viewership

Table 19: The dependent variable is whether or not someone has ever watched MSNBC.

VARIABLES	(1) MSNBCever	(2) MSNBCever	(3) MSNBCever	(4) MSNBCever	(5) MSNBCever	(6) MSNBCever
Fox_M_08	0.0476 (0.0323)	0.124** (0.0532)	0.0338 (0.0424)			
MSNBC_M_08	-0.0311 (0.0221)	-0.0515 (0.0361)	-0.00725 (0.0304)			
Fox_M_13				0.0191 (0.0331)	0.0666 (0.0620)	0.00700 (0.0409)
MSNBC_M_13				-0.00387 (0.0251)	-0.0556 (0.0388)	0.0333 (0.0330)
Constant	-0.0676 (0.281)	-0.102 (0.469)	-0.417 (0.346)	0.0281 (0.267)	0.444 (0.463)	-0.517 (0.330)
Observations	362	131	231	376	139	237
R-squared	0.106	0.145	0.190	0.097	0.121	0.170
Sample	All	Non-Clinton/Dole voters	Clinton/Dole voters	All	Non-Clinton/Dole voters	Clinton/Dole voters

Robust standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## XVI. Types of fox viewers channel positions induce

Table 20: Splitting fox viewers into categories based on self-reports. We see that channel positions can induce people into becoming Fox Viewers who say Fox has changed their views, but not fox viewers who say that Fox has not changed their views

VARIABLES	(1) foxchange	(2) foxnotchange	(3) foxchange	(4) foxnotchange	(5) foxchange	(6) foxnotchange	(7) foxchange	(8) foxnotchange	(9) foxchange	(10) foxnotchange
Fox_23	-0.0325 (0.0448)	0.0236 (0.0527)	-0.0282 (0.0268)	-0.0117 (0.0372)						
Fox_18	0.0244 (0.0374)	0.00298 (0.0488)			-0.00958 (0.0238)	-0.0250 (0.0314)				
Fox_13	0.0154 (0.0414)	-0.0812 (0.0496)					-0.0162 (0.0232)	-0.0185 (0.0274)		
Fox_08	-0.0380 (0.0337)	0.0442 (0.0486)							-0.0287 (0.0230)	-0.00687 (0.0299)
MSNBC_23	0.0177 (0.0414)	-0.000106 (0.0468)	0.0457* (0.0269)	-0.0112 (0.0290)						
MSNBC_18	0.0292 (0.0352)	-0.0869* (0.0447)			0.0532** (0.0236)	-0.0198 (0.0266)				
MSNBC_13	0.0204 (0.0311)	0.0887** (0.0393)					0.0448** (0.0215)	0.0150 (0.0253)		
MSNBC_08	0.00298 (0.0256)	-0.0314 (0.0334)							0.0295 (0.0223)	-0.00290 (0.0263)
Constant	0.561 (0.389)	-0.379 (0.503)	0.331 (0.338)	-0.0933 (0.440)	0.626* (0.321)	-0.322 (0.379)	0.441 (0.303)	0.0618 (0.364)	0.178 (0.310)	0.00383 (0.393)
Observations	742	742	742	742	743	743	743	743	743	743
R-squared	0.119	0.141	0.083	0.073	0.061	0.084	0.066	0.084	0.059	0.082

Robust standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 21: We see that the results in the previous table replicate when we switch to only using matched channel positions.

VARIABLES	(1) foxchange	(2) foxnotchange	(3) foxchange	(4) foxnotchange	(5) foxchange	(6) foxnotchange	(7) foxchange	(8) foxnotchange
Fox_M_23	-0.0184 (0.0274)	-0.0251 (0.0375)						
MSNBC_M_23	0.0475* (0.0276)	-0.0187 (0.0296)						
Fox_M_18			-0.00917 (0.0244)	-0.0118 (0.0327)				
MSNBC_M_18			0.0549** (0.0244)	-0.0265 (0.0279)				
Fox_M_13					-0.0146 (0.0240)	-0.0131 (0.0285)		
MSNBC_M_13					0.0458** (0.0217)	0.0158 (0.0264)		
Fox_M_08							-0.0307 (0.0242)	0.00240 (0.0316)
MSNBC_M_08							0.0263 (0.0231)	-0.00352 (0.0276)
Constant	0.123 (0.264)	0.367 (0.324)	0.101 (0.245)	0.216 (0.298)	0.219 (0.239)	0.117 (0.246)	0.572** (0.251)	0.171 (0.284)
Observations	271	271	337	337	376	376	362	362
R-squared	0.119	0.088	0.097	0.102	0.068	0.135	0.077	0.084
Robust standard errors in parentheses								
*** p<0.01, ** p<0.05, * p<0.1								

Table 22: The two regressions stacked on each other

VARIABLES	(1) foxchange	(2) foxchange	(3) foxchange	(4) foxchange	(5) foxchange	(6) foxchange
Fox_M_08	-0.0307 (0.0242)	-0.0743* (0.0393)	0.0217 (0.0297)			
MSNBC_M_08	0.0263 (0.0231)	0.0479 (0.0465)	0.00762 (0.0231)			
Fox_M_13				-0.0146 (0.0240)	-0.0479 (0.0397)	0.0216 (0.0276)
MSNBC_M_13				0.0458** (0.0217)	0.105** (0.0448)	0.0120 (0.0179)
Constant	0.572** (0.251)	0.539 (0.444)	0.455 (0.315)	0.219 (0.239)	-0.281 (0.388)	0.372 (0.294)
Observations	362	131	231	376	139	237
R-squared	0.077	0.179	0.128	0.068	0.184	0.128
Sample	All	Non-Clinton/Dole voters	Clinton/Dole voters	All	Non-Clinton/Dole voters	Clinton/Dole voters
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

## XVII. Weak IV test

Communal values:

```
. condtest, reps(1000)
```

Size-adjusted tests based on

Moreira's (2002) conditional approach.

H0: b[sincefox] = 0.0000

Critical values based on 1000 simulations.

Statistic	Value	95% C.V.	Asy. C.V.*
Anderson-Rubin	49.5870	67.5048	
Likelihood Ratio	9.5472	13.3531	3.8415
Lagrange Multiplier (Score)	3.8280	3.8415	
Wald	6.0690	5.1935	3.8415

\*Asy. C.V. denotes the usual asymptotic chi-square-one critical values for the Wald and likelihood ratio test statistics.

Trump20:

. condtest, reps(1000)

Size-adjusted tests based on

Moreira's (2002) conditional approach.

H0: b[sincefox] = 0.0000

Critical values based on 1000 simulations.

Statistic	Value	95% C.V.	Asy. CV.*
Anderson-Rubin	63.4669	67.5048	
Likelihood Ratio	0.6846	11.1505	3.8415
Lagrange Multiplier (Score)	0.1019	3.8415	
Wald	10.0418	20.2017	3.8415

\*Asy. C.V. denotes the usual asymptotic chi-square-one critical values for the Wald and likelihood ratio test statistics.

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## XVIII. Multiple Hypothesis Testing on all outcome variables

q-values calculated using Anderson (2008). Questions corresponding to each question can be found in section VII. These outcome variables are *not* normalized to have standard deviation of one.

Table 23:

VARIABLES	(1) Trump20	(2) NR_wilu	(3) NR_wilo	(4) Altru_will	(5) Altru_don	(6) fairness_rights	(7) fairness_differently	(8) harm_cruel	(9) ingroup_team
Fox_M_08	-0.0784 (0.0290)	0.109 (0.220)	0.428 (0.187)	0.298 (0.134)	7.038 (14.66)	0.0108 (0.0675)	0.0718 (0.0717)	0.0195 (0.0715)	0.0513 (0.0796)
p-value	0.00714	0.620	0.0231	0.0267	0.631	0.872	0.317	0.785	0.520
q-value	0.346	1	0.453	0.453	1	1	1	1	1
MSNBC_M_08	0.0294 (0.0262)	0.144 (0.165)	0.0180 (0.174)	-0.159 (0.155)	5.184 (12.98)	-0.0406 (0.0617)	-0.0178 (0.0675)	-0.0246 (0.0584)	0.0102 (0.0786)
p-value	0.264	0.384	0.918	0.307	0.690	0.511	0.792	0.674	0.897
q-value	1	1	1	1	1	1	1	1	1
Constant	0.381 (0.278)	4.410 (1.948)	1.506 (1.754)	7.512 (1.272)	161.8 (134.3)	3.896 (0.518)	3.633 (0.601)	3.474 (0.551)	4.869 (0.693)
p-value	0.172	0.0242	0.391	8.55e-09	0.229	0	3.97e-09	8.83e-10	0
Observations	362	362	362	362	359	362	362	362	362
R-squared	0.302	0.066	0.076	0.104	0.083	0.127	0.164	0.108	0.143
VARIABLES	(10) ingroup_history	(11) ingroup_family	(12) authority_women	(13) authority_soldier	(14) purity_chastity	(15) Trust	(16) NR_desc	(17) unival	(18) comval
Fox_M_08	-0.123 (0.108)	0.0740 (0.0985)	-0.0570 (0.106)	-0.0731 (0.0980)	-0.0807 (0.125)	0.155 (0.185)	-0.0577 (0.186)	0.102 (0.0770)	-0.0394 (0.0857)
p-value	0.257	0.453	0.590	0.457	0.519	0.402	0.756	0.186	0.646
q-value	1	1	1	1	1	1	1	1	1
MSNBC_M_08	-0.00488 (0.0818)	0.00998 (0.0763)	0.0355 (0.102)	-0.141 (0.0932)	0.0406 (0.112)	-0.132 (0.166)	0.211 (0.169)	-0.160 (0.0858)	-0.0333 (0.0598)
p-value	0.952	0.896	0.727	0.132	0.718	0.427	0.214	0.0635	0.578
q-value	1	1	1	1	1	1	1	1	1
Constant	3.945 (0.829)	2.543 (0.929)	2.569 (0.972)	4.876 (0.943)	2.225 (1.047)	6.116 (1.521)	2.287 (1.534)	3.985 (0.648)	5.119 (0.583)
p-value	2.90e-06	0.00652	0.00861	4.00e-07	0.0344	7.17e-05	0.137	2.26e-09	0
Observations	362	362	362	362	362	362	362	362	362
R-squared	0.259	0.116	0.154	0.120	0.181	0.091	0.085	0.070	0.096



# XIX. Demographic variables by years of Fox News watched

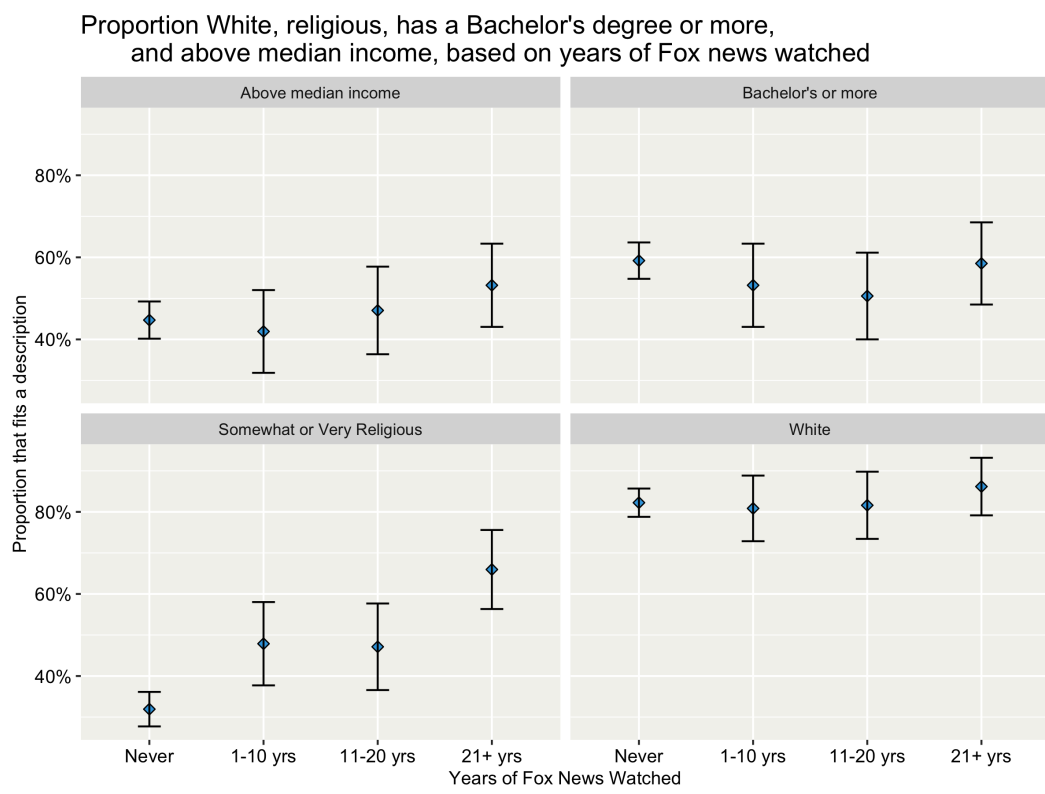


Figure 12:

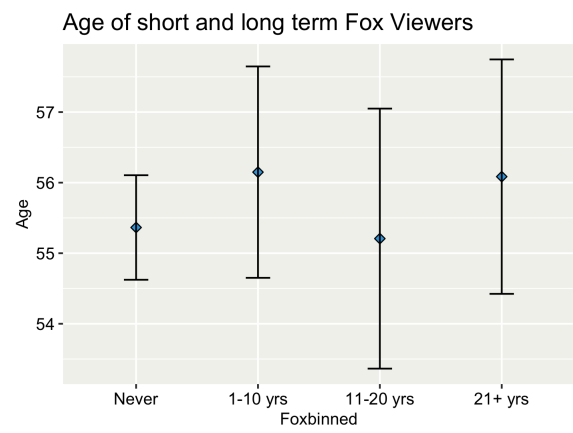


Figure 13:

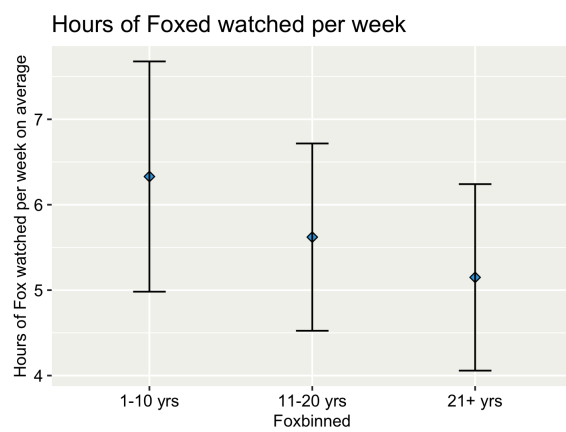


Figure 14: