The Rise of Zoom: Studying the Effectiveness of the Emerging Virtual Platform in U.S. Political Campaigns

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Abstract

The Covid-19 pandemic introduced much of the United States to Zoom, a relatively unused web-conferencing platform pre-COVID-19 pandemic, and forced millions of Americans to rely on it for schooling, work, and daily communication between friends and loved ones. The 2020 presidential cycle was not immune to this phenomenon as all 2020 political campaigns across the country shifted their get out the vote and fundraising efforts to Zoom and other web-conferencing platforms. The ongoing use of virtual platforms by political campaigns (and other industries in the U.S.) even as the Covid-19 pandemic subsides, raises the question: how effective are virtual political campaign events at turning out voters and fundraising when compared to in-person events? I attempt to answer the question by running an experiment where participants are randomly assigned to attend a simulated campaign event in-person or over Zoom. I find that differences between in-person and virtual mediums have no effect on voter turnout and fundraising. However, voter turnout and fundraising are indirectly affected by participants' engagement with the event, their perceptions of the candidate, and their event experience, all of which are in turn affected by the differences between in-person and virtual campaigns. The study results showed that in-person campaign events performed better than virtual ones in terms of both participant engagement and perceptions of the candidate. But given the relatively small differences between the two, the clear benefits of virtual events, and both the staying power and growth of virtual products, campaigns should remain open to the idea of using virtual campaign events—when appropriate—in the foreseeable future.

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Introduction

From the moment they declare their run for office to election day, the puzzle facing every political candidate is how to spend as few dollars as possible to turn out as many voters as possible to vote for them. These two variables are critical to determining the success or failure of a political campaign. If a campaign fails at turning out more voters to support them than their opponent they will, by matter of fact, lose the election. But turning out voters requires spending money—lots of it in recent years.[2] (To be clear, the definition of voter turnout this paper uses is turnout in favor of one candidate over the other and not simply showing up to the polls). Fundraising allows campaigns to spend funds on voter contact efforts, including recruiting volunteers, buying ads, and organizing events with voters. Without enough money campaigns cannot effectively reach out to voters, which in turn lowers turnout and can hurt their election efforts. Therefore, voter turnout and fundraising are the primary outcome variables this study is concerned with investigating because of their centrality in determining the success or failure of a campaign.

To solve the puzzle, there are many tools at a campaign's disposal—canvassing, phone banking, townhalls, social media and Internet outreach, and television advertising. Each has its pros and cons that campaigns weigh to turn out voters. It is often determining the proper mixture of these mediums that can determine the success of a campaign—too little social media could be costly or too much television could also be a problem. However, the COVID-19 pandemic introduced virtual events, an emerging post-pandemic medium, to the existing communication tools at campaigns' disposal. Campaigns up and down the ballot quickly adopted virtual events

[2]Seth Fiegerman, "The Cost of Running for Political Office," *The Street*, October 27, 2010, accessed April 25, 2022, https://www.thestreet.com/personal-finance/cost-running-political-office-12807766.

out of necessity to continue campaigning without holding traditional in-person rallies and events. The benefits of virtual events are apparent: they are relatively inexpensive, easy to operate and produce, and are widely accessible to voters. Those same benefits have persuaded many to continue using virtual events—from workplaces to international research conferences to government, and even some political campaigns—even as the pandemic has subsided across the world. Both the benefits of virtual events and there continued staying power combine to make an argument for a deeper investigation into the future viability of virtual communications in campaigns.

But while there is practically endless research into the existing mediums listed above, the recentness of the 2020 election and the COVID-19 pandemic means there is still little to no research that has fully investigated the viability of virtual campaign events. The medium's ability to turn out voters and fundraise better than other mediums are by no means guaranteed since virtual events also have their pitfalls, such as their ability to hold an audience's attention. Therefore, the consequences of the COVID-19 have necessitated research into the subject and the comparison between the two is logical because virtual events via video conferencing software are created precisely replicate in-person events hosted by a candidate. So, the question then remains: how effective are virtual events at turning out voters and fundraising as compared to in-person ones?

A Brief History of Existing Political Communication Research

To help answer the driving question of this research paper, I must first breakdown the existing literature on political communications. U.S.-specific political communication research is

incredibly extensive, ranging from studies of negative versus positive campaign messaging to the role of the Internet in facilitating democratic values. However, while the history of political communications in the United States traces back to the early elections of the late 18th century, serious statistical studies into the subject only recently emerged post-1945, following the transformational shift towards modern, professional campaigning throughout the 20th century.[3] Important to this particular study, the shift towards modern campaigning and the rise of scientific political polling coincided with the rise of new communication platforms and technology. As campaigns were evolving into their current, modern form during the 20th century, the growth in communication technology, data collection, and statistical analysis simultaneously caused research in the political communication field to take off.[4] Most critical to the growth in research is the emergence of new communication technologies closely tracks the existing research on political communications. While campaigns tend to be late adopters of new technology, once they begin to use new communication platforms, social scientists and political strategists are keen on testing their viability in political campaigns.

One of the more impactful communication channels to become available to political campaigns in the United States was the television. Televisions were invented in the 1920s, but it was not until 1952, when President Eisenhower was running for office, that he became the first candidate to take advantage of the medium for campaigning purposes.[5] Since then, there have been a number of studies seeking to understand how the medium impacts voters in a range of differing ways. One study that is particularly useful to this research is from Jamie Druckman,

[3] Dan D. Nimmo, *Political Patters in America: Conflict Representation and Resolution* (W H Freeman & Co, 1979); Robert Agranoff, *The New Style in Election Campaigns* (Holbrook Press, 1977).

[4]Nimmo, *Political Patters in America: Conflict Representation and Resolution*; Agranoff, *The New Style in Election Campaigns*.

[5]UVA Miller Center, "The Presidency in the Television Era," accessed April 25, 2022, https://millercenter.org/the-presidency/teacher-resources/recasting-presidential-history/presidency-television-era.

who analyzed the 1960 Kennedy-Nixon presidential debate by running an experiment to determine the effect television has on viewers.[6] He concluded that television images prime people to rely on personality perceptions, which can affect overall evaluations.[7] In other similar studies that looked directly at this study's primary outcome variables, voter turnout, authors have found that television ads can increase the likelihood that someone is willing to say they will vote for a candidate.[8] One of these studies found exposure to TV ads during the 2000 presidential cycle increased respondent's likelihood to vote by 10 percentage points.[9] However, much like research into other political communication channels, there can be sharp disagreement among scholars in the field. A similar study into the same 2000 presidential cycle, which used identical data but a different statistical model, concluded that the volume of advertising purchased by presidential campaigns during the final weeks of the 2000 election had no effect on voter turnout.[10]

These disagreements highlight the ongoing debate within the political communication field on determining the driving effects on voter turnout—whether advertising actually has an impact or none at all. There is still quite sharp disagreement among scholars concerning the effect negative television advertising has on turnout, with many scholars on both sides of the

[6]James N. Druckman, "The Power of Television Images: The First Kennedy-Nixon Debate Revisited," *The Journal of Politics* 65, no. 2 (May 2003).

[7]Ibid.

[8]Paul Freedman, Michael Franz, and Kenneth Goldstein, "Campaign Advertising and Democratic Citizenship," *American Journal of Political Science* 48, no. 4 (October 2004): 723-741, https://doi.org/10.1111/j.0092-5853.2004.00098.x; D. Sunshine Hillygus, "Campaign Effects and the Dynamics of Turnout Intention in Election 2000," *The Journal of Politics* 67, no. 1 (February 2005), https://doi.org/10.1111/j.1468-2508.2005.00307.x.

[9]Hillygus, "Campaign Effects and the Dynamics of Turnout Intention in Election 2000."

[10]Jonathan S. Krasno and Donald P. Green, "Do Televised Presidential Ads Increase Voter Turnout? Evidence from a Natural Experiment," *The Journal of Politics* 70, no. 1 (January 2008), https://doi.org/10.1017/S0022381607080176.

argument using different methodologies and data to make persuasive arguments.[11] I will not spend too much time going down this rabbit hole, and instead will say that the ongoing debate around television advertising and turnout reaffirms this paper's commitment to better understand how political communication mediums affect voter turnout.

Even though there is plenty of research into the effect television advertising has on voter turnout, there is practically nothing which explains its effect on fundraising. The likely reason for this gap is that campaigns rarely use television advertisements to ask for donations. When going through featured television advertisements posted on the "Museum of the Moving Image: The Living Room Candidate," which houses a database of presidential campaign television advertisements from 1952 to the present, not a single ad mentioned fundraising.[12] Given how expensive it costs for political campaigns to run television ads, most campaigns would rather use the limited ads they can purchase to try and persuade voters to head to the polls in support.

Another significant development in the digital and virtual world of political campaigns concerns the Internet. When the Internet went online in the 1990s, most political campaigns did not begin to adopt it as part of their campaign operations. Campaigns waited until the Internet became more predominant in society, which according to Pew Research began at the turn of the 21st century when more than a third of those surveyed said they used the Internet to get online news or information about the elections.[13] In the 2000 election, $25-$50 million was raised over the Internet and John McCain, who ran for president that year, raised 20% of all his funds

[11]Kenneth Goldstein and Travis N. Ridout, "Measuring the Effects Televised Political Advertising in the United States," *Annual Review of Political Science* 7, (June 2004): 205-226. https://doi.org/10.1146/annurev.polisci.7.012003.104820.

[12]Museum of the Moving Image, "The Living Room Candidate: Presidential Campaign Commercials 1952-2020," *Museum of the Moving Image*, accessed April 25, 2022, http://www.livingroomcandidate.org/.

[13]Pew Research Center, "The Internet and Campaign 2004," *Pew Research Center*, March 6, 2005, accessed April 25, 2022, https://www.pewresearch.org/internet/2005/03/06/the-internet-and-campaign-2004/.

through online donations.[14] The Internet's role in campaign strategy took a quantum leap forward in 2004 when Howard Dean became the first major political candidate to revolutionize the way candidates could take advantage of the Internet to raise huge sums of money.[15] As the Internet became more viable in political campaigns, political scientists took note and began studying the emerging effect the Internet was having on both fundraising on voter turnout. When it comes to fundraising, one 2013 study found that access to broadband Internet can explain a 41% increase in campaign contributions between 1994 and 2008.[16] While there is obviously some more nuance to that statistic, the study, nonetheless, suggests that increases in political fundraising are closely tied to Internet use by voters.

Similarly, the Internet does appear to have a positive impact on voter turnout. When the Internet was first introduced, many political scientists theorized there may be the potential for the it to act as a virtual voter mobilizer. The broad research into how Internet use affects political participation seems to point to its ability to increase voter turnout, political information, and campaign efficacy.[17] In addition, the specific use of Internet advertisements by political campaign also increases voter turnout. One study that ran an experiment in Dallas, Texas with Millennial voters found that targeted banner ads generate statistically significant increases in

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[14]Trevor Potter and Daniel Manatt, "Internet Politics 2000: Overhyped, Then Underhyped, The Revolution Begins," *Election Law Journal* 1, no. 1 (November 2022), accessed April 25, 2022, https://www.liebertpub.com/doi/pdf/10.1089/153312902753300042.

[15]Wired Staff, "How the Internet Invented Howard Dean," *Wired*, January 1, 2004, accessed April 25, 2022, https://www.wired.com/2004/01/dean/.

[16]Ahmed Jaber, "Broadband Internet and Political Behavior: Evidence from the United States," *Cornell University*, (November 2013), https://dx.doi.org/10.2139/ssrn.2353549.

[17]Caroline J. Tolbert and Romona S. McNeal, "Unraveling the Effects of the Internet on Political Participation," *Political Research Quarterly* 56, no. 2 (June 2003): 175-185, https://doi.org/10.1177/106591290305600206; Katie Kenski and Natalie Jomini Stroud, "Connections Between Internet Use and Political Efficacy, Knowledge, and Participation," *Journal of Broadcasting and Electronic Media* 50, no. 2 (2006), https://doi.org/10.1207/s15506878jobem5002_1; Song-In Wang, "Political Use of the Internet, Political Attitudes, and Political Participation," *Asian Journal of Communication* 17, no. 4 (2007): 381-395, https://doi.org/10.1080/01292980701636993.

voter turnout in municipal elections.[18] Therefore, the Internet appears to be a relatively powerful force in modern politics in terms of increasing fundraising and voter turnout. Current empirical evidence would also suggest that the Internet will remain a prime hub of fundraising and voter turnout, evidenced by the massive amount of money Democrats' Act Blue and Republicans Win Red bring in every year.[19]

The last major digital platform to discuss is social media, which has seen an explosion in research as it has consumed every part of our daily lives—politics being no exception. Before President Barak Obama became president most campaigns probably did not employ a digital director. But since the 2008 presidential election, the position is absolutely necessary if a campaign wishes to win in November. One 2011 paper studying the 2008 presidential election found the Obama campaign motivated 3.1 million individual contributors and mobilized a grassroots movement of more than 5 million volunteers through Twitter, Facebook, and other prominent digital tools.[20] In sum, the 2008 presidential election was the 2004 presidential election on steroids in terms of how heavily campaigns began relying on digital tools to influence votes and dollars.

When looking at the role social media plays in influencing voter turnout, some studies suggest they could have a noticeable impact on voter turnout.[21] For example, a 2018 experiment

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[18]Katherine Haenschen, "Mobilizing Millennial Voters with Targeted Internet Advertisements: A Field Experiment," *Political Communications* 36, no. 3 (January 2019): 357-375, https://doi.org/10.1080/10584609.2018.1548530.

[19]Lisa Lerer, "ActBlue, the Democrats' Not-So-Secret Weapon," *The New York Times*, November 16, 2018, accessed April 25, 2022, https://www.nytimes.com/2018/11/16/us/politics/on-politics-actblue-democrats.html; Brooke Singham, "How Republicans' WinRed Fundraising Platform is Gearing Up for the Midterms," *Fox News*, March 18, 2022, accessed April 25, 2022, https://www.foxnews.com/politics/winred-republican-fundraising-2022-midterms.

[20]Derrick L. Cogburn, "From Networked Nominee to Networked Nation: Examining the Impact of Web 2.0 and Social Media on Political Participation and Civic Engagement in the 2008 Obama Campaign," *Journal of Political Marketing* 10, no. 1-2 (February 2011): 189-213, https://doi.org/10.1080/15377857.2011.540224.

[21]Robin Effing, Jos Van Hillegersberg, and Theo Huibers, "Social Media and Political Participation: Are Facebook, Twitter, and YouTube Democratizing Our Political Systems," *International Conference on Electronic Participation* 6847 (2011): 25-35, https://doi.org/10.1007/978-3-642-23333-3_3.

demonstrated that microtargeted Facebook ads may impact turnout, but that those effects are conditional on message, audience, and electoral context.[22] Another 2015 study found that while offline forms of campaigning are still the most effective at mobilizing turnout, online messages, particularly ones geared towards young people, can be effective at boosting turnout.[23] In one of the more pertinent studies to this paper, a researchers found that social media engagement by voters helps campaigns meet their participation goals in terms of voter turnout and fundraising by conducting campaign interviews and using Pew data from the 2010 U.S. election.[24] However, there have been plenty of other studies which raise doubts on the extent to which social media use actually galvanizes people to show up and vote on election day.[25] Specifically, one quite recent 2022 study that ran an experiment during the 2018 midterms using Facebook and Instagram found that ads produced by a Democratic-leaning political action committee had very small effects on Democratic vote share.[26]

The opposing studies paint a more nuanced picture of the effect social media advertising has on voter turnout. But more general studies into how social media and people networks influence voter turnout suggest there is a relationship between the two. The most prominent

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[22]Katherine Haenschen, "The Conditional Effects of Microtargeted Facebook Advertisements on Voter Turnout," *Political Behavior* (February 2022), https://doi.org/10.1007/s11109-022-09781-7.

[23]John H. Aldrich, Rachel K. Gibson, Marta Cantijoch, et. al., "Getting Out the Vote in the Social Media Era: Are Digital Tools Changing the Extent, Nature, and Impact of Party Contacting in Elections?" *Party Politics* 22, no. 2 (March 2016): 165-178, https://doi.org/10.1177/1354068815605304.

[24]Elizabeth Housholder and Heather L. LaMarre, "Political Social Media Engagement: Comparing Campaign Goals with Voter Behavior," *Public Relations Review* 41, no. 1 (March 2015): 138-140, https://doi.org/10.1016/j.pubrev.2014.10.007.

[25]Jody C. Baumgartner and Jonathan S. Morris, "MyFaceTube Politics: Social Networking Web Sites and Political Engagement of Young Adults," *Social Science Computer Review* 28, no. 1 (February 2010): 24-44, https://doi.org/10.1177/0894439309334325; David E. Broockman and Donald P. Green, "Do Online Advertisements Increase Political Candidates' Name Recognition or Favorability? Evidence from Randomized Field Experiments," *Political Behavior* 36, (June 2014): 264-289, https://doi.org/10.1007/s11109-013-9239-z; Joshua Kally, "Youth Voter Mobilization Through Online Advertising: Evidence from Two GOTV Field Experiments," *OSF Preprints* (February 23), doi:10.31219/osf.io/6c9na.

[26]Alexander Coppock, Donald P. Green, and Ethan Poeter, "Does Digital Advertising Affect Vote Choice? Evidence from a Randomized Field Experiment," *Research and Politics*, (January 2022), https://doi.org/10.1177/20531680221076901.

example is a 61-million-person experiment looking at the social transmission of mobilization messages.[27] The study discovered that specific social media use can influence political self-expression, information seeking, and real-world voting behavior of millions of people.[28] The research strongly suggests that social media is an important political campaign mediator, but how campaigns can use it to their benefit to influence turnout still remains to be seen.

On the other hand, when determining social media's effect on fundraising, there is still little research investigating any connections. One study found that when politicians adopted social media their donations increased significantly, particularly among out-of-state donors.[29] But it appears most research is concerned with other forms of political participation when investigating social media. The lack of research into the subject is puzzling given how frequently many politicians will post on their social media channels asking for donations from their followers. However, there is a body of similar research into how nonprofits use social media to improve their fundraising.[30] Related research that looked at how nonprofits used Facebook to increase their donations, found that donations were positively associated with a nonprofit's Facebook network size, activity, and audience engagement.[31] As with the research into social media and voter turnout, there definitely appear to be ripe opportunities for campaigns to exploit social media to benefit their fundraising operations, but there is yet to be robust literature investigating the possible links.

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[27]Robert M. Bond, Christopher J. Fariss, Jason J. Jones, et. al., "A 61-Million-Person Experiment in Social Influence and Political Mobilization," *Nature* 489, (2012): 295-298, https://doi.org/10.1038/nature11421.

[28]Ibid.

[29]Sounam Hong, "Who Benefits from Twitter? Social Media and Political Competition in the U.S. House of Representatives," *Government Information Quarterly* 30, no. 4 (October 2013): 464-472, https://doi.org/10.1016/j.giq.2013.05.009.

[30]David Miller, "Nonprofit Organizations and the Emerging Potential of Social Media and Internet Resources," *SPNHA Review* 6, no. 1 (2010), https://scholarworks.gvsu.edu/spnhareview/vol6/iss1/4.

[31]Abhishek Bhati and Diarmuid McDonnel, "Success in an Online Giving Day: The Role of Social Media Fundraising," *Nonprofit and Voluntary Sector Quarterly* 49, no. 1 (February 2020): 74-92, https://doi.org/10.1177/0899764019868849.

Clearly, campaigns can use digital tools to influence voter turnout and fundraising, which is important for this paper since half the research is focused on virtual campaign events. With that much established, though, it is also critical to understand the role in-person events play in a campaign's pursuit to drive turnout and fundraising. The are several in-person events candidates engage with: townhalls, meet-and-greets, fundraising events, and political rallies, to name a few. Among these in-person events, this paper attempted to simulate an event along the lines of a townhall. While there were not many studies linking townhall participation and voter turnout, there were a number of related studies that looked at campaign visits.

There have actually been quite a few recent studies that analyzed campaign visits during the 2016 and 2018 elections by Donald Trump and Hillary Clinton. The study of the 2016 election found that none of the presidential or vice-presidential candidates significantly influenced voting with campaign visits, but that Clinton's campaign visits, in particular, had a significant effect on voting in an individual state.[32] Specifically, Clinton's visits to Pennsylvania apparently improved the Democratic ticket's performance by 1.2% in the state.[33] However, Trump did not win any of the swing states he carried as a direct result of his campaign visits, according to the same study.[34] The 2018 study found that Trump's campaign stops to help midterm candidates failed to boost overall state-level turnout or support for GOP U.S. Senate candidates.[35] Interestingly, the 2018 study blamed deep partisan polarizations for the lack of a president's capacity to influence voting behavior, which may make sense in the context of

[32]Christopher J. Devine, "What if Hillary Clinton Had Gone to Wisconsin? Presidential Campaign Visits and Vote Choice in the 2016 Election," *The Forum* 16, no. 2 (2018): 211-234. https://doi.org/10.1515/for-2018-0011.

[33]Ibid.

[34]Ibid.

[35]Alan Abramowitz and Costas Panagopoulos, "Trump on the Trail: Assessing the Impact of Presidential Campaign Visits on the Voting Behavior in the 2018 Midterm Elections," *Presidential Studies Quarterly* 50, no. 3 (September 2020): 496-506, https://doi.org/10.1111/psq.12664.

another study on the 1948 presidential election. That study found Truman's extensive campaign tour likely won him the state of Ohio and that he gained 3.06% on the overall vote share in counties that he visited.[36] The opposing studies suggest that the current political environment may be diminishing the impact of in-person campaign visits. Point in case, another study into the 2012 presidential election found respondents of a survey had little knowledge of candidate visits and the visits themselves had only a small effect on voter intentions.[37]

While campaign visits appear to have limited effects, if any, on voter turnout in the present, there was a study that found some evidence to suggest campaign visits could influence donations. A recent 2021 study found that visits by Donald Trump and Kamala Harris had strong mobilizing and counter-mobilizing effects, which in turn increased donations to both campaigns.[38] But the study found weak or no evidence that Joe Biden and Mike Pence's visits affected donations positively or negatively.[39] Obviously, though, in-person fundraisers, are helpful in fundraising for campaigns—one has to look no farther than the consistent drumbeat of headlines talking about candidates hosting events where the price per table is in the thousands.[40]

In conclusion, the breadth of studies investigating the digital tools campaigns use to influence voter turnout and fundraising are significant to this paper for two reasons. First, they illustrate the general trend of political research lagging behind technological innovation. As each

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[36]Boris Heersink and Brenton D. Peterson, "Truman Defeats Dewey: The Effect of Campaign Visits on Election Outcomes," *Electoral Studies* 49, (October 2017): 49-64, https://doi.org/10.1016/j.electstud.2017.07.007.

[37]Thomas Wood, "What the Heck Are We Doing in Ottumwa, Anyway? Presidential Candidate Visits and Their Political Consequence," *The ANNALS of the American Academy of Political and Social Science* 667, no. 1 (September 2016): 110-125, https://doi.org/10.1177/0002716216661488.

[38]Boris Heersink, Nicholas G. Napolio, and Jordan Carr Peterson, "The Mixed Effects of Candidate Visits on Campaign Donations in the 2020 Election," *American Politics Research* 50, no. 3 (May 2022): 320-325, https://doi.org/10.1177/1532673X211041571.

[39]Ibid.

[40]Brian Schwartz, "Billionaire Peltz Draws GOP Megadonors to $5,000-a-plate Fundraiser for Democrat Sen. Joe Manchin," *CNBC*, April 18, 2022, accessed April 25, 2022, https://www.cnbc.com/2022/04/18/nelson-peltz-hosted-joe-manchin-for-fundraiser-featuring-republican-megadonors.html; Alex Isenstadt, "McCarthy Raises $9.5M at Major Washington Fundraiser," *Politico*, January 19, 2022, accessed April 25, 2022, https://www.politico.com/news/2022/01/19/mccarthy-washington-fundraiser-527442.

new communication medium emerged—radio, television, the Internet, and social media—campaigns were slow to fully adopt them. It took over a decade for a candidate to use television in a campaign and it took until 2004 for a major presidential candidate to exploit the Internet for their benefit. The same then followed for research into the political uses of these new communication mediums. For example, you do not see intensive research into the effect social media has on voter turnout and fundraising until after the 2008 election, when social media was first used heavily. The reason for the lag in research is simple: you cannot research what does not yet exist, and, at the same time, the research is oftentimes guided by how campaigns use various mediums. It is precisely this explanation, which underscores why wirtual political campaign events have yet to be investigated by political scientists. The technology has only recently reached a level sufficient for campaigns to even consider using it and it took an entire pandemic-induced virtual election to understand how campaigns might use the new medium. Therefore, it is the relative novelty of widespread virtual events, which warrants research.

However, it is not merely that virtual events are a relative newcomer on the scene which warrant more research, it is that virtual events appear to have some staying power. If after the 2020 election, everyone decided to stop using video conferencing platforms to conduct business, then the urgency of research into the medium would have been muted. But that is far from the case. Outside of the political world, numerous businesses have decided to either continue their remote work indefinitely or at least provide a hybrid model for the foreseeable future.[41] It appears the big technology conferences of the pre-pandemic era have also succumbed to the growing influence of virtual events, with many companies cancelling or shifting their events to

[41]Morgan Smith, "Twitter, Reddit, and 8 Other Companies Offering Permanent Remote or Hybrid Work—And Hiring Right Now," *CNBC*, April 13, 2022, accessed April 25, 2022, https://www.cnbc.com/2022/04/13/10-companies-that-switched-to-permanent-hybrid-or-remote-work-and-hiring-right-now.html.

hybrid.[42] While political campaigns are mostly returning to normal operations, there are still some candidates taking advantage of the ease of virtual events.[43] For example, Speaker Nancy Pelosi (D-California) and Hillary Clinton even held a March 8, 2021 virtual fundraiser on International Women's Day.[44] If virtual events are here to stay in some capacity, then it is certainly worth investigating their effects on voter turnout and fundraising.

Second, the existing research demonstrates the possible effectiveness of virtual platforms in affecting turnout and fundraising. While mixed in some respects, there is still some rather persuasive research suggesting digital platforms can significantly influence voter turnout and fundraising. It is hard to predict exactly how the connections between digital platforms and turnout and fundraising will convert to the examination of virtual events, but it at least provides a foundation of understanding that virtual worlds can have an impact on elections. It essentially provides some affirmation that studying virtual events is not for nothing, that there is at least some merit to it given the existing literature confirming effects on turnout and fundraising.

But beyond simply outlining statistically significant effects, the research hints at some of the possible causal mechanisms which could explain why digital platforms would have any campaign effect at all. For example, the effectiveness of social media in improving turnout has been linked to the known ability for in-person social networks to improve voter turnout.[45] Another paper theorized that the Internet's unique abilities as a communication medium, namely

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[42]"Big Tech Conferences Aren't Coming Back," *Protocol*, accessed April 25, 2022, https://www.protocol.com/newsletters/sourcecode/rip-big-tech-events?rebelltitem=4#rebelltitem4.

[43]Kate Ackley, "A Campaign Trail Transformed: '22 is Staring to Look More Normal," *Roll Call*, March 21, 2022, accessed April 25, https://rollcall.com/2022/03/21/a-campaign-trail-transformed-22-is-starting-to-look-more-normal/.

[44]Aris Folley, "Clinton, Pelosi Holding Online Women's Day Fundraiser with Chrissy Teigen, Amanda Gorman," *The Hill*, March 1, 2021, accessed April 25, 2022, https://thehill.com/blogs/in-the-know/in-the-know/541047-clinton-pelosi-holding-online-womens-day-fundraiser-with-teigen/.

[45]Holly Teresi and Melissa R. Michelson, "Wired to Mobilize: The Effect of Social Networking Messages on Voter Turnout," *The Social Science Journal* 52, no. 2 (June 2015): 195-204, https://doi.org/10.1016/j.soscij.2014.09.004.

its ability to allow rapid conversation and cheaply broadcast ideas, has made it a helpful tool for political participation, particularly in geographically rural areas.[46] Studies that have suggested negative television advertisements increase turnout have identified engagement as the key causal mechanism which explains increased turnout; however, engagement with advertisements was never studied directly.[47] Some of these causal mechanisms are helpful when thinking about the intuitive differences between virtual and in-person events. Therefore, the literature also provides a framework to comprehend the possible differences between virtual or in-person events.

Finally, the research concerning in-person campaign visits, while providing a helpful understanding of in-person interactions, is not necessarily the most useful for this paper. The reason in-person campaign visits are studied by political scientists is because of the underlying logic behind them: campaign appearances provide candidates with an almost guaranteed opportunity to generate extended local and state coverage, which can translate into more opportunities for persuasion and mobilization at the state and local level.[48] But that logic is not particularly helpful for this paper's specific research into in-person campaign events. The experiments between in-person and virtual events in this paper are not designed to test whether one will garner better press than other, but rather see if the innate differences between the two will impact voter turnout and fundraising. Unfortunately, political research has not necessarily investigated the innate differences between communication mediums very deeply. Even if papers attempt to explain the causal mechanisms behind why digital platforms can increase voter

[46]Rabia Karakaya Polat, "The Internet and Political Participation: Exploring the Explanatory Links," *European Journal of Communication* 20, no. 4 (December 2005): 435-459, https://doi.org/10.1177/0267323105058251.

[47]Kenneth Goldstein and Paul Freedom, "Campaign Advertising and Voter Turnout: New Evidence for a Stimulation Effect," *The Journal of Politics* 64, no. 3 (August 2002). https://www.journals.uchicago.edu/doi/10.1111/0022-3816.00143.

[48]Thomas M. Holbrook, "Did the Whistle-Stop Campaign Matter?" *PS: Political Science and Politics* 35, no. 1 (2002): 59-66, http://www.jstor.org/stable/1554764.

turnout and fundraising, there is still not much research investigating the specific causal mechanisms. Therefore, to truly understand what drives the differences between communication mediums, an investigation of non-political literature is necessary to help paint a better picture of the mechanisms which could be at play when voters decide to vote or fundraise for a candidate.

In-Person versus Virtual Interactions

Since the existing political literature can only go so far in explaining why there would be different responses to communication mediums, this paper also relied on existing psychological research which investigates how the brain responds to in-person and virtual stimuli. While the political communication research can identify the political consequences of differing communication mediums, research in other fields can more specifically diagnose why that may be the case. For example, are people more engaged when communicating virtually versus in-person? Even though that question does not address voter turnout or fundraising, it does address a likely causal mechanism which could explain why one medium or the other could be impacting the primary outcome variables of this study. Ultimately, this research helps dive into the innate differences between virtual and in-person mediums and explore the consequences of those differences.

Thankfully, there has been some initial research into the effects virtual events have on individuals because of the pandemic. The research points to a problem many have suffered during the pandemic: "Zoom fatigue." One researcher claimed the aptly named problem occurs because of a "nonverbal overload.[49]" When people are on Zoom, they can oftentimes be viewing

[49]Jeremy N. Bailenson, "Nonverbal Overload: A Theoretical Argument for the Causes of Zoom Fatigue," *Technology, Mind, and Behavior* 2, no. 1 (February 2021).

the speaker in the grid format, which can create the "nonverbal overload." An article from Harvard University hypothesized that Zoom fatigue could be caused by forcing people to focus more intently on conversations in order to absorb information and that it is easier than ever to get distracted in virtual conversations.[50] It also suggested that the "constant gaze" at the camera and our computer screen can make us tired, since people are usually scanning rooms to break up their eye contact when they are in-person.[51] But these studies are only theoretical and still need more robust research to confirm the hypotheses. They are only important to this study for two reasons: one, they help demonstrate the need for further research into virtual communication, and two, they provide possible explanations for why mediums may have differing impacts on turnout and fundraising.

Similar research that has specifically examined the political consequences of virtual interaction has also suffered from the relative novelty of virtual communication, since the research is mainly commentary-based.[52] For example, when discussing virtual events, a researcher at the International Institute for Democracy and Electoral Assistance merely talked about virtual events as a case study to be examined further.[53] As previously stated with the lack of political research into virtual platforms and their effect on turnout and fundraising, there is a similar lack of data on the effects of Zoom on individuals because of the recent adoption of the technology by wide swaths of the world.

However, even though much of the research is still theoretical, there are some initial studies which have taken a stab at understanding certain differences between virtual and in-

[50]Liz Fosslien and Mollie West Duffy, "How to Combat Zoom Fatigue," *Harvard University*, April 29, 2020, accessed April 25, 2022, https://bond.edu.au/nz/files/4829/How%20to%20Combat%20Zoom%20Fatigue.pdf.

[51]Ibid.

[52]Alana Jeydel, "Pandemic Politics – How COVID Has Altered the Local Election Landscape," *California Journal of Politics and Policy* 13, no. 1 (2021).

[53]Kate Sullivan, "Impact of COVID-19 on the 2020 US Presidential Election," *International Institute for Democracy and Electoral Assistance* (November 2020).

person interactions. For example, one recent March 2022 study found that virtual coaching was not as effective as in-person coaching when trying to teach South African public primary school teachers on how to improve their students' English oral language and reading proficiency.[54] A study of remote versus face-to-face job interviews found that recruiters showed increased awareness to socio-emotional situations and emotional processing and that face-to-face interactions were related to learning processes through the dopamine system.[55] The study also found that higher heart rates in the candidates in the in-person setting, suggesting they may have been more engaged those who were in the virtual setting.[56] These studies, in addition to others which have begun to examine how individuals respond to virtual and in-person stimuli more recently, serve to confirm some of the initial theoretical arguments associated with video conferencing platforms. But there is still much ongoing research into this subject, which means there could. be future research which questions some of these early conclusions.

In addition to these more recent studies, there is other research that has broadly investigated virtual versus in-person communication among individuals. For example, a 2020 Wall Street Journal that interviewed a few sociologists identified the cause of Zoom fatigue to a number of reasons, including an inability to read body language, faces that move into different spots on the screen, the lack of synchronous cues.[57] The article cited a number other studies which point to additional pitfalls of virtual interaction as a result of screen size and mirror

[54]Jacobus Cilliers, Brahm Fleisch, Janeli Jotze, et. al., "Can Virtual Replace In-Person Coaching? Experimental Evidence on Teacher Professional Development and Student Learning," *Journal of Development Economics* 155, (March 2022), https://doi.org/10.1016/j.jdeveco.2021.102815.

[55]Michela Balconi and Federico Cassioli, "'We Will Be In Touch.' A Neuroscientific Assessment of Remote vs. Face-to-Face Job Interviews Via EEG Hyperscanning," *Social Neuroscience*, (April 2022), https://doi.org/10.1080/17470919.2022.2064910.

[56]Ibid.

[57]Betsy Morris, "Why Does Zoom Exhaust You? Science Has an Answer," *Wall Street Journal*, May 27, 2020, accessed April 25, 2022, https://www.wsj.com/articles/why-does-zoom-exhaust-you-science-has-an-answer-11590600269.

effects. A study on screen size found that arousal and attention are directly proportional to screen size—the smaller the screen the smaller the attention span and arousal.[58] A different study found that a mirror or video camera trained on subjects cause them to see themselves the way they think others do, which can cause greater distraction among video platform users.[59] Furthermore, the incredibly close eye contact over Zoom can also be disturbing for viewers, according to a study that found that brain activity from participants in an experiment on eye contact peaked when the researcher stared directly into their eyes from a distance of two feet.[60] Taken together, Susan Pinker, a psychologist who writes a column for the Wall Street Journal said that studies of biochemical reactions that occur while communicating by text, social media, and telephone suggest "we get more biochemical bang for our buck during face-to-face contact because it offers a richer stream of social signals.[61]"

In wrapping up discussion on the existing literature regarding differences between in-person and virtual interactions, there are three main reasons why this research is helpful in contextualizing this paper. First, the initial studies highlight some of the drawbacks associated with virtual events. As this paper seeks to investigate virtual events, the existing literature already provides a framework with which to predict and anticipate results from this experiment. Specifically, it clarifies why Zoom fatigue occurs by offering theoretical arguments that are then backed up by some studies that have investigated the consequences of a shift to a virtual world.

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[58]Byron Reeves, Annie Lang, Eun Young Kim, et. al., "The Effects of Screen Size and Message Content on Attention and Arousal," *Media Psychology* 1, no. 1 (November 2009): 49-67, https://doi.org/10.1207/s1532785xmep0101_4.

[59]Amy L. Gonzales and Jeffrey T. Hancock, "Mirror, Mirror on My Facebook Wall: Effects of Exposure to Facebook on Self-Esteem," *Cyberpsychology, Behavior, and Social Networking* 14, no. 1-2 (2011), 10.1089/cyber.2009.0411.

[60]Anthony Gale, Graham Spratt, Anthony J. Chapman, et. al., "EEG Correlates of Eye Contact and Interpersonal Distance," *Biological Psychology* 3, no. 4 (December 1975): 237-245, https://doi.org/10.1016/0301-0511(75)90023-X.

[61]Morris, "Why Does Zoom Exhaust You? Science Has an Answer."

Second, the relative lack of research into the specific question of this paper further heightens the need for research into the differences between virtual and in-person events. While there are plenty of related studies, the recentness of the 2020 COVID-19 pandemic means there is still not enough research that seeks to comprehend the consequences of a shift to a virtual world. Third, and finally, while this research is helpful, none of it addresses the political consequences, which emphasizes the need for research which looks at both the effects of different mediums and how it could affect politics.

Hypotheses

Based on the existing literature, this paper argues for four likely hypotheses to answer the driving research question. While this paper is mostly concerned with how medium differences will impact voter turnout and fundraising, these hypotheses assume there are underlying mediating variables at work which can explain why voter turnout or fundraising would be impact by differences in medium. For example, in-person participants may be more attentive than virtual participants, which could then in turn influence their ability to recall information that would be helpful in deciding to vote or fundraise for a candidate. These hypotheses also assume there are numerous other variables at play beyond medium differences which determine why a voter would choose to vote or fundraise for one candidate over the other. Therefore, baked into the hypotheses is the understanding that in order for the medium to have a statistically significant effect on voter turnout and fundraising, it must slightly overshadow these other variables, like issue-agreement, past voting and fundraising behavior, or race.

Finally, by nature of this study, this paper does not take the stance that political advertising, or mediums for that matter, have no impact on an election. Rather this study assumes

that outward facing political communications by a candidate, be it advertising or speech giving, could have an impact on voter turnout and fundraising and should, therefore, be studied. Campaigns spend millions on communication efforts to win elections and if it they did not think spending all that money would make a difference in influence votes, they likely would have abandoned any attempts at communicating with voters. This paper has highlighted the nuances of the ongoing debates concerning research into political communications, but these hypotheses are assuming that medium differences could have a studied, and possibly, statistically significant effect on voter turnout and fundraising.

Hypothesis #1: In-person events are more effective at turning out voters and fundraising than virtual events.

In this scenario, I anticipate several mediators at work, particularly attention levels and differences in perceived emotion from the candidate between the two events. Zoom fatigue is real, and under this hypothesis, I would presume that people in the in-person setting were much more engaged with the speaker. Being more engaged with the speaker, I would also anticipate that people in the in-person setting would also be able to read emotions from the candidates better, likely allowing them to connect with the speaker and the issues they were speaking about at the event. It helps that you can more easily see gestures from candidates when they are in-person and they also have the benefit of walking around the room. For those two reasons, I would expect voters to score candidates highly on positive character traits and would, therefore, be more willing to vote for and fundraise for the candidate. In this case, the in-person setting overwhelming overcame the primary confounding variables of concern: issue-agreement with the speaker and previous political donation and voting patterns. While issue-agreement may still

have mattered to voters, the medium and the effect of listening and visualizing someone in-person was more effective than the virtual setting.

Hypothesis #2: In-person events are more effective at turning out voters and fundraising than virtual events, but only marginally so. Vice-versa.

Under this hypothesis, if either the in-person or virtual event was more effective at turning out voters and fundraising, but only marginally so, I would expect that confounding variables, like issue-agreement, would have a more prominent effect on the two primary dependent variables than the first hypothesis. Therefore, the result would be the effect of the medium would be less in this scenario on the two primary dependent variables. Similar to the first hypothesis, the mechanisms at work, including attention levels and differences in perceived emotion, would still be at play, but this time they would be a less important indicator of in-person or virtual event success. For example, while some people in the in-person setting may have been paying more attention and picked up on emotional cues that caused them to like the candidate more than people in the virtual setting. Nonetheless, participants'' issue-agreement with the candidate played a more significant role than in the first hypothesis in convincing them to vote and donate to the candidate.

Hypothesis #3: Virtual events are more effective at turning out voters and fundraising than in-person events.

I believe this hypothesis to be the most unlikely after analyzing my results because it would go against common intuition and earlier research suggesting people on Zoom are less engaged with speakers. Under this hypothesis, I would expect virtual participants to have been

more attentive to the candidate and perceived emotions better than the in-person event. Opposite to the first hypothesis, people in the virtual setting would have been engaged with the speaker to pick up on positive non-verbal cues indicating. For example, virtual participants could pick up leadership qualities, which could overcome possible issue-disagreements with the candidate. I believe this could happen because voters might feel more comfortable viewing a candidate in their chosen physical setting, thus, possibly causing voters to pay attention better. It's also conceivable to suggest that a candidate's presence in a virtual setting is simply more impactful because it appears that they are speaking directly to you through the camera. Therefore, it is likely that many mediators could be at work under this hypothesis.

Hypothesis #4: There are no statistically significant differences between in-person and virtual events when it comes to turning out voters and fundraising.

Finally, there is the null hypothesis where there are no statistically significant differences between in-person and virtual events. In this case, neither the effect of the in-person or the virtual event would be overcoming confounding variables, which could explain why someone would support another candidate. If the null hypothesis were correct, it would indicate that the medium plays little to no role in a voter's decision to vote for a candidate or fundraise. Instead, this hypothesis would suggest that other variables, including issue-agreement, party identification, or political donation history, ultimately determine whether a voter will support a candidate. That means that regardless of whether a voter hears a particular campaign message via a town hall or Zoom event, the medium itself will have no impact on their decision to vote or donate to a candidate. It is possible this might not have been the case fifty years ago, but given recent and demonstrable political trends that show growing partisanship and a hollowing out of the political

middle and independents, issue-agreement and party identification may be confounding variables that are strong enough to overcome this study's independent variables. This argument is outside of the scope of this research question but is worth noting that growing partisanship could be a macro-trend underlying this hypothesis.

Methods

This study relied on experimental research, similar to that of many other political communication research studies, where one group of participants is exposed to a control and the other to the treatment. Political communication research, as opposed to other political science studies, particularly lend themselves to the use of experimental research because of the clear dichotomy between controls and treatments. The crux of a significant portion of political communication research centers around the effect political communication mediums, be it newspapers, radios, television, or the Internet, have on chosen outcome variables, like voter turnout, fundraising, and democratic norms. In short, the experimental research attempted in this paper is clearly separated between people who received the in-person and virtual stimulant. By completing an experiment, I can compare the treatment and control groups and rule out confounding variables

Of course, there are plenty of other ways to research political communications through FEC tracking, campaign websites, and social media channels, to name a few. However, given the difficulty of tracking specific campaign-related Zoom events—which tend to be smaller in size and generate less press attention—and correlating them to voter turnout and fundraising, it made more sense to use experimentation. Additionally, since the integration of Zoom into the fold of

political communications has truly only been tested in the 2020 campaign cycle, it would similarly be challenging to find enough cases to adequately research.

The experiments split study participants into two groups of no more than thirty. One group would listen to a ten-minute speech delivered from a paid actress playing the part of a hypothetical candidate in an in-person setting, while the other group would listen to the same ten-minute speech from the same paid actress in a virtual setting. Participants were told ahead of time that they were listening to a speech from a hypothetical candidate. I opted to disclose this information to participants because it was determined that the disclosure would be unlikely to impact results in a statistically significant way. I would also be surveying participants on their perspectives and feelings of the candidate, which would allow me to take into account any effect the disclosure would have on participants. However, while participants were aware they were listening to a hypothetical candidate, they were unaware of the main purpose of the study to avoid their responses being affected by problems associated with knowledge of a study's goal.

The idea of limiting the number of participants in the control and treatment groups was to more accurately simulate what Zoom events may resemble during a campaign cycle. When it comes to large campaign events, like rallies, there is certainly an opportunity for them to be streamed live via Zoom to supporters. However, in this case, the medium is acting much more like a television broadcast than a true virtual event. Virtual events are unique because they allow attendees the opportunity to interact with speakers, as opposed to attendees of a virtual rally who are more passive viewers who's cheers or boos cannot be heard by any of the other in-person or virtual attendees. Could Zoom and other video platforms be used to stream rallies and other large events to supporters? Absolutely. However, I would argue that campaigns may want to take advantage of the fact that Zoom allows attendees to respond and interact with candidates as it

creates a unique space for voters to get a more personal touch from a candidate than a larger rally. Beyond the possible future uses of Zoom in determining the size of groups, I knew it would not be feasible to run events with larger groups of people because of the shorter timeline of this thesis and a lack of funds to recruit hundreds of participants to attend an event at a specific time and day.

In terms of what specific type of campaign event to simulate, I opted for something candidate facing, instead of canvassing or phone banking training; I opted for a small townhall-style, stump speech meeting. The candidate would make a direct pitch to participants, but they would not explicitly solicit their vote or donations. Instead, they would simply present their platform to participants. While I assume campaigns will use Zoom for canvassing or phone banking training and for direct voter and fundraising solicitation, it was important for participants to hear directly from the candidate themselves so they can give more accurate assessments of their beliefs of the candidate's platform; I do not believe the same could have been accomplished with participants listening to a hypothetical candidate liaison. I also believed a small event would best demonstrate the future purpose of Zoom events. For example, I imagine candidates would be interested in meeting over Zoom with mid-level donors who may be spread out all over the country or want to speak to representatives of a particular constituency who might be difficult to reach in-person.

After listening to the paid actress give her speech, each group of participants in the virtual and in-person events would then be handed the same survey, which would ask a combination of screening questions about their political background and questions directly related to the speech and the hypothetical candidate. The survey would build throughout by first asking questions concerning participants' impression of the speaker and their ability to recall candidate

information to surveying my key outcome variables: fundraising and voter turnout. The purpose of designing the survey questions in this manner was to understand if there were other significant differences between in-person and virtual campaign events beyond fundraising and voting. For example, political campaigns also care about how voters perceive candidates—whether they like or dislike them—and how much voters can recall a candidate's platform. These other two variables, in addition to many more, help contribute to why a person will ultimately vote for one candidate over another, and so it is important to understand how these other variables may be affected by the different mediums.

Questions on the survey also asked participants to describe their specific experiences at each event. For example, in their opinion, how "intimate" was the event, would they feel "comfortable" asking questions afterwards, or were they "engaged?" If virtual events are going to become more of the norm in U.S. politics, it is both interesting, but also essential to understand how voters are perceiving virtual events. It is possible that a voter's perception of a virtual event could negatively or positively impact their feelings towards a particular candidate. If a voter is less engaged during the speech, they could be unlikely to recall certain information about a candidate's platform, only be listening to parts they dislike, or could be turned off entirely from considering voting or donating to the candidate. Not much is currently known how voters like or dislike virtual campaign events, as compared to traditional in-person events, so questions on the topic of medium-likeness are an important first step in gathering publicly available data on this subject.

I recruited participants for the study from Northwestern University's undergraduate population. Given budget constraints and the tight turnaround of this thesis it was the only viable recruitment strategy that could yield the appropriate number of participants for the study. Since I

knew I would be recruiting participants from a university who were likely to range in ages between 18-22, I figured it would be difficult to get accurate results by simulating any municipal, state, or federal campaign event. I would be surveying participants with a range of backgrounds, which meant it would be difficult to simulate an actual election as participants would not have all of the same local knowledge of particular issues affecting constituents. I did not want to simulate a U.S. presidential election because I also assumed that many of the undergraduate participants might be unfamiliar with the topics that are generally discussed in national elections and could automatically be less engaged by the hypothetical candidate; it's a fact that college age U.S. citizens are notorious for not voting in U.S. elections. For those reasons, I decided to simulate an Associated Student Government presidential election where undergraduate participants would be significantly more familiar with the typical issues a hypothetical Northwestern University student presidential candidate would discuss and would, therefore, be more engaged with the speech overall.

The actress who played the part of the hypothetical candidate was hired from a Chicago talent agency that was located no more than a 45-minute drive from Northwestern University's Evanston campus. The actress was slightly older than college age at 26, but was nonetheless able to convincingly play the role of a college-age student running for student body president. The actress had no connection to Northwestern University so there was no concern that any participants would recognize her. While I did assume that the actress's gender and race may have possibly affected survey responses, I ultimately decided not to ask participants about any biases they may hold. Even though my survey response was anonymous, it is still challenging to

effectively gauge participant biases because they are prone to lie about them on surveys, as is demonstrated in numerous studies.[62]

However, I did ask respondents how they thought the speaker spoke and if they believed they were ideologically aligned with the speaker (among other similar questions) to understand if their responses were affected by biases outside of race and gender. I also asked the participants immediately after they listened to the speech to write down, in a few sentences, what they thought of the speech. These questions and open-ended qualitive data were important to understand the biases participants may be entering the study with, but they were also used to see if there are interesting differences between mediums. For example, it is possible that respondents in the in-person setting may have thought the speaker communicated better because it was easier to understand them, while participants in the virtual setting may have thought opposingly.

I wrote the speech the candidate read to participants in the study. It was written in such a way as to discuss matters participants would find salient, but not divisive. I wanted the speech to appeal to as many participants as possible in an attempt to lessen any effect issue agreement may have on my results. As an example, rather than talk about or take explicit stands controversial, campus-wide protests taking place around Black Lives Matter and Greek Life, I instead wrote that the candidate supported the right of all students to voice their opinion on campus and that student government should support students in exercising that right. The speech was also written to be no longer than 10 minutes to ensure participants would be engaged for as long as possible. I wanted the speech to be just long enough for a candidate to pitch their platform, but not too long

[62]Brian Nosek, "Moderators of the Relationship Between Implicit and Explicit Evaluation," (2016), doi:10.1037/0096-3445.134.4.565; Lincoln Quillian, "New Approaches to Understanding Racial Prejudice and Discrimination," *Annual Review of Sociology* 32 (2006): 299-328, https://doi.org/10.1146/annurev.soc.32.061604.123132; Joan Cunningham and Yin C. Paradies, "Patterns and Correlates of Self-Reported Racial Discrimination Among Austrialian Aboriginal and Torres Strait Island Adults, 2008-2009: Analysis of National Survey Data," *International Journal for Equity in Health* 12, no. 47 (2013), https://doi.org/10.1186/1475-9276-12-47.

that participants would get bored. In reality, candidates might speak for much longer during similar events to the one I simulated, but given I was recruiting participants and asking for their time, I also knew the speech could also not be too long.

Of course, even with my best attempt to write a speech to appeal to as many voters as possible, there would, nonetheless, be an effect from the speech on my outcome variables. To account for this, I questioned participants on their issue agreement. For example, I asked participants if they heard anything they liked, anything they disliked, or if anything made them excited; I also asked participants if they felt they were ideologically aligned with the speaker.

After completing my experimentation and collecting my data, I had surveyed a total of 57 participants over three weeks in February 2022. Of the 57 total participants, 26 attended an in-person campaign event and 31 attended a virtual event. I ran a total of six campaign events, three separate in-person and virtual campaign events, which took place in the evenings from 6:30pm-7:00pm. Each of the participants were compensated $5 and were told they would be entered into a lottery to win one of ten $50 Amazon Gift Cards. Participants were recruited directly from Northwestern University through three main methods. First, was through the Northwestern Political Science department's undergraduate research pool, which is a pool of first-time political science students who must participate in a study if they are enrolled in any political science course. While the pool of students can come from any major and year, the pool does skew towards 20 and under students who are political science majors. Second, I printed and posted flyers around all major campus buildings and residential halls, which contained QR codes for students to scan to learn more about the study and fill out the interest form. Third, I used social media to promote accounts and posts I had created, and I took advantage of class-wide Facebook groups to post my research project on every Northwestern class Facebook group.

I had hoped to recruit at least 20 participants per event, but in reality, I never had more than 17 participants at any given event, with the average around 6-10 participants per event. Nearly every week in February 2022 I would run two events per week, one in-person and one virtual with the same actress and speech, in an attempt to replicate each event as best as I could. The reasons for the lower-than-expected total number of participants included a shortened timeline for participant recruitment, the time commitment to the events, and grant money that could not cover greater compensation for participants to boost participation numbers. Of the three reasons, the time commitment required of participants was particularly difficult to overcome because I needed participants to appear at a set place, at a set date, on a set time, as opposed to a survey which can be done at the participant's leisure.

When running the experiments, the in-person events took place in a 100-person lecture hall on Northwestern University's Evanston, Illinois campus, while the virtual event took place entirely on Zoom in my personal Zoom room. At the in-person events, participants would sit anywhere they preferred in the lecture hall. All in-person participants had to follow standard COVID-19 Northwestern University protocols, which were in place in February 2022. These protocols included wearing masks for the duration of the event and presenting proof of COVID-19 vaccination status or a negative COVID-19 rapid test. However, the paid actress playing the hypothetical candidate did remove her mask when speaking because it was important for participants to see and read her facial expressions; it would also be easier to hear her voice. At the conclusion of the event, the in-person group filled out a paper copy of their survey, which I eventually manually entered in Qualtrics.

Participants in the virtual setting were able to attend the event from any place they wished. The only direction they were given via email before the event was to try and find a place

that would be relatively quiet in case their mics picked up any noise and they needed to speak. The goal behind this direction was to simulate how most people attend virtual events, which is in the comfort of their chosen place, be it a bedroom, living room, or workplace. Once logged onto the Zoom event, participants in the virtual group were also told they could keep their cameras off and mute their mics. Again, the purpose was to simulate the choices afforded to people who attend virtual events; any regular attendee of a virtual event will have the option to turn on or off their camera. While I did not explicitly keep track of who was and wasn't keeping their camera turned on, I can safely say that of the 31 participants in the virtual group, no more than five ever had their camera turned on after supervising all the virtual events. Even though participants mostly kept the cameras turned off, the paid actress kept her camera on with no mask. At the end of the virtual events, participants were sent a link to the Qualtrics survey over Zoom and filled out the survey from the computers or phones they were using to attend the Zoom campaign event.

Finally, to properly randomize participants into in-person and virtual groups I used a participant interest form that did not initially disclose the medium of the campaign event they were attending. Northwestern undergraduates that were interested in participating in the study were told to fill out an interest form that would explain the study in more detail. In the interest form, undergraduates were not told the exact purpose of the study, but were told they would be assigned to an in-person or virtual event where they would listen to a hypothetical Associated Student Government presidential candidate give a speech and fill out a post-event survey.

Then, participants were told to select dates and times they would be available to participate in the campaign events. Only myself and my advisor were aware of which dates and times were virtual and in-person events, while participants assumed they were randomly

selecting dates and times that had no impact on determining which medium they would be assigned to for the experiment. Not disclosing the medium of the events participants were selecting, helped to ensure participation in the study was randomized. Participants were told that they would be paired with a date and time that best matched what they selected on the interest form, but there were no guarantees that they would be assigned to a date and time that they selected. Depending on what participants selected, they were then randomly divided into virtual and in-person groups, with attempts made to ensure the groups were as even as possible.

Results

Contextualizing Data and Results

Before immediately analyzing the results of the study, it is first important to put some context behind the 57 participants who participated in the experiments. As will be stressed multiple times in this section, the small number of participants makes it difficult to draw some conclusions and the focused study population of Northwestern undergraduate students makes it difficult to generalize the results. However, while this does not mean the study did not produce statistically significant results with noteworthy implications, it does mean that certain aspects of the study are challenging to analyze.

For example, only three participants in the study identified as Black and only five said they were of Hispanic, Latino, or Spanish origin (Table #1). When it comes to the sexual orientation of respondents, only six said they were bisexual and four said they were homosexual, compared to the 43 who said they were heterosexual; similar skews occurred with political ideology, political affiliation, and age (Tables #2, #3, #4, and #5). The one-sidedness of these variables was not entirely surprising in some cases. Given Northwestern is relatively left-leaning

college campus, much like other college campuses around the country, it is not shocking to find that the majority of the participants identified as liberal or very liberal. But participants political ideology did not determine another important background variable, political information levels since there was a breadth of news readership levels (Table #6). Highlighting some of these screening variables is not to diminish the results of the survey, but rather demonstrate the difficulty that exists in making any claims about these variables when they are included in regression models. Without a sufficient number of cases—ideally 20 participants—the regression models will spit out inaccurate, statistically insignificant coefficients.

Table #1: Race of Participants

	Total
Total Count	57.0
White	38.0
Black/African American	3.0
American Indian or Alaska Native	1.0
Asian	10.0
Native Hawaiian or Pacific Islander	0.0
Other:	5.0

Table #2: Sexual Orientation of Participants

	Total
Total Count	57.0
Heterosexual	43.0
Homosexual	4.0
Bisexual	6.0
Pansexual	1.0
Other/Not Specified:	2.0
Prefer not to say	1.0

Table #3: Political Ideology of Participants

	Total
Total Count	57.0
Very liberal	16.0
Liberal	25.0
Moderate	13.0
Conservative	3.0
Very conservative	0.0

Table #4: Political Party Affiliation of Participants

	Total
Total Count	57.0
Democrat	53.0
Republican	0.0
Independent	3.0
Other:	1.0

Table #5: Age of Participants

	Total
Total Count	57.0
18	14.0
19	17.0
20	9.0
21	14.0
22	3.0
Other:	0.0

Table #6: Level of News Readership Among Participants (Scaled 1-10; 1 Meant No Readership; 10 Meant High Readership)

		Total
Total Count		57.0
Place y...om 1-10	1	1.0
	2	2.0
	3	3.0
	4	10.0
	5	6.0
	6	8.0
	7	10.0
	8	7.0
	9	6.0
	10	4.0
Average (Place your an...on a scale from 1-10)		6.2

However, the aggressive skews on these background variables were not uniform across all of them. The ages of the participants were spread relatively evenly across virtual and in-person events, but with a slight skew towards first-year Northwestern University students. This was not unexpected since part of the recruitment strategy involved using a subject pool that skewed younger. There was also nearly an even split of women and men in the experiments—as seen in Table #7—with 26 and 30 respectively in the study (one participant preferred not to say). But when broken down by medium, more than twice as many men were in-person and women outnumbered men (Table #8). I do not know why men were more likely to be chosen for the in-person setting.

Table #7: Sex of Participants (at birth)

	Total
Total Count	57.0
Male	30.0
Female	26.0
Prefer not to say	1.0

Table #8: Sex of Participants by Medium Setting

	Q25:...tual?		
	Total	In-Person	Virtual
Total Count	57.0	26.0	31.0
Male	30.0	19.0	11.0
Female	26.0	7.0	19.0
Prefer not to say	1.0	0.0	1.0

When it came to the most pertinent political background variables—voting and fundraising—a majority of participants had voted in the last election for congress, senate or president, but a majority had not voted in the last Northwestern Associated Student Government presidential election (Table #9 and #10). It is important to mention that because many of the participants were 18, many of the younger participants were not eligible to vote in either the last presidential or Associated Student Government election. Unsurprisingly among a younger group of participants, most—more than two-thirds—had never given to any political candidate or political action committee (Table #11). However, even though many participants had never given

to a candidate, most participants had at least considered giving to a political candidate at some point or another, even if barely (#12).

Table #9: Federal Voting History of Participants (Yes → Voted; No → Did Not Vote)

	Total
Total Count	57.0
Yes	36.0
No	20.0
Unsure	1.0

Table #10: Associate Student Government Presidential Voting History of Participants (Yes → Voted; No → Did Not Vote)

	Total
Total Count	57.0
Yes	13.0
No	39.0
Unsure	5.0

Table #11: Political Fundraising History of Participants (Yes → Gave Money to a Political Candidate/Political Action Committee; No → Did Not Give Money to a Political Candidate/Political Action Committee)

	Total
Total Count	57.0
Yes	12.0
No	43.0
Unsure	2.0

Table #12: Considered Political Fundraising of Participants (Scaled 1-10; 1 Meant Never Considered Giving to a Candidate/Political Action Committee; 10 Meant Definitely Considered Giving to a Candidate/Political Action Committee)

		Total
Total Count		57.0
Place y...om 1-10	1	17.0
	2	8.0
	3	5.0
	4	3.0
	5	7.0
	6	4.0
	7	6.0
	8	4.0
	10	3.0
Average (Place your an...on a scale from 1-10)		3.9

These background and screening variables are not significant in isolation, but rather, they are important considerations when discussing the rest of the results of the experiments. While this study is limited in the number of claims it can make because it only randomized the medium participants experienced, other variables can be added to put results in context and highlight many interesting indirect results between medium differences and voter turnout and fundraising.

Voter Turnout and Fundraising Outcomes

Of all the results to be discussed in this section, the most critical is the effect in-person versus virtual events had on voting turnout and fundraising. The first model (Figure #1) was a simple two variable regression that compared virtual versus in-person events as the independent variable and voter turnout and fundraising as the dependent variables. The differences in virtual and in-person events have been renamed “Medium,” which is dummy coded with virtual events as a one and in-person events as zero. Respondents were surveyed on voter turnout and

fundraising on a five-point scale of likelihood to vote and fundraise for the hypothetical candidate in the experiment, with a one being least likely to vote and a five being most likely to vote. The purpose of running this regression with only "medium," "voter turnout," and "fundraising" variables is because the innate nature of the experiment means other variables have already been controlled. Therefore, this model provides the clearest picture of the effect medium has on the two primary outcome variables.

Figure #1: Voter Turnout and Fundraising Model

	Dependent variable:	
	Voter_Turnout	Fundraising
	(1)	(2)
Medium	-0.145	-0.000
	(0.231)	(0.232)
Constant	3.500***	2.000***
	(0.171)	(0.171)
Observations	57	57
R^2	0.007	0.000
Adjusted R^2	-0.011	-0.018
Residual Std. Error (df = 55)	0.870	0.874
F Statistic (df = 1; 55)	0.394	0.000
Note:	*p<0.1; **p<0.05; ***p<0.01	

While the medium does not have a statistically significant impact on voter turnout, it is interesting to note that the regression indicates that the "medium" variable does have a slight effect on voting behaviors. It appears that in-person attendees would be slightly more likely to vote for a candidate versus people who attended virtually. Though, given the results are not statistically significant and the regression accounts for less than one percent of the variation, not much more can be said about the coefficient other than the preliminary results are in line with the hypotheses expressed in this paper. The lack of statistical significance is largely due to the nature

of the data set as there are not nearly enough data points for the regression to come to a statistically significant conclusion. An alternate explanation would suggest other variables, such as previous voting patterns or issue-agreement of the candidate, are playing a much greater role in determining voter turnout.

Similarly, medium differences showed no statistically significant relationship with the "fundraising" variable. Statistical significance aside, the results are unexpected as I would not have predicted there would be essentially no impact documented in either the coefficient or the variation with the fundraising variable. However, the explanation for the result makes sense in the context of the study participants and the likely mediating variables that would play a greater role in determining fundraising. First, as was mentioned previously, almost all the participants have no history of fundraising for any political candidate, which is understandable because the participants are all under the age of 22 with little income of their own to spare for political campaigns. The lack of previous fundraising history suggests participants in this study were already not very inclined to give to a candidate in the first place. Second, it could be argued that political donations are much costlier to a voter, since donations require handing over hard-earned dollars. That inherent difference between the two forms of political participation means respondents, regardless of age, may not ever be affected by medium differences when it comes to donation requests because other variables will trump medium. Finally, the data is also small, and it is likely more data could at least result in a coefficient greater or less than zero.

Since the voter turnout and fundraising model (Figure #1) yielded statistically insignificant results, it is essential to add context to understand what else may be at work beneath the surface that is leading to the results in Figure #1. Even though the experiment, by nature, already controls for other variables, such as political past, additional mediating variables can

help fill in the blanks in terms of understanding why the regression is producing statistically insignificant results.

Voter Turnout Control Model

The voter turnout control model (Figure #2) is an attempt to see if other variables can help explain what is driving voting behaviors. In addition to medium, the variables included "ideology" and "issue agreement" with the hypothetical candidate, "overall engagement" with candidate and the event, historical voting in Associate Student Government presidential elections, and the extent to which participants follow political news. All of these variables, except "ASG election history" were ranked choice options, where participants would, for example, rank how closely aligned they were with speaker on a scale from one to ten, one being the least aligned and ten being the most aligned; for "ASG election history," respondents were only given yes, no, or unsure answer options.

Figure #2: Voter Turnout Control Model

	Dependent variable:
	Voter_Turnout
Medium	0.045
	(0.209)
Ideology_Agreement	0.144*
	(0.085)
Issue_Agreement	0.054
	(0.096)
Overall_Engagement	0.154***
	(0.052)
ASG_Election_History	-0.059
	(0.122)
Political_News	0.001
	(0.047)
Constant	1.215*
	(0.605)
Observations	57
R^2	0.361
Adjusted R^2	0.284
Residual Std. Error	0.732 (df = 50)
F Statistic	4.698*** (df = 6; 50)
Note:	*p<0.1; **p<0.05; ***p<0.01

These variables were chosen for this model (Figure #2) because they were presumed to be the most likely to influence a participant's willingness to vote for the candidate. It is safe to assume that any participant who is closely aligned with a candidate is more likely to support them, which is why both ideology and issue agreement were included. Engagement has not been studied as much to understand voter turnout, but it was included because it has been proven in advertising studies, that the more engaged someone is with a message, they more likely they are to act on it.[63] Also, if someone zones out during a speech, it is probably safe to assume they did not find them interesting, and would therefore, not support the candidate. ASG election history was included simply because people who regularly vote are more likely to vote than those who do not. The political news variable was an attempt to understand if more politically knowledgeable participants would be more likely to vote for the hypothetical candidate.

In terms of adding context to the voter turnout and fundraising model (Figure #1), the voter turnout control model (Figure #2) succeeds. Not only are there statistically significant results, but the model accounts for an impressive 28 percent of the variation in voter turnout. With the additional mediating variables, the effect medium has on voter turnout drops substantially and even shifts towards virtual groups, further emphasizing the earlier point that the voter turnout and fundraising model (Figure #1) was not accurate given the lack of data. While it is surprising that "ASG election history" is insignificant, it also makes sense given most of the participants have never voted in an election, yet they still indicated they would be interested in supporting the hypothetical candidate; the same can be said of "political news." The fact that

[63]Max Kilger and Ellen Romer, "Do Measures f Media Engagement Correlate with Product Purchase Likelihood?" *Journal of Advertising Research* 47, no. 3 (September 2007), DOI: 10.2501/S002184990707033X; Chiara Valentini, Stefania Romenti, Grazia Murtarelli, et. at., "Digital Visual Engagement: Influencing Purchase Intentions on Instagram," *Journal of Communication Management* 22, no. 4 (2018): 326-381, https://doi.org/10.1108/JCOM-01-2018-0005.

"ideology agreement" is more significant than issue agreement in this model is interesting, but it is possible both could be significant with more data; the variables may also be too closely correlated. Finally, "overall engagement" was the only variable with a p-value less than .05, illustrating that more engaged participants were more likely to vote for the hypothetical candidate. The variable requires additional attention in later models because of its unique mediating role with medium. Of all the variables in this model, "engagement" is also the most likely to be affected by medium differences because it has already been both theoretically and statistically argued that people in virtual settings are significantly less engaged than those in in-person settings.

Fundraising Control Model

Engaging in a similar exercise with fundraising yield strikingly similar results. In the fundraising control model (Figure #3), the variables are nearly identical to the voter turnout control model (Figure #2). Changes were made to "ASG election history" and "political news" to include variables that were more likely to have a greater impact on fundraising. The new, additional variables are "considered political fundraising" and "previous political fundraising." The latter measures participants' previous political donations on a one-to-ten scale—one being never and ten being yes—while the former measures whether participants have at least considered giving to candidates in the past with same scaling design. The idea behind posing these questions to participants at all, is I hypothesized that participants who had never given or considered giving to a political candidate would likely also not be inclined to give money to the candidate in this experiment.

Figure #3: Fundraising Control Model

	Dependent variable:
	Fundraising
Medium	0.234
	(0.212)
Ideology_Agreement	0.153*
	(0.091)
Issue_Agreement	-0.040
	(0.098)
Overall_Engagement	0.185***
	(0.055)
Considered_Political_Fundraising	0.022
	(0.044)
Previous_Political_Fundraising	-0.106
	(0.141)
Constant	0.149
	(0.523)
Observations	57
R^2	0.305
Adjusted R^2	0.222
Residual Std. Error	0.764 (df = 50)
F Statistic	3.664*** (df = 6; 50)
Note:	*p<0.1; **p<0.05; ***p<0.01

Turning to the results of the regression, in terms of statistical significance, the results were also nearly identical. The only two variables which were significant were engagement and ideology agreement. Like Figure #2, the more engaged a participant was during the event, the more likely they were to give money to the candidate; the same holds true with "ideology agreement." The fact that "overall engagement" had a p-value below .05 in both Figure #2 and Figure #3, reiterates the earlier argument that special attention needs to be paid to the variable. The result in the Figure #3 underscores the "engagement" variable's relationship the with "medium" variable, as it is assumed more engaged participants would also be in the in-person setting.

Just like ASG election history's insignificance in Figure #2 was rather surprising, so too was "considered and previous political fundraising." But their lack of significance can be explained by examining cases within the data. Among those who said they have never given to a political candidate in the past or were unsure, more than a quarter said they would, nonetheless, probably give money to the candidate. Interestingly, among the smaller group of participants who said they had previously given to a political candidate, none said they would have probably given money to the candidate in the experiment. A similar dynamic played out with the "considered political fundraising," but not to the same extreme. The results suggests that it more likely came down to a lack of sufficient data to draw statistically significant conclusions for the "considered political fundraising" variable. Separately, the overall regression also impressively accounted for nearly one third of the variation you would expect with the experiment, which demonstrates the relative importance of these variables in explaining why participants decided whether to give money to the candidate in the experiment.

Voter Turnout and Fundraising Control Models → Engagement Models

Since both the voter turnout and fundraising control models (Figure #2 and Figure #3) showed overall engagement being statistically significant, a separate model (Figure #4) was then run to understand if medium differences were having an impact on "overall engagement." The logic behind running this model (Figure #4) is that it could demonstrate an indirect relationship between voter turnout and fundraising, engagement, and medium differences. Since voter turnout and fundraising are already both affected by engagement, and engagement is likely to be influenced by medium differences, then it could be possible to conclude that medium differences indirectly impact voter turnout and fundraising. While the causal logic is initially confusing, the

goal of this model is to help clarify the causal chain. In addition to "overall engagement," other variables were separately included in the model because I surveyed participants on additional engagement questions. The "five-minute engagement" variable asked participants on a ten-point scale to describe how engaged they were in the first five minutes of the event, with the assumption that participants would likely be more engaged in the first five minutes than the overall event, which would be worth documenting to see if it would hold true. "Event distraction" asked participants how distracted they were during the event on the same ten-point scale, with one being least distracted and ten being most distracted.

Figure #4: Engagement Model

	Dependent variable:		
	Overall_Engagement	Five_Minute_Engagement	Event_Distraction
	(1)	(2)	(3)
Medium	-0.935*	-0.208	-0.958*
	(0.522)	(0.516)	(0.539)
Constant	6.000***	6.692***	6.538***
	(0.385)	(0.381)	(0.398)
Observations	57	57	57
R^2	0.055	0.003	0.054
Adjusted R^2	0.038	-0.015	0.037
Residual Std. Error (df = 55)	1.963	1.941	2.027
F Statistic (df = 1; 55)	3.212*	0.163	3.157*
Note:			*p<0.1; **p<0.05; ***p<0.01

The model supports the earlier hypothesis that participants in the in-person setting would be more engaged than those in the virtual group. The model suggests in-person participants were likely to score nearly one point higher on the ten-point engagement scale virtual participants. The significance of the coefficient means the indirect causal chain between medium and voter turnout is that much clearer in that the following has now been statistically supported:

Medium → Engagement

In-Person Participants → Higher Engagement

Virtual Participants → Lower Engagement

To complete the link between mediums and voter turnout and fundraising, a separate regression will need to be run which only include engagement, medium, and the primary outcome variables.

Separately, while it is notable that "event distraction" is also significant and is similarly affected by medium differences, it is synonymous enough with engagement to be ignored for the sake of demonstrating a causal link between medium and the primary outcome variables. The lack of significance on the "five-minute engagement" variable is also not unexpected because most respondents, regardless of medium, indicated they were engaged during the first five minutes of their respective event.

The voter turnout, fundraising, and engagement (Figure #5) represents the final link in the indirect casual chain connecting medium to voter turnout and fundraising. When "overall engagement" is run by itself with medium in this model, the results demonstrate, that once again overall engagement is statistically significant as it was in Figure #2 and Figure #3. It once again illustrates that the more engaged participants are the more likely they are to vote and give money to the hypothetical candidate in the experiment. The model also accounts for around 20 percent of the variation for both dependent variables, which is a stark departure from the variation medium differences explained with the voter turnout and fundraising variables. Thus, Figures #1, #2, #3, #4, and Figure #5 combine to create the indirect causal link between medium, engagement, and voter turnout and fundraising:

Medium → Engagement → Voter Turnout

In-Person Participants → More Engaged → More Likely to Vote for Candidate

Virtual Participants → Less Engaged → Less Likely to Vote for Candidate

Medium → Engagement → Fundraising

In-Person Participants → More Engaged → More Likely to Fundraise for Candidate

Virtual Participants → Less Engaged → Less Likely to Fundraise for Candidate

Figure #5: Voter Turnout, Fundraising, and Engagement Model

	Dependent variable:	
	Voter_Turnout	Fundraising
	(1)	(2)
Medium	0.042	0.194
	(0.214)	(0.213)
Overall_Engagement	0.200***	0.208***
	(0.054)	(0.054)
Constant	2.302***	0.754**
	(0.358)	(0.356)
Observations	57	57
R^2	0.209	0.218
Adjusted R^2	0.179	0.189
Residual Std. Error (df = 54)	0.784	0.780
F Statistic (df = 2; 54)	7.117***	7.508***
Note:	*p<0.1; **p<0.05; ***p<0.01	

These results question the initial findings in this section that medium has no impact on voter turnout and fundraising. While the results still do not prove that medium has a direct impact, the results demonstrate that inherent differences in mediums, such as engagement, create an indirect effect on voter turnout and fundraising. However, notes of caution must be factored into the results, mainly that the data set is still small and results could change with more data,

even though existing trends in the data would predict this particular result to hold. In the engagement model (Figure #4), medium differences also accounted for only 5 percent of the variation in the model, which means there are likely other variables which are playing a much larger role in determining a participant's engagement with a candidate's campaign event.

Additional Medium Effects on Candidate Perceptions, Information Recall, and Event Experience

Since medium engagement proved to demonstrate statistically significant and interesting indirect causal results, it would also be critical to complete a similar exercise with other variables likely to be affected by differences in medium other than voter turnout and fundraising. For example, do participants in the virtual setting feel as though the candidate is less engaged with them than participants in the in-person setting? Or do the different mediums influence a participant's ability to recall information from the candidate's speech? While these questions (and more) do not answer the driving question behind this research and were not explicitly explored in this study, they do ultimately measure variables that are of interest to political campaigns. Campaigns certainly care how a voter perceives a candidate and whether a voter can accurately recall certain parts of their candidate's message and would want to know if virtual or in-person events are better at producing higher results.

1. Candidate Perceptions

Figure #6 looks at participant perceptions of the candidate, which could be different depending on the medium. The questions asked in Figure #6 seek to understand if mediums influence perceptions of the candidate, much like Druckman did with the Kennedy vs. Nixon

debate.[64] For the sake of the brevity, rather than initially looking at how candidate perception variables affect voter turnout and fundraising to draw indirect conclusions, Figure #6 jumps directly to the next step by understanding how medium differences affect candidate perception variables; this does not alter the paper's ability to draw indirect causal conclusion. Essentially, Figure #6 acts similarly to Figure #4 by establishing the first link in an indirect causal path between candidate perceptions, medium differences, and voter turnout and fundraising. For example, were participants in the in-person group able to hear the candidate more clearly or thought the candidate communicated better because it was easier to pick up facial expressions in an in-person setting?

Figure #6: Candidate Engagement Model

	Dependent variable:						
	Speaker_Engagement	Speaker_Communication	Speaker_Hearing	Speaker_Compassion	Speaker_Enthusiasm	Speaker_Sincerity	Speaker_Intimacy
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Medium	-1.005*	-0.501	-0.615*	-0.150	-0.710	-0.274	-0.082
	(0.576)	(0.592)	(0.355)	(0.400)	(0.520)	(0.412)	(0.588)
Constant	5.231***	6.308***	9.615***	7.731***	7.000***	7.500***	4.308***
	(0.425)	(0.436)	(0.262)	(0.295)	(0.384)	(0.304)	(0.434)
Observations	57	57	57	57	57	57	57
R^2	0.052	0.013	0.052	0.003	0.033	0.008	0.0004
Adjusted R^2	0.035	-0.005	0.034	-0.016	0.015	-0.010	-0.018
Residual Std. Error (df = 55)	2.166	2.225	1.336	1.506	1.956	1.549	2.211
F Statistic (df = 1; 55)	3.044*	0.717	3.001*	0.141	1.862	0.443	0.019
Note:							*p<0.1; **p<0.05; ***p<0.01

In the candidate engagement model (Figure #6) it appears that two variables determine which medium a participant is likely to be in during the experiment: "speaker engagement" and "speaker hearing." "Speaker engagement" asked respondents to rate how engaging they thought the speaker was on a scale from one to ten, with one being the least engaging and ten being the

[64]Druckman, "The Power of Television Images: The First Kennedy-Nixon Debate Revisited."

most engaging; it was the same scaling for "speaking hearing," which asked participants how easy it was to hear the speaker. The results show that in-person participants thought the speaker was more engaging and that they could hear the speaker better. The other non-significant variables included "speaker communication," which asked participants how well the speaker communicated; "speaker compassion," which asked how compassionate the speaker was; "speaker enthusiasm," which asked how enthusiastic the speaker was; "speaker sincerity," which asked how sincere the speaker was towards the participants; and speaking intimacy, which asked participants if they felt the speaker was speaking directly to them during the speech. Since medium does impact two variables, though, Figure #6 represents the first link in a possible indirect causal chain:

Medium → Speaker Engagement

In-Person Participants → Find Speaker More Engaging

Virtual Participants → Find Speaker Less Engaging

Medium → Speaker Hearing

In-Person Participants → Hear Speaker Better

Virtual Participants → Hear Speaker Worse

Separately, it is worth noting that even though only two of the variables in the regression are statistically significant, all of the variable coefficients indicate participants in the in-person setting had more positive interpretations of the speaker and the event. With more data it could be possible to prove that in-person participants can more easily experience a candidate's communication, sincerity, or enthusiasm than participants listening in on Zoom. However,

medium only accounts for no more than 5% of the variation with any one of the candidate perception variables. That means there are certainly other variables which explain why a participant may find a speaker more or less engaging.

Since the "speaker engagement" and "speaker hearing" variables in the candidate engagement model (Figure #6) were statistically significant, it made sense to run another regression to determine if these variables influence voting and fundraising, like with the overall event engagement variable in Figure #5. Figure #7 does this by running four separate regressions with the speaker engagement and speaking hearing variables and medium differences. Just like Figure #5, each variable was run by itself with medium differences as the only other independent variable. It was possible to combine the variables in one regression on voter turnout and fundraising, but that would have been different from Figure #5 so it was not done in the example.

Figure #7: Voter Turnout, Fundraising, and Candidate Engagement Model

	Dependent variable:			
	Voter_Turnout		Fundraising	
	(1)	(2)	(3)	(4)
Medium	0.036	-0.133	0.179	0.056
	(0.214)	(0.240)	(0.216)	(0.238)
Speaker_Engagement	0.180***		0.178***	
	(0.049)		(0.049)	
Speaker_Hearing		0.020		0.092
		(0.089)		(0.088)
Constant	2.557***	3.304***	1.068***	1.118
	(0.298)	(0.869)	(0.301)	(0.865)
Observations	57	57	57	57
R^2	0.207	0.008	0.195	0.020
Adjusted R^2	0.178	-0.029	0.165	-0.017
Residual Std. Error (df = 54)	0.784	0.877	0.791	0.873
F Statistic (df = 2; 54)	7.059***	0.220	6.551***	0.541
Note:				*p<0.1; **p<0.05; ***p<0.01

In the voter turnout, fundraising, and candidate engagement model (Figure #7), it is clear that "speaker engagement" is statistically significant in determining voter turnout and fundraising. The results demonstrate that the more participants perceived the candidate to be engaging with the audience, the more likely they were to vote for the candidate. Since Figure #6 already established that people in the in-person setting were more likely to find the speaker engaging, another indirect causal chain (in addition to the overall engagement variable) has now been fully established:

Medium → Speaker Engagement → Voter Turnout

In-Person Participants → More Likely to Find Speaker Engaging → More Likely to Vote for Candidate

Virtual Participants → Less Likely to Find Speaker Engaging → Less Likely to Vote for Candidate

Medium → Speaker Engagement → Fundraising

In-Person Participants → More Likely to Find Speaker Engaging → More Likely to Fundraise for Candidate

Virtual Participants → Less Likely to Find Speaker Engaging → Less Likely to Fundraise for Candidate

The last couple points to make with Figure #7 is that the "speaker engagement" and "medium" variable account for nearly 18% of the variation in voter turnout and about 17% of the variation in fundraising. This result demonstrates that how participants perceive the engagement of the speaker as a significant determiner of both the willingness to vote for the candidate and fundraise. In addition, the speaker engagement variable only influences a person's willingness to

vote and fundraising by about 3.6%. That means while the variation is relatively large, the end effect on voter turnout and fundraising is relatively small, in the scheme of the model. However, 3.6% is still important because even that small amount can truly make the difference in races that come down to the wire.

2. Information Recall

Another important set of results concerns the ability of participants to recall certain information from the candidate's speech. This study asked participants four separate multiple-choice questions that allowed them to choose as many answers as they saw fit to gauge their memory retention.

For example, the first information recall question asked participants, "What general issues did the speaker touch upon in their speech? (Choose all that apply)." In this particular question, there were four correct answers and two incorrect answers. So, participants could have selected two correct answers and incorrect answers, chosen nothing at all, or pick one incorrect and three correct answers, among others. To run this question in a statistical regression, though, a scoring system was devised to code the answers into numbers. Every correct answer was scored a one, every incorrect answer was scored a negative one, and anybody who did not select a single choice would technically get all the questions wrong and receive a negative score based on the number of choices in a question; in the above example, a person who did not select any answers would have scored a negative six. The nature of the scoring system means it was possible for some participants to score negatively on any one of the information recall questions. The idea behind subtracting points for people who guessed incorrectly was to not reward participants who circled all the answer choices by giving the same score as people who had chosen only the correct answers. If participants were not penalized for wrong answers, then, in the above

example, someone who circled all six questions and someone who only circled the correct answers would each receive a score of four.

The second information recall question asked, “When talking about COVID-19, what two areas did the speaker talk about?” The third asked, “Why did the speaker say they would be a ‘great’ ASG president?” The final question asked, “What was a specific policy recommendation that the speaker introduced.” For each of these questions there were four possible multiple-choice answers, with three correct and one incorrect choice. The scoring was the same as the first question.

Similar to the other attempts at establishing indirect causal links, Figure #8 acts as the first link in explaining an indirect causal chain between medium differences, information recall, and voting turnout and fundraising. Figure #8 moves the causal chain along by the fact it contains two variables that are statistically significant. Medium differences appear to impact a participant’s ability to correctly answer the first and fourth questions, which were mentioned previously. Not only where those two variables significant, but medium differences accounted for a significant amount of the variation explained in the regression; it was 36% with the first question and 14% for the fourth question. The results demonstrate people in the in-person setting would score a whole two points better on the first question and nearly 0.9 points better on the fourth question. Thus, Figure #8 sets up a possible indirect causal chain:

Medium → Information Recall on Questions 1 and 4

In-Person Participants → Better Recall Information Asked in Questions 1 and 4

Virtual Participants → Recall Information Asked in Questions 1 and 4 Worse

Figure #8: Information Recall Model

	Dependent variable:			
	Information_Recall_1	Information_Recall_2	Information_Recall_3	Information_Recall_4
	(1)	(2)	(3)	(4)
Medium	-2.203***	-0.148	-0.400	-0.893***
	(0.380)	(0.258)	(0.301)	(0.281)
Constant	3.462***	2.115***	2.077***	2.538***
	(0.280)	(0.190)	(0.222)	(0.207)
Observations	57	57	57	57
R^2	0.379	0.006	0.031	0.155
Adjusted R^2	0.368	-0.012	0.013	0.140
Residual Std. Error (df = 55)	1.430	0.969	1.133	1.058
F Statistic (df = 1; 55)	33.596***	0.328	1.758	10.082***
Note:				*p<0.1; **p<0.05; ***p<0.01

While the second and third questions are not significant, the data does still demonstrate that participants in the in-person setting scored better; however, more data would be needed to confirm those results. As to why only some questions would be significant and not others, this paper does not have a great answer. It is likely that regardless of medium people often times will doze off, even for a ten-minute speech. The content respondents were asked to recall in questions two and three were more towards the middle of the speech, which could explain why people in the in-person and virtual setting struggled with the answering the questions correctly.

While the fact that medium differences between virtual and in-person affect information recall is interesting, the goal is to determine whether it ultimately the affects the main outcome variables of this study. That is why another regression was run with just the first and fourth questions to determine if there was an effect on voter turnout and fundraising. However, as evidenced by Figure #9, there is no statistically significant effect that information recall has on either voter turnout or fundraising. This means this study cannot say that medium differences impact information recall, which in turn impact voter turnout and fundraising. Nonetheless, it is

interesting that the data would suggest people who recalled information in question four would be less likely to vote or fundraise for the candidate and vice versa for the first question. There is not much to say, other than more data is necessary to see if the coefficients on the variable would remain the same. To conclude then, Figures #9 and #10 demonstrated that in-person participants were more likely to recall certain information, but an in-person participant's ability to recall information better had no effect on their willingness to vote or fundraise.

Figure #9: Voter Turnout, Fundraising, and Information Recall Model

	Dependent variable:			
	Voter_Turnout		Fundraising	
	(1)	(2)	(3)	(4)
Medium	-0.064	-0.190	0.235	-0.029
	(0.296)	(0.253)	(0.293)	(0.255)
Information_Recall_1	0.037		0.107	
	(0.083)		(0.082)	
Information_Recall_4		-0.050		-0.032
		(0.112)		(0.112)
Constant	3.372***	3.628***	1.630***	2.082***
	(0.334)	(0.331)	(0.331)	(0.333)
Observations	57	57	57	57
R^2	0.011	0.011	0.031	0.002
Adjusted R^2	-0.026	-0.026	-0.005	-0.035
Residual Std. Error (df = 54)	0.876	0.876	0.868	0.881
F Statistic (df = 2; 54)	0.294	0.296	0.850	0.042
Note:		*p<0.1; **p<0.05; ***p<0.01		

3. Event Experience

Figure #10 is yet another attempt to establish an indirect causal chain between medium differences and voter turnout and fundraising. The idea behind plugging variables around event experience in this model is that it was believed participants may be more or less willing to vote or fundraise for a candidate if they did not enjoy their experience attending the event. For

example, it is possible that someone may not vote for a candidate because they simply disliked the virtual forum the event was held on. Given that possibility, Figure #10 includes five variables concerning event experience. The first and second variables, "similar in-person" and "similar virtual," asked participants if they would attend a similar event in-person or virtual. Participants then answered: definitely yes, probably yes, unsure, probably no, or definitely no; those answers were later coded into numbers, with "definitely not" being coded as a one and "definitely yes" being coded as a five. The "overall event experience" variable asked participants to rank their respective event on a scale from one to ten, with one being the worst experience and ten being the best experience. The "event intimacy" variable asked participants to rank how intimate they felt the event was and the "event questions" variable asked if participants would feel comfortable asking questions at the end of the event; both variables used the same scaling as the "overall event experience" variable.

Figure #10: Event Experience Model

	Dependent variable:				
	Similar_InPerson	Similar_Virtual	Overall_Event_Experience	Event_Intimacy	Event_Questions
	(1)	(2)	(3)	(4)	(5)
Medium	-0.032	0.654**	-0.087	-1.073*	-1.123*
	(0.289)	(0.291)	(0.459)	(0.557)	(0.590)
Constant	3.000***	2.346***	6.538***	4.654***	6.962***
	(0.213)	(0.215)	(0.339)	(0.411)	(0.435)
Observations	57	57	57	57	57
R^2	0.0002	0.084	0.001	0.063	0.062
Adjusted R^2	-0.018	0.067	-0.018	0.046	0.045
Residual Std. Error (df = 55)	1.087	1.094	1.728	2.095	2.220
F Statistic (df = 1; 55)	0.012	5.046**	0.036	3.710*	3.616*
Note:					*p<0.1; **p<0.05; ***p<0.01

After running the five regressions on those variables, Figure #10 showed that medium differences affected the "similar virtual," "event intimacy," and "event questions" variables, as they were all statistically significant. The results mean participants in the virtual setting were more likely to indicate they would attend another virtual event, while participants in the in-person setting were more likely to say they felt their event was intimate and that they would feel comfortable asking questions. Thus, Figure #10 serves as the first link in an indirect causal chain connecting medium differences to variables related to event experience:

Medium → A Participant's Willingness to Attend Another Virtual Event

Virtual Participants → More Willing to Attend Another Virtual Event

In-Person Participants → Less Willing to Attend Another Virtual Event

Medium → Event Intimacy

Virtual Participants → Find Event Less Intimate

In-Person Participants → Find Event More Intimate

Medium → Comfort Asking Questions at the End of the Event

Virtual Participants → Less Comfortable Asking Questions at the End of the Event

In-Person Participants → More Comfortable Asking Questions at the End of the Event

Noticeably, medium differences explained very little of the variation one would expect with these statistically significant variables, but it is not necessarily clear what exactly would explain the limited variation, other than participants considered other factors in considering whether indicate they would attend another virtual event or ask questions. The other non-

significant variables, “similar in-person” and “overall event experience,” did skew towards people in the in-person setting, which is interesting by itself, but more data would be needed to confirm the initial findings. Nonetheless, the data raises the possibility that attendees of an in-person campaign event would prefer to go to another, while participants who already have experienced the ease of virtual events would prefer to attend another virtual event.

Finally, another model was run to determine whether the entire indirect causal chain could be completed with significant variables in Figure #10. Figure #11 accomplishes that by analyzing the affect the “similar virtual,” “event intimacy,” and “event questions” variables have on voter turnout and fundraising. Clearly both the “similar virtual” and “event intimacy” variables affect voter turnout and fundraising, but the “event questions” variable has no impact. The results show that participants who would prefer to attend another virtual event or found the event intimate are more likely to vote for the candidate; the same can be said for fundraising. Therefore, the important takeaway from the model in Figure #11 is it once again illustrates another indirect causal chain between medium differences and voter turnout and fundraising:

Medium → A Participant’s Willingness to Attend Another Virtual Event → Voter Turnout

Virtual Participants → More Likely to Attend Another Virtual Event → More Likely to Vote for Candidate

In-Person Participants → Less Likely to Attend Another Virtual Event → Less Likely to Vote for Candidate

Medium → Event Intimacy → Fundraising

Virtual Participants → More Likely to Find Event Less Intimate → Less Likely to Fundraise for Candidate

In-Person Participants → More Likely Find Event More Intimate → More Likely to Fundraise for Candidate

Figure #11: Event Experience, Voter Turnout, and Fundraising Model

	Dependent variable:					
	Voter_Turnout			Fundraising		
	(1)	(2)	(3)	(4)	(5)	(6)
Medium	-0.269	0.082	-0.103	-0.149	0.182	0.058
	(0.237)	(0.207)	(0.240)	(0.235)	(0.221)	(0.240)
Similar_Virtual	0.190*			0.228**		
	(0.105)			(0.104)		
Event_Intimacy		0.212***			0.170***	
		(0.049)			(0.052)	
Event_Questions			0.038			0.052
			(0.053)			(0.053)
Constant	3.055***	2.515***	3.236***	1.466***	1.210***	1.641***
	(0.298)	(0.270)	(0.407)	(0.295)	(0.288)	(0.407)
Observations	57	57	57	57	57	57
R^2	0.064	0.265	0.016	0.081	0.166	0.017
Adjusted R^2	0.029	0.238	-0.020	0.047	0.135	-0.019
Residual Std. Error (df = 54)	0.852	0.755	0.874	0.845	0.806	0.874
F Statistic (df = 2; 54)	1.838	9.755***	0.450	2.390	5.365***	0.473
Note:						*p<0.1; **p<0.05; ***p<0.01

In addition, it is noteworthy that the "event intimacy" variable accounted for 23% of the variation in voter turnout and 13% of fundraising, demonstrating the significant role the variable plays in determining voter turnout and fundraising. However, like the other statistically significant variables which have been shown to influence voter turnout and fundraising, the

overall effect on the variables still small. For example, people who found the events more intimate were only 4% more likely to say they would vote for the candidate. Again, though, that could mean the difference in some of those incredibly close races.

Alternative Campaign Participation Outcomes

The alternative campaign participation model was meant to determine if medium differences had an impact on other forms of campaign participation this study surveyed participants on after the in-person and virtual campaign events. While Figure #1 already showed that medium differences have no impact on voter turnout and fundraising, it remained to be seen if the medium would influence similar variables. Even though campaigns are obviously most concerned with voter turnout and fundraising, other important factors in a successful campaign include the ability to recruit volunteers and get voters to talk about your candidate to friends. Therefore, the six variables in Figure #12 asked participants a variety questions surrounding other forms of campaign participation pertinent to political campaigns across the country.

Figure #12: Campaign Participation Model

	Dependent variable:					
	Candidate_Updates	Candidate_Recommendation	Candidate_Canvassing	Candidate_Phone_Banking	Candidate_Friend_Fundraising	Candidate_Friend_Voter_Turnout
	(1)	(2)	(3)	(4)	(5)	(6)
Medium	-0.037	0.001	-0.233	-0.329	0.174	-0.159
	(0.272)	(0.246)	(0.229)	(0.241)	(0.234)	(0.237)
Constant	3.231***	3.192***	1.846***	2.038***	1.923***	3.385***
	(0.200)	(0.181)	(0.169)	(0.178)	(0.173)	(0.175)
Observations	57	57	57	57	57	57
R^2	0.0003	0.00000	0.019	0.033	0.010	0.008
Adjusted R^2	-0.018	-0.018	0.001	0.015	-0.008	-0.010
Residual Std. Error (df = 55)	1.022	0.923	0.861	0.908	0.880	0.890
F Statistic (df = 1; 55)	0.019	0.00003	1.039	1.854	0.551	0.450
Note:						*p<0.1; **p<0.05; ***p<0.01

The first variable, “candidate updates,” asked participants if they would want to receive updates on the candidate. The “candidate recommendation” variable asked participants if they would recommend the candidate to a friend. The “candidate canvassing” variable asked participants if they would knock on doors for the candidate. The “candidate phone banking” variable asked participants if they would make phone calls on behalf of the candidate. The “candidate friend fundraising” variable asked participants if they would recommend that their friends give money to the candidate. Finally, the “candidate friend voter turnout” variable asked participants if they would recommend that their friends vote for the candidate. All these questions were given to participants in the form of “definitely yes,” “probably yes,” “unsure,” “probably no,” and “definitely no” answer choices. The answers were coded one to five with a one being “definitely no” and five being “definitely yes.”

As shown in Figure #12, ultimately, medium differences had no statistically significant impact on any one of the campaign participation variables in the model. While the initial results suggest in-person participants are more likely to engage in the other forms campaign participation, other than generally recommending the candidate to a friend or to fundraise, more data is needed to confirm if those results will hold. Separately, medium differences explain little to none of the variation with the campaign participation variables across the board. That highlights the fact that other variables are at play, many of which are likely the other mediating variables that have already been discussed in the results section, like “overall event engagement.”

Screening Variable Effects on Voter Turnout and Fundraising

Finally, Figure #13 seeks to understand if underlying biases associated with race, sex, and age may have played a role in a participant's decision-making process. For example, were White participants more likely to vote for the candidate than Asian participants? Another possibility is that older participants, who are more familiar with Northwestern undergraduate issues, may be voting a different way than younger students who are less familiar with campus issues. Other variables that are similar in nature to these identifying background questions, include political affiliation and political ideology. While variables related to ideology agreement and issue agreement have been run previously, this alternate control regression will better understand if internal political feelings are mediating voter turnout.

The alternate control regression, which includes the medium, race, sex, age, political affiliation, political ideology, and sexual orientation. Before analyzing the results, the factors for race are such: White participants are 1, Blacks participants are 2, Asian participants are 3, American Indian or Alaskan Native are 4, and Others are 5; For sexual orientation, heterosexuals are 1, homosexuals are 2, and bisexuals are 3. The most immediate analysis is that none of the variables in the regression are significant and the regression itself only accounts for 12% of all variation. Those quick results demonstrate implicit biases associated with sex or age had no impact on a participant's willingness to vote for the candidate. While the coefficients may be interesting to look at, they really do not tell much at all because the data in this case is extremely small and skewed towards certain demographics. While efforts were made to randomly recruit participants, with only 57 participants, it was always going to be difficult to accurately collect data from the target population of Northwestern undergraduates. To prove my point, 75% of respondents said they were heterosexual, which means only a few participants were included in

the regression for other identifiers, like homosexuality and bisexuality; the same trend occurred with the other variables, where more than two-thirds of participants were clustered into one identifier.

Figure #13: Screening Variable Model

	Dependent variable:	
	Voter_Turnout	Fundraising
	(1)	(2)
Medium	-0.282	-0.125
	(0.305)	(0.289)
factor(Race)2	0.517	-0.135
	(0.619)	(0.586)
factor(Race)3	-0.053	0.050
	(0.385)	(0.364)
factor(Race)4	0.459	0.816
	(0.974)	(0.922)
factor(Race)5	-0.549	0.332
	(0.584)	(0.553)
Sex	0.451	0.476
	(0.332)	(0.314)
Age	-0.011	-0.115
	(0.126)	(0.119)
Political_Affiliation	0.173	0.011
	(0.368)	(0.348)
Political_Ideology	0.012	0.123
	(0.204)	(0.193)
factor(Sexual_Orientation)2	-0.052	-0.064
	(0.609)	(0.576)
factor(Sexual_Orientation)3	0.070	0.513
	(0.485)	(0.459)
Constant	3.388	3.768
	(2.573)	(2.435)
Observations	51	51
R^2	0.122	0.201
Adjusted R^2	-0.125	-0.024
Residual Std. Error (df = 39)	0.932	0.882
F Statistic (df = 11; 39)	0.494	0.892
Note:	*p<0.1; **p<0.05; ***p<0.01	

Discussion

The lack of statistical significance concerning the effect medium differences have on voter turnout and fundraising, and many of the additional mediating variables, demonstrates the results from this study are far from conclusive. Put simply, this study does not have nearly enough participants to produce statistically significant results on a number of variables. It was clear in the examples pulled from crosstabs, that there were not enough cases for a number of variables, such as race and sexual orientation, for this paper to make broad generalizations. However, there was never an assumption at the beginning of this research that the results would have yielded definitive answers to the driving questions of this study. As has been previously discussed, research investigating the virtual world's effect on political campaigns is groundbreaking. Any research into these effects is not working to tear down or bolster existing theories, but rather lay the foundation for future research into this topic. It is in that task, I believe this study has excelled in, by creating new frameworks for which researchers can think about how to reexamine the same, or slightly altered, question I asked at the onset of this paper. While it means this paper must tread carefully in making any conclusions in this section because of the difficulty in generalizing this study, it does not mean there were not interesting results that hold consequences for future research and the trajectory of modern U.S. political campaigns.

First and foremost, what should be concluded from the voter turnout and fundraising model that was designed to answer the driving question of this research? The answer is likely not much since the values are statistically insignificant. To make even minor suggestions would be challenging because the p-value on voter turnout was 0.5, while obviously, the p-value on fundraising was 1 because medium explained none of the variation in fundraising. However, given there was at least some noticed effect on voter turnout from medium differences, this paper

would likely be wrong in assuming there would be zero effect on fundraising if there was more data collection. Outside of a small dataset, the other problem with measuring effects on fundraising in this study resulted from a pool participant under the age of 22. America's political donor class and the bulk of small donations do not come from the 18-22 age demographic, as evidenced in the 75% of participants in the experiment who have never given to a political candidate. While a greater percentage have at least considered giving to a candidate, that by no means indicate they would actually "put their money where their mouth is," which was certainly the case in this experiment.

Even with all these constraints on defining answers to this study's research question, some broad claims can be made about the trends of the data. With 57 participants, the crosstab data averages do suggest that there is a small increase in voter turnout among the in-person group and a small increase in fundraising among the virtual group. In-person participants score a 3.8 out of 5 on likelihood to vote as opposed to 3.35, and virtual participants score a 2 out 5 on likelihood to fundraise, and in-person participants score a 1.76. If the data were to stay consistent among a greater pool of participants in this population of college undergraduates of voting age, the conclusion to be drawn would be in-person and virtual events have no effect on voter turnout and fundraising, which is confirmed by the voter turnout and fundraising model. This would be a significant development for the political campaign world because it would suggest they could afford to use virtual campaign events without sacrificing votes and fundraising dollars. However, more data will be needed to confirm if this result will hold across a more diverse and larger set of Americans. While the results are unable to confirm what would be an important conclusion, there are indirect effects that warrant highlighting.

One of the more significant takeaways from this research is the strong, statistical effect engagement plays in the study. The voter turnout, fundraising, and engagement model (Figure #5), which included overall engagement scores of the campaign event and medium as independent variables accounted for around 20% of the variation in the model predicting voter turnout and fundraising. That model alone demonstrated engagement levels during the event had a statistically significant effect on whether a participant would vote or fundraise for a candidate. When complemented with the engagement model (Figure #4) looking at the medium's effect on overall engagement, there is a significant result showing how participants in the in-person setting are more engaged than those in the virtual one. Added together the models create an indirect causal link between medium differences and voting and fundraising—different mediums affect levels of engagement and levels of engagement affect voting and fundraising.

This conclusion, which the paper can more confidently, does not specifically reaffirm much existing political communication research, but rather plenty of advertising research that suggests the more engaged a potential customer is with an advertisement or message, the more likely they are to be converted into a full-time customer.[65] It is not a stretch to draw a line between this example and political communications, where campaigns are also selling a product, it just happens to be a person filled with policy ideas than a material product or particular service.

Beyond the differences with virtual and in-person mediums, the demonstrated effect of engagement in this study, means its effect with respect to other mediums, such as the Internet, television, or social media, should also be investigated more thoroughly in political communications. Engagement is already indirectly considered in research seeking to understand

[65] Kilger and Romer, "Do Measures f Media Engagement Correlate with Product Purchase Likelihood?"; Valentini, Romenti, Murtarelli, et. at., "Digital Visual Engagement: Influencing Purchase Intentions on Instagram."

the role communicated political information has in electoral outcomes, since engagement is perceived as a pre-requisite for information to be understood by voters. However, the results of this paper suggest engagement needs to be considered in studies more directly. Future studies should attempt to understand why certain mediums may produce increased levels of engagement and others cannot. Future research should also understand under what criteria these mediums can best increase engagement levels. For example, what types of messages perform best on certain platforms to keep voters engaged? Do politically salient issues do better to raise engagement? This study was not designed to answer these questions, but the results have certainly raised these questions.

Importantly, though, this paper must also acknowledge the effect engagement has on voter turnout and fundraising is minimal, only moving the needle on a five-point scale of likelihood to vote or fundraise by around 4%. In the voter turnout and fundraising control models, the effect engagement had on the outcomes was down to about 3.8% when there were additional variables introduced. While the values were statistically insignificant, race and sex did appear to have a much stronger impact on voter turnout and fundraising, nearly five times more in some cases than engagement. It remains to be seen if those values would be significant with more data. This argument is not designed to dissuade research into the "engagement" variable, but rather add a healthy dose of reality and caution into what future research may yield into the subject.

Overall, the results are convincing enough that political campaigns would be wise to consider how their preferred communication mediums effect engagement, since understanding that will help improve voter turnout and fundraising, if even slightly. In close races, understanding which mediums people are engaging with more could possibly make the

difference, which is why more research is needed in this subject to confirm the results from this study and look into how other mediums effect engagement, voter turnout, and fundraising.

Another key takeaway from the research is the effect medium differences have on perceptions of the candidate. The candidate engagement model (Figure #6) demonstrated how mediums affected perceptions of how engaging and easy it was to hear the speaker. The model also showed mediums had a strong effect on these variables, changing scores on the variables by as much as a point on a 10-point scale. A note of caution is that mediums only account for around 5% of the variation with these variables, but it is notable that the medium could have an effect on candidate perception variables at all. Other research has examined how different messages affect voter perceptions of candidates, but not much is understood on how specific mediums directly impact how voters perceive candidates. The large effect that mediums may have on these candidate perception variables suggest political campaigns should be mindful of the medium they choose if they want to influence how voters will perceive the candidate.

Additionally, a separate model (Figure #7) that examined candidate perceptions, medium, and voter turnout and fundraising demonstrated the indirect effect they have on voter turnout and fundraising. Participants who perceived the candidate as more engaging were 3% more likely to vote for the candidate. Nearly the same result was true for fundraising. The model accounted for around a significant 20% of the variation. These results help draw the connection from medium differences to speaker engagement perceptions to voter turnout and fundraising. It illustrates how a candidate perception variable not only explain important differences in medium, but important differences in voting and fundraising behaviors. This additional indirect effect on voting and fundraising behavior underscores the attention that should be paid to candidate perception variables in future research.

Another important conclusion from the research concerns information recall among participants. A large portion of any political campaign is dedicated to ensuring voters not only have access to the platforms of candidates, but that they can effectively memorize them. In this experiment, participants were surveyed to see how well they could remember spoken information. On particular questions, the information recall model (Figure #8) showed that mediums did affect the ability of participants to recall information to a statistically significant degree. Across the board, people in the in-person setting scored better on the information recall questions. Outside of looking at voter turnout and fundraising, this result alone would suggest that the medium a candidate chooses to convey information matters. In the context of Zoom events, political campaigns should think carefully about how they want to use that platform in the future if they need to convey critical information to voters.

However, unlike the other two previous takeaways, the information recall variables did not have any statistically significant effect on fundraising or voter turnout. Therefore, even though medium differences influenced the amount of information a participant could recall, that effect ultimately had no meaningful impact on the primary outcome variables of this study. This is a slightly surprising result given how previous studies demonstrate the importance of information in electoral outcomes. But it makes sense in the context of this study because simply remembering what a speaker said is not likely to increase their likelihood of voting or fundraising for a candidate. What is likely to make a difference is whether they agree or disagree with the information they are remembering from a candidate event. Thus, the combined results from the two models concerning information recall (Figure #8 and #9) should not lead to the conclusion that political campaigns must not be concerned about information retention, but rather they should be if they want voters to remember certain parts of a candidate's platform.

Political campaigns are more likely to maximize information retention if they use in-person events over virtual ones. This is especially important for campaign volunteering, where specific information needs to be conveyed to volunteers so they stay on message when conversing with voters. If future research confirmed virtual attendees cannot recall information as well, then campaigns could suffer from poor campaign participation efforts.

Finally, the last statistically significant takeaway to be discussed concerns what future communication medium a political campaign should employ. The event experience model (Figure #10) demonstrated that virtual attendees were much more likely to indicate they would attend a similar event in a virtual setting than an in-person setting. This result poses both a possible problem and benefit to political campaigns in that you could end up creating an entire class of voters who would rather be contacted via Zoom than show-up to an in-person event. It is bad in the sense that when a campaign would want to host an in-person event, they are limited in the number of people who may want to attend, but it is good in that they can effectively target certain voters with their preferred mode of communication.

More than anything, though, the results demonstrate the possible long-lasting effects of the COVID-19 pandemic on politics. If confirmed with more data, the results suggest voters would not be turned off by the idea of attending campaign events over Zoom—in fact, after attending an initial virtual event, they would be willing to attend another. The result is not surprising given the trends occurring in other industries and sectors across the United States. For example, many employees are excited by the opportunity to work from home and even dread the idea of going into the workplace. Therefore, it's possible that we could enter a world where a certain subset of voters would much rather attend virtual campaign events than ever step out of there house.

However, as with the other takeaways in this section, there are some nuances to these conclusions which point to a dramatic shift in modern U.S. politics. First, medium differences account for only 8% of the variation in the discussed model (Figure #10), which means there are other variables outside of medium which are having a much greater impact on the virtual vs. in-person model. Second, the broader conclusion that these results could signal a shift in political campaigns must be consumed in the context of this study. Since the study was conducted with participants aged 18-22, it is not entirely surprising to discover that participants in this age group might prefer attending virtual than in-person events. An older group of voters, who do not use technology as frequently, would likely prefer attending campaign events in-person. The results only raise the possibility that there could be a subset of voters whom political campaigns could effectively target with virtual campaign events. The appeal for virtual events is already intuitive because it means a voter never has to leave their house, these results help to confirm that intuition.

Also, the event experience model still showed the lasting impact in-person events will likely have on political campaigns because the "event intimacy" and "event questions" question variables in Figure #10 demonstrated that people in the in-person setting felt the event was both more intimate and that they would have felt comfortable asking questions at the end of the event if given the chance. I believe these results are particularly important for matters of fundraising when a personal touch goes a long way. Of course, campaigns want voters to feel as though their needs are being met, but when a person decides to take out a check book, there is an even greater emphasis on ensuring donors are well taken care of in an election cycle. If donors of a virtual event do not feel the event is as intimate as an in-person event, it is possible they may feel slighted, and thus, being less willing to give money.

Furthermore, once the statistically significant variables were plugged into the event experience, voter turnout, and fundraising model (Figure #11), another indirect causal chain was created with the "similar virtual and "event intimacy" variables. The causal chain showed supported the possible benefits of virtual events, but also their shortcomings. The "similar virtual" variable showed that virtual attendees were more likely to indicate they would attend another virtual event, and that among that group, they were more willing to vote for the candidate. The latter showed that in-person participants were more likely to indicate that they found the event intimate, and that among that group, they were more willing to vote for the candidate. It was another interesting connection between medium differences and voter turnout that appeared to be mediated by variables related to the event experience. These indirect results once again illustrate just how many factors go into determining why a person does and does not decide to vote or fundraise candidate and highlight both possibilities for and against virtual events.

Conclusion

So, if I were advising a campaign of the future with what to do with the data from this study in the context of the existing literature, what would I say? I would first say that campaigns should be thankful they can return to in-person work because even if in-person campaign visits may not have as much of impact on voter turnout, there are strong studies to suggest that in-person voter contact through canvassing can improve turnout.[66] In addition, by the nature of its

[66]Donald P. Green, Alan S. Gerber, and David W. Nickerson, "Getting Out the Vote in Local Elections: Results from Six Door-to-Door Canvassing Experiments," *The Journal of Politics* 65, no. 4 (November 2003), https://doi.org/10.1111/1468-2508.t01-1-00126; Alan S. Gerber and Donald P. Green, "The Effects of Canvassing, Telephone Calls, and Direct Mail on Voter Turnout: A Field Experiment," *American Political Science Review* 94, no. 3 (September 2000): 653-663, https://isps.yale.edu/sites/default/files/publication/2012/12/ISPS00-001.pdf.

work, political campaigns are an inherently people driven industry, where an emphasis on in-person interaction is already placed at a premium, and for good reason. The existing studies on virtual versus in-person interaction demonstrate that there are unique biochemical reactions taking place in our brains which do not occur when we converse virtually. This paper has supported those findings in identifying engagement and candidate perceptions as being influenced by medium differences, and in turn having a significant effect on voter turnout and fundraising. Participants in the in-person setting were both more engaged and found the speaker to be more engaging were more likely to vote and fundraise for the candidate. Even though information recall had no impact on voter turnout and fundraising, that variable was also similarly affected by medium differences, wherein participants in the in-person setting could better recall certain information.

However, I would advise campaigns that this study should not serve as the final verdict on the possible effectiveness of virtual campaign events. True, the data did not provide much evidence that using virtual events would greatly help a candidate improve their voter turnout and fundraising—other than the fact that virtual participants were more willing to attend another virtual event—but, the results also did not suggest that in-person campaign events were all that much better than virtual ones. Indirectly, in-person participants were only a few percentage points more likely to vote or give money to the candidate. Furthermore, given the staying power of virtual communication and the many benefits of it—from price to accessibility—the results from this paper illustrate that campaigns could still reasonably consider virtual events as an appropriate option for certain voter and donor outreach attempts; in-person participants who were more engaged were only slightly more likely to vote for the candidate in the experiment, which means campaigns have not lost the metaphorical ball game by opting to use virtual events

for part of a campaign cycle. Finally, engagement and perceptions of the candidate explained only so much of the variation in voter turnout and fundraising, which illustrate that there are many other variables that explain why an individual may vote for one candidate over another. At the end of the day, it is possible that a not so insignificant number of voters may care little about the medium and only want to hear from the candidate to make their vote decision.

Also, as has been mentioned numerous times in this paper, this study was only designed to serve as one of the first attempts at investigating the differences between in-person and virtual campaign events. Therefore, the results from this study should serve both as an initial guide for what mediums campaigns should employ in the future, but also what direction future research should take to continue studying the virtual communication medium. This study warrants more specific studies into why individuals would be engaged with campaigns in the first place and how certain mediums prime engagement over others in a political context. Since there were only 57 participants in this study, hopefully, future research with more resources can survey an even greater number of participants to have even more conclusive results. The quest for more research means campaigns should not use this research to stifle any and all virtual communication with voters, particularly when I would argue that more research may present other interesting results with regards to age and other pertinent background variables, like political knowledge. For example, I would imagine maybe that a political newcomer might appreciate the virtual format because they do not want to commit to attending in-person campaign event. But this study simply did not survey enough participants to draw conclusions like those.

Finally, the existing literature has already highlighted the ability of other digital tools, like social media and the Internet to turn out voters and increase fundraising. Many voters are talking virtually more than ever, be it on Twitter, Facebook, Instagram, or the web. Using virtual

campaign events to meet people where they already are, namely their electronic devices, is probably not a horrible idea since digital tools can enhance voter turnout and fundraising. The possible rise of virtual reality is yet another reason to not count out virtual campaign events as a new tool in the campaign communication toolkit. The results from this paper suggest that participants in the virtual setting were more likely to want to attend another one, meaning they at least partially enjoyed their virtual experience; those who thought that were also more likely to vote and fundraise for the candidate.

In making a case for the possible continued use of virtual events, I want to be clear, though, that campaigns should only use it sparingly when appropriate. This study did not find robust evidence to support a far-flung virtual operation. Instead, this paper reaffirmed some political science and many psychological studies which outline the benefits of in-person activities. In-person campaign events will never become obsolete, nor should they, but I would argue that virtual campaign events should continue as a small part of a campaign's digital operations, at least for now until more research is conducted into the subject.

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