

Watching together: Local media and rural civic engagement (*forthcoming in
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Abstract

Civic engagement involves active participation in political and non-political contexts in one's community. Research consistently demonstrates that sociodemographic factors, neighborhood context, community size, and media use are all important antecedents of robust civic engagement. This paper focuses on the intersection between these latter two factors. My paper draws on multiple streams of research in the rural sociology and communication literature to develop a theoretical framework where rural individuals' use of local media promotes greater civic engagement. Using data from the 2018 Local News Survey, results show that the use of local newspapers and online news websites for local news and information leads to a higher probability of participation in local activities and local groups in one's community. However, results also show that getting local news and information from traditional formats such as local TV stations may no longer be associated with an increased probability of being an active citizen in rural communities.

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Introduction

The antecedents of rural Americans' civic engagement have long piqued the interest of rural sociologists. These works, at the intersection between the importance of geographic context and civic behavior, correlate rural civic engagement with a number of factors, including homeownership (Mireles 2017), and the vitality of local business (Schoolman 2020). Largely absent in these debates is the role of an additional explanatory variable – namely, the role of local media– and how the use of local media shapes rural participation in local groups and activities in rural communities. This omission is surprising given the important relationships between these two variables; going back to Putnam (2000), there has been a longstanding recognition that there is a significant relationship between media consumption and civic engagement.ⁱ Thus, understanding the relationship between local media use and individual levels of civic engagement in rural communities is of critical importance. Local news is on the decline in because many outlets are closing (Nielsen 2015). Besides these closures, media coverage is also focused on the national picture at the expense of local issues (Hopkins 2018; Martin and McCrain 2019). Rural areas are also especially vulnerable to these effects because more than 500 of the 1,800 newspapers that have either closed or merged since 2004 are located in rural counties (Abernathy 2018).

Given the important relationships between media use, geographic context, and social capital, the closure of local outlets and declines in local news coverage could have significant implications for the robustness of community involvement and participation in rural areas. Most of the significant analyses on the relationship between the use of media and rural civic engagement have taken place before the recent decline in local news (Beaudion and Thorson 2004). Consequently, they cannot tell us how the relationship between media consumption and civic engagement changed in recent years in rural areas. Likewise, geographic context is not a focus of recent analyses that study whether civic engagement is declining in the era of

decreasing local news (Hayes and Lawless 2018). Therefore, we need further analysis which shows how consumption of local media feeds into rural Americans' civic engagement today.

The current study is situated within a body of scholarship attesting to the importance of local or "geo-ethnic" media for civic engagement within geographically bounded communities (Nah et al. 2015; Nah and Yamamoto 2019). With these streams of literature in mind, I seek to understand how patterns of local media use and levels of civic engagement among rural residents relative to those who live in urban and suburban communities. I also aim to understand whether the various local channels of communication through rural respondents rely on getting news about their communities are conducive to greater civic participation. Finally, I aim to gauge whether the changes that have taken place to the local media environment in recent years means that channels of communication such local television news) are no longer conducive to civic participation in rural America.

To test these hypotheses, data are taken from the 2018 Local News Survey. Overall, I find that there are substantive differences in levels of civic engagement and in modes of local communication between communities of place. I also find that rural Americans' use of local channels of communication for getting local news and information is associated with probable participation in a diverse range of local activities and local groups. Nonetheless, it is also the case that some formats have stronger effects than others. Indeed, and consistent with contemporary research on the increasing "nationalization" of American politics (Hopkins 2018), the most noteworthy set of results find that the use of local TV to get local news and information is negatively associated with rural Americans' probable participation in local activities and groups. Though, mediation analysis consistent with the "communication mediation model" (Shah et al. 2006) suggests that that consumption of local television news is indirectly positive through interpersonal communication.

Theoretical Framework

Civic Engagement and Communities of Place

Civic engagement is a complex and multifaceted construct. Adler and Goggin (2005) examine multiple definitions of civic engagement to assess the extent of variation in the literature, finding that community service, collective action, active citizenship, political involvement, and social changes are all common conceptualizations of civic engagement. Putnam's (2000) definition of civic engagement also applies to social activities such as membership and participation in civic and religious organizations. Synthesizing all these components into a single definition, Adler and Goggin (2005) propose that civic engagement is 'how an active citizen participates in the life of a community... to improve conditions for others or to help shape the community's future.' (241).

This definition, but also its components, are important to keep in mind when studying civic engagement, since it is likely that individuals draw different meanings about what being "civically engaged" might mean in substantive terms. Accordingly, this paper conceptualizes civic engagement as active participation in political and non-political contexts in one's community (Putnam 2000; Adler and Goggin 2005). Importantly, this broader conceptualization of civic engagement encompasses political, civic, and voluntary participation in local activities. Therefore, this conceptualization encompasses many of the forms of civic engagement that many Americans partake in today.

As is the case with the many definitions of civic engagement, there are also many ways that sociologists have defined community. For instance, Hillery (1955) examined over 90 definitions of community, finding that geographic context, common ties between group members, and interaction among individuals for mutual support, were all common elements across conceptualizations of community. These definitions indicate that communities can be of place *or* of interest. Accordingly, the paper defines community as a group of people with

common ties and interests who interact with one another *within* a geographically bounded area. Nonetheless, it is important to acknowledge that rural communities vary greatly in their economic bases, cultural values and practices, and social structures (Flora and Flora 1992). Therefore, it is important to qualify that what is perceived as a “community” is also likely to vary greatly among individuals living in rural America.

Geographic context is an important component of the social capital literature (Hofferth and Iceland 1998). Communities in rural America exhibit relatively high levels of civic engagement relative to urban locales. Indeed, Americans who live in large metropolitan areas belong to 10 to 15 per cent fewer social groups and attend 10 to 15 per cent fewer meetings than Americans who live in nonmetro areas (Putnam 2000: 206). As Putnam (2000) says, metropolitan areas are less engaged ‘because of where they are, not who they are’ (206). Subsequent analyses confirm Putnam’s (2000) essential findings (Glaeser and Gottlieb 2006; Brueckner and Largey 2008).ⁱⁱ

Conversely, there are several factors that account for robust civic engagement in rural communities. Multilevel analyses indicate that neighborhood context – specifically, factors including length of residence, residential stability, and low community density – are positive predictors of patterns of civic activity at the community level (Cope et al. 2016). These factors also generate subjective feelings of attachment to one’s community – an important finding given that individuals with strong, subjective, feelings of attachment to their communities are also highly likely to be civically engaged (Brehm et al. 2004).

Greater time spent living in a community also allows individuals to form local friendships and bonds (Goudy 1990). A consistent finding is that individuals with larger social networks are more engaged than those with smaller networks (Son and Lin 2008). Rural communities are seedbeds for community-based social networks. For example, religious-based social networks are positively related to higher levels of civic engagement

(Lewis et al. 2013). This finding is also important because rural areas have long exhibited higher rates of religiosity than urban areas (Nelsen et al. 1971).

Lastly, homogenous communities generally exhibit higher levels of civic engagement relative to more heterogeneous communities (Costa and Kahn 2003). Despite the increasing diversity of rural America (Lichter 2012), rural areas have fewer non-White and immigrant populations than urban areas. Most notably, in a study on the relationship between diversity and social capital, Putnam (2007) finds that areas of the US with a higher score of the Herfindahl Index demonstrate better social capital outcomes across a variety of indices. By contrast, ethnoracial heterogeneity was an antecedent of lower rates of certain types of civic engagement within communities (Putnam 2007).ⁱⁱⁱ Nonetheless, it is important to qualify that these findings do not take into account the ways that systemic racism might influence the membership and functioning of community organizations (Robinson 2019). Likewise, it is also important to consider the types of meetings that rural people of color (PoC) might attend as communicated via key mediating institutions such as community churches (Morris 1986: 5-6). In sum, given these differences, it is important to provide a nuanced approximation of how levels of civic engagement might reasonably be expected to differ community type.

Local Media and Civic Engagement in Communities of Place

Communications scholars examine the extent to which both traditional and newer forms of digital media play in shaping civic engagement (Chan 2014; De Zuniga et al. 2012; Shah et al. 2005). Scholarship focuses on the hypothesized influence of the internet and social media in engendering greater participation in civil society (Montalvan Castilla and Pursiainen 2019), indicating a positive relationship between use of digital media and civic engagement (Boulianne 2015; Chen 2019). However, though scholars have lauded the informational value of digital media, there is increasing concern that digital media spreads

misinformation via the dissemination of “fake news.” The dissemination of fake news is closely related to digital media use (Grinberg et al. 2019; Vargo et al. 2018). Therefore, while much work finds that digital media use has positive effects on civic engagement, other research finds that it has a negative effect on civil society because it may result in the spread of misinformation.

Media consumption engenders the attitudes that are conducive to civic participation, including political knowledge and political efficacy - or the propensity for citizens to have faith in their ability to influence and understand political affairs. Exposure to traditional media sources such as broadsheet newspapers contribute to political knowledge and increase the propensity of individuals to turn out and vote (De Vreese and Boomgaarden 2006). Studies on the role of digital media in the US context also demonstrate that internet access and exposure to online news information predict greater political knowledge and increased political efficacy among individuals (Lelkes 2020). Indeed, the effect can be such that even incidental exposure to online news can engender greater political knowledge and political efficacy (Heiss and Matthes 2019; Lee and Xenos 2020).

Though political knowledge and political efficacy are hypothesized mediators of the relationship between media use and civic engagement (Jung et al. 2011), it is important to qualify that the increasing prevalence of online misinformation changes the way that we must think about constructs such as political efficacy operate to affect civic engagement in the context of the current study. Institutional trust is a vital antecedent of robust political efficacy in the digital era (Sharoni 2012). However, online misinformation has a negative effect on individual trust in institutions (Ognyanova et al. 2020), potentially leading to a weakening of political efficacy. Therefore, the prevalence of online misinformation might mean that social media use does not necessarily engender attitudes such as political efficacy which, in turn, are conducive to civic engagement.

This point regarding political efficacy also brings to attention a number of works concerning outrage, resentment, and even disengagement from formal politics in rural America. Contemporary scholarship points to rural Americans expressing anger, resentment, and outright dismay at government institutions (Wuthnow 2019). These feelings feed into rural Americans' distrust of government (Stock 2017), and also help to explain why so many are disengaged with formal politics (Cramer 2016). At times, these sentiments have also led to the development of outright anti-statist attitudes in rural communities (Ashwood 2018). These streams of literature concerning low political efficacy in rural communities give us further reason to suspect that certain forms of media might be less effective in promoting civic engagement among those who feel as though they have little influence in the democratic process. Though, we may reasonably expect to observe positive effects on protest participation, especially if they are against statist institutions.

The increasing influence of digital media has also changed how communications scholars have theorized about the contemporary media environment. The dominant approach has been to examine how a given news source distinctly affects individual civic engagement relative to another news source (Nah and Yamamoto 2019). On the one hand, this approach has been somewhat useful in helping us understand which channels of communication are conducive to civic engagement and which are not. For instance, Chan (2014) examined the differential effects of media use on civic participation, finding that online news, newspapers, and radio were all positively related to civic participation, while network and local TV news were negatively related to participation.

Equally, however, this approach to understanding the contemporary media environment has also been problematic considering the extent to which news and information increasingly cuts across various channels of communication. The unprecedented development of digital media has given individuals easy access to devices to seek and consume

information, giving rise to the notion of “networked” public information spheres (Nah and Yamamoto 2018). Rather than examine how a single channel of communication fosters greater civic engagement, this “networked” approach instead emphasizes the relative connectivity between multiple channels of communication.

Communication infrastructure theory (CIT) helps explain the “networked” approach. Communication infrastructure refers to neighborhood storytelling networks (NSN) embedded in communication action contexts (Kim and Ball Rokeach 2006). Neighborhood storytelling concerns a number of multilevel storytelling agents, including local media (constituting the meso-level), community organizations, and the residents of geographically bounded communities themselves (constituting the micro-level) (Kim and Ball Rokeach 2006). While these agents are important in their own right,^{iv} they function as an integrated network where community members have access to communicative resources and opportunities. In this way, the effects of local media use on civic participation are enhanced if community members also have a proclivity to discuss local news with their neighbors or are active members of a community group.

Given the interconnectedness of these agents, (CIT) has been critical to understanding the relationship between local channels of communication and individual civic participation within geographically bounded communities (Nah et al. 2016). The influence of CIT on understanding of this relationship is reflected in a large literature that speaks to the importance of connections to local or “geo-ethnic” media for civic engagement (Kim et al. 2006; Chen et al. 2012; Ognyanova et al. 2013; Nah and Yamamoto 2019; Kwon et al 2020).

Though conceptualized as a model to account for civic community in urban environments (Ball Rokeach et al. 2001; Matei and Ball-Rokeach 2003), CIT has also been applied to the study of civic community in rural areas (Kim and Kang 2010). Given the applicability of CIT to the study of the local media -> civic engagement relationship in

communities of place, the framework is therefore useful for understanding the nature of this relationship for individuals living in rural communities.

The Local Media Context in Rural America

Rural America offers an interesting context for an inquiry into the role of local media on individual civic engagement. Many rural communities are increasingly becoming news deserts in that they are communities ‘with limited access to the sort of credible and comprehensive news and information that feeds democracy at the grassroots level’ (UNC 2018). A 2018 report indicates that more than 500 of the 1,800 newspapers that have either closed or merged since 2004 were in rural counties (Abernathy 2018). Rural media outlets face particularly strong headwinds that have buffeted newspapers in recent times. An increasing number of Americans are consuming media digitally (Purcell et al. 2011). One consequence of the increasing consumption of digital media is that individuals turn to social media sites and online news websites instead getting it from local television outlets or local newspapers.

However, rural residents have relatively limited access to local news on digital media formats. Rural America is less-digitally connected than urban locales (Parker 2000) – a factor that accounts for lower rates of digital media use among rural Americans (Duggan and Brenner 2013). Poor digital infrastructure and connectivity means that rural locales lag behind urban areas when it comes to digital development (Salemink et al. 2017). Digital infrastructure is especially vital to rural areas because of the disadvantages associated with isolation and lower densities of economic activity (Gabe and Abel 2002). While the economic implications of the digital divide for rural communities are well documented (Prieger 2013), there is also research on the relationship between rural digital connectivity and civic participation (Chen 2013). These studies indicate that rural Americans use the

internet to build social capital (Stern et al. 2010), and that broadband access is positively related with higher rates of volunteerism (Stern et al. 2011).

Rural communities are especially vulnerable to newspaper closures because of demographic changes such as population decline. An increasing number of rural counties also lack digital and print revenue for financially viable public service journalism (Abernathy 2018). Consequently, there is ‘little to fill the void’ in rural communities when outlets are dissolved (Abernathy 2018: 21). These closures have important implications for access to reliable information about rural residents’ communities. Indeed, another 2018 report commissioned by Pew found that 47 percent of Americans say their local news mostly covers the area where they live.

However, it is not simply the case that an increasing number of local media outlets are either closing down completely or being consolidated with larger networks. It is also the case that coverage of local news on local TV news stations is itself beginning to decline. Literature on the “nationalization” of US politics (Hopkins 2018) highlights that substantial increases in coverage of national politics across television news formats have come at the expense of coverage of local news (Martin and McCrain 2019). Consequently, news coverage that is increasingly driven by national issues on local television stations is leading to less exposure to news and information about local communities. Indeed, and though geographic context has not been the focus of such analyses, studies show that the loss of local news outlets has a downwind effect on engagement (Schulhofer-Wohl and Garrido 2013; Hayes and Lawless 2018).

Current Study

Research consistently demonstrates that rural communities exhibit better outcomes for various measures of social capital than urban locales, and that individuals who consume local

media tend to be more civically engaged than those who do not. How then, does consumption of local media feed into rural Americans' level of participation in local groups and activities in their communities? Given the streams of literature outlined in the previous section, I now turn to developing a set of hypotheses concerning the relationship between local media and civic engagement in rural America.

As noted, it is crucial that we have an approximation of whether there are any discernible differences in levels civic of engagement and patterns of local communication by community type. This is because a number of studies at the intersection of rural sociology, political communication, and civic engagement speak to the importance of geographic context and local media in civic community. Once we have an approximation of these trends, we will be able to better understand if (and indeed how) levels of civic engagement and modes of local communication among rural Americans differ relative to individuals who live in urban and suburban areas of the US. Accordingly, my first hypothesis accounts for the possibility that levels of civic engagement and modes of local communication for getting local news and information will differ by community type (**H1**).

Next, scholars find that certain channels of communication are conducive to greater civic participation while others are not. For instance, studies consistently find positive effects on civic participation through the use of online news websites (Boulianne 2015), while local television news is negatively associated with participation (Chan 2014). We also have a number of reasons to suspect that these various communication channels for getting local news will either be conducive or unconducive to greater participation. For instance, social media sites high in political content can encourage democratically-desirable behaviors – including greater political knowledge and political efficacy - both online and offline, when individuals are exposed to such information (Gil de Zúñiga et al. 2012). However, it is still important to be aware of the effects of misinformation and fake news on weakening

democratic participation, meaning that social media may not necessarily be conducive to participation. Conversely, television is thought to be largely unconducive to participation because it may supplant rather than supplement actual participation in civic activities (Putnam 2000). Television news may also be sensationalized or negative, meaning that individuals are not exposed to information-rich content that is conducive of political engagement (Grabe et al. 2001).

Given these streams of literature, my second hypothesis accounts for the possibility that certain channels of local communication (such as newspapers) will be conducive to greater participation in local activities and local groups (**H2a**), while other channels (such as local television news) will be unconducive to greater participation in local activities and local groups (**H2b**).

Data and Measures

Data

To test these three hypotheses, data are taken from the 2018 Local News Survey. The Local News Survey was conducted by Ipsos on behalf of the Pew Research Center between October 15 and November 8, 2018. The survey sampled all active members of Pew's American Trends Panel (ATP) and Ipsos' KnowledgePanel (KP). Both samples are national, probability based online panels of non-institutionalized adults living in the US. For the survey, all active members of the American Trends and Ipsos' KnowledgePanel were sampled. Altogether, $N = 10,655$ members of the ATP, and $N = 24,243$ members of the KN were sampled for a total $N = 34,898$. To test for differences in levels of civic engagement by community type (**H1**), I utilize the full sample of Local News Survey respondents. In my tests of **H2**, however, I limit my sample to respondents who described the place where they lived as rural ($N = 8,110$).^v

Measures

Civic Engagement. This study used variables measured at the individual level that represented two dimensions of civic engagement: participation in local activities and local groups within the community. Before I outline my measures, however, it is important to outline what I mean by local. By local, I am referring to the state of belonging to, and participating within, a geographically bounded space where individuals live. In this way, individuals may partake in activities and groups that occur within their local area.

Five variables were employed for participation in local activities. Each item is a dichotomous variable that asks respondents whether they had participated in a given activity in their community in the past year. Respondents were asked if they had: **i)** attended a public hearing or a town/city council meeting in the past year, **ii)** attended a neighborhood meeting in the past year, **iii)** had organized or participated in any rallies or protests in the past year, **iv)** had participated in any discussion groups focused on local issues, either online or offline in the past year, and **v)** contacted any elected officials, either online or offline in the past year.

Next, three items for participation in local groups were employed. These three items are also dichotomous variables, and they ask whether a respondent is currently active in: **i)** any community groups or neighborhood organizations, **ii)** any social groups or clubs, such as a book club or dinner club, and **iii)** in any charitable or service organizations, such as Habitat for Humanity or the Rotary Club.^{vi} All of the dependent measures are coded such that a value of 1 corresponds to participation in a given activity or group, and 0 for non-participation.

Channels of Local Communication. A series of five items that ask how often a respondent gets local news and information from a given source were employed to gauge channels of levels of local communication. These items ask how often a respondent gets local news and information from: **i)** local residents such as family, friends, or neighbors, **ii)** local

television news stations, **iii**) local newspapers, **iv**) online news websites or apps, and **v**) social media sites such as Twitter, Facebook, or Snapchat. The items are all four-point ordinal items, with possible responses ranging between 1 = “often,” 2 = “sometimes,” 3 = “hardly ever,” to 4 = “never.” All items are reverse coded so that higher values are indicative of more frequent use of a given channel for getting local news.

Local News Interest. A four-point ordinal item that asks how closely a respondent follows local news. Possible responses for this item range between 1 = “very closely,” 2 = “somewhat closely,” 3 = “not very closely,” to 4 = “not at all closely.” The variable is reverse coded so that higher values are indicative of higher levels of interest in local news.

Community Attachment. A four-point ordinal item that asks how attached a respondent feels to their local community. Possible responses range from 1 = “very,” 2 = “somewhat,” 3 = “not very,” to 4 = “not at all.” The was reverse coded so that higher values were indicative of higher levels of community attachment.^{vii}

Controls. In addition to the variables outlined above, models also control for a number of individual-level sociodemographic covariates. *Race* is a series of dichotomized variables where 1 = “Black,” 0 “not Black,” and 1 = “Hispanic,” 0 = “not Hispanic”, 1 = “other race,” 0 = “not other race,” with White serving as the base category. *Age* is a four-point ordinal item ranging between 1 = “18-29,” to 4 = “65+.” *Females* are coded as 1 and males as 0. *Married* respondents are coded as 1 and those who are not married as 0. *Education* is a six-point ordinal variable ranging between 1 = “less than high school,” to 6 = “postgraduate.” *Family income* is nine-point ordinal variable ranging between 1 = “less than \$10,000,” to 9 = “\$150,000 or more.”^{viii} And *region* is a series of three dichotomous variables for Midwest (1 = “Midwest,” 0 = “lives elsewhere”), South (1 = “South,” 0 “lives elsewhere”), and West (1 = “West,” 0 = “lives elsewhere”, with the Northeast serving as the

base category. **Table 1** presents descriptive statistics including means and standard deviations for all measures among the rural subsample.

[Table 1 here]

Analytical Strategy

To test my hypotheses, the paper employs an analytical strategy that works in two ways. To test **H1**, I implement nonparametric tests of hypotheses^{ix} to determine if participation in local activities and local groups, and channels of local communication for getting local news and information differ between urban, suburban, and rural communities. Results of these nonparametric tests are presented in **Table 2**. Second, to assess whether certain channels of local communication are conducive or unconducive to greater civic participation (**H2a** and **H2b**), I estimate probit models. Models are estimated with controls for the means through which a respondent gets their local news (including via interpersonal communication channels, and “hard” media use), a respondent’s level of interest in local news, the item for community attachment, and the socio-demographic and structural covariates. I present two separate sets of results for participation in local activities and groups in **Table 3** and **4**. In these tables, all variables were z-transformed to obtain standardized coefficient estimates.

Results

Nonparametric Tests for Levels Civic Engagement and Modes of Local Communication by Community Type

To test **H1**, I first present descriptive statistics for civic engagement by local activity and local group type. As indicated by **Table 2**, the means for participation in local activities

by community type were significantly different for each activity. A series of Pearson's χ^2 tests revealed that differences in means by community type were significant at the $p < .001$ level for attendance at public meetings, attendance at neighborhood meetings, participation in local discussion groups, and participation in rallies or political protests, while differences in means for contacting a public official were significant at $p < .05$. Breaking down mean levels of participation in local activities by community type, **Table 2** shows that rural respondents report the highest mean score for attendance at public meetings. Contrastingly, urban respondents exhibit higher mean scores for the other four items for local activities.

This pattern of significance continues for participation in local groups by community type. Here, the Pearson's χ^2 Tests indicate that mean differences by community type are significant at the $p < .001$ level for active participation in a neighborhood association and social groups/clubs. Conversely, mean differences in active participation in charitable organizations by community type are significant at $p < .05$ level. Comparing mean scores for active participation in local groups by community type, we see that rural respondents exhibit higher mean levels of activity in social groups and clubs, while urban respondents exhibit higher participation in neighborhood associations and charitable organizations.

Lastly, a series of Kruskal-Wallis tests indicate that the communication channels through which Americans get their local news and information are also significantly different by community type. Mean differences for interpersonal communication channels, use of local TV, local newspapers, online news websites or apps, and social media by community type are all significant at the $p < .001$ level. An examination of the means in the bottom five rows of **Table 2** reveals that rural Americans are more likely to rely on their interpersonal communication channels, local television, and local newspapers to get local news and information than urban or suburban individuals. Conversely, urban respondents are more likely to rely on online news websites and social media to get local news and information.

[Table 1 here]

Local Channels of Communication and Participation in Local Activities

Table 3 presents probit estimates for the relationship between local channels of communication and rural Americans' participation in each of the five local activities. In support of **H2a**, **Table 3** indicates that a rural respondent's use of online news websites for getting local news is consistently associated with probable participation in local activities. The probit coefficient for local newspapers is strongly positive and significant ($p < .05$) across specifications. **Table 3** also indicates that reading local newspapers is also associated with participation in a number of local activities. Notwithstanding, the probit coefficient for local newspapers for getting local news and information is an inconsistent predictor of participation in local activities relative to online news websites, being an insignificant predictor of local participation in local discussion groups and protests.

It is also somewhat surprising to find that social media use is a weaker predictor of participation in local activities across models. Here, the probit coefficient for the use social media for getting local news and information is only a significant predictor of participation for participation in local discussion groups and in rallies and protests ($p < .05$). It is also worth noting that the influence of a rural respondent's use of interpersonal communication channels for getting local news, as well as their general interest in local news, both appear to outweigh the influence of both newspapers, online news websites, and social media. This would suggest that connections to other individuals' function as an important channel of local communication for rural Americans.

Largely in line extant scholarship (Chan 2014) and my theoretical expectations (**H2b**) concerning the role of local television news in robust civic participation, **Table 3** also reveals

that local television news is largely uncondusive to participation in local activities. Specifically, four of the five probit models indicate that local television news is negatively associated with participation in local activities ($p < .001$). Despite this strong pattern of negative results, local television news appears to be positive predictor of participation in attending a neighborhood meeting. However, it is important to qualify that the probit coefficient does not meet the conventional $p < .05$ benchmark for statistical significance.

[Table 2 here]

Table 3 also reveals a number of interesting associations between the socio-demographic variables and participation in local activities. Of particular note are the dichotomous variables for a respondent's race, with the models indicating that Black and Hispanic respondents were more likely than Whites to participate in every type of civic activity tested for in regression. To further assess whether these effects through race were significant, I performed a series of contrasts of adjusted predictions using postestimation. The results of the postestimation indicate that rural Black respondents were significantly more likely than rural White respondents to attend a public meeting ($p < .01$). Full results of the contrasts of adjusted predictions are presented in section **A4** of the Supplemental Information file.

Local Channels of Communication and Participation in Local Groups

Given this notable pattern of results for rural participation in local activities, do we observe a similar trend for rural participation in local groups? The results of three probit models assessing the probability of robust civic engagement in local civic groups are presented below in **Table 4**. In further support of **H2a**, the use of newspapers for getting

local news and information is positively associated with participation in each of the local civic groups. Though, it is important to qualify that these effects through the use local newspapers are only likely to be significant at the $p < .01$ level when it comes to whether a rural respondent is an active member of a charitable organization.

Next, the use of online news websites is similarly conducive of being a member of a civic group among rural respondents. The probit coefficient for the use of online news websites is also positive across model specifications. However, the effects through online news websites on civic group membership are only significant at the $p < .05$ level when it comes to a rural individual being an active member of a social group or club. Unlike the models for local activities, however, the use of social media getting local news and information is a much strong predictor of participation in local groups across each of the specifications. The probit coefficient for social media is positively associated with being an active member of a neighborhood association ($p < .001$) and a charity organization ($p < .01$).

[Table 3 here]

The results concerning the role of local television news in participation in local civic groups paint a similar picture to those for local activities. Across model specifications, the use of local television for getting local news is negatively associated with being a member of each local group. However, the probit coefficient for local television news is only significant when it comes to a rural individual being an active member of a charitable organization ($p < .001$). The results therefore lend further weight to **H2b** by demonstrating that local television news is generally unconducive to civic participation across a variety of measures.

For the controls, we again see a number of interesting effects on civic participation through race. First, rural Black respondents are significantly likely to be active members of

neighborhood associations ($p < .001$) and members of social groups and clubs ($p < .01$). Second, rural Hispanic respondents are significantly likely to be active members of neighborhood associations. To assess whether these differences when contrasting on race were statistically significant, I performed an additional postestimation. Results from the postestimation indicated that rural Hispanic respondents were significantly more likely than rural White respondents to report being active members of a neighborhood association ($p < .05$). However, other contrasts through race did not exhibit conventional levels of statistical significance. Full results of the postestimation are presented in section A4 of the Supplemental Information file.

Discussion

This paper uses data from the 2018 Local News Survey to assess whether rural Americans' use of local channels of communication to get local news and information about their communities are important antecedent of robust civic engagement. By lending empirical weight to my set of theoretical expectations, the paper makes a number of contributions to the existing scholarship. First, I have shown that the use of local channels of communication for getting local news and information are important building blocks for rural Americans' civic engagement. Here, I have focused on the relative importance of a number of local channels of communication for getting local news and information. These include a rural individuals' interpersonal communication channels as well as a number of traditional and digital media formats such as local television news, local newspapers, online news websites, and social media.

The results build upon a robust literature which speaks to the importance of multiple forms of local and geo-ethnic media in fostering greater civic engagement in communities of place (Ball Rokeach et al. 2001; Matei and Ball-Rokeach 2003). While communications

infrastructure theory (CIT) has been useful in helping us understand the local media -> civic engagement relationship in urban locales, this paper builds on these works by demonstrating that local and geo-ethnic media are also critically important actors in fostering greater participation in rural communities. Given the clear contribution of CIT in helping us understand these relationships, it is important that we consider the findings of the current paper with this framework in mind.

Second, the results indicate that rural respondents' use of local newspapers are still relatively robust predictors in rural participation in local groups and activities. These results build on the literature that speaks to the continued importance of local newspapers in engendering greater community participation despite the clear influence of digital media in the contemporary media environment (Thorson et al. 2020). The positive pattern of results for local newspapers makes sense when we consider that such sources are more likely to be driven by concerns for "civic journalism," which involves a commitment to local issues and community discourse that are more likely to be staples of news among smaller media markets (Voakes 1999).

The effect sizes for online news websites were often of considerably greater magnitude than those for local newspapers, suggesting that digital forms of media also matter for civic engagement in a variety of local groups and activities among rural individuals. In contrast to the positive results for online news websites, we saw a somewhat inconsistent pattern of results for social media. However, this finding make sense when we consider the prelevance of online misinformation social media sites. As aforementioned, the increasing prelevance of online misinformation ought to negatively impact attitudes such as political efficacy, which are thought to be conducive of greater participation. The largely inconsistent results for social media speaks to the extant scholarship on anti-statist attitudes that are closely related to outright disengagement from formal politics in rural America. Still, it is

interesting to find that social media use is positively related to rural participation in rallies and protests. This finding is noteworthy because disengagement from formal politics can nonetheless feed into rebellion (for instance, in the form of protests) (Cramer 2016).

Notwithstanding the positive effects of online news websites and local newspapers, another noteworthy set of results concerns the roles of a respondent's interpersonal channels of communication and a respondent's general interest in local news. Both of these variables appear to strongly influence rural participation in local groups and activities, often more so than print media and digital media. These effects are also largely consistent across model specifications, providing a degree of confidence in these findings. This is to say that similar patterns of relationships from interpersonal communication channels and interest in local news on participation are discernible in a number of different local activities and groups.

These findings make sense in light of the non-parametric tests for differences in modes of local communication by community type. Here, I found that individuals in rural communities exhibit higher frequencies of getting local news and information via interpersonal channels of communication than individuals residing in urban and suburban communities. This finding suggests that interpersonal communication channels are likely to be especially important modes of local communication for those living in rural areas. Similarly, the results concerning the impact of news interest on civic participation are congruent with prior communications literature which finds that information seeking behavior is itself a robust predictor of participation (Chan 2014).

Third, the findings concerning the negative relationship between local television news and robust civic participation are also important because they provide some evidence for the "nationalization" hypothesis put forward by Hopkins (2018). A notable downwind effect of the increasing "nationalization" of American politics is that coverage of local issues on smaller, regional platforms is becoming increasingly less prevalent as focus shifts to

developments at the national level (Martin and McCrain 2019). As authors have recently posited, this decline in local news coverage could have significant implications for Americans' civic engagement in the direction of decreasing political participation (Hayes and Lawless 2018). Thus, the findings are important because they demonstrate that exposure to local television news might be becoming an increasingly less viable channel of communication for getting news and information about one's community. Given the sharp decline in civic engagement in recent decades (Putnam 2000), the loss of *any* channel of communication for getting local news should cause for significant concern for civic participation in rural and small-town community life today.

While the "nationalization" hypothesis makes sense, it is important to note that such reasoning is somewhat speculative because the paper does not directly analyze the downwind effects of outlet closures on participation as has been the case with previous studies (Hayes and Lawless 2018). Furthermore, there are a number of additional possible explanations that could reasonably be expected to account for local TV being uncondusive to civic participation. For example, the results would also be consistent with Putnam's (2000) original critique of television, where he posited that watching television was substituting for actual participation in activities outside of the home. An additional explanation is that television news often focuses on negative and sensationalized topics (Grabe et al. 2001). As such, it is possible that rural individuals watching local television news are not being exposed to information high in political content that is generally conducive to civic participation.

Fourth, though many of the items for channels of local communication exhibit larger effect sizes relative to a number of the socio-demographic variables in my models, it is nonetheless important to note that there were a number of noteworthy effects on civic participation through these variables. Of particular note were the coefficient estimates for race, which showed that rural Black and Hispanic respondents were more likely than rural

White respondents to participate in every local activity and local group tested for in regression. While not accounted for in my models, one hypothesis concerning these trends are the potential roles of minority group consciousness and linked fate in fostering robust participation among people of color (PoC) (Shaw et al. 2019), as well as the importance of mediating institutions such as community churches (Morris 1986: 5-6).

Limitations and Future Directions

It is also important to note that there are a number of limitations to the current study. One limitation of the data used here is that the 2018 Local News Survey does not contain a number of sociodemographic items that are closely to participation in specific activities. A general strength of Pew datasets is that they contain a number of items concerning frequency of prayer and church attendance, as well the importance of religion. However, those items are notably absent in this particular dataset. The absence of these items is problematic, because participation in religious activities and organizations is an important dimension of bridging social capital (Lewis et al. 2013). This is especially the case in rural communities, which tend to exhibit higher levels of religiosity and church attendance than urban communities (Nelsen et al. 1971). While the dataset contains an item related to participation in church organizations, it is important to qualify that results from any regression models without the proper adjustments for religious covariates would lead to less robust inferences from the data.

This is also the case for participation in organizations that might involve parents and their children. The 2018 Local News Survey also contains an item for participation in organizations such as the Scouts. However, the wording of the survey item is such that participation might involve either the respondent or their child. Specifying a model for this item would again be problematic because the dataset does not contain an item that asks how many children a respondent has aged 18 or less. Once again, it is important to note that

individuals are more likely to participate in activities or join organizations when doing so with their children (Putnam 2000). Critically, however, studies that *do* specify models for participation in such groups or activities contain an additional control for a respondent's number of children (Moy et al. 2005). Consequently, the focus of the analysis has been on participation in local activities or groups for which the wording for survey items made no mention of participation in secular activities, or for activities participated in that may involve children. Ideally, future research into the role of local media on civic engagement in communities of place should account for participation in these sorts of activities. This is so that scholars have a more complete picture of how the use of local media in rural contexts affects a number of diverse forms of civic participation.

Another limitation of the data is that the Local News survey does contain items related to a respondents' interpersonal discussion with community members regarding local issues. The inclusion of this items related to interpersonal discussion would have been useful to assess whether the negative pattern of relationships between local television news and civic participation was indirectly positive through a respondents' interpersonal networks. Previous studies consistent with the "communication mediation model" (Cho et al. 2009) have demonstrated that the relationship between media use and democratic engagement can be mediated by interpersonal discussion. As such, it may still be possible that getting local news from sources such as local television stations creates more opportunities for talking to community members, which in turn may engender participation. Since the networks between individuals in rural communities are likely to be especially robust (Beaudion and Thorson 2004), we have some reason to suspect that this might be the case.

While desirable, it is not strictly necessary to have use a political discussion measure to test this possibility. This is because the communication mediation model was informed by the notion that social relationships *do* matter and the act of communicating with others about

local news may be conducive to civic engagement (Shah et al. 2006). In this way, testing for mediation using the interpersonal communication channel variable should give us a sufficient approximation of whether there is an indirectly positive relationship on participation in local groups and activities through local television news. To test this possibility, I conducted a simple mediation analysis using the Medsem package in Stata (Mehmetoglu 2018), with testing of indirect effects being assessed via the Sobel (1982) test. The mediation analysis reveals that local television is indirectly positive through interpersonal communication channels across measures for participation in local groups and activities (all $p = <.001$). The results of this additional analysis therefore lend empirical weight to the theoretical expectations of the communication mediation model. This finding is important because it suggests that exposure to local television news is not entirely unconducive to rural civic engagement. Section A5 of the Supplemental Information file contains an in depth discussion of the mediation analysis for the interested reader.

Conclusion

In sum, number of local channels of communication appear to be important for the robustness of civic participation in rural America, including newspapers, online news websites, social media, as well as interpersonal communication. Of course, any pattern of negative relationships between local media and civic engagement should be cause for concern for the robustness of civic engagement within these communities of place. Nonetheless, many of the local news variables tested for in regression are still positively related to participation. As such, while it is always important to keep in mind findings regarding the decline in participation from seminal works such as *Bowling Alone* (Putnam 2000), rural individuals may continue to participate in civic community as long as they have

access to a number of local communication channels that are known to be conducive of greater participation.

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Table 1: Descriptive Statistics for Rural Sample

	Min	Max	Mean	SD
Attended public meeting	0	1	.146	.353
Attended neighborhood meeting	0	1	.152	.359
Participated in local discussion groups	0	1	.147	.354
Participated in rally or protest	0	1	.061	.240
Contacted an elected official	0	1	.113	.417
Active in neighborhood associations	0	1	.113	.316
Active in social groups or clubs	0	1	.295	.456
Active in charitable organizations	0	1	.103	.304
Interpersonal communication	1	4	2.798	.864
Local TV	1	4	2.987	1.045
Local newspapers	1	4	2.372	1.103
Online news website or app	1	4	2.578	1.062
Social media	1	4	2.520	1.147
Local news interest	1	4	3.028	.016
Community attachment	0	1	2.923	.039
White (ref)	0	1	.747	.434
Black	0	1	.077	.068
Hispanic	0	1	.108	.311
Other race	0	1	.065	.247
Age	1	4	2.565	1.003
Female	0	1	.539	.498
Married	0	1	.546	.497
Education	1	6	2.970	1.440
Family income	1	9	4.593	2.328
Northeast (ref)	0	1	.161	.368
Midwest	0	1	.235	.424
South	0	1	.424	.494
West	0	1	.178	.382

Notes: Sample limited to respondents living in a rural area. Data are weighted.

Table 2: Nonparametric Tests for Differences in Civic Engagement and Local Channels of Communication by Community Type

	Urban				Suburban		Rural				
	Min	Max	Mean	SD	Mean	SD	Mean	SD	Mean	SD	<i>p</i>
Local activities											
Attended public meeting	0	1	.136	.343	.134	.341	.133	.339	.146	.353	***
Attended neighborhood meeting	0	1	.172	.377	.185	.388	.177	.382	.152	.359	***
Participated in local discussion groups	0	1	.086	.280	.166	.372	.150	.357	.147	.354	***
Participated in rally or protest	0	1	.153	.360	.126	.332	.079	.270	.061	.240	***
Contacted an elected official	0	1	.221	.415	.223	.416	.225	.417	.113	.417	*
Local groups											
Active in neighborhood associations	0	1	.141	.348	.140	.347	.158	.365	.113	.316	***
Active in social groups or clubs	0	1	.275	.446	.249	.432	.276	.477	.295	.456	***
Active in charitable organizations	0	1	.109	.311	.107	.310	.112	.316	.103	.304	*
Local communication channels											
Interpersonal communication	1	4	2.749	.852	2.778	.877	2.705	.829	2.798	.864	***
Local TV	1	4	2.968	1.030	2.984	1.033	2.949	1.023	2.987	1.045	***
Local newspapers	1	4	2.294	1.092	2.302	1.077	2.248	1.092	2.372	1.103	***
Online news website or app	1	4	2.687	1.051	2.738	1.061	2.716	1.036	2.578	1.062	***
Social media	1	4	2.515	1.136	2.632	1.143	2.452	1.124	2.250	1.147	***

Notes: Nonparametric test of mean differences for local activities and local group variables is Pearson's X^2 . Nonparametric test of mean differences for local channels of communication variables is Kruskal-Wallis test. Asterisks indicate significant mean differences by community type (* $p < .05$ ** $p < .01$ *** $p < .001$). Data are weighted.

Table 3: Probit Models for Local Activities

	Attended public meeting	Attended neighborhood meeting	Participated in local discussion groups	Participated in rally or protest	Contacted an elected official
Local news: Interpersonal communication	.107* (.053)	.148*** (.024)	.170*** (.029)	.001 (.027)	.114*** (.026)
Local news: Television	-.113*** (.011)	.010 (.010)	-.085*** (.017)	-.151*** (.028)	-.086*** (.017)
Local news: Newspaper	.136* (.060)	.080 (.068)	.049 (.052)	.105 (.064)	.063 (.037)
Local news: Online news website or app	.078*** (.021)	.091* (.039)	.164*** (.023)	.098** (.035)	.112** (.035)
Local news: social media	.001 (.025)	.016 (.021)	.215*** (.026)	.053* (.037)	.033 (.021)
Interest in local news	.144*** (.028)	.147** (.053)	.075* (.030)	.130*** (.031)	.121*** (.034)
Community attachment	.059 (.043)	.094** (.032)	.043 (.033)	.034 (.028)	-.001 (.011)
Black	.114*** (.016)	.090*** (.021)	.025 (.023)	.088** (.028)	-.002 (.019)
Hispanic	.050 (.051)	.067** (.024)	.023 (.026)	.129** (.045)	.006 (.025)
Other race	.059 (.041)	.031 (.029)	.073 (.060)	.069 (.036)	.084*** (.021)
Age	.041* (.017)	.021 (.032)	-.062* (.026)	-.123*** (.030)	.143** (.051)
Female	-.079*** (.011)	.012 (.018)	-.020 (.018)	.011 (.015)	-.068** (.023)
Married	-.024 (.019)	-.001 (.029)	-.056 (.045)	.001 (.024)	-.028 (.017)
Education	.162*** (.063)	.150*** (.021)	.102*** (.016)	.172*** (.042)	.229*** (.015)
Family income	.038 (.025)	.056 (.042)	.039 (.030)	-.102*** (.021)	.037 (.033)
Midwest	.011** (.003)	.040*** (.002)	.008*** (.001)	-.080*** (.003)	-.020*** (.002)
South	-.014 (.010)	.071*** (.044)	.045*** (.006)	-.005 (.010)	-.007 (.006)
West	.034** (.011)	.177*** (.007)	.056*** (.008)	.050*** (.008)	-.032*** (.004)
Constant	-.948*** (.009)	-.922*** (.005)	-1.059*** (.014)	-1.566*** (.055)	-.587*** (.023)
Pseudo R^2	.071	.085	.096	.080	.074
N	7,186	7,189	7,185	7,185	7,201

Notes: Table entries are probit coefficients. Robust standard errors clustered by region given in parentheses. Sample limited to respondents living in a rural area. Data are weighted. * $p < .05$ ** $p < .01$ *** $p < .001$.

Table 4: Probit Models for Local Groups

	Active in neighborhood associations	Active in social groups or clubs	Active in charitable organizations
Local news: Interpersonal communication	.175*** (.025)	.150*** (.015)	.155*** (.026)
Local news: Television	-.019 (.015)	-.026 (.036)	-.061*** (.016)
Local news: Newspaper	.077 (.044)	.019 (.020)	.125** (.040)
Local news: Online news website or app	.051 (.029)	.048* (.019)	.008 (.023)
Local news: social media	.079*** (.017)	-.010 (.022)	.073** (.021)
Interest in local news	.088*** (.013)	.059* (.023)	.103*** (.019)
Community attachment	.198*** (.034)	.139*** (.027)	.130*** (.005)
Black	.084*** (.015)	.091** (.026)	.037 (.021)
Hispanic	.091* (.037)	.057 (.033)	.072 (.041)
Other race	-.018 (.014)	-.021 (.013)	.015 (.036)
Age	.035 (.040)	.049 (.036)	-.021 (.043)
Female	.058** (.021)	.057** (.019)	.039 (.027)
Married	-.029 (.030)	.166*** (.034)	-.063 (.037)
Education	.180*** (.024)	.140*** (.028)	.189*** (.009)
Family income	.148** (.045)	.026 (.043)	.116*** (.028)
Midwest	.025*** (.001)	.121*** (.001)	.059*** (.003)
South	.047*** (.001)	.155*** (.010)	.084*** (.006)
West	.114*** (.003)	.066*** (.012)	.094*** (.010)
Constant	-1.094*** (.005)	-.421*** (.022)	-1.153*** (.012)
Pseudo R^2	.114	.079	.089
N	7,172	7,173	7,175

Notes: Table entries are probit coefficients. Robust standard errors clustered by region given in parentheses. All variables scaled to range between 0 and 1. Sample limited to respondents living in a rural area. Data are weighted. * $p < .05$ ** $p < .01$ *** $p < .001$.

Supplemental Information for Watching Together: Local media and Rural Civic
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A1: Population Range of Rural Subsample

Table A1: Population Range of Rural Subsample by Region/Metro Area

Region	% of rural subsample	N
Metro Northeast	12.26%	995
Nonmetro Northeast	5.09%	413
Metro Midwest	13.61%	1,104
Nonmetro Midwest	14.73%	1,194
Metro South	22.35%	1,813
Nonmetro South	13.35%	1,082
Metro West	12.62%	1,023
Nonmetro West	5.99%	486

Notes: Sample limited to respondents who reported living in a rural area (N = 8,110).

A2: Bivariate Correlations for Local Group Participation Items

Table A2: Bivariate Correlations for Local Group Participation Items

	Active in neighborhood associations	Active in social groups or clubs	Active in charitable organization
Active in neighborhood associations	1		
Active in social groups or clubs	.152***	1	
Active in charitable organizations	.286***	.198***	1

Notes: Table entries are Pearson's pairwise correlation coefficient estimates. Asterisks indicate a statistically significant pairwise correlation (*** $p < .001$). Sample limited to respondents who reported living in a rural area. Data are unweighted.

A3: Sensitivity Analysis for Community Attachment Item

In this section, I perform a sensitivity analysis to assess the robustness of the community attachment item used in regression. A key concern pertaining to inferences we can make from the coefficient for the community attachment item used in the probit models is that the single four-point ordinal item does not capture the richness of community attachment as a concept. Scholars of the rural sociology literature have noted that attachment to community includes both the social and natural environment dimensions of attachment (Hillery 1955; Brehm et al. 2004). The multidimensional nature of the attachment to community is reflected in recent studies which use a number of items to measure the concept. Given the number of studies within the rural sociology scholarship which use multiple items to measure community attachment (Beggs et al. 1996; Flagg and Painter 2019), we need to assess the robustness of the single-item community attachment measure to address concerns related to both omitted variable bias (or confounding).

For my test of the robustness of the community attachment measure, I assess the degree to which the item is robust to omitted variable bias. In this test, the community attachment item is assumed to be a variable that is associated with the unobserved dimensions of community attachment *and* the dependent measures for rural civic participation. To test this possibility, I performed a sensitivity analysis on all model specifications using the **Konfound** package in Stata (Frank 2018). **Konfound** works by estimating the impact that an omitted confounding variable would need to invalidate an inference made from the regression coefficient in a given model – in our case the effect of community attachment on rural Americans' probable participation in local activities and local groups. This impact is estimated as the percentage of observed cases that would need to be replaced with null hypothesis cases to invalidate the effects of community attachment on the civic participation measures. In the case of nonparametric models such as probit,

Konfound. In the case of non-parametric regression models, Konfound bases this estimate on the average partial effect (APE) instead of the original coefficient. **Konfound** is thus a useful package as we are able to identify a “switch point” (Behn and Vaupel 1982) where omitted variable bias is large enough to invalidate inferences about its effect on civic participation.

The results of the sensitivity analysis are presented below in **Table A3**. The first five rows in **Table A3** contain the results for rural Americans’ participation in local groups within their communities. In these models, **Konfound** finds that between 30 and 92 per cent of cases would need to be replaced with cases for which there was no effect. In the models for rural Americans participation in local groups within their communities, the community attachment item appears to be more robust to omitted variable bias across model specifications. To invalidate the effects of community attachment on rural participation in local groups, the sensitivity analysis indicated that between 63 and 93 per cent of cases would need to be with replaced with cases for which there was no effect.

In contextualizing these results, several things are important to note. The first is that, in the models which did not exhibit a significant average partial effect (APE) through community attachment, the original coefficient for community attachment in the probit models presented in the main paper did not exhibit conventional levels of statistical significance ($p < .05$), either. In some instances, therefore, it could simply be the case that community attachment is not conducive to participation in certain civic activities. The second is that, through the single item measure does not capture the richness of community attachment as concept as is the case in other studies (Flagg and Painter 2019), a significant percentage of observed cases would need to be replaced with null cases to invalidate its effects on rural civic engagement. Of particular note are the results of the last four models, in which more than 60 per cent of the total observed cases would need to be replaced with cases

for which there was no effect. Given the relatively large sample size for all models (around $N = 7,000$), it is important to note that this is not an insignificant number of cases. Finally, though the creators of **Konfound** do not quantify a benchmark figure that represents an “acceptable” level of confounding (Frank and Xu 2018), it is nonetheless important to be aware of these values for purposes of conducting a transparent investigation.

Table A3: Estimates of the Percentage of Bias Necessary to Invalidate the Inference of Community Attachment on Rural Civic Engagement

Model	APE	% Bias necessary to invalidate inference
Attended public meeting	.012 (.009)	30.34%
Attended neighborhood meeting	.020** (.007)	31.37%
Participated in local discussion groups	.003 (.003)	38.81%
Participated in a rally or protest	.009 (.006)	32.08%
Contacted an elected official	-.001 (.003)	92.95%
Active in neighborhood associations	.033*** (.005)	66.49%
Active in social clubs or groups	.044*** (.008)	63.46%
Active in charitable organizations	.021*** (.001)	93.17%

Table entries are the average partial effect of community attachment in each model. Delta-method standard errors given in parentheses. All models control for local channels of communication, interest in local news, race, age, gender, marital status, education, income, and region. Sample limited to respondents living in a rural area. Data are weighted. * $p < .05$ ** $p < .01$ *** $p < .001$.

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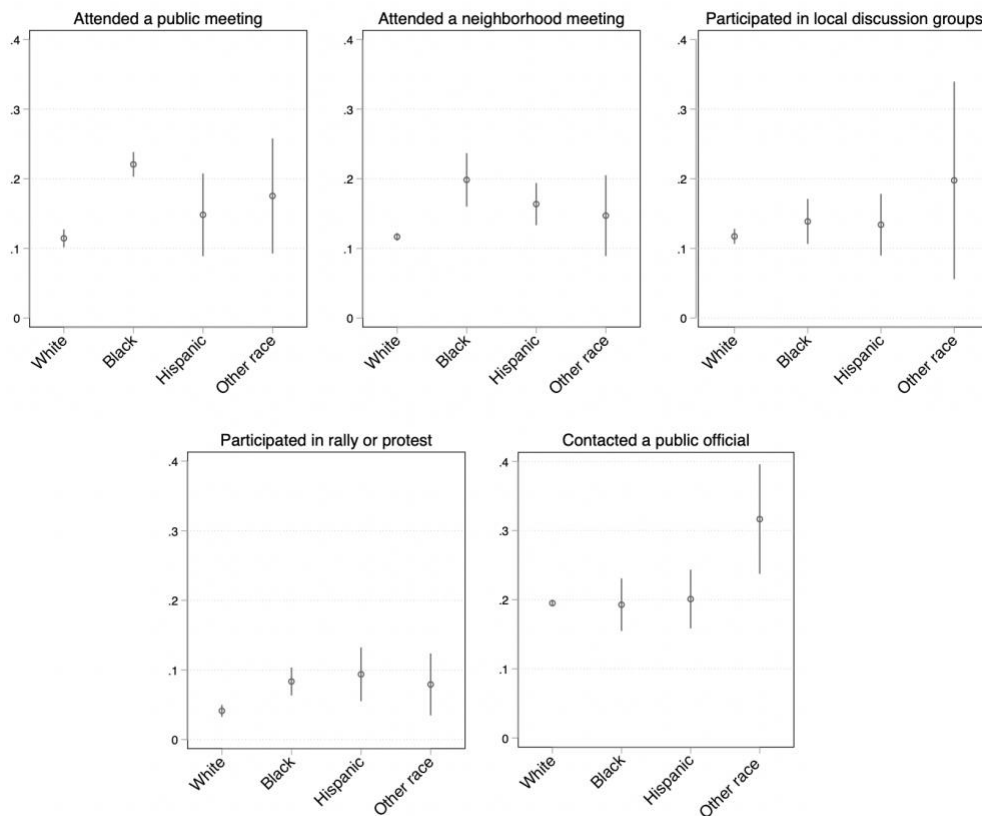
A5: Contrasts of Adjusted Predictions for Rural Civic Engagement by Race

The results presented in the second sub-section of the main paper revealed a number of interesting effects on civic participations through the socio-demographic variables controlled for in regression. Of particular note were the coefficient estimates for the dichotomized variables for race. Here, we observed that that Black and Hispanic individuals who reported living in rural areas of the US were more likely than rural White individuals to participate in a number of different local activities and local groups. In this section, I assess whether any of these differences in levels of rural civic participation through race were statistically significant. The models in this section begin with the same set of explanatory variables and socio-demographic covariates used in the paper. Instead of the dummy variables for race, however, I included the original categorical variable for race where 1 = “White,” 2 = “Black,” 3 = “Hispanic,” 4 = “other race” whilst specifying indicators for each category. After re-estimating each of the probit models with the categorical variable for race, I then performed a series of contrasts of adjusted predictions using postestimation.

Before I present the results of the adjusted contrasts, it is first useful to have a substantive approximation of how levels of rural civic engagement differ by race. To gauge these differences, **Figures A5.1** and **A5.2** plot the various predicted probabilities that a rural individual will participate in each of the various activities as a function of their race. Predicted probabilities for each category were calculated by holding all other variables in the probit models either constant or at their respective mean values. As evidenced by these graphs, rural White individuals have a consistently lower predicted probability of participating in local activities and groups relative to non-White individuals who also live in rural areas. While **Figures A5.1 and A5.2** consistently show that Black, Hispanic, and respondents within the “other race” category have a higher probability of participating in local activities and groups relative to White respondents, it is nonetheless important to

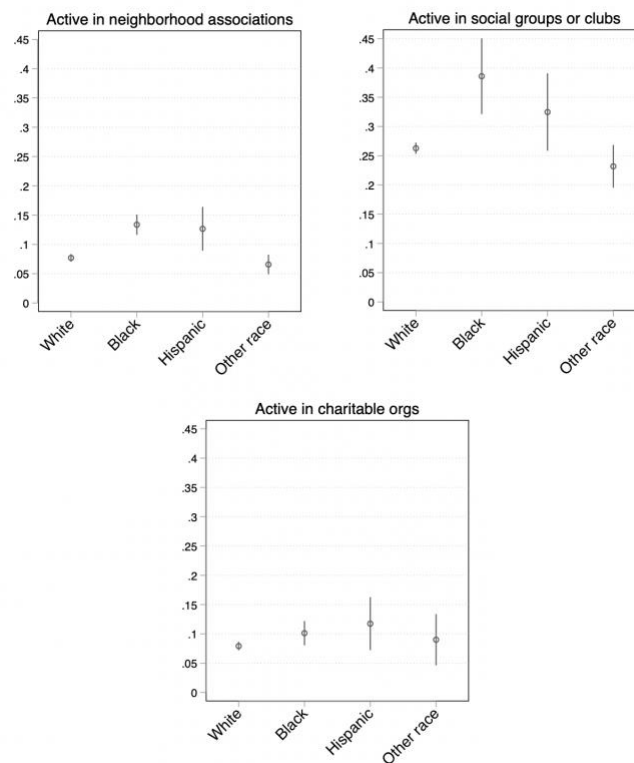
qualify that the confidence intervals for a number of these estimates are considerably larger than those for White respondents. However, this is likely explained by the relatively smaller sample sizes when we subsample by race (N = 6,773 for “White,” N = 389 for “Black,” N = 602 for “Hispanic,” and N = 311 for “other race”).

Figure A5.1: Rural Participation in Local Activities as a Function of Race



Notes: Points represent the predicted probability of a rural individual participating in each local activity, by race. The lines are 95 per cent confidence intervals. Predicted probabilities calculated by holding all other variables in probit models constant or at their respect mean values.

Figure A5.2: Rural Participation in Local Groups as a Function of Race

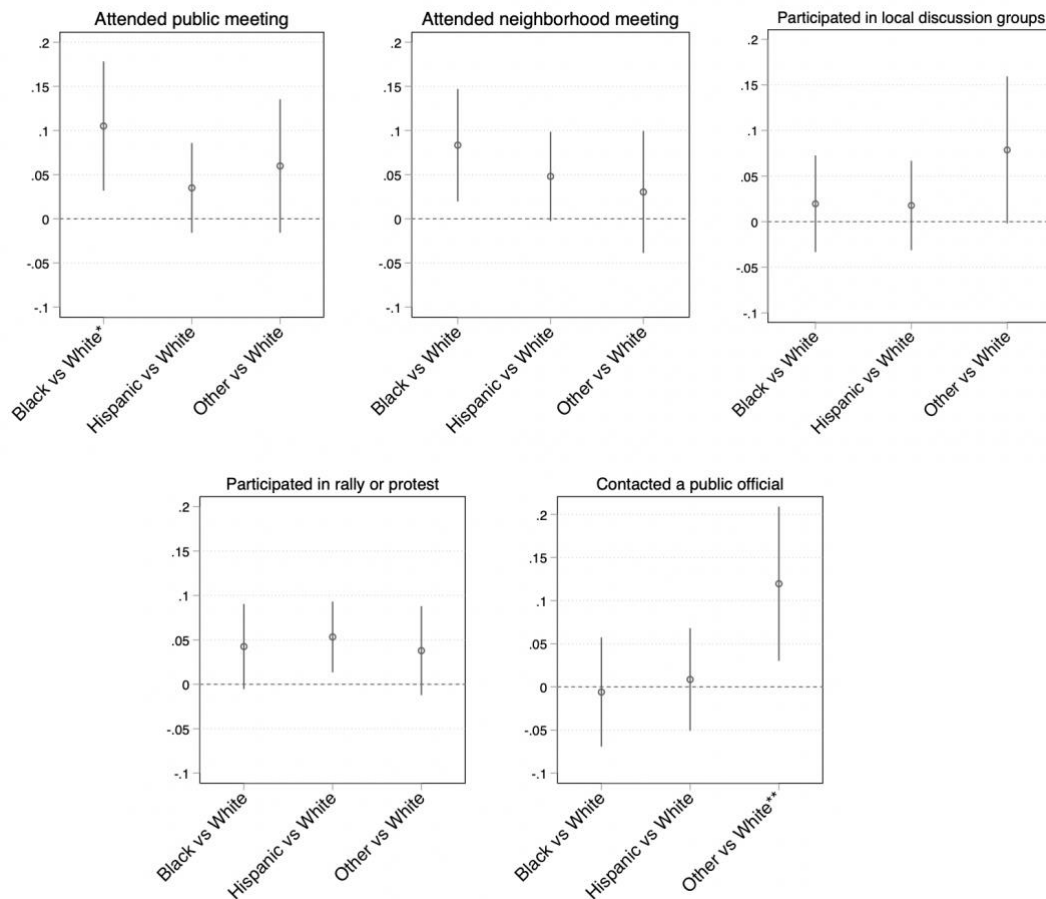


Notes: Points represent the predicted probability of a rural individual participating in each local group, by race. The lines are 95 per cent confidence intervals. Predicted probabilities calculated by holding all other variables in probit models constant or at their respect mean values.

Now that we have a better approximation of how levels of rural civic participation differ across the various categories of the race variable, I now turn to assess where these differences through race were statistically significant. To test this possibility, I present a series of contrasts of adjusted predictions using postestimation below in **Figures 5.3 and 5.4**. To aid substantive interpretation of these contrasts, significant differences when contrasting on race are marked with an asterisk. Across models for participation in local activities, **Figure 5.3** indicates that only two contrasts exhibit conventional levels of statistical significance across models. In the first model, the postestimation reveals that the difference in the predicted probability that rural Black and rural White individuals will attend a public meeting is significant at the $p < .05$ level. In the model estimating the probability of a rural

individual contacting a public official, differences between individuals in the “other race” category and White individuals are likewise significant at the $p < .01$ level.

Figure A5.3: Rural Participation in Local Activities, by Race

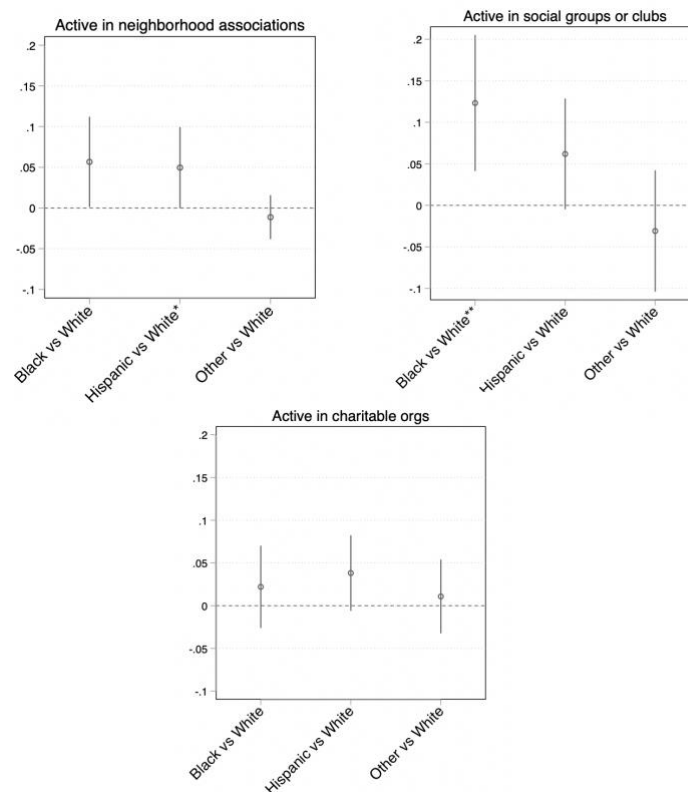


Notes: Points represent the change in the predicted probability of a rural individual participating in each local activity when contrasting on race. The lines are 95 per cent confidence intervals. Adjusted contrasts calculated by holding all other variables in probit models constant or at their respect mean values. Labels marked with an asterisk indicate a statistically significant contrast (* $p < .05$ ** $p < .01$).

A similar pattern of results concerning rural participation in local groups can be seen below in **Figure A5.4**. Contrasting on race in these models, we see that only one contrast exhibits conventional levels of statistical significance. In the probit model estimating the probability of rural participation in social groups or clubs within one’s community, the results indicate a statistically significant contrast between rural Black and rural White individuals (p

<.01). In substantive terms, this means that there are statistically discernible differences in levels of participation in social groups or clubs between Black and White individuals in rural areas.

Figure A5.4: Rural Participation in Local Groups, by Race



Notes: Points represent the change in the predicted probability of a rural individual participating in each local group when contrasting on race. The lines are 95 per cent confidence intervals. Adjusted contrasts calculated by holding all other variables in probit model constant or at their respect mean values. Labels marked with an asterisk indicate a statistically significant contrast (* $p < .05$ ** $p < .01$).

In contextualizing these results, it is useful to note that, while the first two figures indicate a degree of difference in levels of civic participation between White and non-White individuals, the results of the additional postestimation indicate that only a small number of these contrasts are actually significant at the accepted $p < .05$ benchmark. Given this pattern of results contrasting on race, what then, might be driving these differences? Though not accounted for in regression due to the secondary nature of the survey data, one possibility

concerns the roles of minority group consciousness and linked fate in fostering robust civic participation in rural communities. A number of recent studies have made the link between these constructs and a greater propensity to participate in the civic and political process among minority individuals (Stokes 2003; Masuoka 2006; Sanchez 2006; Shaw et al. 2019). Given these streams of literature, it is reasonable to expect that the salience of intra-racial group bonds may be driving these differences.

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A5: Local Television News Mediated by Interpersonal Communication Channels

In this section, I conduct a simple mediation analysis in order to assess whether rural Americans' use of local television news for getting local news and information is indirectly positive through interpersonal communication. The mediation analysis was conducted to test the formal theory outlined by the "communication mediation model," where it was hypothesized that interpersonal communication is a mediator of the relationship between local television news and civic engagement (Shah et al. 2006).

Descriptively speaking, interpersonal communication is a mediator of the relationship between consumption of local television news and civic engagement if three conditions are met: **i)** local television news is related to civic engagement, **ii)** local television news is related to interpersonal communication, and **iii)** the relationship between consumption of local television news and civic engagement is reduced when we adjust for interpersonal communication. Mediation models are estimated using the Baron and Kenny (1986) estimator. This procedure estimates a direct effect of consumption of local television news on civic engagement, and a mediated effect of consumption of local television news on civic engagement through interpersonal communication. I use non-parametric bootstrapping to estimate standard errors. Since the main effect of interest is the indirect effect of local television news, **Table A5** reports the standardized indirect effect, as well as the total percentage mediated. Significance testing of indirect effects was assessed via the Sobel test (1982).

As indicated by **Table A5**, estimates of the indirect effect of local television news consumption on civic engagement are all positive and significant at the $p < .001$ level. The estimates therefore suggest that interpersonal communication mediates a proportion of the relationship between local television news and rural participation in local activities and

groups. However, it is important to note that this relationship varies among measures. For instance, only 16.12% of the relationship runs through interpersonal communication when it comes to participation in local discussion groups. By contrast, 66.50% of the relationship runs through interpersonal communication when it comes to active participation in charitable organizations. The results of these mediation models therefore lends some credence to Shah et al.'s (2006) hypothesis that television news generates more opportunities for individuals to talk about local things which, in turn, engenders greater civic engagement.

Table A5: Mediation Models of Local Television News and Civic Engagement among Rural Americans

Model	Indirect effect	% Mediated
Attended public meeting	.023*** (.002)	48.20%
Attended neighborhood meeting	.028*** (.002)	31.80%
Participated in local discussion groups	.031*** (.002)	16.12%
Participated in rally or protest	.015*** (.002)	38.30%
Contacted an elected official	.022*** (.002)	23.80%
Active in neighborhood associations	.030*** (.002)	51.30%
Active in social groups or clubs	.028*** (.002)	44.50%
Active in charitable organizations	.019*** (.002)	66.50%

Notes: Table entries are standardized indirect effect estimates. Bootstrap standard errors given in parentheses. Results are from mediation analysis using the Baron and Kenney (1986) estimator, implemented with the Medsem (Mehmetoglu 2018) package in Stata. Asterisks indicate a statistically significant indirect effect as assessed by the Sobel (1982) test.

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ⁱ The nature of this relationship is multidimensional. For instance, consumption of entertainment media leads to lower rates of community participation (Hooghe 2002), while consumption of news and information concerning one's community has been shown to be a consistent predictor of robust civic engagement (Scheufele et al. 2002).

ⁱⁱ Still, urban residence does not necessarily lead to a decline in rates of civic engagement and a loss of social capital. For example, neighborhood walkability is also associated with higher rates of political participation in urban locales (Leyden 2003).

ⁱⁱⁱ Building upon the work on Putnam (2007), rural sociologists show it is also the case that rural communities which are racially homogenous but ethnically heterogenous (that is, communities which are overwhelmingly White but where residents report diverse ancestral origins) may lead to less robust neighbor sentiments and bonds (Flagg and Painter 2019).

^{iv} The relationship is such that individuals participate in storytelling via conversations about everyday life in one's community. Community organizations construct a shared identity among residents by sharing events and raising awareness of issues that are of interest to community members. Local media also engender discussion among community members by covering community-related issues.

^v Section **A1** of the Supplemental contains an approximation of the population range of the rural sample.

^{vi} Though the general nature of the items from the 2018 Local News Survey concerning rural Americans' participation in local groups may suggest that I am asking the same question multiple times, it is important to note that neighborhood groups, social groups, and charitable organizations are distinct groups which community members may participate in. Neighborhood associations are often composed of groups of residents or property owners, who work together to make changes or improvements to communities such as increasing neighborhood safety. In contrast to neighborhood associations, which may conduct themselves akin to a corporation, with officers, bylaws, and other rule of action, social clubs are associations of community members who meet together for social purposes. Finally, charitable organizations are mission focused organizations, whereas groups such as neighborhood associations are *membership-focused* organizations, where the primary focus is to provide benefits for association members. Consistent with these theoretical distinctions, the three group participation items exhibited a low level of internal consistency (Cronbach's $\alpha = .44$), suggesting poor interrelatedness between items. To further assess whether these local group participation items were substantively distinct, I performed a correlation analysis. As indicated here, the group participation items exhibited weakly positive correlations with one another ($r = <.3$). Full results of the correlation analysis are presented in section **A2** of the Supplemental Information file.

^{vii} Given the richness of community attachment as a theoretical construct, I performed sensitivity analysis tests to assess the robustness of this one-item measure across model specifications. The results are presented in section **A3** of the Supplemental Information file.

^{viii} Respondents who refused to provide their incomes were omitted from the analysis. To assess whether missing income values affected the direction and significance of results reported here, I performed ancillary analysis where I imputed missing income values as a function of the sociodemographic covariates used to

estimate probit models. The results of these models do not differ substantively from those presented and are available on request.

^{ix} For local activities and local groups, I implement a series Pearson's χ^2 Tests. These tests evaluate how likely it is that any observed differences between categories arose by chance.