Partisan Media and Engagement: 
A Field Experiment in a Newly Liberalized System

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Abstract
How does media exposure affect political engagement in newly liberalized systems? Some celebrate newly vibrant and diverse media, believing that they mobilize citizens. Others worry that these outlets, which are often partisan, dampen engagement. We theorize that exposure to political programming engenders excitement about politics irrespective of program bias, but that interest does not necessarily beget action. Partisan media affect participation only when altering attitude strength, and thus motivations. To evaluate media effects on interest and participation, we conducted a field experiment in Ghana, in which individuals in tro-tros (commuter vans) were randomly exposed to different types of live talk radio. We find that partisan and non-partisan media increased political interest, but not participation. Instead, exposure to alternate perspectives on cross-cutting media (i.e., those biased against subjects’ partisan preferences) heightened ambivalence and dampened participation, measured as signing an SMS petition to parties. Partisan media simultaneously increased interest and decreased participation.

Data collection was carried out by DAK Consult in Ghana, and we thank all interviewers, team leaders, translators, and data management staff for their hard work, with special thanks to our superb project manager, Ruth Ahinei Essuman. We also thank Ebenezer Ansah for excellent research assistance in Ghana, and Andrew Daniller and Eleanor Marchant for research assistance in the United States. We would like to thank Susanna Dilliplane, John McCauley, Gwyneth McClelond, Kristin Michelitch, Amanda Robinson, Rosario Aguilar Pariente, Cory Smidt, Danie Stockmann, Elizabeth Suhay, Dan Young, and members of Experiments in Governance and Politics for their helpful comments. We gratefully acknowledge funding provided by the Annenberg School for Communication, the Annenberg Public Policy Center, the Annenberg Center for Global Communication Studies, and BBC Media Action.
How does media exposure affect political engagement in newly liberalized systems? The proliferation of media expands and enlivens political discourse in such settings. However, many outlets are established by politicians and affiliated businesspeople to espouse partisan views. Some observers celebrate these vibrant and diverse media on the belief that they mobilize political involvement. However, others worry that partisan media will foster apathy and dampen participation.

Either scenario is plausible, and extant literature does not provide theory or evidence to adjudicate between these conflicting predictions. Our research addresses this issue by examining the effects of partisan media on two different dimensions of engagement—psychological and behavioral—in a post-liberalization setting.

We theorize that media exposure will engender psychological engagement irrespective of program bias. These positive effects will be especially strong in post-liberalization settings, because open, pluralistic discussion was blocked for so long. Importantly, however, interest will not necessarily lead to costly action; individuals also need to be properly motivated to participate. Motivation is particularly important in post-liberalization settings, because individuals there are often less able to bear the costs of participation due to poverty and inexperience. We posit that media will affect participation only when they alter attitude strength, which is a significant determinant of motivation. Given that different types of messages—like-minded, cross-cutting, and balanced—can theoretically have different effects on attitude strength, the effects of exposure to partisan media on participation will vary depending on content.

To test the effects of media on psychological and behavioral engagement, we conducted a field experiment during the 2012 electoral campaign in Ghana, which recently experienced media liberalization. Commuters on tro-tros (privately owned vans) were exposed to different randomly assigned FM radio broadcasts. Three treatments involved live political talk programming—from a pro-government, pro-opposition, or non-partisan station—while other tro-tros were assigned to a no-radio control. After their commute, subjects were interviewed about their interest in politics. In addition, they were subsequently contacted via SMS and invited to sign a petition to political parties. We use this component to measure political participation.
The experiment yields a number of important findings. First, both partisan and non-partisan media led to greater interest in politics. This provides support for the argument that exposure to political discussion of a wide variety of types fosters psychological engagement. However, we also find that exposure to media biased against the subject’s partisan preferences reduced participation. These results are consistent with our theory and findings from previous work that cross-cutting media moderate partisan attitudes when partisan-motivated reasoning is low ([Conroy-Krutz & Moehler 2014]). In short, partisan media simultaneously stimulated interest and discouraged action. These findings provide support for our theory of how partisan media affect engagement.

Our experiment also has methodological implications. Existing approaches might mistakenly lead to predictions that partisan media increase participation. Observational studies risk confusing selective exposure for media effects, while laboratory experiments may result in treatment effects larger than those we are likely to observe in the real world (Jerit et al. 2013). However, subjects in our field experiment were exposed to live broadcasts in a natural setting, giving the design high external validity, while still maintaining the inferential benefits of random assignment.

We proceed in six sections. First, we draw upon distinct literatures on exposure to political messages via mass media and inter-personal communications, in order to develop a theory about the effects of different media messages on interest and participation. The second section presents the case of Ghana, where media liberalization in the early 1990s led to a proliferation of new media outlets, many presenting strongly partisan viewpoints. The third section describes the experimental design, while the fourth discusses the measurement of variables. We present results in the fifth section, while the sixth concludes.

Theory

Democratic development requires politically active citizens. In order for participation to develop autonomously, at least two preconditions must be met: individuals must have sufficient interest in politics, and they must be motivated to act.
Mass media can affect interest and motivation and, thus, participation. However, most scholars of post-liberalization politics have overlooked the role that media might play in fostering these outcomes, instead focusing on the mobilizing effects of selective incentives (Nichter 2008; De La O 2013) and identity-based appeals (Horowitz 1985; Wilkinson 2004). Media liberalization was an important component of many countries’ political reforms in the early 1990s, when state-owned broadcast and print monopolies gave way to environments dominated by privately owned outlets (Bourgault 1995; Hydén et al. 2003; Nyamnjoh 2005). These outlets potentially expand discourse through debates, call-in programs, and commentary, usually in vernaculars. This new programming might catalyze interest in politics and motivation to participate.

However, many of these emergent outlets were established by politicians or affiliated businesspeople, who infused political content with partisan biases and calls to action (Snyder & Ballentine 1996; Snyder 2000: 56-66; Nyamnjoh 2005).1 While political discussion of any kind might stimulate interest, the type of bias to which audiences are exposed might affect motivation, and thus participation, in different ways. In theory, individuals exposed to media favoring their preferred side (i.e., like-minded exposure) might become more extreme in their attitudes, which could then increase motivations to participate. Importantly, content challenging preferences (i.e., cross-cutting exposure) could create ambivalence and dampen motivations to participation. If partisan media lead to mobilization through polarization, or demobilization through moderation, then more extreme participants would dominate the public sphere.

There are only a handful of studies on the mobilizing effects of partisan media, even in advanced democracies,2 and we know of no such research in newly liberalized polities. Given this dearth of scholarship, we develop a theory on the effects of partisan media on political interest and participation by

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1 For example, a study commissioned by one of the authors in Uganda found that 24% of private FM radio stations were owned by politicians in 2013. The number of stations owned by affiliated businesspeople is likely higher. And the proportion of political programming that is biased is even higher if one considers that many of the unaffiliated stations focus primarily on music or religious programming.

2 This is especially true for cross-cutting media. We are aware of only two studies on the effects of cross-cutting media on participation, both based on the US (Barker 2002; Dilliplane 2011).
drawing on two related literatures. The first investigates the combined effect of balanced and opinionated media on engagement, without distinguishing between the two. The second explores the effects of interpersonal communication. While these two literatures lead to differing predictions for how partisan media affect engagement (Dilliplane 2011), they offer a useful starting point for theoretical development.

The first pertinent literature examines how news exposure affects engagement without disaggregating exposure based on the direction or amount of partisan bias (de Vreese & Boomgaarden 2006; Scheufele 2002; Martin 2008; Nisbet 2008; Kuenzi & Lambright 2007). Some scholars argue that exposure to political content in the media increases political interest (Strömbäck & Shehata 2010; Lupia & Philpot 2005; Atkin et al. 1976; Martin 2008), and thereby fostering participation (Butler & De La O 2010). Media often highlight the importance that politics has on individuals’ wellbeing. As such, media exposure can make politics seem more salient, thus increasing interest.

The second germane literature focuses on interpersonal communication. This research suggests that the (de)mobilizing effects of political discussion depend on the orientations of discussion partners and on the homogeneity or heterogeneity of social networks (Mutz 2002a, 2002b, 2006; Huckfeldt et al. 2004; Nir 2011; Klofstad et al. 2013). Scholars argue that like-minded exposure increases engagement, while cross-cutting messages often have the opposite effect.

A likely explanation for the divergent effects of congenial and counter-attitudinal discussions on participation is their effect on attitude strength and, thus, motivations. Individuals who are certain that their side is correct, and that governance by others would have deleterious consequences, will be more motivated to participate than those who are ambivalent, and thus see both sides as equally (in)capable

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3 An alternate literature, on mediamalaise, argues that news coverage can negatively impact trust in politicians and political efficacy, thereby affecting engagement (Cappella & Jamieson 1996; O’Keefe 1980; Robinson 1976). In previous analyses we find that exposure to partisan media increases trust, if anything (Conroy-Krutz & Moehler 2014). Nonetheless, we use two-tailed tests in our analyses, which is appropriate for evaluating whether media makes interest and/or participation increase or decrease.

4 Lazarsfeld et al. (1948) and Mutz (2002a, 2006) find that network homophily increases participation, while heterogeneity has a depressive effect.

5 Dilliplane (2011) notes that social accountability is also posited as a mechanism linking interpersonal cross-pressures and participation and provides a detailed explanation for why this mechanism is less relevant for understanding the effects of exposure to biased media.
Extending these findings to the field of media studies, scholars have found that exposure to like-minded media in the United States increases attitude extremity (Arceneaux et al. 2013; Levendusky 2013). The effect of exposure to cross-cutting media on attitude strength has received less attention, but existing work suggests that it can lead to extremism when partisan-motivated reasoning is high, and ambivalence when partisan-motivated reasoning is low (Conroy-Krutz & Moehler 2014; Levendusky 2013). In sum, this suggests that the size and direction of effects on participation differ according to media orientation, and according to how bias affects attitude strength.

Importantly, these literatures do not make a theoretical or empirical distinction between psychological and behavioral dimensions of mobilization. Most research evaluates only participation, or combines interest and participation into a single measure of engagement (e.g., Scheufele 2002). While surveys have shown that interest is strongly correlated with participation (Verba et al. 1995), the causal effect is uncertain. The two dimensions of engagement should not be conflated. We theorize that the causal relationship between media and interest is not the same as that between media and participation. Specifically, the arguments in the first literature on media effects are most applicable for understanding how media affect interest, while the literature on interpersonal discussions is useful for theorizing about media effects on participation.

Our theory holds that exposure to political content in the media stimulates interest, regardless of partisan spin. Discussions of hot political topics, candidate strengths or weaknesses, and competitions over power draw attention to the entertaining aspects of political competition. We posit the following hypotheses:

- **H1:** Like-minded media will increase interest in politics
- **H2:** Cross-cutting media will increase interest in politics
- **H3:** Neutral media will increase interest in politics

In short, we expect that media of all types will increase political interest.6

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6 Our hypotheses do not claim that one type of media is more likely to increase interest than another. This is, in fact, a possibility, and might occur for a number of reasons. Cross-cutting media might be
Notably, we do not expect media-induced interest to necessarily increase participation. Political discussions can be captivating without being motivating. Even when media increase interest in politics, most individuals will be content to watch, without getting involved. We theorize that partisan media will affect participation when they alter attitude strength. Individuals are most likely to incur the costs of participation when they believe something is at stake and they have a clear idea of their preferred outcomes. When they are ambivalent about outcomes, they will avoid costly actions. In short, media will mobilize when they strengthen attitudes and demobilize when they moderate attitudes.

In previous work using the data also analyzed here, we found that cross-cutting media moderated partisan attitudes, while like-minded and neutral media had no effect on attitude extremity (Conroy-Krutz & Moehler 2014). Contrary to what is commonly assumed by research on partisan media in the United States, individuals in most newly liberalized polities do not engage in partisan-motivated reasoning. Low levels of political sophistication, shifting political alliances, and homogeneous social networks mean that unfamiliar arguments from cross-cutting media are especially persuasive in such settings. Subjects in our experiment became more sanguine about parties and candidates when exposed to alternate perspectives in cross-cutting media, but were unaffected by the familiar arguments in like-minded media or the nuanced ones in neutral media. If attitude change affects participation rates, then we would expect the following outcomes:

H4: Like-minded media will have no effect on participation
H5: Cross-cutting media will have a negative effect on participation
H6: Neutral media will have no effect on participation

particularly effective at stimulating interest because they require individuals to pay more attention to less-familiar discrepant information. Conversely, like-minded media might have the largest influence on interest if individuals pay particular attention to congenial information. Partisan media might be more stimulating than neutral outlets, because the former present more clear-cut discussions. On the other hand, neutral media might provoke more interest, because they require audiences to remain attentive to back-and-forth arguments. In short, while the predictions of increased interest from all types of media hold under all of these scenarios, they differ in regards to which type of media results in the largest increases in stimulation.

7 We find support for this argument with additional survey and behavioral measures not included in this paper (Conroy-Krutz & Moehler 2014).
These hypothesized media effects are especially likely in post-liberalization settings. Open, vibrant, and diverse political discussions will garner significant attention given their novelty after the uniform and staid programing previously provided by government monopolies. Therefore, media (especially talk radio) are likely to increase interest in politics. However, the costs of participation will be especially limiting in post-liberalization settings. Most such polities are in the developing world, where citizens have fewer resources to devote to participation, and less experience with it. Interest alone is less likely to induce participation when the costs are high.\textsuperscript{8}

Previous scholarship on partisan media does not provide empirical evidence that would allow us to evaluate our hypotheses, for four reasons. First, most research on partisan media has focused solely on like-minded exposure.\textsuperscript{9} Only two studies have examined how cross-cutting media affect participation, and while they suggest negative effects, results are not robust.\textsuperscript{10} Second, this scholarship focuses on how partisan media affect participation, but not interest. Third, research on the participatory effects of cross-cutting media, and most of that on like-minded media, is observational. Causal inference with survey data is especially challenging in this domain since media exposure, interest, attitude strength, and participation are likely endogenous. Fourth, there is no research about partisan media effects on engagement outside of the US. The few studies on media and participation in post-liberalization settings in places like Africa do not distinguish between partisan and neutral media (Kuenzi & Lambright 2007; Aker et al. 2013; Nisbet 2008). Results from the US may not generalize to locations with resource constraints, new multiparty systems, and recently pluralized media.

\textsuperscript{8} For example, Butler and De La O (2010) found that media-induced interest resulted in increased participation in referenda in Switzerland, a wealthy country where citizens have considerable experience with participation.

\textsuperscript{9} By and large, this research suggests that exposure to like-minded partisan media in the US may increase participation (Hofstetter 1998; Stroud 2006, 2007; Jamieson & Cappella 2008; DellaVigna & Kaplan 2007), but such effects could be due to increased interest and/or increased attitude extremity due to partisan-motivated reasoning.

\textsuperscript{10} Barker (2002) found a negative but insignificant correlation between exposure to Rush Limbaugh and participation amongst liberals. Dilliplane (2011) provides a more thorough examination of exposure to like-minded and cross-cutting media. She finds some evidence of demobilizing effects of cross-cutting media, but these results are not robust across estimation strategies.
In the analysis that follows, we test how different types of media messages—like-minded, cross-cutting, and neutral—affect interest and participation. We utilize evidence from a field experiment we conducted in Ghana, a country where recent political liberalization yielded a media environment dominated by partisan outlets. In the subsequent sections, we discuss the Ghanaian case and our experimental design.

**Case Background: Partisan Media in Ghana**

Like many other developing countries, Ghana liberalized its media as part of political reforms in the early 1990s. Authoritarian governments previously restricted media, to limit discourse and build legitimacy (Hachten 1971: 167-70; Asante 1996; Hasty 2005: 33-4). Jerry Rawlings, who had ruled since a 1981 coup, called for multiparty elections in 1992 and established the National Democratic Congress (NDC) to compete in those contests. The government also eased restrictions on private broadcasters, thereby ending the long-standing monopoly of the state-run Ghana Broadcasting Corporation (GBC). Private radio stations proliferated (Temin & Smith 2002), and today there are some 225 FM stations, the vast majority being commercial ventures.\(^{11}\)

Many of these new stations have clear political biases, with some advocating for the NDC and others for the other major party, the New Patriotic Party (NPP). Political-talk programming is popular, and many stations devote several hours daily to news and politics. Some political programs feature balanced debates, while others are led by polemical hosts, several of whom attract significant notoriety and large audiences.

While partisan broadcasts are popular, we expect many individuals are also regularly exposed to cross-cutting and neutral messages.\(^{12}\) In developing countries like Ghana, individuals spend considerable time in public or semi-public settings where they are often exposed to media not of their choosing (Nyamnjoh 2005: 16-17). *Tro-tros* and other public transportation, for example, commonly play talk

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\(^{11}\) Data from the National Communications Authority (NCA), at [www.nca.org.gh](http://www.nca.org.gh).

\(^{12}\) We are not aware of any representative surveys conducted in post-liberalization settings that measure exposure to these three broad types of media messages.
radio, and such vehicles are the modal form of conveyance (Abane 2011). In other words, individuals in such settings cannot engage in selective avoidance, making exposure to neutral and cross-cutting messages more likely.

In fact, our survey of subjects (described below) suggests that regular exposure to various types of messages is common in Ghana. 32% of partisans said they had listened within the last week to the morning political-talk program in our experiment with a bias that did not match their own. And 66% of partisans reported that they had listened to the neutral program (i.e., Peace FM’s Kokrokoo). These figures underrepresent actual cross-cutting and neutral exposure, given that subjects were only asked about the programs included in the study, which represent only three of many possible cross-cutting and neutral programs available.

**Experimental Design and Data Collection**

To test the effects of exposure to various types of partisan media, we conducted a field experiment in Ghana’s largest city, Accra, in the weeks leading to the December 2012 general election. Subjects were exposed to one of four treatments: political-talk programming on pro-government radio, pro-opposition radio, or neutral radio, or no radio at all (the control). Given Accra’s status as a politically divided city, our subjects had heterogeneous political leanings. As such, some of our subjects were de facto assigned to like-minded treatments, while others were assigned to cross-cutting or neutral ones.

To administer the treatments, we took advantage of the fact that many Ghanaians spend considerable time commuting in **tro-tros**, which are privately owned minibuses with capacities of 15-20 people. Radio broadcasts are commonly played, with the choice of the station under the purview of the driver. In other words, large numbers of Ghanaians are regularly exposed to like-minded, cross-cutting, and neutral media in these settings.

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13 To ensure that responses to these questions would not be affected by the treatment we report responses from the no-radio control group only.

14 In the 2008 presidential runoff, the NDC candidate claimed 54.5% of the vote in the Greater Accra Region, versus 45.5% for the NPP.
Our field experimental design has a number of significant advantages over observational studies, as well as over laboratory experiments. First, observational studies on media effects are prone to identification problems resulting from the fact that individuals tend to self-select media. Second, our experiment benefits from high external validity, given that subjects were exposed to treatments 1) in natural settings where they are often exposed to like-minded, cross-cutting, and neutral political media; 2) during their quotidian routines, with distractions that individuals normally experience when accessing media; and 3) using actual live broadcasts, rather than material created or repurposed by researchers. Further, our subjects were not aware, either at the time of exposure or during data collection, that they had been involved in a study of media effects. As such, they were unlikely to be abnormally sensitive to source cues, content, and message biases, which might be the case in laboratory studies (Jerit et al. 2013).

Treatments were randomized by tro-tro, meaning that all passengers within the same vehicle were assigned to the same category. We worked with 228 vans, working 58 routes in Accra, between 16 October and 7 November 2012. 1200 passengers in these tro-tros were interviewed upon completion of their morning commute. In the following sub-sections we discuss procedures for selection of treatments, routes, and subjects.

Radio Treatment Selection

We used unadulterated live radio broadcasts for our treatments, which greatly enhances our study’s external validity. We selected stations after discussions with Ghanaian academics in political science and media studies, representatives of media-monitoring organizations, and radio personnel. We also reviewed data on bias collected by media-monitoring organizations. Along with bias, we considered three selection criteria. First, we needed stations that simultaneously broadcast political programming to make randomization feasible. We focused on stations with political programming between 6 and 10 AM on weekdays. Second, we only selected stations that broadcast in Twi, Accra’s lingua franca, to facilitate

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15 Subjects were debriefed via SMS texts several days after all data had been collected.
broad comprehension. Third, we limited our selection to programs often played on tro-tros, so subjects would not be alerted to the manipulation.

We selected Oman FM and Radio Gold as the pro-opposition and pro-government stations, respectively. We chose Peace FM as the neutral station because of its reputation for balance and its lively, popular morning political-talk show. All three broadcast political-talk programming—*National Agenda* on Oman, *Gold Power Drive* on Gold, and *Kokrokoo* on Peace—during our target hours; these programs contain news, interviews, call-in segments, and commentary. Hosts usually launch shows with a newspaper article or topic. Guests discuss the issue, and the conversation is opened to reactions via calls, SMS, and Internet postings. Our research was conducted weeks prior to the 2012 elections, and topics included campaign activities, statements by politicians and supporters, candidate characteristics, policies, and current events. Guests included journalists, politicians, party agents, issue experts, and analysts, often chosen for their political stance.

Despite similar formats, the programs express dramatically different opinions. The quasi-governmental National Media Commission (NMC) monitored news stories during the 2012 campaigns, ranking Gold and Oman as the most biased. The top panel of Table 1 presents the approximate amount of coverage of the two main parties in news bulletins. We would expect bias to take a different form, but to be even stronger in talk shows. The stations are also widely perceived as biased. The bottom panel of Table 1 shows that the majority of our subjects correctly identified bias, and very few reported the opposite bias. Radio professionals also attested to the editorial nature of the talk shows as compared to news bulletins. Talk-show hosts advocate for their side, guests are selected to support the partisan perspective, and listeners express opinionated viewpoints when joining the conversation. In sum, content analysis, our subjects, and media experts indicate that our station selections are appropriate.

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16 The NMC monitored only bulletins. We use these data to indicate station bias rather than content of programs under investigation. Professionalism dictates neutral presentation of bulletins, so bias results primarily from greater coverage of the favored party’s campaign rallies, statements, and the like. In contrast, talk shows use slanted rhetoric.

17 We focus on partisan bias, not inflammatory language, given the prevalence of the former and the relative scarcity of the latter. Content analysis by the Media Foundation for West Africa shows that
Table 1: Partisan Bias by Station

Panel One: Percentage of News Stories about Main Parties (NMC 2013)

<table>
<thead>
<tr>
<th>Party</th>
<th>Radio Gold (pro-government)</th>
<th>Oman FM (pro-opposition)</th>
<th>Peace FM (neutral)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDC (government)</td>
<td>80.1</td>
<td>6.3</td>
<td>39.2</td>
</tr>
<tr>
<td>NPP (opposition)</td>
<td>8.1</td>
<td>88.4</td>
<td>32.5</td>
</tr>
</tbody>
</table>

Panel Two: Subjects’ Perceptions of Station Bias (Authors’ survey)

<table>
<thead>
<tr>
<th>Perception</th>
<th>Radio Gold (pro-government)</th>
<th>Oman FM (pro-opposition)</th>
<th>Peace FM (neutral)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pro-Government</td>
<td>53.9</td>
<td>4.2</td>
<td>5.4</td>
</tr>
<tr>
<td>Pro-Opposition</td>
<td>2.4</td>
<td>58.6</td>
<td>25.3</td>
</tr>
<tr>
<td>Neutral</td>
<td>19.3</td>
<td>15.0</td>
<td>53.2</td>
</tr>
<tr>
<td>Don’t know</td>
<td>24.3</td>
<td>22.3</td>
<td>16.1</td>
</tr>
</tbody>
</table>

Note: Coverage of minor parties not reported in Panel One.

Tro-Tro Route Selection

The experiment was conducted along 58 routes throughout Accra. Two criteria guided route selection: 1) expected travel time of at least forty minutes, so most subjects had significant treatment exposure, and 2) sufficient vehicles operating during the study hours. Selected routes began at various points and ended at one of nine terminuses.\(^{18}\) Once the experiment was conducted using a route on a given morning, that route was never used again; this minimized the likelihood of including the same

\(^{18}\)In preparation for route selection, research assistants conducted an enumeration of *tro-tro* routes. They contacted representatives from the Ghana Road Transport Union at the main terminuses to generate a list of origin points that dispatched vehicles to a particular station during morning hours. They then visited each origin point and interviewed drivers to gather information about morning ridership.
subject twice, as well as possible contamination if prior subjects shared their experiences with later recruits.

**Driver Recruitment and Treatment Administration**

We next recruited drivers to act as confederates (N=228). In return for 10 Ghanaian cedis (~$5.26 US at the time), drivers played the assigned station (or no station), without interruption, at a volume that would be clearest to passengers,¹⁹ and without mention of these protocols to anyone. Further, drivers turned on the radio only after the vehicle departed, to ensure that individuals would not self-select into or out of treatments. One research assistant rode in each study *tro-tro* to ensure adherence to protocols. Simple random assignment was used to assign each vehicle to a treatment.

**Subject Recruitment**

As a *tro-tro* neared the terminuses, the vehicle’s research assistant announced that Ghanaian citizens at least eighteen-years old who had been in the van for at least forty minutes were eligible to take a survey upon arrival. This survey would be about “experience with riding *tro-tros* in Accra, conditions faced by commuters in Accra, and what can be done to improve conditions for Ghanaians more generally,”²⁰ and remuneration of two cedis (~$1.05) was offered. 1200 commuters completed the survey, which was conducted by interviewers waiting at various points around the terminus. Interview yields per contacted *tro-tro* ranged between 1 and 14, with a mean of 5.3 subjects per vehicle. As Table 2 reports, yields are balanced across treatments.

¹⁹ Study vehicles had to have working sound systems with FM radio access, even if assigned to the control.
²⁰ Many questions addressed the transit system. The survey instrument was available in English, Ga, and Twi.
Checks on Random Assignment and Manipulation

Table 2 reports on statistical balance, for paired comparisons between each radio treatment and the control, as well as aggregate checks. Randomization succeeded in generating groups that were equivalent in terms of observable measures that were unlikely to be affected by the treatment.

Table 2: Balance Checks

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>No Radio</th>
<th>Oman</th>
<th>Gold</th>
<th>Peace</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>0-1</td>
<td>.33</td>
<td>.38</td>
<td>.36</td>
<td>.36</td>
<td>.79</td>
</tr>
<tr>
<td>Age</td>
<td>18-84</td>
<td>33.16</td>
<td>33.36</td>
<td>33.21</td>
<td>31.77</td>
<td>.42</td>
</tr>
<tr>
<td>Education</td>
<td>0-9</td>
<td>4.65</td>
<td>4.59</td>
<td>4.68</td>
<td>4.67</td>
<td>.62</td>
</tr>
<tr>
<td>Wealth index</td>
<td>0-5</td>
<td>2.87</td>
<td>2.88</td>
<td>2.87</td>
<td>3.00</td>
<td>*  .69</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Akan</td>
<td>0-1</td>
<td>.48</td>
<td>.44</td>
<td>.48</td>
<td>.52</td>
<td>.41</td>
</tr>
<tr>
<td>Ewe</td>
<td>0-1</td>
<td>.22</td>
<td>.27</td>
<td>.21</td>
<td>.19</td>
<td>.12</td>
</tr>
<tr>
<td>Ga</td>
<td>0-1</td>
<td>.16</td>
<td>.16</td>
<td>.17</td>
<td>.21</td>
<td>.45</td>
</tr>
<tr>
<td><strong>Language Ability</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>0-3</td>
<td>2.23</td>
<td>2.23</td>
<td>2.27</td>
<td>2.27</td>
<td>.83</td>
</tr>
<tr>
<td>Twi</td>
<td>0-3</td>
<td>2.39</td>
<td>2.44</td>
<td>2.51 *</td>
<td>2.48</td>
<td>.42</td>
</tr>
<tr>
<td>Ewe</td>
<td>0-3</td>
<td>.86</td>
<td>1.00</td>
<td>.80</td>
<td>.86</td>
<td>.66</td>
</tr>
<tr>
<td>Ga</td>
<td>0-3</td>
<td>1.40</td>
<td>1.52</td>
<td>1.44</td>
<td>1.58</td>
<td>.44</td>
</tr>
<tr>
<td><strong>2008 vote</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voted 2008</td>
<td>0-1</td>
<td>.75</td>
<td>.75</td>
<td>.75</td>
<td>.70</td>
<td>.57</td>
</tr>
<tr>
<td>Voted NDC</td>
<td>0-1</td>
<td>.36</td>
<td>.38</td>
<td>.35</td>
<td>.36</td>
<td>.80</td>
</tr>
<tr>
<td>Voted NPP</td>
<td>0-1</td>
<td>.30</td>
<td>.25</td>
<td>.29</td>
<td>.25</td>
<td>.37</td>
</tr>
<tr>
<td>Refused response</td>
<td>0-1</td>
<td>.11</td>
<td>.14</td>
<td>.13</td>
<td>.12</td>
<td>.89</td>
</tr>
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<td><strong>Radio listening habits</strong></td>
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<td></td>
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<tr>
<td>General frequency</td>
<td>0-3</td>
<td>2.40</td>
<td>2.35</td>
<td>2.33</td>
<td>2.42</td>
<td>.24</td>
</tr>
<tr>
<td>Peace morning show</td>
<td>0-3</td>
<td>1.17</td>
<td>1.10</td>
<td>1.10</td>
<td>1.21</td>
<td>.28</td>
</tr>
<tr>
<td>Gold morning show</td>
<td>0-3</td>
<td>.59</td>
<td>.68</td>
<td>.65</td>
<td>.62</td>
<td>.25</td>
</tr>
<tr>
<td>Oman morning show</td>
<td>0-3</td>
<td>.71</td>
<td>.72</td>
<td>.65</td>
<td>.76</td>
<td>.46</td>
</tr>
<tr>
<td><strong>Journey details</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seat proximity to rear</td>
<td>0-3</td>
<td>1.82</td>
<td>1.80</td>
<td>1.79</td>
<td>1.85</td>
<td>.51</td>
</tr>
<tr>
<td>Duration (minutes)</td>
<td>24-110</td>
<td>55.90</td>
<td>51.75</td>
<td>52.75</td>
<td>54.06</td>
<td>.59</td>
</tr>
<tr>
<td>Start time (30-min. slots)</td>
<td>1-8</td>
<td>3.86</td>
<td>4.43 *</td>
<td>3.83</td>
<td>4.39</td>
<td>.50</td>
</tr>
<tr>
<td>Interviews per van</td>
<td>1-14</td>
<td>5.53</td>
<td>5.31</td>
<td>5.31</td>
<td>4.89</td>
<td>.68</td>
</tr>
</tbody>
</table>

Notes: Significant t-tests comparing group means for the no-radio control and other treatments are marked as follows: * p<.10; ** p<.05; *** p<.01. Right-hand column reports p values for tests of relationships between variables of interest and treatment categories. Chi-square tests are conducted for categorical and dummy variables; Kruskal-Wallis tests are conducted for ordinal and continuous variables. For variables measured at the individual level, tests take into account clustering at the tro-tro level.

Details the balance checks and variables are in Appendices A and B.
Finally, we conduct a manipulation check by asking subjects to identify what, if any, station was playing in the vehicle. 75% of subjects in the no-radio condition correctly stated that no radio was playing, while 79% in radio conditions stated that the radio was playing. Of those in the radio conditions who named a station, 76% identified it correctly.

Nonetheless, 21% of subjects in a radio treatment incorrectly said the radio was not playing, while another 31% could not identify the station. These results are not surprising, since subjects were not cued before or during the treatment that they should be paying attention to the broadcast, nor were they informed that the study’s goal was to measure media effects. Even subjects who could not identify the station were still likely affected, although it is possible that some ignored the broadcasts. A strength of our design is that subjects had no contrived reasons to pay attention to the broadcasts; thus, if we find significant effects, we can be more confident that individuals in the real world, who often consume media amidst myriad distractions, would respond similarly.

Measurement

Our independent variables are the treatments transformed to record exposure to like-minded or cross-cutting radio, by virtue of subjects’ partisan preference. The effects of neutral radio are also included. We use reported vote in the 2008 presidential election as a proxy for partisan preferences. We chose to use a post-treatment measure of partisanship so subjects would not be alerted to the study prior to the treatment.

22 This question was included in a section near the end of survey on the tro-tro ride.
23 We use an intention-to-treat (ITT) analysis here, rather than a treatment-on-the-treated (TOT) analysis. The latter requires identification of those who actually listened to the assigned station, which we cannot do. Individuals who could not name the station might still have been affected by the treatment; their inability to name the station might be the result of poor recall, passive listening, or a lack of attention at moments when hosts mentioned the station’s name. In short, we cannot reliably separate out the “treated” from those individuals who did not listen at all. Coding only those who correctly identified the station would be problematic since passive listeners and those with poor recall probably responded to the treatments in a systematically different way.
24 See Appendix B for question wordings and Appendix C for descriptive statistics of relevant variables.
The data indicate that our measure of partisan preference is valid. First, 2008 vote is balanced across treatments (Table 2), suggesting that responses were unaffected by the experiment. Second, reports of past behavior are less likely to be affected by the treatments than other indicators of partisanship, such as “closeness” to a party or planned vote. Third, vote choice tends to be stable, so 2008 vote is a good indicator of preferences at the time of our experiment. Indeed, our subjects’ partisan preferences did not change much between 2008 and 2012. For subjects in the control, 88% of 2008 NDC voters who reported a vote choice for 2012 said they would vote for the NDC again; the equivalent figure for the NPP was 89%. As we note below, it is very unlikely that our findings are due to miscoded partisan preferences.

We use the measure of 2008 vote and the assigned treatments to create indicators of exposure to a station biased towards (like-minded) or against (cross-cutting) the subject’s partisan preferences. Like-minded treatments included subjects exposed to: 1) pro-government radio (Gold), for government (NDC) voters, and 2) pro-opposition radio (Oman), for opposition (NPP) voters. Cross-cutting treatments included subjects exposed to: 1) pro-opposition radio (Oman), for government (NDC) voters, and 2) pro-government radio (Gold), for opposition (NPP) voters. The neutral treatment includes subjects exposed to Peace FM. Our analysis includes only those who reported voting for NDC or NPP in 2008 (N=752). Partisans in the treatment groups are compared to partisans in the no-radio control.

The main outcomes are psychological and behavioral engagement. We measure the former through two questions, one measuring interest in politics and the other excitement about the campaign.

25 The correlation between 2008 vote and intended 2012 vote in the control group is strong (r=.79, p=.00 for 2008 NDC voters, r=.78, p=.00 for NPP). The similarity between these figures suggests that the 2008 measure as an indicator of partisan preferences at the time of the experiment was equally reliable for those coded as NDC and NPP partisans.
27 In 2008, NPP was the government party and NDC the opposition. To ease the discussion, we refer to the parties in relation to their status at the time of the experiment in 2012.
28 Those who did not vote, did not report their choice or voted for a minor party were thereby excluded from the analysis, even if assigned to the neutral or no-radio conditions.
We take the mean of these variables to create one scale for political interest, values of which range between zero and three.\textsuperscript{29} Higher values indicate greater interest.

Our measure of participation records whether subjects signed an SMS petition to political parties. Late in the survey, subjects were asked to identify three problems with the \textit{tro-tro} system. They were then informed that we would deliver a petition to the major parties listing the most common concerns.\textsuperscript{30} We invited subjects to sign the petition and told them to expect an SMS with instructions. The message—“Thank you for taking our survey. To sign the petition to major parties, listing commonly named problems with trotros, please reply by texting YES”—was sent that evening or in subsequent days. 97 subjects (9.5\%) texted YES to sign the petition.

This a meaningful measure of political participation, in that the targets were political actors, the issue was salient, and the action incurred a cost to the subject, in the form of time and phone credit. It is also an unobtrusive measure of participation. The recruitment, introduction, survey, and interview location all referenced \textit{tro-tros}, so a petition on transport seemed a natural request. We were able to collect data on participation without divulging the study's purpose until after the petition period was over.

Our measure offers several advantages. First, self-reported participation is notoriously biased (Hammer \textit{et al.} 2014). Because we have a measure of observed participation, there is no possibility of over-reporting. We are confident that we are measuring how the treatments affect behavior, and not treatment-induced differences in how subjects wish to be perceived, recall events, feel about the researchers, react affectively, or other sources of reporting bias. We can therefore accurately distinguish between treatment effects on psychological versus behavioral engagement.

\textsuperscript{29} The Cronbach’s alpha for the scale is .65.

\textsuperscript{30} Enumerators collected the mobile numbers of the subjects. 85.3\% of subjects provided a contact; all of our analyses, whether on psychological or behavioral engagement, are limited to those individuals (N=1023). Results for psychological engagement do not change significantly when conducted on all partisans, regardless of provision of a mobile phone number. With respect to subjects providing contacts, paired comparisons between the control and treatments are insignificant for pro-government (Gold) (p = .66) and non-partisan radio (Peace) (p = .93). The comparison of the control and pro-opposition radio (Oman) is significant (p = .10), but substantively the difference is small (88.7\% of Oman listeners provided a cell, versus 84.4\% of those in the control).
Second, we took efforts to minimize Hawthorne effects. We did not require subjects to participate under an enumerator’s gaze. Subjects replied to an electronic request, in private, at their own convenience. The physical separation from the enumerator and the time delay after the interview help to reduce desirability bias.

Third, we purposefully lagged our measure of participation from the time of the treatments and our measurement of interest. In real-world settings, most participation that occurs as a result of media exposure will come hours or days later. Measurements of participation taken immediately after the treatment are likely to result in inflated estimates of effects, meaning that it can therefore be beneficial to measure outcomes at greater temporal distance (Jerit et al. 2013).

Finally, our subjects had to incur the monetary cost of sending the SMS and expend the effort to do so. The costliness of political action is critical to our theoretical argument about why interest might not translate into action. Given that 8% of our subjects responded, signing the petition seems to have been costly for subjects, but not prohibitively so.

Results

To examine the effects of media on engagement, we compare partisans exposed to like-minded, cross-cutting, or neutral radio to partisans not exposed to radio. In other words, the no-radio condition is the excluded category. Our estimated models follow this format:

\[ \text{Interest or Participation} = \beta_0 + \beta_1 \text{ Like-minded} + \beta_2 \text{ Cross-cutting} + \beta_3 \text{ Neutral} + \epsilon \]
Results are presented in Table 3. Model 1 estimates treatment effects on the interest scale. Given that the dependent variable is continuous, we use OLS regression. All three treatments—like-minded, cross-cutting, and neutral—had significant, positive effects on interest, thus supporting H1, H2, and H3. This suggests that partisan media heighten psychological engagement. Subjects in the like-minded treatment had estimated psychological engagement scores that were 18.0% higher than those in the no-radio control, while subjects in the cross-cutting treatment had scores that were 13.0% higher than those in the control. We also find that non-partisan radio increases psychological engagement; subjects in the non-partisan treatment had scores that were 6.2% higher than those in the control.31 In short, we find significant evidence that all types of political discussion on the radio stimulate interest in and excitement about politics.32

\[\text{Table 3: Effects of Radio Treatments on Political Interest & Participation}\]

<table>
<thead>
<tr>
<th></th>
<th>(1) Interest</th>
<th>(2) Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Like-minded</strong></td>
<td>.24*** (.09)</td>
<td>-.32 (.36)</td>
</tr>
<tr>
<td><strong>Cross-cutting</strong></td>
<td>.16* (.09)</td>
<td>-.63* (.38)</td>
</tr>
<tr>
<td><strong>Non-partisan</strong></td>
<td>.18** (.09)</td>
<td>-.14 (.37)</td>
</tr>
<tr>
<td><strong>Intercept</strong></td>
<td>1.66*** (.06)</td>
<td>-2.02*** (.23)</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>634</td>
<td>658</td>
</tr>
<tr>
<td><strong>R-squared</strong></td>
<td>.01</td>
<td>.01</td>
</tr>
</tbody>
</table>

Notes: Cell entries are OLS regression coefficients for Model 1 and logistic regression coefficients for Model 2. Standard errors are reported in parentheses. Adjusted R-squared reported for Model 2. Coefficients that can be distinguished from zero are marked as follows: * ≤ 0.10; ** ≤ 0.05; *** ≤ 0.01 (for two-tailed tests). The excluded group is subjects assigned to the no-radio condition. Participation is measured by whether subjects signed the SMS petition to parties. All analyses performed on major-party partisans who provided mobile numbers.

31 We do not find evidence that between-treatment differences in effects on psychological engagement are statistically significant, however. When we estimated a model where non-partisan radio was the excluded category, the coefficients for like-minded and cross-cutting are not significant (p=.53 and p=.86, respectively). When we estimated a model where cross-cutting was the excluded category, the coefficient for like-minded is also not significant (p=.38). We cannot confidently say that one type of media message has larger effects on psychological engagement than another.

32 These results are robust to several alternate specifications of psychological engagement with respect to like-minded exposure, and to a lesser extent for cross-cutting and neutral media exposure. When we
Next, we estimate treatment effects on participation, measured as signing the SMS petition. In model 2, we use logistic regression, given the dichotomous (i.e., signed/did not sign) outcome. Like-minded media have no estimated effect on participation, consistent with H4. Similarly, non-partisan radio has no significant effect on participation, as predicted in H6.

Most importantly, however, cross-cutting media decreased likelihood of signing the petition to parties, and the effect is statistically significant, as H5 predicted. Being assigned to the cross-cutting treatment decreased the probability of signing the petition by 5.1% relative to the no-radio control. In sum, exposure to cross-cutting media increased political interest, but it also led to significant declines in actual participation.

The effects of partisan media on participation are in line with how they affected attitudes, rather than how they affected interest. In another paper using the same data (Conroy-Krutz & Moehler 2014), we find that subjects exposed to cross-cutting treatments held less polarized attitudes about politicians and parties than those in the control. Moderation can reduce motivation to participate in politics by making individuals indifferent between potential outcomes.

We consider a possible alternate explanation for the apparent depressive effects of cross-cutting messages on participation. It is possible that subjects who received discordant messages became more cynical about politics as a result of hearing negative critiques of their own side. However, we find no evidence that the cross-cutting treatments decreased subjects’ assessment of the trustworthiness of politicians, ability of elections to result in improvements in the country, the likelihood of politicians’

---

separate the scale into its component parts, like-minded, cross-cutting and neutral media each have a significant effect on excitement about campaigns. However, only the estimate for like-minded media is within conventional levels of significance for the single question about interest. We also examined an additional measure of engagement: intention to get involved in campaigns. We view intention to participate as lying somewhere between psychological and behavioral engagement, but theoretically and empirically closer to the former. Stating an intention to participate is costless and often an expression of interest rather than a predictor of action. When we create a single scale for psychological engagement that includes interest, excitement, and intention to attend a rally, talk to an official, display a party item, and vote (alpha = .75), the effect of like-minded exposure is significant, but the effects of cross-cutting and neutral are not. Individually, like-minded media increase intention to attend a rally and display a party item at the .10 level, but have no effect on intention to talk to an official or vote.
keeping their promises, and their own ability to make a difference (Appendix D). Exposure to cross-cutting media did not make subjects turn away from politics in disgust.

Instead, the evidence suggests that exposure to cross-cutting media made subjects more sanguine about politics. After hearing discussions from the other side, they came to view out-party candidates more positively, thus closing the gap between their assessments of the two sides ([Conroy-Krutz & Moehler 2014]). Cross-cutting media reduced participation because it made subjects more comfortable in the full range of potential office holders’ abilities to perform adequately, even without their own input. Individuals became more complacent about government and more willing to acquiesce to the decisions of politicians from both sides.

Before concluding, we consider whether these results are likely to be due to subject self-selection or measurement error. We cannot think of a plausible scenario whereby treatment-induced differences in who agreed to be interviewed would generate these effects. Tro-tro yields were balanced across treatments (Table 2). For subject composition to be responsible for results, cross-cutting exposure would have to encourage less-participatory individuals to answer a survey about transport and discourage equal numbers of more-participatory individuals. Observables are also balanced, so participatory individuals encouraged and non-participatory individuals discouraged would have to be equivalent in demographics, partisanship, radio habits, and journey details. The logic is similar for interest. All kinds of radio would have to induce more politically interested individuals to answer the survey while discouraging an equal number of identical (at least with respect to observables) uninterested individuals.

Finally, it seems unlikely that our results are due to error in our post-treatment measure of partisan preference. First, as mentioned earlier, reported vote choice in 2008 is balanced (Table 2), indicating that the treatment is unlikely to have affected our measure. Second, we can think of no reason why less-participatory listeners would report having voted for the party opposite the one favored by the station to which they had just been exposed, while more participatory listeners would report the opposite. Third, the main effects of the radio treatments are significant and in line with what we would expect based on the results here. The main effects analyses are not dependent on the measure of partisan
preferences. In sum, we expect that the results are not artifacts of our research design or coding of type of exposure.

Conclusion

Throughout much of the developing world, government monopolies have given way to competitive media environments that allow for lively and pluralistic political discussion. However, many systems are also dominated by outlets with strong partisan biases. We provide the first empirical investigation of the effects of opinionated media in post-liberalization settings. This paper evaluates the mobilizing, or demobilizing, effects of partisan media. We examine both psychological (interest) and behavioral engagement (participation). We theorize that exposure to political discussions in the media heightens interest, especially in post-liberalization settings where pluralistic and open discussions are novel. However, we also posit that interest is not enough to motivate participation when costs are burdensome. Media affect participation only when they intensify attitudes or generate ambivalence. In contrast to the uniformly positive effects of media on interest, we theorize that like-minded, cross-cutting, and neutral radio can have differential effects on participation.

To examine the effects of partisan media we conducted a field experiment in Ghana, which underwent media liberalization in the early 1990s and is now dominated by biased outlets. Subjects in Accra were exposed, at random, to pro-government, pro-opposition, or non-partisan live radio broadcasts during the last election campaign. Treatments were administered in a setting in which Ghanaians are often exposed to like-minded or cross-cutting messages: over the sound systems of tro-tros, during their morning commutes.

33 We ran a model in which we regressed political interest on a dummy indicator of partisan media (i.e., Radio Gold and Oman FM) and the dummy indicator for non-partisan media (i.e., Peace FM), using the entire sample (i.e., not restricting to major-party partisans) of mobile-number providers (N=1023). Partisan media significantly increase engagement (b=.12, s.e.=.06, p=.07). Non-partisan media also increase engagement, but the p-value is higher than standard levels of acceptability (b=.10, s.e.=.08, p=.20). When we ran the same model with participation as the outcome, partisan media had a negative, but non-significant, estimated effect (b=-.27, s.e.=.25, p=0.29).
We find that exposure to political content increased interest, regardless of stations’ partisan orientation. Subjects assigned to like-minded, cross-cutting, and neutral treatments expressed greater political interest and more excitement about the ongoing campaign than subjects in the no-radio control. In keeping with our expectations, cross-cutting media decreased participation, measured as whether subjects signed an SMS petition to political parties. In previous work we found that cross-cutting media moderated partisan attitudes through exposure to divergent views ([Conroy-Krutz & Moehler 2014]). Even though these subjects were more interested in politics, their ambivalence depressed action. As with most participation, our subjects had to spend time and money to sign the petition. The results suggest that increased interest alone did not encourage subjects to incur these costs.

This project makes an important methodological contribution to research on media effects. Many studies draw upon survey data, which can lead to identification problems. Citizens who are interested in politics, have stronger attitudes, and participate at higher rates may also consume more, and different types of, media. Other studies employ laboratory experiments, which often have limited external validity. Subjects in laboratory experiments are aware that they are being studied, so they might pay abnormally high attention to treatments and be more sensitive to desirability effects when being evaluated. Our field experiment minimizes these problems, by exposing subjects to real, live broadcasts in a natural setting, and without their knowledge at either the time of treatment or data collection that they were involved in a study of media effects. Furthermore, we use a novel measure of participation that is not affected by biases associated with self-reported intended or past participation; we record whether subjects signed an SMS petition to parties.

The results of this study also offer theoretical insights of import, for both post-liberalization societies of the developing world and for advanced democracies. Few studies test whether partisan media affect engagement, and nearly all of these evaluate only like-minded exposure. We examine the effects of cross-cutting and neutral media alongside like-minded media, which facilitates interpretation of results. For example, we find that all three types of media heighten interest, thus suggesting that factors other than
targeted appeals to in-group members and discussion of attitude-congruent information can increase psychological engagement.

We also examine interest and participation as two distinct dimensions of engagement. The importance of our theoretical distinction between psychological and behavioral engagement is supported by the empirical evidence. Exposure to cross-cutting media increased interest in politics, but decreased participation.

Finally, in terms of normative implications, there are some promising findings. The animated and pluralistic programming that emerged in the aftermath of media liberalization seems to increase attention to politics. By heightening citizen interest, media exposure may provide benefits for democratic governance, such as increased scrutiny of elected officials. However, the outlook is not entirely positive. Interest did not beget action. In previous research using the same experimental data ([Conroy-Krutz & Moehler 2014]), we find that cross-cutting media have the ostensibly beneficial effects of moderating political attitudes. Yet the effects of these moderating influences on politics might be limited if moderation in turn causes individuals to reduce their involvement, as our evidence suggests.\textsuperscript{34} The effects of partisan media could be to create a more psychologically engaged, but also more quiescent population.

\textsuperscript{34} Importantly, no particular mix of partisan and non-partisan sources in real-world media diets seems likely to enhance both interest and participation. Rather, all potential combinations result in increased interest, paired either with no change in participation or decreased participation. And, on the positive side of the ledger, we do not see any evidence of media consumption of any type creating electorates that are both more polarized and more energized, which might be a particularly negative outcome in a transitional society.
Works Cited


Appendix A: Description of Balance Checks

In Table 2, we report on balance checks for nearly two dozen variables. Most of these variables are included because we did not expect that they would be affected by the treatments, while they might theoretically impact how individuals responded to the experimental treatments. These variables included demographic measures, such as sex, age, education, personal wealth, and ethnicity.

We also check for balance on variables that might have affected individuals’ abilities to comprehend broadcasts, such as language ability (English, Twi, Ewe, and Ga), general frequency of radio listenership, and prior listenership to the morning shows included in the treatments. In addition, we include a variable measuring subjects’ seating in the vehicle, in case individuals who were located closer to the rear were less able to hear the tro-tro’s sound system.

Other variables intended to measure tro-tro specific factors, such as the duration (in minutes) of the treatment application (as recorded by research staff who rode in the tro-tros included in the study), the starting time of the journey (in eight half-hour slots, running between 6 and 10 AM), and number of successful interviews conducted per contacted tro-tro, are also included.

Finally, as discussed in the paper, we also check for balance on variables measuring participation in and preferences regarding the 2008 presidential election (i.e., turnout, vote for NDC candidate, vote for NPP candidate, refusal to report vote).

Question wordings for variables included in the survey are listed in Appendix B. All variables except start time, duration, and interviews per tro-tro are measured at the individual level; these three variables are measured at the tro-tro level.
Appendix B: English-Language Survey Question Wordings

Dependent Variables

*Interest*

[3] Some people think politics isn’t important to them, while others find it touches their daily lives a lot. How interested would you say that you are about politics? Would you say that you are very interested, moderately interested, only a little interested, or not interested at all?

[4] What about the campaigns currently going on in this country, for the December elections? Some people find campaigns exciting, even fun, to watch and follow, while others find them to be rather boring. How would you personally describe your feelings about the current campaigns? Do you think they are very exciting, somewhat exciting, somewhat boring, or very boring?

*Participation*

[63] In your opinion, what are the three biggest problems that you think need to be solved with the *tro-tro* system here in Accra?

Thank you. One of the things we will do after this survey is contact the major parties with a list of the most commonly named problems that respondents like you provided to our survey. We want to let the parties know what *tro-tro* riders in Accra think needs to be done to improve the system here. There is a chance you will receive an SMS message in the next hours or days asking you to respond with a simple text, in order to sign a petition that will be sent to the major parties, to urge them to consider the issues that people have raised in this survey. If you receive a text, all you will have to do is reply with the word “YES,” and your phone number will be listed as a signer of the petition. This is an important topic, and we hope you will take the opportunity to help with this cause.

SMS message: “Thank you for taking our survey. To sign the petition to major parties, listing commonly named problems with trotros, please reply by texting YES”

*Party Affiliation Measure*

2008 Vote

[22] For which candidate did you vote in the first round of the 2008 presidential election? *Candidates’ names not read. If subject could not remember candidate’s name, follow up:* Do you remember of what party the candidate was a member? *Question only asked of those who had previously reported having voted in 2008, in Question 21: Let’s talk about political participation in the past. We know that many Ghanaians did not go to the polls in the last general elections, in 2008. Did you go to the polls to vote in the first round of the 2008 elections, when this country elected a president and parliament?*

2012 Vote (to check for validity of 2008 measure)

[11] Whom would you vote for if the 2012 presidential election were today? *Candidates’ names not read. If respondent could not remember candidate’s name, follow up:* Do you remember which party the candidate is a member of? *Question only asked of those who had previously reported expecting to vote in 2012, in Question 10: Understanding that some Ghanaians choose not to vote, how likely do you think it is that you will vote in the next general elections? Would you say you are totally sure you will vote, very likely to vote, somewhat likely to vote, not very likely to vote, or are you sure that you will not vote?*
Manipulation Checks

[59] Was the radio playing in the tro-tro?

[61] Can you tell me which radio station was playing in the tro-tro? [Options not read. Only asked of those who reported in Question 59 that the radio was playing.]

[62] From what you know about radio in Accra, would you say that the presenters on the stations I’m going to read to you are more in favor of the government or the opposition, or are they neutral? A) Radio Gold? B) Peace FM? C) Oman FM?

Other Variables

[53] In the last week, how often would you say that you listen to the following morning shows? Every day, most days, a few days, or not at all? A) “Kokrokoo” on Peace FM? B) “Gold Power Drive” on Gold FM? C) “National Agenda” on Oman FM? [Only asked of those who previously reported listening to radio, in Question 52: For each of these sources, please tell me how often you think you got your news from them in the last week. Every day, most days, a few days, or not at all? Radio?]

Tro-tro Seating

[1] Where were you seated in the tro-tro? Were you seated in the front row with the driver; near the front; towards the middle; or towards the back of the tro-tro?

Age

[46] How old are you?

Education

[47] What is the highest level of education that you have completed?

Ethnic Group

[48] What is your ethnic group or tribe? [Options not read.]

Wealth

[56] I am going to read you a list of items. Please tell me which ones your household has. A) Piped water in your home? B) DVD player? C) Personal computer? D) Refrigerator? E) Motor vehicle?

Languages

[57] I’m going to read you a list of languages. Can you please tell me whether or not you could understand someone speaking in each one. Could you understand them extremely well; fairly well, with just a few problems; a little, but with many problems; or not at all? A) English? B) Twi? C) Fante? D) Ewe? E) Ga?

Cynicism

[9A] I am now going to read you a list of people and institutions in this country. Please tell me whether you trust them a lot, somewhat, just a little, or not at all. Politicians

[6] I am now going to read you two statements. Please tell me which one, A or B, you agree with most. A: No matter whom we vote for, things will not get better in this country in the future. B: We can use our power to choose leaders who will help us improve our lives. [If subject answered A or B]: And do you agree with [A/B] strongly, or only somewhat?
[27] In your opinion, how often do politicians in this country keep their campaign promises after elections? Do they keep them almost always, most of the time, about half of the time, once in a while, or never?

[5] And thinking about your own involvement in politics—how much of an effort do you think someone like you can have on politics in our society? Do you think you can have a great deal of impact, a moderate amount of impact, only a little impact, or no impact at all?
### Appendix C: Descriptive Statistics of Key Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interest</strong></td>
<td>1.65</td>
<td>1.05</td>
<td>0</td>
<td>3</td>
<td>751</td>
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<tr>
<td><strong>Excitement</strong></td>
<td>1.90</td>
<td>.87</td>
<td>0</td>
<td>3</td>
<td>724</td>
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<tr>
<td><strong>SMS response</strong></td>
<td>.09</td>
<td>.29</td>
<td>0</td>
<td>1</td>
<td>752</td>
</tr>
<tr>
<td><strong>Partisanship Measure (2008 vote)</strong></td>
<td>.57</td>
<td>.450</td>
<td>0</td>
<td>1</td>
<td>752</td>
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</tbody>
</table>

Notes: For partisanship measure, votes for minor parties, refusals, and reported non-votes excluded. Statistics provided only for partisan subjects who provided mobile numbers.
Appendix D: Effects of Treatments on Cynicism

<table>
<thead>
<tr>
<th></th>
<th>(1) Trustworthiness of Politicians</th>
<th>(2) Ability of Elections to Make Improvements</th>
<th>(3) Likelihood of Politicians Keeping Promises</th>
<th>(4) Ability to Make Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like-minded</td>
<td>.24 (.20)</td>
<td>.20 (.24)</td>
<td>.12 (.20)</td>
<td>.15 (.20)</td>
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<tr>
<td>Cross-cutting</td>
<td>.00 (.19)</td>
<td>.00 (.23)</td>
<td>.10 (.20)</td>
<td>.50*** (.19)</td>
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<tr>
<td>Neutral radio</td>
<td>.14 (.21)</td>
<td>-.16 (.24)</td>
<td>.10 (.21)</td>
<td>.26 (.20)</td>
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<tr>
<td>Cut points</td>
<td>-.69 (.14)</td>
<td>-1.14 (.16)</td>
<td>-2.40 (.19)</td>
<td>-1.27 (.15)</td>
</tr>
<tr>
<td></td>
<td>.71 (.14)</td>
<td>-1.10 (.16)</td>
<td>-.64 (.14)</td>
<td>.34 (.14)</td>
</tr>
<tr>
<td></td>
<td>2.94 (.21)</td>
<td>-.91 (.16)</td>
<td>1.58 (.16)</td>
<td>1.86 (.16)</td>
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<tr>
<td></td>
<td></td>
<td>-.83 (.16)</td>
<td>3.91 (.30)</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>658</td>
<td>657</td>
<td>657</td>
<td>650</td>
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<tr>
<td>Adjusted R²</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
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</table>

Notes: Cell entries are ordered logistic regression coefficients. Standard errors are in parentheses. Coefficients that can be distinguished from zero are marked as follows: * ≤ 0.10; ** ≤ 0.05; *** ≤ 0.01 (for a two-tailed test). The excluded baseline group in the analyses is subjects assigned to the no-radio condition. Analyses only performed on subjects who were major-party partisans and who provided mobile phone numbers.