The Moderating Effect of Debates on Political Attitudes*

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Abstract

In theory, candidate debates improve democratic accountability by providing information about candidates' quality and policy positions. However, there is limited evidence about whether and why debates influence voters in new democracies. We use a field experiment on parliamentary debates during Ghana's 2016 elections to show that debates improve voters' evaluations of candidates. Debates have the strongest effect on partisan voters, who become *more* favorable toward opposing-party candidates and less likely to vote for co-partisans. Experimental and unique real-time response data, capturing second-by-second reactions to the debates, shows that information about both policies and candidate quality are important mechanisms. A follow-up survey shows that the effects of such information persist in electorally competitive communities, while they disappear in party strongholds. Debates thus have the potential to moderate political attitudes and reduce partisan polarization in new democracies, but the persistence of these effects is conditioned by the local political context.

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Weak electoral accountability hampers democratic processes in many developing democracies. Electoral accountability breaks down where politicians exchange private benefits for votes (Stokes 2005, Diaz-Cayeros et al., 2016), where parties intimidate voters or tamper with election results, or when voters have little information on the policy positions or records of elected representatives (Pande, 2011, Bidwell et al., 2016). *Candidate debates* are increasingly held in order to improve electoral accountability[1] by providing information about competing candidates' quality and policy positions. By facilitating a direct comparison of candidates, debates can help voters to select higher-quality representatives or politicians who share their policy priorities.

Understanding the causal mechanism through which debates influence voters is important, yet we have limited evidence regarding *whether* debates influence voters' attitudes in new democracies — or *how*. If debates influence voters only because of the charisma or physical attractiveness of candidates — rather than because they convey information about candidate quality or policy positions — then debates have only a limited potential to enhance policy-based campaigning and democratic accountability. Moreover, if debates only serve to reinforce or amplify partisan cleavages or conflict — for example, by increasing partisan voters' support of their co-partisans — then they may do little to improve the democratic process.

To address these fundamental questions, we conducted a randomized, controlled field experiment analyzing the impact of parliamentary debates held in the run-up to Ghana's 2016 elections.[2] Although Ghana is one of Africa's most democratic countries, it has significant barriers to electoral accountability, including pervasive clientelism (Lindberg, 2010; Nathan, Forthcoming; Abdulai and Hickey, 2016), limited information about candidates' policy positions, and significant advantages of incumbency (Gyimah-Boadi, 2009). The debates, organized by Ghana's National Commission for Civic Education (NCCE) and the Center for Democratic Development (CDD), included all candidates competing in the constituencies where we conducted the research.[3] The debates were real campaign events that were organized locally, which enhances the external validity of the study. Candidates were in the same location, answered the

[1] Debates are conducted in over 60 countries, including Cambodia, Canada, Colombia, Ghana, Haiti, Kenya, Liberia, Iraq, Peru, Sierra Leone, and the USA (National Democratic Institute, 2014).

[2] Our hypotheses, measurement strategies, and analyses were pre-specified in a pre-analysis plan. Table A in the Appendix details all pre-specified hypotheses and associated results.

[3] The NCCE is a constitutionally mandated, non-partisan institution that promotes the spread of democratic values, and CDD-Ghana is a domestic non-governmental organization.

same questions from the moderator, and, importantly, were able to engage with the statements made by their competitors; in short, the debates mirrored similar events held in older democracies, such as the United States. We videotaped the debates in three electoral constituencies and randomly assigned study participants (N=1,991) to view either the debate or a control video; we surveyed them immediately afterwards. To determine whether the effects of the debate persisted, we conducted a follow-up survey two days later with a randomly selected subsample of 10 percent of the initial participants.

A distinctive feature of this study is our focus on causal mechanisms. Drawing on the political accountability literature, we designed the study to test two distinct, but not mutually exclusive, theoretical channels through which debates may influence voters: information about candidates' *policy positions* and information about candidates' *quality* (e.g., competence and honesty) (Besley, 2005; Bidwell, Casey and Glennerster, 2016; Fujiwara and Wantchekon, 2013; Platas and Raffler, Forthcoming). Further, because candidate quality might be inferred from what the candidates say during the debates and (perhaps incorrectly) from their physical attributes (e.g., attractiveness and body language) (Lawson et al., 2010), we test the importance of visual cues.

The debates were organized into a personal background segment, in which policies were not discussed, and a policy segment, in which the candidates discussed education and unemployment issues. Therefore to test whether debates influence voters by providing information about candidates' quality or policy positions, study participants were randomly assigned to view the personal background segment only, the policy segment only, or the full debate. To test the importance of physical attributes (i.e. visual cues), we also randomly assigned some participants to watch the debates and others to listen to them. Figure 1 displays each of the treatment conditions. To provide experimental evidence on causal mechanisms, we compare the relative effect of each of the different treatment arms. This approach allows us to make design-based inferences about causal mechanisms (Gerber and Green, 2012).[4]

We explore the causal mechanisms in more depth by analyzing unique observational data that captures participants' real-time, second-by-second positive and negative reactions to the debates. To our knowledge, this study is the first to present data of this kind gathered from a new democracy.

[4]This approach avoids concerns about the potential bias involved in using intermediate variables to test causal mechanisms (Gerber and Green, 2012; Imai et al., 2011).

Our results show that debates *do* influence voters — by improving their evaluations of candidates. The experimental evidence suggests that this effect is driven by information about both candidates' personal qualities and policy positions. Evaluations of minor party candidates increase more than evaluations of candidates from Ghana's two main parties. This effect is driven primarily by information on the policy positions of these candidates. For all types of candidates we find no evidence that physical attributes or visual cues are important.

We further show that debates have the largest impact on partisans and no effect on swing voters. Rather than entrenching their pre-existing partisan preferences, the debates made partisan voters more favorable to opposition politicians and less likely to want to vote for their party's candidate. In short, the debates *moderated* the political preferences of committed partisans. While the experimental evidence suggests that this moderation effect is driven by information about candidate quality and policies, the observational real-time response data suggests that policy-centered statements were an important driver of this effect.

Finally, we examine whether these effects persist over time. We show that the moderation effect only persisted among participants who live in electorally competitive communities; the effect disappears completely among those who live in communities that strongly support one of the two major parties. This finding highlights that while debates may promote political moderation in the short term, the social or political context of a voter's local community conditions the extent to which they lead to more durable changes in voter attitudes.

These results make three main contributions. First, they advance the literature on candidate debates and related candidate-centered events in new democracies. Consistent with other studies (Fujiwara and Wantchekon, 2013; Wantchekon et al., 2017; Bidwell, Casey and Glennerster, 2016; Platas and Raffler, Forthcoming), we show that these types of campaign events can impact voter preferences. We advance this literature by focusing explicitly on causal mechanisms, which are important theoretically and because of their implications for the role of these events in improving democratic accountability.

Second, the study contributes to a growing literature on campaigns and candidate messages in new democracies (e.g. Resnick, 2014) and a related literature on the drivers of voter behavior in such contexts (e.g., Weghorst and Lindberg, 2013). Existing research suggests that political parties in sub-

Saharan Africa tend to rely on valence appeals to attract votes (Bleck and van de Walle, 2013; Lupu and Riedl, 2013) — non-contentious policies such as a commitment to improving living standards. By contrast, we show that debates motivate politicians to stake out distinct positions concerning how they plan to achieve developmental goals in their constituencies. Importantly, we provide suggestive evidence that voters are responsive to such policy-specific campaign appeals.

Finally, our results contribute to the literature on how partisan identities condition voter responsiveness to candidate debates and other types of political information (e.g. Carlson, 2016; Bolsen, Druckman and Cook, 2014; Taber and Lodge, 2006). While the American politics literature suggests that swing voters and those with weak partisan attachments are more likely to be influenced by debates (Geer, 1988; Hillygus and Jackman, 2003), prior studies on debates in new democracies have been unable to detect differences between swing and partisan voters (Bidwell, Casey and Glennerster, 2016).[5] Our finding that debates moderate partisans' political preferences implies that debates may have different effects in old versus new democracies. We suggest that this is because partisan identity in new democracies is often based on factors other than ideological attachments, which allows partisans to more easily change their opinions about new parties when they receive new information about their candidates. These results also complement prior research which shows that exposure to partisan radio in urban Ghana moderated political attitudes (Conroy-Krutz and Moehler, 2015), and advance the literature by showing that such moderation effects are only likely to persist in certain local political contexts.

1 Theoretical Background and Hypotheses

Our point of departure is the theoretical literature on political accountability and selection, which highlights that voters often judge political candidates along two dimensions: their *policy positions* and their *quality* (Besley, 2006). While policy positions refer to a candidate's policy priorities and the specific ways that they propose to enact them, candidate quality refers to characteristics associated with their ability to achieve their goals while in office. Such characteristics include candidate competence and preparation for the job as well as their trustworthiness, personal integrity, and values.

[5] Bidwell, Casey and Glennerster (2016)'s study was statistically under-powered to detect differences in effects between swing and partisan voters.

Voters in many new democracies struggle to access credible information about candidates along these two dimensions (Keefer and Vlaicu, 2008; Pande, 2011), which makes it harder to hold leaders accountable and select better representatives. Existing research suggests that voters often rely on ethnic identity or other heuristics to choose between candidates (Conroy-Krutz, 2012), and candidates often have incentives to establish clientelistic linkages with voters (Keefer and Vlaicu, 2008).

Candidate debates are campaign events that, in principle, can give voters access to information about both candidate quality and policy positions (Bidwell, Casey and Glennerster, 2016; Platas and Raffler, Forthcoming). They do so in a way that is distinct from many other types of campaign events, such as campaign rallies, that are also common in new democracies. For example, the structure of debates forces candidates to discuss similar topics under the same time constraints, which allows voters to directly compare candidates (Owen, 1991). Debates also allow candidates to directly engage with their opponents' arguments and positions. Since voters in many new democracies often lack access to the types of information about candidates that debates convey, we expect that, on average, *debates have a positive effect on voters' evaluations of candidates who participate in them (H1).* Further, since some candidates will perform better than others, this positive effect should be larger for those candidates who are judged to have performed well in the debates (Bidwell, Casey and Glennerster, 2016) (H1a).[6]

Debates also provide an opportunity for politicians from opposition parties to compete on equal footing with candidates from the ruling party, which is particularly significant in new democracies, where the ruling party often enjoys greater resource advantages (Levitsky and Way, 2010). As a result, *debates may have the strongest impact on voters' evaluations of opposition and minor party candidates (H2)*: these candidates are less well known to voters, and so the information conveyed in debates will be newer and thus have greater potential to influence voters' opinions. Moreover, minor party candidates may benefit because of increased exposure, which can improve perceptions of electoral viability (Kam and Zechmeister, 2013).

[6]Debates could have the greatest impact when the information from the debate differs from voters' prior beliefs about the candidates (Dunning et al., Forthcoming). To some extent, this logic motivates our hypothesis about minor party candidates (H2), as voters are likely to have relatively uninformed priors about these types of candidates. However, as we discuss below, generating objective measures of debate performance may not be possible. First, performance is inherently subjective which means that the assessment of "objective" experts may not correspond to those of voters, who are the target audience for debates. Second, although one measure of relative performance may investigate the congruence between voters' policy preference and the candidates proposals, this may be inappropriate because one goal of debates, from the perspective of candidates, is to persuade voters of their policy ideas.

1.1 Why Do Debates Influence Voters?

As discussed above, we expect that debates may influence voters through two distinct, though not mutually exclusive, causal channels: information about candidate quality and information about candidates' policy positions. Regarding the former, candidates can use debates to explicitly and implicitly convey a range of information about themselves, including about their personality, values, leadership skills, and qualifications. A candidate's debate performance may signal their competence or increase their likability, regardless of what they say. We therefore hypothesize that *debates influence voters because they provide information about candidates' quality, such as their qualifications, competence, and trustworthiness (H3).* Moreover, debates could influence voters through *non-verbal* (visual) signals and forms of communication. For instance, some candidates may be more physically attractive or visually charismatic, which voters may implicitly (and often incorrectly) interpret as a signal of candidate quality (e.g. Lawson et al., 2010). We thus test the hypothesis that *debates influence voters because of non-verbal signals and communication (H4).*

Debates also provide a forum for candidates to discuss and debate their policy priorities, positions, and plans. The literature on African politics highlights that political parties and candidates often prefer to communicate their policy messages through *valence appeals* (Bleck and van de Walle, 2013); that is, by couching their messages in terms that almost no one could disagree with, for example by "[saying] they are for something good (like development, education, democratic practices) or against something bad (like corruption or colonial interference)" (Bleck and van de Walle, 2013, p. 1414).

However, because valence appeals can make it hard for voters to differentiate between candidates on programmatic grounds, debates may incentivize candidates to stake out specific *policy positions* to distinguish themselves from their competitors. Our results show that this happened in the debates we study. Although candidates did make valence appeals in the debates, they also tried to draw policy distinctions from one another by making more specific policy promises. For example, during the 2016 campaign, both major parties made the clear valence appeal of promising to expand access to secondary education. However, the debates revealed real differences in the two parties' policy plans for achieving this objective: one advocated investments in educational infrastructure and the other promoted a plan to

eliminate secondary school fees. We thus test the hypothesis that *debates influence voters because they provide information about candidates' policy positions (H5).*

1.2 Which Types of Voters Are Influenced by Debates?

Debates are likely to affect different types of voters in different ways. The literature on debates and other campaign events in the United States illustrates that the strength of voters' prior *partisanship* is likely to condition the impact of debates. This literature provides evidence that independent and undecided voters are more likely than strong partisans to be influenced by campaign events, including debates (Geer, 1988; Hillygus and Jackman, 2003). There is also evidence that swing voters in some African contexts are more influenced by policy-related information (Weghorst and Lindberg, 2013) and are more likely to change their vote intention during the course of a campaign (Horowitz, 2017). Since swing voters may be the most open to changing their views of candidates and to the types of information conveyed by debates, debates may have a greater positive influence on the attitudes of independent and weak partisans. In particular, *debates should have the greatest positive effect when swing and weak partisan voters evaluate candidates who have performed well in the debates (H6).* By contrast, strong partisans may be likely to interpret the debate in a manner that reinforces their prior political opinions (Geer, 1988) or to discard information from the debate that is inconsistent with their partisan views (Bolsen, Druckman and Cook, 2014; Taber and Lodge, 2006). Consequently, *among strong partisans, debates may have a greater impact on support for the voter's co-partisan (H7).*

Although H6 and H7 capture our *ex ante* (and pre-specified) expectations, it is also possible that debates could *moderate* partisan voters' opinions of non-favored party candidates. In developing democracies, political parties often struggle to develop strong ideological platforms (Van De Walle and Butler, 1999). Accordingly, partisan loyalties are often based on regional or ethnic identities or rely on personal attachments to individual politicians, rather than fixed ideological leanings. In such environments, debates could moderate political opinions by introducing voters to candidates from their opposed parties and providing information about their policy positions and personal characteristics. For example, de-

bates could make opposition candidates appear more personable and less threatening, or create space for voters to consider their policy ideas.[7]

2 Parliamentary Elections and Debates in Ghana

We conduct our study around the parliamentary elections held in Ghana in December 2016. These elections were the seventh since the country's return to democracy in 1992. One Member of Parliament (MP) serves each of the country's 275 political constituencies for a four-year term. The parliament is often composed only of MPs from the two major political parties — the National Democratic Congress (NDC) and the New Patriotic Party (NPP) (Fridy, 2007). In the 2016 parliamentary elections, the NDC won 106 parliamentary seats and the NPP obtained the remaining 169 seats. The prominent minor parties are the Convention People's Party (CPP), the People's Progressive Party (PPP), and the People's National Convention (PNC). Although candidates from the minor political parties usually fail to get elected, these parties receive about 5 percent of the total votes nationally. In the Central region — where our study was conducted — minor parties won roughly 4 percent of the total votes.[8]

Ghanaians, like most Africans, have low evaluations of incumbent MPs. Data from the Afrobarometer (Round 6) shows that the majority of citizens (63 percent) disapprove of their representative's performance. There is also infrequent communication between citizens and MPs; only about one in ten Ghanaians ever contacts their MP. Public dissatisfaction with MP performance leads to high turnover rates: nearly half lose their seat in each election.[9]

Limited contact between citizens and elected politicians reinforces election campaigns based on particularistic exchanges and promises of personal favors (Lindberg, 2003; Nathan, Forthcoming). Civil society organizations are increasingly coordinating programs designed to promote policy-based campaigning and improve accountability links between voters and representatives. CDD-Ghana, one of

[7]We also pre-specified a set of hypotheses about how political knowledge would condition the impact of debates and how exposure to debates might influence levels of political tolerance and trust, attitudes toward vote buying, and voter perceptions of electoral and democratic integrity. Due to space constraints, and because these outcomes are theoretically distinct from the outcomes we examine in this paper, we present these hypotheses and the corresponding results in the Appendix. We do not find that debates have a significant effect on any of these additional outcomes.

[8]In the three northern regions, minor party and independent candidates received 8–16 percent of the votes in the 2016 election.

[9]The overall turnover rate for legislators between 2000 and 2012 is 45.38 percent (i.e., newly elected MPs), and the percentage of seats changing between parties averaged 22.45 percent (Ofosu, 2017).

the two organizations that we partnered with in this study, began holding parliamentary debates during the 2012 election campaign. These debates are modeled on the televised presidential debates that have been held since 2000.[10] The debates begin with a personal introduction, followed by policy discussions and a question-and-answer session. The debates in our experimental intervention replicate this structure. Our study therefore evaluates the effect of real debates organized by a Ghanaian government institution and a civil society organization, which provides additional external validity to our results.

3 The Debates

We conducted the study in the Effutu, Komenda-Edina-Eguafo-Abirem (KEEA), and Mfantseman constituencies in the Central Region. The parliamentary candidate debates in these constituencies were organized by the CDD and the NCCE. Table 1 displays the candidates' names and party affiliations. The debates were held in public locations and were attended by ordinary voters as well as party members, traditional authorities, and leaders of community organizations and civil society groups. The debates were broadcast on local radio stations and were covered in local newspapers. We videotaped the debates and then transferred the videos to smartphones to show study participants.

Table 1: Names and party affiliations of parliamentary candidates in the debates

Party	Constituency		
	Effutu	KEEA	Mfantseman
NDC	Eric Don-Arthur	Samuel Atta Mills*	James Essuon
NPP	Alexander Afenyoh-Markin*	Stephen Nana Ato Arthur	Ekow Hayford*
PPP	Nana Ofori Owusu	John Sterlin	Kwabena Amu Quandoh Okyere
CPP	Ebenezer Rolance Akumbea-Sam	Rose Austin Tenadu	Pius Ebo Dughan
PNC	Murtala Muhammed Umar		

Notes: * Denotes the winners of the 2016 election.

Candidates were allowed to choose which language to speak in. While most candidates spoke exclusively in Fante (the dominant local language in the Central Region), some spoke partly in English. One candidate, Eric Don Arthur (NDC, Effutu), spoke almost entirely in English.[11] Each debate had an identical structure, which is similar to that of debates held in other countries, including the United States. Candidates were in the same location and on the same stage when answering the moderator's questions,

[10] The presidential debates are organized by the Institute for Economic Affairs.

[11] The study used only the candidates' original language; no translations were provided to participants.

and often engaged with the statements and positions of the other candidates. This study focuses on two of the three main debate segments, which are discussed in more detail in the following sections. First, each candidate had two minutes to describe their personal background, qualifications, and values. We refer to this as the *Personal Background segment*. Second, the moderator asked each candidate to discuss their plans in two policy areas: education (2 minutes) and unemployment (2 minutes). We refer to this as the *Policy segment*.[12]

3.1 Personal Background Segment

In this segment, candidates discussed three broad topics: their familial heritage, their motivation to enter politics, and their qualifications. Most sought to establish their local credentials as well as their familial connections to communities in their constituencies. For example, Ato Arthur (NPP), emphasized his roots in the constituency, stating that he is "a proud son of Komenda; my mother and my father are from Abram-Boase, the former chief family head." Quandoh Okyere (PPP) noted that "[he] was born in Mankessim, [his] mother is from Mankessim-Twafo, [his] father was also born in Mankessim and so when they are talking about the indigenous people of Mankessim [he is] also part of them."

Many also articulated why they got involved in politics and how their prior work qualified them to become an MP. The NPP candidate in Effutu, and incumbent in the district, Alex Afenyoh-Markin, articulated his reasons for getting into politics: "Nobody introduced me to politics, I started politics on my own because growing up I saw the hardships we face here in Winneba, I see what poverty has done to people and so I promised myself that if God saves me from poverty I will also come and save my people. That is why I joined politics."

All candidates detailed their academic qualifications and their professional experience. To demonstrate their commitment to local issues, most highlighted their involvement in local organizations or their past work to help the community. For example, Rose Austin Tenadu (CPP) noted, "I have been the president of the National Association of Lions Club, Cape Coast Crystal Lions Club and then another group called the Sight for the Blind ... and another work that I do is my work on radio as a radio

[12]Candidates also fielded questions from audience members. To ensure uniform treatment across constituencies, our experiment did not include these discussion sessions.

talk show host." Ebenezer Akumbea-Sam (PNC) claimed that "I am part of every group that is doing anything to help the community."

3.2 Policy Segment

The policy segment focused on two salient issues in the 2016 campaign: education and unemployment.[13] Although prior studies suggest that candidates in Ghana and other new democracies often avoid staking out specific policy positions and instead rely on valence appeals (Bleck and van de Walle, 2013; Lupu and Riedl, 2013), the candidates in the debates employed a mix of valence and policy-specific discourse.

Regarding valence appeals, one CPP candidate said, "When the CPP comes into power, the constant power instability will be a thing of the past ... the light problem is fixed: we will work and be comfortable." Another candidate said, "There will be a new era for entrepreneurship in Effutu. We will encourage entrepreneurs to establish their businesses in Winneba." These vague statements lack specifics on the actions that candidates plan to take, and are difficult to disagree with.

Most candidates proposed specific policy plans (summarized in Table 2). For example, the NDC and NPP candidates offered relatively distinct policies to improve access to secondary education. The opposition NPP candidates, along with candidates from the CPP and PPP, promised to eliminate school fees for secondary school. For example, Ato Arthur (NPP, KEEA) argued that "the paramount reason why the children are unable to complete is the hardship that the parents face to pay for their school fees." By contrast, the NDC candidates emphasized their commitment to infrastructure development as a way to increase public access to secondary school. NDC candidates also challenged the NPP's proposal for universal free secondary school.[14] For example, the NDC candidate in KEEA responded to the NPP candidate's education proposal by asking "if any government comes here to say that SHS [secondary school] is free, what school is here for the children to go to?"

[13] While corruption was another major issue, it was less relevant for constituency-level elections. For more specifics on the campaign see, ''9 things you should know about Ghana's election," *Washington Post*, 7 December 2016, last accessed 15 May 2017.

[14] In their manifesto the NPP committed to "redefining" basic education to include senior high school (SHS), a policy which would make it free for all students. The NPP had made the same manifesto promise in the prior election in 2012. At that time there was much public debate about the feasibility of free universal SHS. During the 2012 campaign the NDC said that the country could not afford free SHS. Because the policy seemed to be growing in popularity by 2016, the NDC had adopted a modified version of the policy in which they committed in their manifesto to "expand" the "progressively free SHS programme." However, the NDC did not commit to free universal SHS.

Table 2: Candidates' position issues during the policy segment

Education	Employment
Construct more schools, and build toilets and libraries in every school	Construct a new harbor at Winneba
Free education up to age 18	Re-open processing factory at Ampem
Set up a constituency fund to pay for mock examination fees and extra classes	Re-open factory at Abokrom
Organize inter-school quiz competition to encourage reading	Re-open poultry factory at Pomadze
Institute a constituency-wide Best Teacher Award	
Institute inter-school reading competitions	

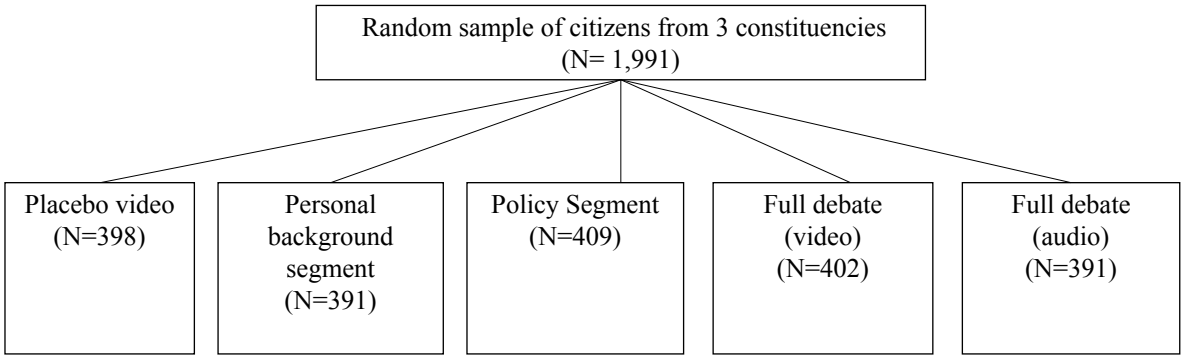
Education policy discussions also touched on teacher training, the challenge of teacher absenteeism, and support for school feeding and scholarship programs. Regarding employment policies, several candidates discussed the importance of providing skills training for young people. Others emphasized the need to re-open specific local factories to process poultry and locally grown cassava. Since the constituencies in the study are located on Ghana's southern coast, many candidates also highlighted their plans to support the fishing industry by constructing a new harbor and transitioning to lighter fiberglass boats.

4 Treatment Conditions and Randomization

We designed the study to experimentally test hypotheses about the causal mechanisms linking debates to outcomes. Given the challenges associated with causal mediation analysis, we use implicit mediation analysis. This strategy involves randomly assigning participants to different segments of the debates to identify which elements have the greatest impact. This approach avoids concerns about the potential bias involved in using intermediate variables to test mechanisms and allows us to make design-based inferences about causal mechanisms (Gerber and Green, 2012; Imai et al., 2011).

In one treatment condition, participants only watched the personal background segment; they learned about candidate quality but not policy positions. In another treatment condition, participants

Figure 1: Distribution of participants across treatment conditions



Notes: Each respondent had a 20 percent chance of being randomized into each of the five treatment conditions.

only viewed the policy segment, which allowed them to learn about the issue priorities of candidates. In another condition, participants watched both segments. In the final condition, participants *heard* the entire debate (i.e. personal background and policy segments) as if it were a radio broadcast. This allows us to test the hypothesis about visual signals.

This approach to testing causal mechanisms distinguishes this study from prior research. Most closely related is Bidwell, Casey and Glennerster (2016)'s study of debates in Sierra Leone, which also attempts to distinguish between these two channels by presenting participants with news reports that discuss the policy contents of the debates and "get to know you" videos that focus on the candidates' personal attributes. This design simultaneously alters the content *and* the delivery format, while we hold the debate format constant and change only the content in order to determine whether differences in content drive differences in treatment effects.[15]

Participants (N = 1,991) were randomly assigned to one of five experimental conditions: 1) Personal background segment (video), 2) Policy segment (video), 3) Full debate (video), 4) Full debate (audio), or 5) Control. Participants in the control group were shown a non-political, placebo video that featured a popular Ghanaian comedian.[16] Figure 1 displays the five treatment conditions and the number of respondents in each.

[15]Platas and Raffler (Forthcoming) also theorize that debates could be influential because they convey information about candidate "image" and policy positions. However, their experiment does not unbundle the relative impact of each.

[16]The placebo video was the same length as the full debate video/audio.

As we note, the debates that we analyze were real campaign events. Accordingly, some respondents in our sample had heard about or seen them before we contacted them. About fifteen percent of respondents had pre-treatment exposure to the debates. Importantly for our analyses, these respondents are distributed equally across the control and treatment groups. Our results are also robust to excluding respondents who had prior exposure to the debates.

4.1 Sampling and Interview Procedure

Our sampling procedure was guided by our goal to determine how partisanship conditions the impact of debates on voters. The three constituencies in our sample are home to swing voters, as well as NPP and NDC partisans. To sample participants, we enumerated the Electoral Areas (EAs) in each constituency.[17] Using results from the last election at the polling station level, we categorized EAs as NPP stronghold, NDC stronghold, or competitive. We classified EAs as an NPP (NDC) stronghold if the NPP (NDC) candidate's margin of victory in the EA was greater than 10 percentage points. We coded the other EAs as electorally competitive.[18] In each constituency, we used stratified sampling to randomly select 12 EAs: six electorally competitive and six strongholds.[19]

Within an EA, we randomly sampled participants using a random walk technique. Randomly sampled polling stations were the starting points for the random walk, and enumerators began at a different polling station each day.[20] About 54 participants were sampled in each EA.[21] To ensure a balance of male and female respondents, each enumerator alternated between males and females. The tables in Appendix B.1 present descriptive information about the sample, including covariate balance across treatment and control groups.

After completing the consent process, each participant completed a short survey. Participants then watched (or listened to) the debate (or placebo video) associated with their treatment condition.[22]

[17] EAs are sub-constituency units from which members of local government assemblies are elected.

[18] The sampling frame included 18 EAs in Effutu, 37 EAs in KEEA, and 36 EAs in Mfantseman.

[19] We selected three NDC strongholds and three NPP strongholds in each constituency.

[20] EAs usually contain 2–7 polling stations.

[21] Survey teams of three enumerators spent three days in each EA. Each enumerator sampled 18 participants over the three days.

[22] The survey was implemented electronically using SurveyCTO, and a random number generator in the survey program assigned individual participants to one of the five conditions.

Respondents viewed the debate on a smartphone. Enumerators gave the participant as much privacy as possible. Immediately following the video, participants answered another series of questions.

5 Measurement

5.1 Main Outcome Measures

Our main outcome measures were collected through the survey conducted immediately after each participant viewed the debate (or control video). Although a limitation of this approach is that it does not allow us to estimate the effect of the debates on actual voting behavior, an advantage is that voter evaluations of candidates will not be influenced by post-debate discussions, news coverage, or efforts by the parties to "spin" voters' interpretations of the debates. This is important because Humphreys and Weinstein (2013) find that politician interference weakened the impact of an information campaign in Uganda, while Fridkin et al. (2004) find that media coverage of a debate in the United States had as much of an impact on voters as the debate itself.

We focus on two dependent variables. The first is a continuous measure, ranging from one to seven, of the participant's *overall evaluation* of each candidate in the debate:

> I'd like you to think about your overall assessment of [*candidate name*], who is the [*political party name*] candidate for parliament in [*constituency name*]. On a scale of 1 to 7, where 7 means that you have a very positive assessment of [*candidate name*], 1 signifies that you have a very negative assessment, and 4 means that you are neutral, what is your overall assessment of [*candidate name*]?

Second, we analyze a dichotomous (0/1) measure of *vote choice.* To limit response bias, the smartphone displayed pictures and labels for each participating political party. Participants then privately selected which party's candidate they would vote for by tapping on the party logo. The exact wording of the prompt was: *Please click on the party that you would vote for if the upcoming parliamentary elections were held today in [*constituency name*].*

These outcome measures capture distinct but related outcomes. The evaluation measure allows us to determine whether the debates lead voters to alter their assessments of candidates. The vote choice

outcome assesses whether, in addition to influencing evaluations of candidates, debates impact intended voting behavior. We emphasize that whether and how debates change citizens' evaluations of candidate is important even if debates do not change intended vote choice. For example, in polarized political contexts it is important to understand whether debates reduce — or increase — voters' relative preferences for co-partisan candidates, as this can have implications for political stability and governance.

5.2 Coding Partisans and Swing Voters

To measure partisanship, we use pre-treatment survey questions similar to "feeling thermometers."[23] To construct the partisan thermometer, we asked participants (pre-treatment) to rate, on a 1–7 scale, how close they feel to each of the major parties (where 7 is very close and positive, 4 is neutral, and 1 is not very close and negative). We rescaled the NDC variable to run from -7 to -1, where -7 indicates those who felt closest to the NDC. Then we added the NPP rating to the NDC rating to produce a single continuous measure. Those who rated the NDC as 7 and the NPP as 1 on these survey questions — partisans of the NDC — had a value of -6 on this measure. Those who rated the NPP as 7 and the NDC as 1 on the survey questions — NPP partisans — had a value of 6 on this measure. Those who gave similar scores to both parties had a value close to 0. As specified in our pre-analysis plan, we coded voters by cutting the distribution of this continuous variable at the 33rd and 66th percentiles, such that the bottom third of the distribution are NDC partisans, the top third of the distribution are NPP partisans, and the middle third are swing voters.

6 Analysis

We created a dataset in which the unit of analysis is the participant–candidate dyad. Our baseline specifications are as follows:

$$Y_{ijk} = \alpha + \beta_0 * T_{ij} + \gamma_j + \theta X_{ij} + \varepsilon_{ijk} \quad (1)$$

[23] We also pre-specified that we would produce a count measure of swing voters, adapting the measure of Weghorst and Lindberg (2013). Because many of our participants had no voting history or missingness in their voting history — because of their age or because they did not vote in past elections — the count measure is not applicable to our full sample. We therefore focus on the partisan thermometer measure. None of the results presented below change if we use the count measure in the analyses.

and

$$Y_{ijk} = \alpha + \beta_1 * T1_{ij} + \beta_2 * T2_{ij} + \beta_3 * T3_{ij} + \beta_4 * T4_{ij} + \gamma_j + \theta X_{ij} + \varepsilon_{ijk} \quad (2)$$

Y_{ijk} is the 7-point evaluation or vote choice for participant i in electoral area j for candidate k. In Equation 1, we estimate the causal effect (β_0) of receiving any of the debate treatments (T_{ij}). In Equation 2, we separate by treatment condition. $T1_{ij}$ indicates the personal background treatment, $T2_{ij}$ indicates the policy treatment, $T3_{ij}$ indicates the full debate video treatment, and $T4_{ij}$ indicates the full debate audio treatment. γ_j are fixed effects for each EA (our sampling points). The EA fixed effects ensure that our inferences are driven by differences between voters who have the same candidate choices (and view the same debates), and should increase the efficiency of our estimates by controlling for differences across constituencies and local communities that could influence the outcomes of interest. As pre-specified and to improve precision (Gerber and Green, 2012, p.104), we also control for the following individual-level pre-treatment covariates (X): age, gender, education, and whether or not the respondent has a full-time job. Since participants enter into the data multiple times, we cluster standard errors on participants.

7 Results

7.1 Manipulation Check

As a manipulation check, we first show that treated respondents can correctly name more candidates than control respondents. The treatment effects are positive and significant across candidates from all parties, although the effects are concentrated on candidates from minor parties (see Appendix Table D.2). Debates made respondents much more likely to know the names of candidates from the CPP (15-percentage-point increase) and PPP (13 percentage points). Most respondents in the control group could correctly name the NDC (73 percent) and NPP candidates (77 percent). However, the treatment still increased knowledge of candidates from the two major parties: a 9- and 6-percentage-point increase, respectively.[24]

[24]Overall, the mean for control respondents is 2.05 names, and the mean for treated respondents is 2.51 names (see Appendix Table D.1).

7.2 Main Results

Figure 2 presents the mean overall evaluation of each candidate (on the 1 to 7 scale) in each of the five experimental conditions (with 95 percent CIs). The mean in the control group is 3.38, and this increases to 3.59 in the pooled treatment group. The mean in each treatment group is also higher than in the control group: 3.56 for the Personal Background segment, 3.64 in Policy, 3.60 in Full Debate (video), and 3.58 in Full Debate (audio).

Figure 2: Mean overall evaluation in each experimental condition

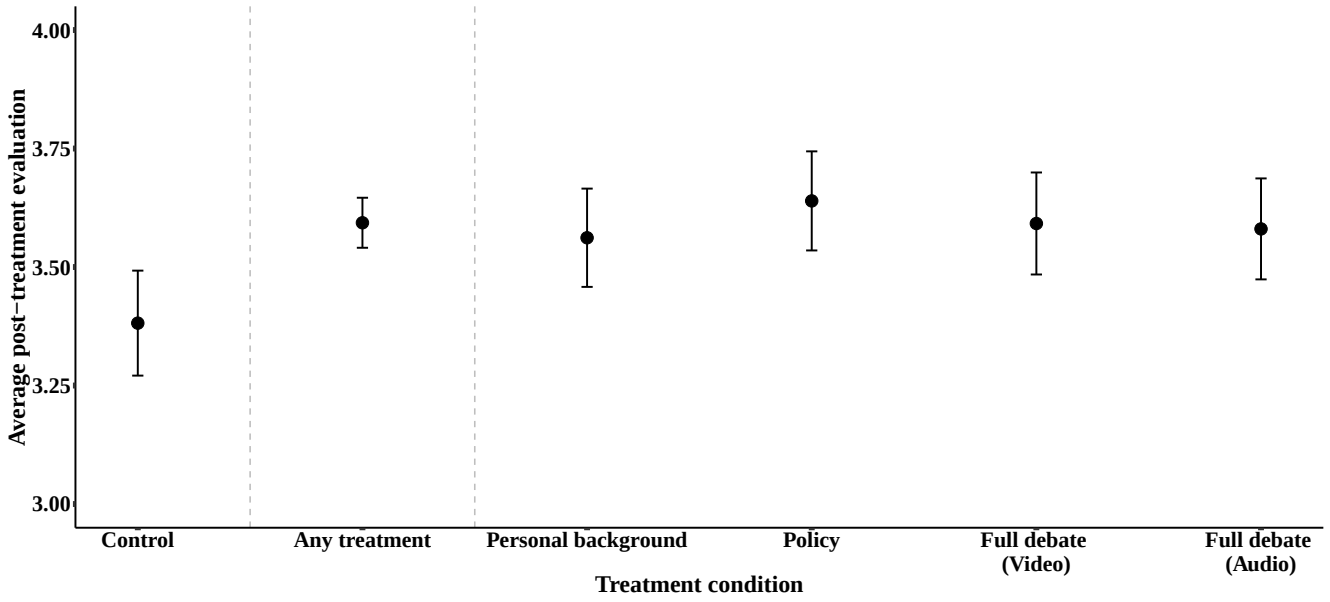


Table 3 presents the ordinary least squares regression results using overall evaluation as the dependent variable. Columns 1 and 2 present the results without covariate adjustments or fixed effects. Columns 3 and 4 present the results from the pre-specified models (Equations 1 and 2). Columns 1 and 3 present the results pooling across all treatment conditions. Consistent with *H1*, the results demonstrate that debates have a positive and statistically significant effect on voters' evaluations of candidates. The magnitude of the coefficient (0.19) is relatively modest: about one-tenth of a standard deviation, or about a 6 percent increase from the control group mean.

Table 3: Main treatment effects (average across all candidates)

	(1) Evaluation	(2) Evaluation	(3) Evaluation	(4) Evaluation
Treatment	0.21***		0.19***	
	(0.06)		(0.05)	
Personal Background segment		0.18**		0.16**
		(0.07)		(0.07)
Policy segment		0.26***		0.23***
		(0.07)		(0.07)
Full debate (video)		0.21***		0.18***
		(0.07)		(0.07)
Full debate (audio)		0.20***		0.18**
		(0.07)		(0.07)
Constant	3.38***	3.38***	3.45***	3.44***
	(0.05)	(0.05)	(0.18)	(0.18)
Individual Controls	No	No	Yes	Yes
Sampling Area Fixed Effects	No	No	Yes	Yes
Observations	8,228	8,228	8,186	8,186
R-squared	0.00	0.00	0.03	0.03

Notes: Observations are the individual-candidate dyad. The dependent variable is on a 1-7 scale with higher numbers indicating more positive evaluations of candidates. Standard errors clustered by individual in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Figure E.1 disaggregates the effect of the debates on evaluations for each candidate separately. The results show positive effects for 12 of the 13 candidates. In the full sample, respondents' evaluations of candidates from the CPP and the PPP increased the most after watching the debates.[25] In summary, debates lead to modest improvements in respondents' evaluations of all candidates, especially those from minor political parties.

We hypothesized that debates may have the largest effect for candidates who performed well (H1a). To assess this hypothesis we construct two measures of performance. First, we asked treated respondents which candidate they believe performed best in the debates. Second, we surveyed a panel of experts from Ghanaian civil society and academia (N=17), asking them to watch the debates and evaluate each candidate (details in Appendix C). We use these responses to construct a survey-based and an expert-

[25]Table E.1 in the Appendix presents the results aggregated at the party level. The treatment effects for each party on a 7-point scale are as follows: 0.08 (NDC), 0.06 (NPP), 0.33 (CPP), 0.27 (PPP), and 0.06 (PNC).

based measure of the debate "winner." We find no evidence that the treatment effects were larger for the debate winner (results are in Appendix C). However, these findings should be interpreted with caution. A limitation of the survey-based measure is that many respondents used this survey item as an opportunity to express their partisanship: being a co-partisan with a candidate is the strongest predictor of reporting that the candidate won the debate. The expert-based measure is also limited because assessments of debate performance are subjective and the assessment criteria of experts may be different from the criteria used by actual voters.

7.3 Results by Candidate Type

Table 4 tests the hypotheses that treatment effects are larger for non-incumbent party and minor party candidates (*H*2).[26] Columns 1 and 3 provide no evidence that the debates had a more positive effect on non-incumbent candidates. Column 2 shows that debates have a significantly larger effect on voter evaluations of minor party candidates; the interaction between the treatment and minor candidates is positive and significant (consistent with Figure E.1). The treatment effect for minor party candidates represents about a 12 percent increase over the mean in the control group.

However, this increased evaluation does not correspond to associated changes in intended vote choice. Column 4 shows that treatment does not increase the likelihood that participants will vote for minor party candidates. This may be because the improved evaluation of minor party candidates was not large enough in magnitude to change intended vote choice. It could also be because participants are thinking strategically; they may be unwilling to vote for candidates who are not perceived as electorally viable, even if the debates improve their evaluations of them. Therefore, our results provide partial support for *H2*.

[26]NDC candidates are incumbent party candidates.

Table 4: Treatment effects by candidate type

	(1) Evaluation	(2) Evaluation	(3) Vote	(4) Vote
Treatment	0.22***	0.07	0.00	-0.01
	(0.07)	(0.07)	(0.01)	(0.01)
Treatment x incumbent	-0.13		-0.01	
	(0.17)		(0.03)	
Incumbent	0.38**		0.17***	
	(0.16)		(0.03)	
Treatment x minor party		0.26**		0.01
		(0.10)		(0.02)
Minor party		-1.44***		-0.34***
		(0.09)		(0.02)
Constant	3.37***	4.28***	0.16***	0.40***
	(0.18)	(0.18)	(0.01)	(0.01)
Observations	8,182	8,182	9,420	9,420
R-squared	0.03	0.11	0.03	0.17

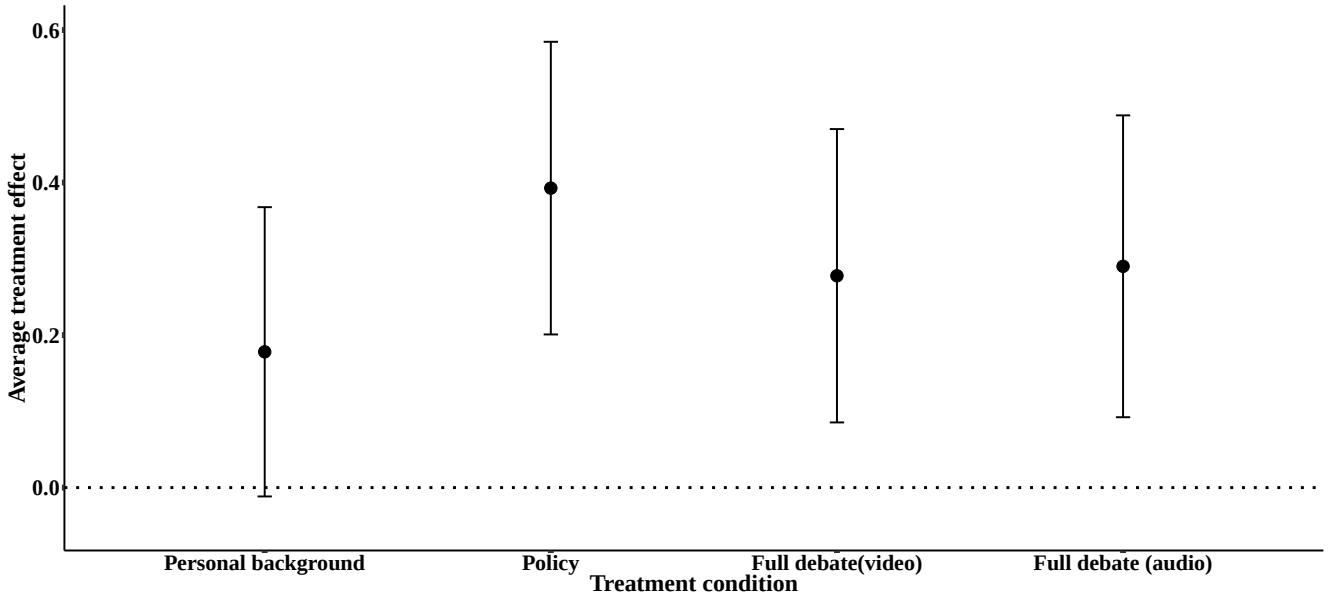
Notes: Observations are at the individual-candidate dyad. The evaluation variable is on a 1-7 scale with higher numbers indicating more positive evaluations of candidates. The vote choice variable is dichotomous. All models include individual controls and sampling unit fixed effects. Standard errors clustered by individual in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

7.4 Analysis of Mechanisms

To investigate the mechanism that drives the positive influence of debates, we compare the magnitudes of the effects for respondents in the policy treatment condition versus the personal background treatment. The results are presented in Columns 2 and 4 of Table 3. Each treatment has a positive and statistically significant effect. The effect of the Policy segment (0.23) is larger than that of the Personal Background segment (0.16) in both models, which suggests that policy information plays a role over and above information about candidate quality. However, the coefficients are not statistically different from one another. In short, we find evidence that information on both candidates' personal qualities and policy positions is important, providing support for *H*3 and *H*5, respectively.

In Figure 3, we present evidence on the mechanisms driving the treatment effect for minor party candidates. The figure presents the average treatment effect of each individual treatment arm on support for minor party candidates (regression results in Appendix F). The average effect of the Policy segment

Figure 3: Treatment effects on evaluations of minor party candidates



Notes: Figure displays the average treatment effect of each individual condition on the overall evaluations (1-7) of minor party candidates. Vertical lines indicate 95 percent confidence intervals.

is twice as large as the effect of the Background segment (0.39 versus 0.18), and this difference is statistically significant ($p = 0.025$). Thus, while information about candidate quality and policy both increase evaluations of minor party candidates, policy information has a larger impact.

We also sought to unbundle the effect of candidates' physical attributes from the information contained in what they say by comparing the effect of the Full Debate Video treatment to the Full Debate Audio treatment (*H*4). There are no significant differences between the effects of these two conditions (Table 3). This suggests that physical attributes are not central to driving the effects that we identify. We cannot rule out the possibility that charisma and other information conveyed through the spoken word may affect voters' attitudes, but we can be more confident in ruling out a role for visual cues.

7.5 Results by Voter Type

We hypothesized that debates would lead swing voters to support candidates who performed well in the debates, while partisans would strengthen their preferences for candidates from their favored party (*H*6 and *H*7, respectively). Appendix Table C.2 shows that swing voters are no more likely to support the

debate winner than other types of voters; indeed, we find that the debates have no overall effect on swing voters. In summary, we do not find empirical support for *H6*.

To test the hypothesis about the impact of debates on strong partisan voters (H7), Table 5 presents treatment effects among the subset of NDC and NPP partisan voters. Columns 1 and 2 show the results for overall evaluations. The coefficient in row 1 is the treatment effect on evaluations of the co-partisan candidate, while the coefficient on the interaction term in row 2 shows how the effect changes when partisans evaluate candidates from other parties. Contrary to our expectations, we find that the debates did not affect partisans' evaluations of their co-partisan candidate (*H8* is not corroborated).

Instead, we find a positive and significant effect on partisans' evaluations of candidates from other parties. Using the results in Column 1, we estimate that the debates increased partisans' evaluations of candidates from other parties by about 14 percent. In Column 2, we restrict the sample to NDC and NPP candidates to test whether this moderation effect is driven by changes in evaluations of minor party candidates, or whether NPP (NDC) partisans are becoming more favorable toward NDC (NPP) candidates. The magnitude of the effect remains positive but decreases in magnitude. While the coefficient is less precisely estimated because of the decreased sample size (p=0.19), this suggests that the moderation effect is not driven entirely by minor party candidates.

One potential concern with the test of *H*8 is that partisans already have extremely high evaluations of their co-partisan candidate. However, while co-partisans evaluations in the control group are high (a mean of 6.15), and the majority of partisans in control say they will vote for their co-partisan candidate (86 percent), both of these control group means have the potential to increase post-treatment. These levels of baseline support mitigate concerns of possible ceiling effects.

Table 5 shows that these changes in evaluations are also associated with changes in intended vote choice: debates make partisans 6 percentage points *less* likely to say they will vote for their party's candidate (Column 3, Row 1), which represents a 14 percent decrease from the control group mean of 86 percent. In addition, strong partisans become slightly more likely to report an intention to vote for another party.

To further examine this result, we go beyond our pre-specified plan for analysis to investigate the effect of debates on NDC and NPP partisans' reported vote choice separately, disaggregating the

Table 5: Treatment effects among NDC and NPP partisans

	(1) Evaluation (All)	(2) Evaluation (NCD/NPP candidates)	(3) Vote (All)	(4) Vote (NDC/NPP candidates)
Treatment	-0.01	-0.00	-0.06*	-0.05*
	(0.17)	(0.12)	(0.03)	(0.02)
Treatment x opponent party candidate	0.39*	0.26	0.08**	0.05*
	(0.20)	(0.20)	(0.04)	(0.03)
Opponent party candidate	-3.35***	-3.58***	-0.80***	-0.83***
	(0.18)	(0.18)	(0.03)	(0.03)
Constant	6.15***	6.56***	0.86***	0.88***
	(0.24)	(0.22)	(0.03)	(0.04)
Observations	5,690	2,640	5,742	2,632
R-squared	0.37	0.49	0.60	0.64

Notes: Partisanship is coded in reference to the respondent: that is, co-partisan candidates are those who align with the respondent's preferred party (pre-treatment). Observations are at the individual-candidate dyad. The evaluation variable is on a 1-7 scale with higher numbers indicating more positive evaluations of candidates. The vote choice variable is dichotomous. All models include individual controls and sampling unit fixed effects. Standard errors clustered by individual in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

results by party (see Table 6). The dependent variables in these analyses are dichotomous measures of whether or not the respondent intends to vote for each party.[27] The unit of analysis is the individual participant. The results show that NDC supporters are 5 percentage points less likely to say they will vote for NDC candidates, and more likely to vote for CPP (1 percentage point increase) and PPP candidates (2 percentage points). NPP partisans are 5 percentage points less likely to vote for NPP candidates. They are 1 percentage point more likely to vote for the NDC candidate, and 2 percentage points more likely to vote for the PPP candidate. Given the low baseline likelihoods of voting for these candidates, these effects represent a 25 percent and 50 percent increase, respectively.

[27] A PNC candidate contested in Effutu but not in the other constituencies. We do not include the PNC in these analyses because there were no participants in Effutu who indicated that they would vote for the PNC candidate.

Table 6: Treatment effects by party among NDC and NPP partisans (vote choice)

	(1) NDC Vote	(2) NPP Vote	(3) CPP Vote	(4) PPP Vote
PANEL A: NDC Partisans				
Treatment	-0.05	0.00	0.01	0.02
	(0.04)	(0.02)	(0.01)	(0.03)
Constant	0.82***	0.07	0.01	0.16***
	(0.08)	(0.04)	(0.01)	(0.06)
Observations	682	682	682	682
R-squared	0.15	0.06	0.09	0.17
PANEL B: NPP Partisans				
Treatment	0.01	-0.05*	0.01	0.02
	(0.01)	(0.03)	(0.01)	(0.02)
Constant	0.04*	0.92***	-0.01	0.07*
	(0.02)	(0.05)	(0.01)	(0.04)
Observations	616	616	616	616
R-squared	0.13	0.18	0.11	0.22

Notes: Unit is at the individual level. Dependent variables are dichotomous indicators of vote choice for each party. Each model includes individual controls and EA fixed effects. PNC is not included because a PNC candidate only ran in Effutu Constituency and no participants in that constituency intended to vote for the PNC. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

In summary, we find evidence that partisanship conditions the effect of debates. However, rather than influencing the political attitudes of swing voters, we find that debates have the most significant effect on partisans. Debate exposure does not reinforce partisans' support of their preferred party. Instead, debates make partisans more favorable to candidates from opposing parties, *less likely* to vote for their co-partisan candidate, and *more likely* to vote for a candidate from another party.

7.6 What Drives Partisan Moderation?

Table 7 analyzes the mechanisms driving the moderation effect among partisans. In Column 1, which restricts the sample to partisans evaluating candidates from other parties, the personal background and

policy coefficients are both positive and significant. The policy coefficient is larger in magnitude, but is not statistically different from the personal background treatment coefficient. The two coefficients are similar in the remaining columns as well. Overall, the experimental results suggest that both candidate qualities and policy drive the moderation effect among partisans.

Table 7: Analysis of mechanisms among NDC and NPP partisans

	(1) Evaluation (Opponent)	(2) Evaluation (Co-Partisan)	(3) Vote (Opponent)	(4) Vote (Co-Partisan)
Personal Background	0.34***	-0.04	0.01	-0.03
	(0.10)	(0.13)	(0.01)	(0.03)
Policy	0.45***	-0.01	0.00	-0.02
	(0.10)	(0.12)	(0.01)	(0.03)
Full debate (video)	0.31***	0.00	0.01	-0.02
	(0.10)	(0.12)	(0.01)	(0.03)
Full debate (audio)	0.39***	-0.03	0.01	-0.03
	(0.11)	(0.12)	(0.01)	(0.03)
Constant	2.78***	5.61***	0.04**	0.90***
	(0.27)	(0.27)	(0.02)	(0.06)
Observations	4,199	1,271	4,291	1,273
R-squared	0.10	0.09	0.04	0.12

Notes: Observations are at the individual-candidate dyad. Standard errors clustered by individual in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

7.7 Exploratory Analysis of Mechanisms using Real-Time Response Data

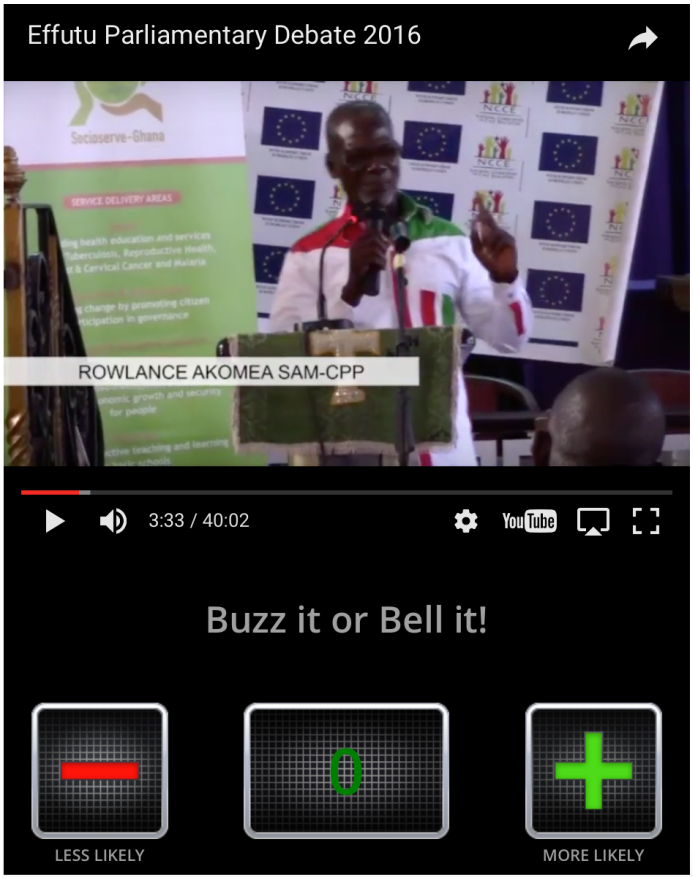
To further analyze mechanisms, we collected real-time data of voters' evaluations of candidates as they watched one of the debates.[28] The respondents in this sample (N=244), which are separate from the survey sample, watched the full debate on a tablet using a platform that allows for the collection of responses in real time.[29]

Figure 4 displays an example image of the platform. Respondents were instructed to click every time that they either *approved* or *disapproved* of what the candidate was saying. Participants (irrespective

[28] We conducted this exercise using the debate from the Effutu constituency. To collect these data, we partnered with *G2 Analytics.*

[29] For this exercise, we provided only a video of the debate. This data was collected at the same time as the larger survey of voters and in the same constituencies to allow comparisons. Respondents who took part in this exercise were from each of the three constituencies in our sample.

Figure 4: Real time response platform

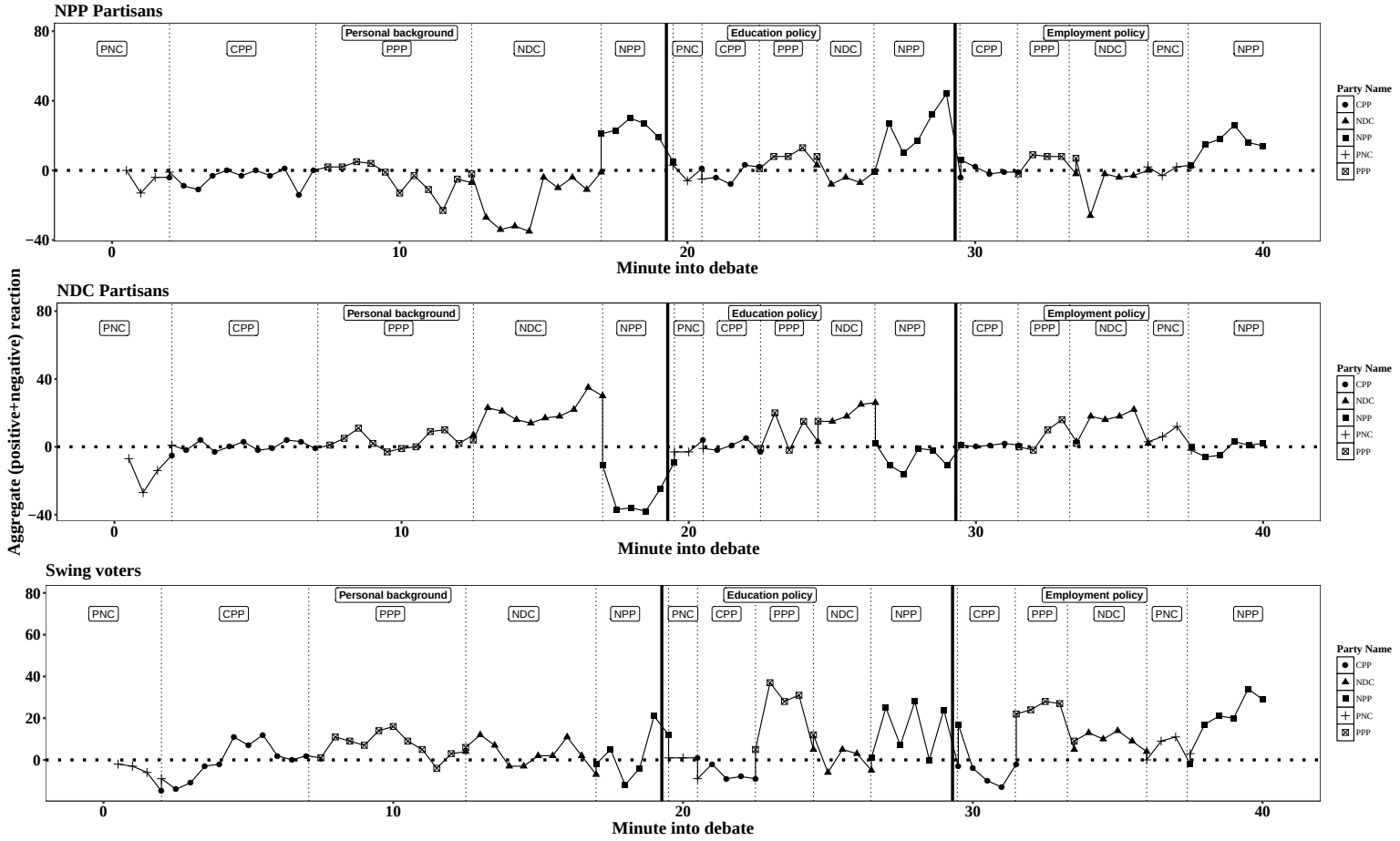


Notes: Figure displays the G2 Analytics real-time response platform.

of their party affiliation) were actively engaged in this exercise throughout the debate, with roughly 35 unique respondents, on average, clicking during any particular 30-second interval of the 40-minute debate (see Appendix Figures H.1 and H.2). The data we obtained from this exercise is descriptive and provides a better sense of which elements of the debates provoked a reaction (positive or negative) from voters.

Figure 5 displays respondents' reactions to each candidate during each segment of the debate, disaggregated by type of respondent: NPP partisans, NDC partisans, and swing voters (as classified above). The y-axis indicates the aggregate response: approvals are scored as 1, and disapprovals as -1. We sum the positive and negative reactions during each 30-second interval to generate the aggregate score. Points above the zero horizontal line suggest that a candidate received more positive than negative reactions during the 30-second period.

Figure 5: Reactions disaggregated by partisanship



Notes: Figure 5 shows aggregate reactions per each 30-second interval of the debate disaggregated by respondents' partisanship. The dotted vertical lines indicate changes between candidates. Solid bold lines indicate transitions between debate segments.

Two patterns in the data suggest which mechanism may be driving two of our main experimental findings. First, consistent with the experimental results, all types of voters, including swing voters, are quite favorable toward minor party candidates. Importantly, this appears to be driven primarily by participants' responses to the policy segments. For example, the PPP candidate received positive evaluations from voters during both of his policy discussions. His proposal to implement free education until the age of 18 to prevent youths from engaging in criminal activities or menial labor (minutes 22–24) proved very popular. Additionally, the PNC candidate's proposal to re-open the defunct poultry factory in Pomadze to boost local employment (minutes 36–37) was well received by all types of voters. The real-time response data are thus consistent with the experimental analysis of mechanisms: policy-centered appeals are an important driver of the improved evaluations of minor party candidates.

Second, policy-centered discussions appear better able to explain the moderation effect identified among partisans. In the personal background section, partisanship almost predicts perfectly how NPP and NDC partisans will respond: they are very positive toward their co-partisans, very negative toward the candidate from the other major party, and neutral toward candidates from minor parties. For example, NDC partisans responded negatively when the NPP candidate discusses his sacrifice to the community when he became an MP instead of pursuing a career in the United Nations. Similarly, NPP partisans reacted very negatively when the NDC candidate praised President Mahama and called for a "one touch" (first-round) NDC win in the presidential election.

However, this pattern changes in the policy segments: partisans became more favorable toward minor party candidates and tempered their attitudes toward candidates from the other major party. For example, the NPP candidate's employment policies proved popular with both swing voters and NPP supporters, and by the end of this segment even NDC partisans were overall favorable toward the NPP's candidate. In particular, to combat youth unemployment, the NPP candidate's proposal to encourage young entrepreneurs to set up businesses and bid for government contracts, and to boost the constituency's renowned but faltering theater arts and choral music industry, gained support from all types of voters.[30]

[30]The constituency prides itself on the Winneba Youth Choir, which was established in 1989 and is arguably the country's premier choral music group. See *Modern Ghana*, "The Untold Story of Winneba Youth Choir," 18 September 2007, accessed January 22, 2018.

In sum, respondents seemed better able to shed their prior partisan leanings and assess candidates on the merit of their proposals when listening to the policy segments.

8 Do the Effects of Debates Last?

Previous empirical work suggests that the impact of debates and other types of political information may either last through election day, influencing vote choice (Bidwell, Casey and Glennerster, 2016), or be short-lived and overpowered by other campaign events (Humphreys and Weinstein, 2013). To assess whether the effects we report persist, we conducted a follow-up survey with a random 10 percent of respondents from our original sample two days after their initial interviews, using the same survey enumerator.[31]

In Columns 1 and 3 of Table 8, we replicate the main results on the overall evaluation of candidates and partisan moderation using only participants in the follow-up sample (as measured immediately following the debate), and show that the main results hold in the 10 percent sub-sample. Columns 2 and 4 show that these effects do not persist after two days: the coefficients are no longer statistically significant and, more importantly, the magnitude of the effects declines substantially. Thus, while debates make strong partisan voters more positive toward candidates from competing parties immediately after a debate, on average, these effects diminish relatively quickly.

[31] The sample for the follow-up survey was selected using a random number generator in the SurveyCTO program. Table K.1 in Appendix K presents descriptive information about the follow-up sample, which was balanced between the treatment and control groups.

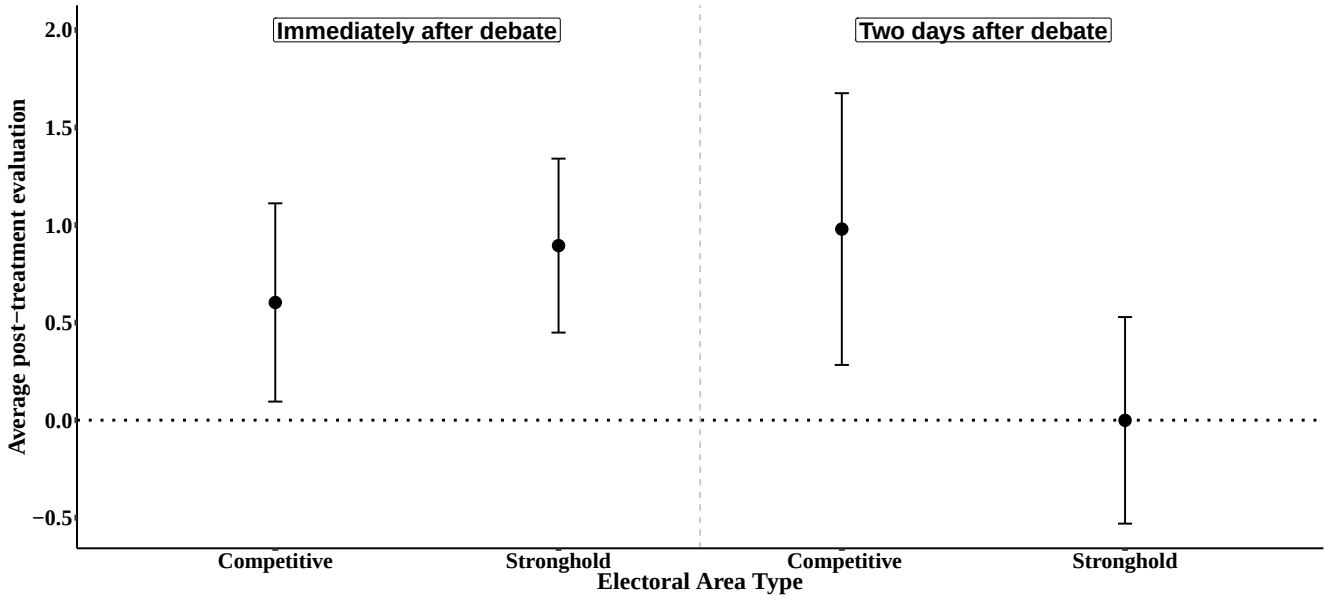
Table 8: Treatment effects two days later

	(1) After Debate All	(2) Two Days All	(3) After Debate Partisans Eval Non-Copartisan	(4) Two Days Partisans Eval Non-Copartisan	(5) After Debate Partisans Eval Non-Copartisan	(6) Two Days Partisans Eval Non-Copartisan
Treatment	0.22*	0.12	0.73***	0.16	0.62***	0.94***
	(0.13)	(0.13)	(0.19)	(0.23)	(0.23)	(0.35)
Treatment x Stronghold EA					0.21	-0.99**
					(0.34)	(0.43)
Stronghold EA					0.19	2.63***
					(0.55)	(0.46)
Constant	2.90***	3.34***	2.17***	2.58***	2.16***	1.83***
	(0.37)	(0.33)	(0.59)	(0.60)	(0.59)	(0.56)
Observations	979	979	496	496	496	496
R-squared	0.06	0.04	0.23	0.16	0.23	0.21

Notes: Observations are at the individual-candidate dyad. Standard errors clustered by individual in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

To further explore this finding, we examine the follow-up results splitting the sample between those who live in electorally competitive vs. party stronghold EAs (this analysis was not pre-specified). Figure 6 displays the results (Columns 5 and 6 of Table 8 show the regression estimates). The left panel displays the moderation effect immediately after the debates in competitive and party stronghold communities. The right panel shows the same results two days later. These results show that the debates had a more durable effect on partisan voters living in electorally competitive EAs; their impact was ephemeral in party strongholds. Thus, the durability of debates' impact appears to be conditioned by voters' local political environment. We discuss this result further in the next section.

Figure 6: Moderation effects by partisan composition of the electoral area



Notes: Figure displays the treatment effect of debates when partisan voters evaluate candidates from opposing parties. Results are separated by electorally competitive and party stronghold EAs. The results correspond to the regression results in Columns 5 and 6 of Table 8.

9 Discussion and Conclusion

Using an experimental research design and unique observational data, we investigated the effects of political debates on voters' attitudes toward parliamentary candidates in Ghana. The results show that debates increased respondents' positive evaluations of all candidates, with larger effects for candidates from minor parties. Importantly, debates moderated the political attitudes of partisans, making them more favorable toward candidates from other parties and less likely to want to vote for candidates from their party. Our experimental analysis of mechanisms suggests that information about candidate quality and details about policies are important causal mechanisms. For minor party candidates, the effect of information of policies is significantly more important. Analysis of respondents' second-by-second reactions to the debates also suggests that the policy segment drove positive increases in evaluations for the minor parties. These latter findings suggest that less well-known candidates have much to gain from discussing their policy proposals with voters.

We further find that audio and video versions of the debates have about the same effect on voters. Theoretically, this implies that visual cues and signals have only a limited role. From a policy perspective,

this indicates that disseminating debates over the radio can produce the same effect as doing so on television.[32] In addition, we show that the moderation effect we identify only persists in electorally competitive areas, while it diminishes completely after two days in party stronghold communities.

Our study contributes to two main literatures. First, the findings advance the literature on debates, other candidate-centered events, and election campaigns more generally by showing that these types of campaign events can influence voters *and* by empirically and experimentally testing the potential causal mechanisms through which they do so.

Our evidence also speaks to the literature on campaign strategy and discourse in new democracies; it shows that in debates, candidates engaged in valence discourse and offered policy specific appeals. Importantly, our second-by-second response data suggests that voters are responsive to policy discourse: policy-oriented appeals were especially useful for minor party candidates and appeared to help drive the moderation effect identified in the experiment. Future research and experimental designs could more explicitly test the relative impact of valence versus policy-specific appeals in the context of candidate-centered events.

The finding that the debates moderated the attitudes of strong partisans contrasted with our *ex ante* expectations. Although it differs from some of the literature on debates and political communication in the United States (e.g., Levendusky, 2013), the result complements Conroy-Krutz and Moehler (2015), which shows that partisans moderate their political positions in response to opposition-party radio programs in Ghana. The authors argue that this is because citizens lack the political sophistication to construct valid counterarguments and engage in motivated reasoning. We speculate that the moderation effect we find can be explained by the sources of partisan identification in Ghana — namely, that partisanship is often not driven by ideology, but rather by regional, ethnic, and social dynamics. As a result, when partisans learn about the quality and policy proposals of opposing party candidates through debates, they may become more open to them. Thus, we suggest that the moderation effect is not a product of partisans' inability to counter the arguments they hear from their opponents. Rather, partisans learn about (and potentially approve of) opposing party candidates and their policy positions by watching or

[32]This is important in low-income democracies, where access to radio is widespread, but television coverage is often limited.

listening to debates. However, we emphasize that better understanding why debates and other forms of partisan information have moderating effects in new democracies is an important area for future research.

Recent research has found evidence of ethnic and partisan motivated reasoning in African contexts (Adida et al., 2017; Carlson, 2016; Horowitz and Long, 2016). Thus, it will be important for future research to examine how the type of information and the mode of dissemination shapes the influence of political information on voter attitudes. Our evidence shows that the debate format, where voters hear directly from candidates and watch them engage with one another, encourages partisans to be more open to candidates from other parties. An important area for future research will be to directly compare the impact of debates to other types of candidate centered campaign events, such as town hall meetings (Fujiwara and Wantchekon, 2013; Wantchekon et al., 2017) and rallies (Szwarcberg, 2012), and to other common forms of political information, such as information from the news media or civil society led information campaigns.

The follow-up results show that, on average, debates influence on voters does not persist, a finding that is consistent with studies on campaign advertising in the United States (Gerber et al., 2011; Hill et al., 2013). However, they also highlight that the longer-run impact of campaign events such as debates may be conditional on the environment in which voters live. Although these analyses were exploratory (not pre-specified), the findings show that the main moderation effects persisted only in electorally competitive communities, and diminished completely in non-competitive areas. One explanation for this pattern may be selection — namely, that the types of people who live in competitive areas may be more open and durably persuadable than those who do not. We cannot rule this out with our research design.

However, there may be other differences between these types of communities that are of deeper theoretical importance. For example, the nature of the information environment may be different. Those living in competitive communities may be exposed to (or self-select into) more diverse media and points of view, which could help reinforce the influence of debates. By contrast, those in party stronghold communities may only be exposed to highly partisan information, which could overtake the information absorbed in the debates. Alternatively, social dynamics are very likely to be different between these two types of communities. In particular, individuals in stronghold communities often face strong pressures to conform to the political identity of the community, and these pressures could help to diminish the

persistence of the effect of debates. Voters in stronghold communities may also be more concerned about the potential distributional consequences of switching their vote if, for example, they believe their community would be disadvantaged should the opposing party gain power. Finally, political parties may be able to respond more effectively to counteract the influence of debates in areas where they are electorally dominant (Arias et al., 2018; Bhandari, Larreguy and Marshall, 2018; Humphreys and Weinstein, 2013). It will be important for future research to test the potential mechanisms driving these contextual effects more explicitly. Such research will be important for determining the conditions under which debates have a durable influence on voters.

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Online Appendix

A Overview of pre-specified hypotheses

Table A.1: Overview of pre-specified hypotheses

Hypothesis	Outcome	Where
H1: Debates have a positive effect on voters'evaluations of candidates who participate in the debates	Corroborated	Table 3
H2a: Debates have a larger positive effect on evaluations of non-incumbent candidates	Null	Table 4
H2b: Debates have a larger positive effect on evaluations of minor candidates	Corroborated	Table 4
H3: Debates have a larger positive effect on evaluations of candidates who performed well in the debate	Null	Table C.2
H4: Debates have a larger positive effect on evaluations for debate winner among independent and weak partisans	Null	Table C.2
H5: Debates have a stronger positive effect on evaluations of co-partisan candidates for strong partisans	Opposite direction	Table 5
H6: Debates have a stronger positive effect on evaluations of debate winner among politically less informed voters	Null	Table G.1
H7: Debates influence voters because they provide information about candidates' policy positions	Corroborated	Table 3, 7
H8: Debates influence voters because they provide information about candidates' personal quality - qualifications, experience, and personality	Corroborated	Table 3, 7
H9a: Debates influence voters because they provide information about candidates' *local* policies and programs	Null	Table I.1
H9b: Debates influence voters because they provide information about candidates' *national* policies and programs	Null	Table I.1
H10: Debates influence voters because of non-verbal (visual) signals and communication	Null	Table 3, 7
H11: Voters who view debates are more tolerant and trusting of political opponents	Null	Tables J.2, J.1
H12: Voters who view debates are more likely to reject clientelistic politics	Null	Table J.3
H13: Voters who view debates are more likely to have positive perceptions of the efficacy of the election and the legitimacy of the election outcome	Null	Table J.4

Notes: Table A.1 summarizes the different hypotheses included in the pre-analysis plan, the outcome derived from the analyses, and their location in the article.

B Descriptive statistics and covariate balance

Table B.1: Balance statistics

Variable	Treatment	Control	*P-value*
Female	0.53	0.50	0.24
Age	36.28	36.95	0.41
Education	3.90	3.97	0.50
Job	0.70	0.68	0.29
Owns Phone	0.86	0.86	0.85
Owns Radio	0.59	0.61	0.45
Owns TV	0.61	0.63	0.51
Owns Blender	0.15	0.16	0.62
Owns Car	0.04	0.03	0.14
Information	2.98	3.03	0.38
NDC Partisan	0.38	0.35	0.28
NPP Partisan	0.30	0.33	0.23
Swing (rating)	0.32	0.32	0.91
Swing (count)	0.29	0.36	0.19

Notes: Table B.1 displays the mean value across a set of covariates. P-values are the result of a two-tailed t-test.

Table B.2: Balance statistics (disaggregated by treatment arm)

	Treatment condition					
Variable	Personal Background (I)	Policy (P)	I &P (Video)	I &P(Audio)	Control	*P-value*
Female	0.53	0.50	0.48	0.49	0.51	0.72
Age	36.28	38.51	37.13	35.89	36.21	0.07
Education	3.90	3.86	3.91	4.10	4.03	0.43
Job	0.70	0.67	0.68	0.65	0.70	0.52
Owns Phone	0.86	0.85	0.88	0.85	0.84	0.73
Owns Radio	0.59	0.60	0.64	0.62	0.60	0.60
Owns TV	0.61	0.62	0.63	0.64	0.63	0.94
Owns Blender	0.15	0.18	0.16	0.15	0.16	0.80
Owns Car	0.04	0.02	0.03	0.04	0.01	0.09
Information	2.98	3.01	3.07	3.02	3.01	0.76
NDC Partisan	0.38	0.35	0.34	0.37	0.35	0.73
NPP Partisan	0.30	0.32	0.35	0.35	0.30	0.29
Swing (rating)	0.32	0.34	0.31	0.28	0.35	0.39
Swing (count)	0.29	0.38	0.36	0.33	0.35	0.68

Notes: Table B.2 displays the mean values across a set of covariates disaggregated by treatment arms. P-values are the result of an AOV test of difference across all five treatment conditions.

C Coding debate winner

C.1 Participants evaluation of candidates' performance in the debates

Participants answered the following survey question:

- Of all the candidates, which candidate would you say performed best in the debate you just watched?

C.2 Expert evaluation of candidates' performance in the debates

We recruited 17 individuals from the Political Science Department of the University of Ghana and civil society groups to provide their independent (objective) evaluations of the candidates in the debates. Half of our evaluators had completed a bachelor's degree, and the remainder had completed or pursuing a master's qualification. About 40 percent were females. We randomly assigned two debates to each expert. Each of our evaluators then watched the entire debate and provided their judgment on the performance of the candidates. Our judges watched the debates on their own online (we used Google Forms). Before they watched the debate video, we told our experts that the exercise was part of an academic research study, described the structure of the debate, and asked them to put aside any personal partisan leanings in their evaluations.

After watching a debate, we asked our experts to:

1. choose an overall winner of the debate;
2. choose a winner of the personal background segment of the debate;
3. choose a winner of the policy segment (education and employment) of the debate; and
4. rate the overall performance of each candidate on the scale from 1 to 7, where 1 is worst performance, 7 is the best, and 4 is neutral.

Table C.1 shows the results of these evaluations of our experts. Our expert evaluators agreed with constituents on the winner of the debates in two of our study constituencies (Effutu and KEEA) but diverge from one (Mfantseman).

Table C.1: Expert evaluation of debate candidates

Party	Name	Overall winner	Personal background Winner	Policy Winner	Average evaluation
Effutu ($N = 12$)					
NPP	Alexander Afenyoh-Markin	75%	50%	50%	5.58
PPP	Nana Ofori Owusu	25%	25%	50%	4.33
NDC	Eric Don-Arthur	0%	8%	0%	3.58
CPP	Ebenezer Rolance Akumbea-Sam	0%	17%	0%	3.25
PNC	Murtala Muhammed Umar	0%	0%	0%	2.33
KEEA ($N = 11$)					
NPP	Stephen Nana Ato Arthur	55%	27%	73%	5.45
NDC	Samuel Atta Mills	9%	36%	9%	5
PPP	John Sterlin	9%	0%	18%	4.27
CPP	Rose Austin Tenadu	27%	36%	0%	4.55
PNC					
Mfantseman ($N = 11$)					
NDC	James Essuon	45%	64%	67%	5.18
NPP	Ekow Hayford	45%	27%	27%	5.09
PPP	Kwabena Amu Quandoh Okyere	9%	9%	0%	4.27
CPP	Pius Ebo Dughan	0%	0%	9%	3.8

Table C.2: Treatment effects by candidate performance

	(1) All	(2) All	(3) Swing voters	(4) Swing voters
Treatment	0.25***	0.21***	0.14	0.09
	(0.07)	(0.07)	(0.14)	(0.14)
Treatment x debate winner (participants)	-0.21		-0.35	
	(0.17)		(0.25)	
Debate winner (participants)	1.60***		1.49***	
	(0.15)		(0.22)	
Treatment x debate winner (experts)		-0.06		-0.18
		(0.18)		(0.25)
Debate winner (experts)		1.31***		0.88***
		(0.16)		(0.22)
Constant	3.11***	3.17***	3.18***	3.32***
	(0.18)	(0.19)	(0.35)	(0.35)
Observations	8,186	8,186	2,496	2,496
R-squared	0.10	0.09	0.09	0.05

Notes: Observations are at the individual-candidate dyad. The evaluation variable is on a 1-7 scale with higher numbers indicating more positive evaluations of candidates. All models include individual controls and sampling unit fixed effects. Standard errors clustered by individual in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

D Manipulation check

After watching the debates (or placebo video), we asked participants to report the names of each of the candidates running for parliament in their constituency. We create a measure that captures the number of correct responses the participant provides. The logic behind the manipulation test is that those who view the debates should be better able to answer these factual questions accurately. The results in Table D.1 show that this is the case: treated participants are able to report the names of more candidates than those in the control condition. The mean in control is 2.05 names, and the mean for treated respondents is 2.51 names. The effect is largest in the full debate video group, and smallest in the full debate audio group, which suggests that the visual presentation of candidates' names may have helped with the retention of this information.

Table D.1: Manipulation check

Variables	(1) Total Correct	(2) Total Correct
Received any Treatment	0.46***	
	(0.07)	
Personal Background		0.48***
		(0.09)
Policy		0.47***
		(0.09)
Full debate (video)		0.61***
		(0.09)
Full debate (audio)		0.31***
		(0.09)
Constant	2.05***	2.05***
	(0.07)	(0.07)
Observations	1,987	1,987
R-squared	0.02	0.03

Notes: Table D.1 displays the results of OLS regressions where the total number of correct answers to factual questions about the candidates is regressed as a function of treatment assignment. Observations are at the individual level. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table D.2: Manipulation check: name recognition disaggregated by party

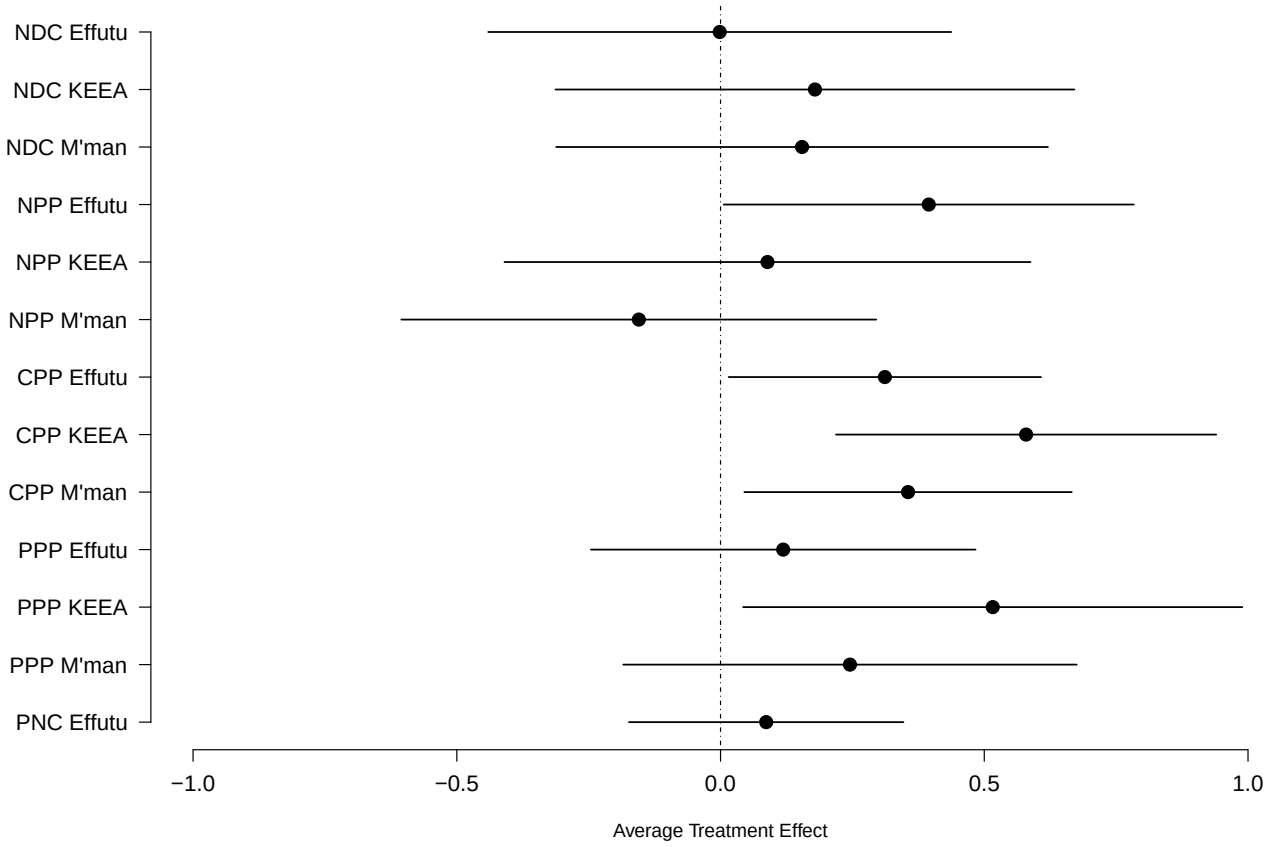
Variable	(1) Total Correct	(2) NDC	(3) NPP	(4) CPP	(5) PPP	(6) PNC
Received any Treatment	0.46***	0.09***	0.06***	0.15***	0.14***	0.08**
	(0.07)	(0.02)	(0.02)	(0.02)	(0.03)	(0.04)
Constant	2.05***	0.73***	0.77***	0.13***	0.46***	0.12***
	(0.07)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
Observations	1,987	1,991	1,991	1,987	1,990	693
R-squared	0.02	0.01	0.00	0.02	0.01	0.01

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

E Treatment effects disaggregated by candidates and by parties

E.1 Treatment effect by candidate

Figure E.1: Treatment Effect (evaluation) by candidate



E.2 Treatment effect by party

Table E.1: Treatment effects by party (evaluation)

Variables	(1) NDC Evaluation	(2) NPP Evaluation	(3) CPP Evaluation	(4) PPP Evaluation	(5) PNC Evaluation
Received any Treatment	0.08	0.06	0.33***	0.27**	0.06
	(0.14)	(0.13)	(0.09)	(0.12)	(0.12)
Constant	3.87***	4.09***	2.16***	4.17***	1.91***
	(0.26)	(0.25)	(0.18)	(0.23)	(0.26)
Observations	8,242	8,333	8,145	8,216	3,230
R-squared	0.00	0.01	0.02	0.02	0.01

Standard errors clustered by individual in parentheses
*** p<0.01, ** p<0.05, * p<0.1

E.3 Treatment effect for NDC partisans

Table E.2: Treatment effects by party among NDC partisans (evaluation)

Variables	(1) NDC Evaluation	(2) NPP Evaluation	(3) CPP Evaluation	(4) PPP Evaluation	(5) PNC Evaluation
Received any Treatment	-0.08	0.16	0.46***	0.32	0.24
	(0.15)	(0.18)	(0.13)	(0.20)	(0.19)
Constant	5.55***	2.82***	1.67***	3.29***	1.58***
	(0.27)	(0.35)	(0.28)	(0.35)	(0.38)
Observations	2,905	2,905	2,858	2,872	1,150
R-squared	0.01	0.02	0.03	0.03	0.04

Standard errors clustered by individual in parentheses
*** p<0.01, ** p<0.05, * p<0.1

E.4 Treatment effect for NPP partisans

Table E.3: Treatment effects by party among NPP partisans (evaluation)

Variables	(1) NDC Evaluation	(2) NPP Evaluation	(3) CPP Evaluation	(4) PPP Evaluation	(5) PNC Evaluation
Received any Treatment	0.38***	-0.12	0.30**	0.38*	0.09
	(0.14)	(0.11)	(0.14)	(0.21)	(0.21)
Constant	1.85***	6.33***	2.05***	3.55***	1.55***
	(0.32)	(0.25)	(0.29)	(0.42)	(0.43)
Observations	2,613	2,665	2,595	2,613	1,130
R-squared	0.03	0.02	0.03	0.05	0.04

Standard errors clustered by individual in parentheses
*** p<0.01, ** p<0.05, * p<0.1

F Analysis of Mechanisms Driving Result on Minor Party Candidates

Table F.1: The Effect of Each Treatment Arm For Minor Party Candidates

	(1) Evaluation	(2) Vote
Image	0.12	0.00
	(0.08)	(0.01)
Background x Minor Party	0.10	0.01
	(0.13)	(0.03)
Policy	0.05	0.00
	(0.08)	(0.01)
Policy x Minor Party	0.37***	-0.00
	(0.13)	(0.03)
Full debate (video)	0.05	-0.01
	(0.08)	(0.02)
Full (video) x Minor Party	0.28**	0.02
	(0.13)	(0.03)
Full debate (audio)	0.05	-0.02
	(0.09)	(0.02)
Full (audio) x Minor Party	0.26**	0.05*
	(0.13)	(0.03)
Minor Party	-1.44***	-0.33***
	(0.09)	(0.02)
Constant	4.27***	0.39***
	(0.18)	(0.01)
Observations	8,186	8,196
R-squared	0.11	0.15

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

G Treatment Effects Conditional on Political Knowledge

This section tests the hypothesis that less politically informed voters will become more favorable toward the debate winner after watching the debates. We measure political knowledge by asking respondent's to name each party's presidential candidate and taking a count of the number of correct answers.

Table G.1: Political Knowledge

	(1) Evaluation	(2) Vote
Debate Winner (subjects)	2.44***	0.56***
	(0.48)	(0.11)
Informed (count of correct answers)	0.13**	0.02**
	(0.07)	(0.01)
Treatment x Won debate (subjects)	-1.23**	-0.35***
	(0.54)	(0.12)
Treatment x Politically informed	-0.04	-0.02***
	(0.07)	(0.01)
Won debate (subjects) x Politically informed	-0.29*	-0.08**
	(0.15)	(0.03)
Treatment x Won debate (subjective) x Politically informed	0.34**	0.11***
	(0.17)	(0.04)
Constant	2.79***	0.08***
	(0.26)	(0.03)
Observations	8,106	8,095
R-squared	0.10	0.10

Standard errors clustered by individual in parentheses
*** p<0.01, ** p<0.05, * p<0.1

H Real time data using second-by-second evaluations of candidates

Figure H.1: Number of unique respondents per every 30-second of the debate

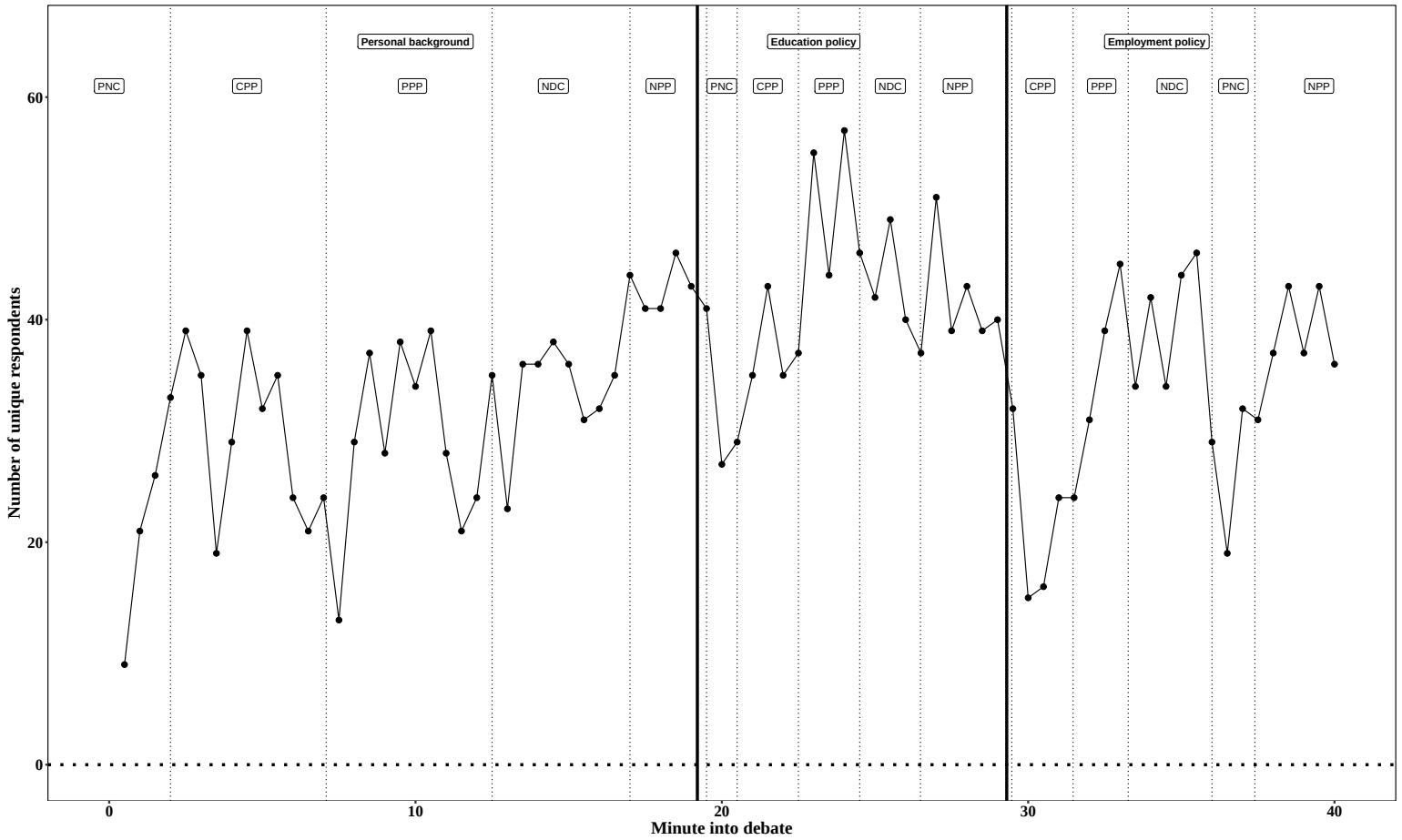
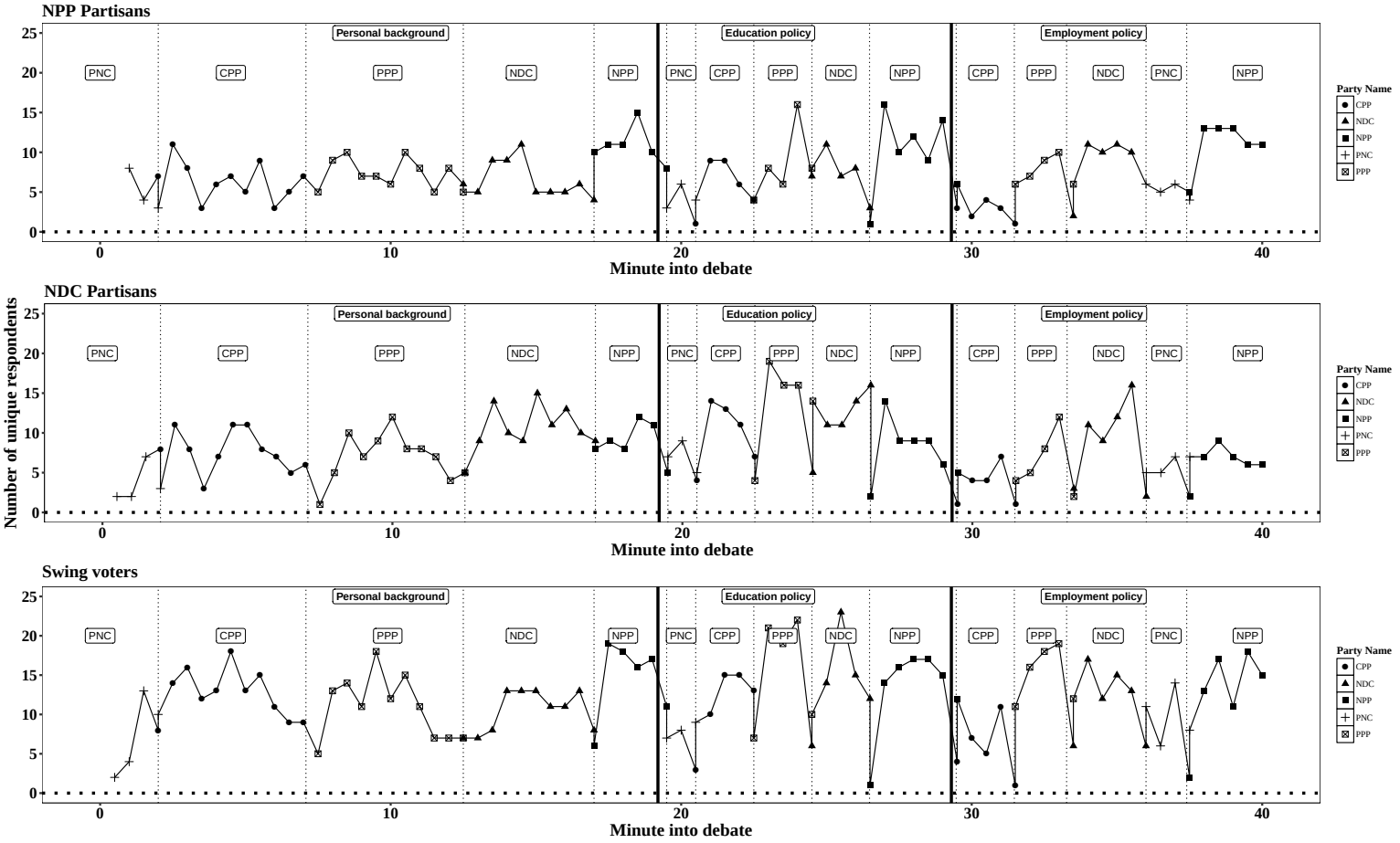


Figure H.2: Number of unique respondents per every 30-second of the debate by partisanship



I Local and national policy concerns

To further examine the potential role of policy information, we also test whether debates have an impact on voter evaluations of candidates' policy positions and potential for good performance if elected. We measure evaluations of both local and national positions, measured on the one to seven scale. The local policy question is as follows: *Thinking about the [party name] candidate, [candidate name]. If elected, to what extent do you agree he will do a good job in implementing programs to improve the lives of people in the constituency?* The national policy question is as follows: *Thinking about the [party name] candidate, [candidate name]. If elected, to what extent do you agree he will do a good job in working in Accra to make good policies for the country?*

Table I.1 presents the results. There is no evidence that any of the debate treatment conditions have an impact on responses to these policy related questions. The coefficients in each model are not statistically significant and, more importantly, are very close to zero.

Table I.1

	(1) National Eval	(2) National Eval	(3) Local Eval	(4) Local Eval
Received any Treatment	-0.02		-0.01	
	(0.04)		(0.04)	
Personal Background		-0.02		-0.01
		(0.05)		(0.04)
Policy		0.01		0.01
		(0.04)		(0.04)
Full debate video		-0.04		-0.05
		(0.05)		(0.04)
Full debate audio		-0.01		-0.01
		(0.05)		(0.05)
Constant	3.23***	3.23***	3.26***	3.26***
	(0.09)	(0.10)	(0.09)	(0.09)
Observations	7,880	7,880	7,965	7,965
R-squared	0.02	0.02	0.02	0.02

J Tests of Additional Outcomes

We also pre-specified a set of hypotheses about the impact of debates on political tolerance, trust, attitudes about clientelism, and attitudes about democracy and perceptions of freeness and fairness of the 2016 election in Ghana. Due to space constraints, we present these results in this section.

To test our hypotheses on political tolerance, trust, the importance of clientelism, and attitudes about democracy, we create a dataset in which the unit of analysis is the individual survey respondent. As above, our models include electoral area fixed effects, and the individual-level pre-treatment controls.

Overall, we find no evidence that debates impact any of these outcomes. For example, as one might expect, we find that NPP supporters are less tolerant and trusting of NDC supporters than they are of other Ghanaians, while NDC supporters are less tolerant and trusting of NPP supporters. But we find no evidence that the debates impacted these attitudes.

Using a list experiment, which reduces response bias on sensitive survey questions, and a direct question about clientelism, we asked voters how important clientelism would be to their voting decision in the upcoming election. If anything, we find that the debates slightly increased the chance that voters would report that clientelism would be important to them, an effect that is bigger among swing voters. But the magnitude of these effects are small and they are not close to being statistically significant.

We also found that the debates had little impact on attitudes about democracy or perceptions of the election in Ghana. We note, however, that voter support for democracy is extremely high in Ghana and most people in our sample had very positive perceptions about the elections. As a result, there was little room for upward movement on any of our indicators. These results should be interpreted with this ceiling effects in mind, as the effects of debates could be different in contexts where voters' baseline perceptions are less positive, which is the case in many new democracies.

In the regressions in Table J.1, we construct a tolerance index using responses to the following question:

- I am going to read you a list with groups of people. Please tell me which ones you would like, dislike, or not care about having as neighbors. A) NDC supporters B) NPP supporters.

We sum the two responses. Responses were on a 1-5 scale, with higher responses indicating a higher degree of approval.

Table J.1: Debates and political tolerance

Variables	(1) Index	(2) Index	(3) Index	(4) Trust in NPP Supporters	(5) Trust in NDC Supporters
Received any Treatment	0.00		0.07	-0.02	0.16
	(0.04)		(0.08)	(0.10)	(0.11)
Personal Background		0.03			
		(0.05)			
Policy		0.03			
		(0.05)			
Full debate video		-0.05			
		(0.05)			
Full debate audio		-0.02			
		(0.05)			
Treatment x NPP Partisan			0.02	0.00	0.03
			(0.11)	(0.14)	(0.16)
Treatment x NDC Partisan			-0.19*	-0.15	-0.22
			(0.10)	(0.13)	(0.15)
NPP Partisan			0.07	0.64***	-0.51***
			(0.10)	(0.13)	(0.14)
NDC Partisan			0.27***	-0.37***	0.91***
			(0.09)	(0.12)	(0.13)
Constant	3.46***	3.46***	3.36***	3.74***	3.00***
	(0.13)	(0.13)	(0.14)	(0.18)	(0.20)
Observations	1,969	1,969	1,903	1,905	1,905
R-squared	0.11	0.11	0.10	0.26	0.23

Notes: Table J.1 displays the average treatment effects on political tolerance. Observations are at the individual level. Tolerance is measured in terms of approval of having i) NDC neighbors ii) NPP neighbors. The index sums responses to both questions. Responses are on a 1-5 scale, with higher responses indicating a higher degree of approval. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

In the regressions in Table J.2, we construct a trust index using the responses to the following question:

- How much do you trust the following people? A) NDC supporters B) NPP supporters.

We sum the two responses. Responses were on a 1-4 scale, with higher responses indicating a higher degree of approval.

Table J.2: Debates and trust in co-partisans and non-copartisans

	(1)	(2)	(3)	(4)	(5)
				Trust in	Trust in
Variables	Index	Index	Index	NPP Supporters	NDC Supporters
Received any Treatment	0.00		-0.07	-0.03	-0.09
	(0.04)		(0.07)	(0.09)	(0.09)
Personal Background		0.00			
		(0.05)			
Policy		-0.01			
		(0.05)			
Full debate video		0.03			
		(0.05)			
Full debate audio		-0.02			
		(0.05)			
Treatment x NPP Partisan			0.10	0.07	0.13
			(0.10)	(0.13)	(0.13)
Treatment x NDC Partisan			0.05	0.01	0.08
			(0.09)	(0.12)	(0.12)
NPP Partisan			0.09	0.71***	-0.51***
			(0.09)	(0.12)	(0.12)
NDC Partisan			0.22***	-0.39***	0.85***
			(0.08)	(0.11)	(0.11)
Constant	2.23***	2.23***	2.19***	2.34***	2.02***
	(0.12)	(0.12)	(0.13)	(0.17)	(0.17)
Observations	1,973	1,973	1,906	1,903	1,903
R-squared	0.13	0.13	0.16	0.31	0.35

Notes: Table J.2 displays the average treatment effects on political trust. Observations are at the individual level. Trust is measured with the question: How much do you trust the following people? i) NDC supporters ii) NPP supporters. Responses were on a 1-4 scale, with higher responses indicating a higher degree of approval. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table J.3: Debates and reported importance of clientelism

	(1)	(2)	(3)
Treatment	0.00	0.01	0.01
	(0.03)	(0.04)	(0.03)
Treatment x Swing (count)		-0.07	
		(0.05)	
Swing (count)		0.07	
		(0.05)	
Treatment x Swing (rating)			-0.01
			(0.06)
Swing (rating)			-0.00
			(0.06)
Constant	0.39***	0.32***	0.38***
	(0.09)	(0.11)	(0.09)
Observations	1,962	1,296	1,896
R-squared	0.06	0.07	0.06

Notes: Table J.3 displays the average treatment effects on clientelism. Observations are at the individual level. The dependent variable is constructed from the following post-treatment survey questions: "When deciding how you will vote in the upcoming parliamentary elections, how important will it be the following be in your decision? Whether the candidate has given money or gifts to you or others in your community." Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

In Table J.4 we construct an index using responses to the following three questions:

- Do you agree with the following statement? Free and fair elections are the best method for selecting political leaders.
- Do you agree with the following statement? It is important for Ghanaians to accept the outcome of the upcoming elections, even if some are not happy with the outcome.
- Do you agree with the following statement? The upcoming parliamentary election offers me a real choice between candidates.

We sum the three responses to create the index. Responses were on a 1-5 scale, with higher responses indicating a higher degree of approval.

Table J.4: Debates and attitudes about democracy

	(1)	(2)	(3) Elections	(4) Elections	(5) Accept	(6) Accept	(7) Real	(8) Real
Variables	Index	Index	Best	Best	Outcome	Outcome	Choice	Choice
Received any Treatment	0.02		0.06		-0.00		0.02	
	(0.03)		(0.04)		(0.05)		(0.04)	
Personal Background		0.03		0.04		0.02		0.04
		(0.04)		(0.05)		(0.06)		(0.05)
Policy		0.01		0.06		-0.01		-0.01
		(0.04)		(0.05)		(0.06)		(0.05)
Full debate (video)		0.02		0.06		0.01		0.01
		(0.04)		(0.05)		(0.06)		(0.05)
Full debate (audio)		0.03		0.09*		-0.02		0.04
		(0.04)		(0.05)		(0.06)		(0.05)
Constant	4.31***	4.31***	4.58***	4.58***	4.39***	4.39***	3.94***	3.94***
	(0.09)	(0.09)	(0.12)	(0.12)	(0.15)	(0.15)	(0.13)	(0.13)
Observations	1,962	1,962	1,973	1,973	1,973	1,973	1,969	1,969
R-squared	0.08	0.08	0.09	0.09	0.08	0.08	0.07	0.07

Notes: Table J.4 displays the average treatment effects on attitudes about democracy. Observations are at the individual level. The dependent variables reflect attitudes to the following statements: **Elections Best:** Free and fair elections are the best method for selecting political leaders. **Accept Outcome:** It is important for Ghanaians to accept the outcome of the upcoming elections, even if some are not happy with the outcome. **Real Choice:** The upcoming parliamentary election offers me a real choice between candidates. Responses are on a 1-5 scale, with higher responses indicating a higher degree of approval. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

K Persistence of effects in follow-up sample

Table K.1: Descriptive Statistics and Covariate Balance in the Follow-Up Sample

	Mean Treatment	Mean Control	Difference	*P-value*
Female	0.48	0.55	0.07	0.43
Age	33.62	34.39	0.77	0.73
Education	4.45	4.36	0.08	0.78
Job	0.66	0.75	0.09	0.28
Owns Phone	0.89	0.89	0.00	1.00
Owns Radio	0.64	0.68	0.04	0.59
Owns TV	0.71	0.75	0.04	0.61
Owns Blender	0.22	0.2	0.02	0.81
Owns Car	0.05	0.05	0.00	0.98
Information	3.18	3.11	0.07	0.67
NPP Eval - NPP Eval	1.3	-0.26	1.56	0.03
NDC Partisan	0.31	0.42	0.10	0.19
NPP Partisan	0.37	0.21	0.16	0.04
Swing (rating)	0.31	0.37	0.06	0.46
Swing (count)	0.39	0.3	0.09	0.59

Notes: Table K.1 displays differences in means across treatment conditions, for different covariates among the sample of respondents in the follow-up survey. P-values are the result of a two-tailed t-test for difference in means.