Faces on the Ballot: Priming Effects and Ethnic Voting in the Developing World

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Abstract:
Can cues influence rates of ethnic voting in the developing world by priming identity? Scholars studying variation in ethnic voting within poor countries focus on how cues facilitate learning about candidate characteristics, rather than on how they might change the relative salience of decision-making criteria. In contrast, there is a large literature on priming in the United States, but this scholarship overlooks learning, which can produce observationally equivalent results. Our study extends research on the psychology of vote choice to the developing world and isolates potential priming mechanisms from learning ones. To test the influence of cues on priming, learning, and ethnic voting, we conducted an experiment days prior to the 2011 Ugandan elections. We measured the influence of a brief stimulus immediately before a vote is cast: exposure to candidate photographs on ballots. We find that the inclusion of photographs increased ethnic voting, and our evidence indicates a priming, not an informational, mechanism. We argue that subtle stimuli at the end of a campaign can have sizeable effects on ethnic-voting rates in the developing world by altering identity salience.

Key words: ethnic voting, priming, cues, ballot design, voting behavior, developing world

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Ethnicity is central to political competition in many countries, especially in the developing world. Parties often form along ethnic lines, and voters frequently come out to support coethnic candidates on election days (Chandra 2004; Horowitz 2000). However, even in places like Africa, where ethnicity is considered overwhelmingly salient, studies of voting behavior suggest that individuals often factor non-identity considerations, including recent economic performance and goods distribution, into their electoral decision making.

What explains individual-level variation in ethnic voting? A growing literature suggests that voters in developing contexts rely heavily on ethnic cues in their electoral decision making because they lack access to other types of political information (Birnir 2007; Chandra 2004; Ferree 2011). Following this logic, support for coethnics might decrease as access to alternative information increases (Casey 2013; Conroy-Krutz 2013; Fujiwara & Wantchekon 2013; Pande n.d.; Wantchekon 2003).

Another potential explanation for different rates of voting along ethnic lines—and one that has been overlooked in scholarship on the developing world—is that priming could raise or lower the relative salience of ethnicity. Priming effects could explain how individuals facing the same informational constraints and living under constant institutional and demographic contexts might vote for coethnics at different rates. Yet scholars of voting in the developing world have focused on information access, without considering psychological theories of information processing. Our study is unique, in that it tests for the priming potential of ethnic cues in the developing world, while also considering learning as an alternate mechanism.[1]

[1] In fact, we are aware of only one study conducted in the developing world that empirically tests a priming mechanism (Adida n.d.). However, her design only allows identification of priming effects among the subsection of individuals who possess complete knowledge.

One of the difficulties in identifying priming as a mechanism affecting vote choice is that its effects are often observationally equivalent to learning. Cues referencing a candidate trait could affect vote choice by increasing knowledge about the candidate (i.e., learning) or by increasing the relative salience of that (already-known) trait (i.e., priming). The large literature on priming effects in established democracies, particularly the United States, rarely accounts for learning as a possible alternative mechanism (Lenz 2009). Research on cue effects must therefore be designed to isolate potential priming mechanisms from learning ones.

To evaluate the extent to which priming can account for variation in ethnic voting in developing contexts, we conducted an experiment using one common, yet understudied, potential source of identity cues: election ballots.[2] Since the ballot is the last external stimulus on a voter's decision making, any cues that it provides might have especially significant impacts on vote choices. In early February 2011, just days prior to elections in Uganda, we asked subjects to mark different types of randomly assigned mock ballots, which featured actual candidates. Some of our treatments included photographs of these candidates, with the goal of evaluating whether priming identity concerns would lead to variation in rates of voting for coethnics.[3] Importantly, we conducted our study at the end of an election campaign, thus allowing us to minimize the possibility that observed variation in voting can be attributed to learning, rather than priming. Furthermore, we deliberately tested the effects of photographs on indicators of learning in addition to identity salience.

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[2] Most studies of priming in the US focus on how mass media or campaign advertisements prime certain considerations over others.

[3] Images of individuals are sometimes used in studies of the effects of priming identity considerations on attitudes and decision making (see, for example, Brader *et al.* 2008; Huber & Lapinski 2006; Valentino *et al.* 2002).

Our findings indicate that the inclusion of photographs on ballots did significantly affect ethnic-voting rates, and that these effects likely occurred through a priming mechanism, and not through an informational one. The probability of voting for at least one coethnic was 11% higher when subjects received ballots containing candidate photographs than when they received ballots without photographs. Further, subjects who received ballots containing candidate photographs were subsequently more likely to stress ethnic aspects of their identity over national ones, but were no better at identifying candidates' ethnicities correctly. In sum, the cue effects that we identify likely stem from priming, rather than learning. By ruling out an informational mechanism, our results provide stronger empirical support for priming theory than most research conducted in the U.S. context, while also establishing the importance of including psychological processes in our theories of vote choice in the developing world.

The paper proceeds as follows. The first section provides an overview of existing literature on cues and ethnic voting. In the second, we present our theory on the relationship between the inclusion of candidate images on ballots and priming, learning, and vote outcomes. The third section discusses the Uganda case and provides an overview of our experimental methodology. Section four covers measurement, analyses and our findings, while the fifth concludes with a discussion of the implications of our research.

Priming and Ethnic Voting

Ethnic voting is often problematic for democratic accountability because it reduces the likelihood that poor-performing and corrupt politicians will be voted out of office. Further, it can generate instability and violence by exacerbating inter-group competition and animosity.

Conventional wisdom holds that ethnicity is a key determinant of voting behavior in much of the developing world and that many countries' political woes are due, at least partially, to the politicization of ethnicity. Yet, even where ethnicity is central to politics, there is considerable variation in the extent to which individuals vote along ethnic lines (Basedau & Stroh 2012; Cheeseman & Ford 2007; Dowd & Driessen 2008; Elischer 2013).

What explains variation in ethnic-voting rates? Inter-country variation is often explained with focuses on how institutional (Huber 2012; Posner 2005; Rokkan 1970) and demographic (Miguel 2004; Posner 2004a) factors impact the strategic considerations of elites and/or voters. Explanations for inter-individual variation have highlighted factors such as education and wealth (Bannon *et al.* 2004; Bratton & Kimenyi 2008).

Some scholars examining individual-level variation have drawn upon informational theories of ethnic voting, which suggest that voters in developing countries rely heavily on identity because they lack information about alternate decision-making criteria. Cues that help voters learn about candidate ethnicity, such as name and appearance, are ubiquitous (Birnir 2007; Chandra 2004; Ferree 2011; Posner 2005).[4] Cues that might help voters learn about other candidate characteristics, such as past performance in office and policy preferences, are less prevalent. As a result, voters fall back on ethnicity to determine which candidates are most likely to favor their community. Observed variation in ethnic-voting rates might therefore be attributable to the presence or absence of certain information cues (Banerjee *et al.* 2011; Casey 2013; Conroy-Krutz 2013).

[4] In many circumstances, the names of candidates could provide significant information about ethnic identity (Isaacs 1975; Fershtman & Gneezy 2001). In other cases, however, it might be more ambiguous, and voters interested in determining candidates' ethnic identities will have to turn to other potential indicators, such as dress, or facial structure or markings (Habyarimana *et al.* 2009: 54-5)

While the literature on ethnic voting in the developing world focuses on how cues help voters learn about candidates' characteristics (i.e., a learning mechanism), we argue that cues can affect ethnic-voting rates through a different pathway: by priming individuals to consider ethnicity over other judgment criteria. Some Africanist scholars have noted that ethnicity is not the sole determinant in electoral decision-making processes. Factors such as economic performance, partisanship, and goods distribution can also be significant (Bratton *et al.* 2011; Hoffman & Long 2013; Posner & Simon 2002; Wantchekon 2003; Weghorst & Lindberg 2013; Youde 2005). Priming could explain why, even when individuals have equivalent information about the performance of the economy and distributional practices, they might privilege ethnic ties over these considerations, and vice versa.

These priming cues could be produced by a number of sources. Politicians and parties could use messages, presented in overt or coded language, to highlight the resource and security benefits of electing coethnics, as well as the loyalty imperative of voting for members of in-groups. Mass media could present issues such as violence, community tensions, and governmental favoritism within ethnic references. Further, priming effects could occur without the intention of any particular actors, given that research has shown that factors such as the presence of a national flag (Carter *et al.* 2011) or the type of building in which a polling station is located (Berger *et al.* 2008) can affect electoral choices.

In contrast to research on developing countries, there is a significant literature on developed democracies, particularly the United States, highlighting the priming potential of cues and how they affect electoral decision-making, (Iyegnar *et al.* 1984; Iyengar & Kinder 1987), evaluations of political leaders (Krosnick & Kinder 1990; Miller & Krosnick 2000), and answers to survey questions more generally (Zaller 1992). Additionally, a number of studies have found

that cues can affect political attitudes and vote choice through priming racial and other identity considerations (Berinsky & Mendelberg 2005; Brader *et al.* 2008; Huber & Lapinsky 2006; Hurwitz & Peffley 2005; McConnaughy *et al.* 2010; Mendelberg 2001; Valentino *et al.* 2002; White 2007). Several decades of scholarly attention have yielded a rich theoretical understanding of how messages alter the importance individuals place on an issue when evaluating politicians (Hutchings & Jardina 2009; Iyengar & Kinder 1987). However, most research on priming does not fully account for the possible informational effects of cues (Lenz 2009). In short, US-focused scholars tend to highlight the role of priming without considering the effects of learning, while their counterparts focusing on developing contexts do the opposite.

These oversights on the part of both sets of scholars could stem from the fact that learning and priming effects may be observationally equivalent. In fact, as Lenz (2009) suggests, much of the research identifying priming might have mischaracterized mechanisms that actually constitute learning. However, the opposite is also possible. Research on developing countries assumes learning, when priming might (also) be at work.[5] There is therefore a need for research that focuses on elucidating the mechanisms behind ethnic cue effects. In the next section, we discuss how one factor that often provides such cues—ballots—could impact the salience of identity, and thus significantly impact ethnic voting.

[5] Other experimental research has determined that brief stimuli can affect ethnic voting (Dunning & Harrison 2011; Conroy-Krutz 2013; Hoffman & Long 2013), this research assumes that effects occur through informational pathways, when priming might be the operative mechanism. Research by Banerjee *et al.* (2011) does specifically mention priming as their explanation for why specific policy interventions decrease caste considerations in voting in India, but their design does not allow them to rule out learning as a mechanism.

Last-Minute Primes: Ballot Design and Ethnic Voting

One potential source of ethnic cues—and one that has been overlooked in the literature on voting—is ballots. There has been significant variation in ballot design around the world and over time. More limited designs include only the candidates' names, or, in partisan competition, candidates' names and affiliated parties. In other instances, information such as candidates' mailing addresses or occupations appears. And visual features, such as candidate photographs, are often prominent, especially in the developing world (Reynolds & Steenbergen 2006). Advocates of the inclusion of images maintain that such features facilitate voting by providing information to citizens who have little education, access to political information, or previous experience with voting (Smith *et al.* 2009).

While there is a literature that focuses on how ballot design affects the accurate recording of voters' choices,[6] little research has been conducted on the possible effects of including various pieces of information about competitors, such as candidate images, on ballots (Reynolds & Steenbergen 2006). Ballot design could have (seemingly) unintended consequences on vote outcomes by emphasizing certain characteristics or by making some kinds of information or certain candidates more accessible than others (Katz *et al.* 2011; Meredith & Salant 2013).[7] We contend that ethnic voting might be one of these consequences. Specifically, we theorize that

[6] For examples from the US, see Ansolabehere & Stewart 2005; Herron & Sekhon 2003; Herron & Wand 2007; Herrnson *et al.* 2012; and Wand *et al*. 2001.

[7] In our study of party-based voting using data from the same experiment we discuss here, evidence indicates that the presence of partisan identifiers on ballots encourages voters to weight the importance of party more significantly in their electoral decision-making process (Moehler *et al.* n.d.).

candidate photographs could make ethnicity more salient and thereby increase voting for coethnics.[8]

There are at least three reasons why candidate photographs on ballots might prime ethnic considerations. First, photos might call attention to personal characteristics of the candidate, one of the more important being ethnicity, over alternate characteristics such as party affiliation. Second, research has found that the presence of an image of eyes "watching" a subject encourages pro-social behavior (Bateson *et al.* 2006; Burnham & Hare 2007; Haley & Fessler 2005). In this context, voters might find it psychologically more difficulty to vote against a coethnic, and for a non-coethnic, when a coethnic is, in essence, staring them in the face. Finally, in cases of inter-ethnic competition, the ethnic heterogeneity of the candidate pool could grab voters' attention more when photographs are present, thus underlining the importance of electing coethnics in such a diverse environment. In short, we hypothesize that the inclusion of candidate photographs on ballots will increase rates of voting for coethnic candidates.

However, any observed correlation between photographs and ethnic voting could also be attributable to learning. Since facial phenotype and clothing often convey information about ethnic identity (Chandra 2004), photographs of candidates on ballots could increase voters' knowledge of candidate identity. In other words, photographs could enable previously uninformed individuals to make use of ethnic heuristics. Therefore, it is necessary to design empirical tests of priming effects that consider learning as a potential alternate mechanism.

[8] Our focus in this paper is on the priming effect of photographs. From a theoretical standpoint, we expect that, at times, candidate photographs may also increase ethnic voting by provide information about candidate ethnicity, or that informational and priming mechanisms might both be at play.

Case Selection and the Experiment

Country Selection

Uganda was an ideal country in which to test the potential priming effects of ballot cues on ethnic voting, for a number of reasons. First, it has a history of including various elements on ballots to facilitate correct and autonomous voting.[9] Candidate photographs, for example, first appeared on ballots for the 1994 Constituency Assembly elections, and party symbols were added starting in 2006. It would not seem particularly odd to Ugandans to mark ballots that included (or excluded) various visual elements. Furthermore, the implications of including certain ballot features are especially relevant in Uganda given variation in practice over time.

Second, ethnicity has been central to Ugandan politics since independence. Regardless of the metric used (Posner 2004b: 856), the country ranks as one of the most ethnically diverse in Africa and, indeed, the world. The largest group—the Baganda, who are the dominant group in the politically and economically important Central Region of the country, around Kampala—comprise only 16.9% of the population, according to the 2002 Census. Other major groups include President Yoweri Museveni's Banyankole (9.5%), Basoga (8.4%), Bakiga (6.9%), Iteso (6.4%), and Langi (6.1%).[10] Ugandan parties have, since independence, been structured along regional, ethnic, and religious schisms (Kasfir 1976). Two of the earliest, the Uganda People's Congress (UPC) and the Democratic Party (DP), eventually became associated with Northerners (i.e., Acholi and Langi) and Catholic Baganda, respectively. Ethnic schisms were exacerbated by events such as the abolition of traditional kingdoms in 1966, Idi Amin's violent purges

[9] In many countries, voters are allowed to bring another individual into the voting booth if they claim they cannot read or cast a ballot on their own. This raises fears of diminished privacy and manipulation.

[10] No other group claimed more than 5.0% of the population; nearly half (45.8%) of Ugandans are affiliated with one of these smaller groups.

against Acholi and Langi soldiers in the 1970s, and President Milton Obote's brutal counter-insurgency campaign against the primarily Baganda population in the Luweero Triangle in the 1980s.

The so-called Movement system, which banned election-related activities by parties until it was abolished in favor of multipartyism in 2005, was ostensibly an attempt to de-ethnicize Ugandan politics (Museveni 1997), and in many respects Museveni's National Resistance Movement (NRM) was successful in rebuilding the Ugandan state after decades of instability (Gilley 2009; Rubongoya 2007). However, while the NRM maintains a multiethnic base, anchored by strong electoral support from Western groups like the Banyankole and Central groups like the Baganda, opposition parties have had clearer ethnic bases of support (Cheeseman & Ford 2007). At least prior to the 2011 elections, which involved a potential realignment of support amongst some Northern groups toward the NRM (Conroy-Krutz & Logan 2013), the main opposition Forum for Democratic Change (FDC) performed well among Acholi, Langi, Iteso and other Northern groups, while the UPC and DP remain largely Langi and Baganda parties, respectively.

It is, however, important to note that Ugandans have exhibited a strong willingness to cross ethnic lines during elections (Tripp 2011: 54-6). After all, the two leading candidates in the last three presidential elections—Museveni and the FDC's Kizza Besigye—are both Banyankole. Together, these two have won between 94 and 97% of the vote since 2001, despite the fact that their group comprises less than 10% of the population.

This reality—salience of ethnicity in political competition, but demonstrated willingness to cross ethnic lines in voting—made Uganda an ideal site for our study of the effects of ballot design on ethnic voting. Selection of a case at either extreme—one in which ethnicity is

politically unimportant and one in which inter-ethnic schisms are so deep as to prevent any cross-ethnic voting—would likely lead to Type II errors in our attempts to draw generalizable lessons about ballot design, priming, and ethnic voting. If ethnicity is not an important electoral consideration, then elements of ballot design that contain ethnic cues (e.g., names, candidate faces) should have no effect on likelihood of supporting a coethnic. On the other hand, if ethnicity is an overwhelming consideration, then no element of ballot design is likely to be associated with lower rates of ethnic voting. Since most African electoral competitions fall somewhere between these two extremes—ethnicity being an important, but not completely overriding consideration—an experiment in an area falling close to either would be inadvisable.

Experimental Design

To test the effect of ballot design on outcomes such as ethnic voting, we conducted an experiment in Uganda in the days prior to the country's 2011 general elections. Subjects filled out sample ballots to indicate their preferred candidate in each of four upcoming contests: president, Member of Parliament (MP), district chairperson, and district women's MP.[11] The ballots that subjects filled out varied in design, however. By randomly varying ballot type, we could be confident that any observed differences in outcomes across treatment groups could be attributed to the difference in ballot design, rather than to other factors.

Subjects were randomly assigned to one of four treatment conditions used in this paper. Two treatments contained candidate photographs, which were included in order to measure the

[11] Uganda is divided into 111 districts, the populations of which each elect a district chairperson (akin to a governor). In addition, the electorate of each district elects one woman to Parliament.

potential effects on vote choice of priming ethnic considerations. In the analyses that we discuss below, we examine the effects of ballot photographs on vote choice, controlling for the possibly confounding effects of another element of ballot design, namely party identifiers.[12]

Treatments included in this paper are summarized in Table 1. Ballots across all conditions included the candidates' names, and Treatment 1 (the control) provided no additional information. Treatment 2 was the same as Treatment 1, but Treatment 2 also included candidate photographs. Treatment 3 showed candidates' names and party identifiers (party names and symbols). Treatment 4 was the same as Treatment 3, but Treatment 4 also included candidate photographs. Thus, Treatment 4 included all elements: candidate names, party names and symbols, and candidate photographs; this condition most closely approximates the current design of Ugandan ballots. Subjects were assigned to the same treatment for all four contests (e.g., Treatment 4 for president, MP, district chair, and district women's MP, etc.).

[Table 1 goes around here]

The information provided across the treatments always accurately portrayed the actual candidates competing in the upcoming election. Given that experiments on information and ethnicity often include hypothetical candidates (Conroy-Krutz 2013; Dunning & Harrison 2011; Gibson & Long 2012), our design offers significant advantages in terms of external validity. Figure 1 shows the ballot designs by treatment for the MP election.[13]

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[12] Parties select their own symbols, although all are subject to approval by the Electoral Commission (EC). Independent candidates (for offices other than president) choose a symbol from an EC-generated list. In treatments in which we include party symbols (i.e., Treatments 3 and 4), we also included the symbol assigned to each independent candidate (e.g., a soccer ball, a radio, a clock, a saucepan, etc.).

[13] Our experimental ballots did differ from actual ones, by lacking the official EC seal and by being marked as "Sample Ballots." Subjects were also reminded at the beginning and close of the survey that the ballots they marked

[Figure 1 goes around here]

Early in the interview, subjects were asked to fill out mock ballots, in private, for presidential, MP, district chairperson, and district women's MP contests. They then placed their ballots in envelopes, which were serialized for later matching with completed questionnaires.

Site Selection

The experiment was conducted in one parliamentary constituency. Given our interest in ethnic voting, we needed an electoral area with an ethnically diverse candidate pool competing for the votes of an ethnically diverse population. Soroti County, in the Teso Sub-Region, fit both criteria. It is ethnically divided—69.1% is Iteso, while most of the remainder (29.1%) is Kumam (2002 Census)—and we identified two inter-ethnic contests there 2011: MP and district chairperson, both of which included both Kumam and Iteso candidates.[14]

In recent years, the Iteso-Kumam division in the Teso Sub-Region has been politically salient. In the last presidential election before we conducted our experiment (2006), Besigye of the FDC won at every polling station in Soroti County, but he did best in the more heavily

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were not real. We did not want any of our subjects to eschew casting a real ballot because they thought they had done so through our experiment.

[14] In the MP contest, Kumam candidates included Peter Omolo of the FDC (the incumbent), Vincent I. Enomu (NRM), and Simon Peter Ebitu (independent), while Iteso candidates included Engirot Lawrence Okae (UPC), Raphael Okoropot (DP), Jimmy Oriokot (People's Progressive Party, PPP), and independents Samuel Anyolo, John Lule, and William Obit. In the district chairperson contest, George Michael Egunyu (NRM) was Kumam, while Daniel Ediau (FDC), Napoleon Martina Oliba (UPC), and independents Leonard Otekat Ekapu, George William Okwaput, and Jorem Obicho Opian were Iteso. All candidates for district women's MP were Iteso, while there were no Kumam or Iteso candidates for president.

Kumam areas, and there is a significant, positive correlation between Besigye share at a polling station and Kumam share (r=.371, p=.00, N=101 stations).[15]

In the MP election of that year, the leading Kumam candidate in the contest—Peter Omolo, of the FDC—ran strongest in Kumam areas, and there is a positive, significant relationship between Omolo's share at each polling station and Kumam share in that polling station's parish (r=.609, p=.00). However, Omolo's overall share also suggests that some significant portion of Iteso voters was willing to support a Kumam candidate. After all, Kumams represent less than one third of the population of the constituency, yet Kumam candidates managed to win 72% of the vote in 2006.[16] Finally, in order to measure more precisely rates of ethnic voting in Soroti County's recent past, we utilize King's (1997) ecological inference (EI) method to generate point estimates of the share of Kumams and Iteso voting for each candidate at each polling station in Soroti in 2006.[17] Not surprisingly, candidates tended to perform better with members of their own ethnic groups.[18] The estimated mean share of Kumams voting for one of the two Kumam candidates was .88 (SD=.006), while the candidates' estimated mean share among Iteso was only .65 (SD=.002).[19] The estimated mean shares for the two Iteso candidates[20] were .33 (SD=.002) among coethnics and .09 (SD=.005) among non-coethnics. In sum, these histories suggest that, while ethnicity appears to have political salience in Soroti

[15] Ugandan counties are divided into sub-counties, then parishes. Ethnic data are only available at the parish level; Soroti parishes in 2006 had between two and six stations apiece.
[16] Omolo won 62%, while the other Kumam candidate—Ateker Ejalu, of the NRM—won 10%.
[17] Since there are not reliable estimates of turnout at each polling station, the analysis assumes that there were not significant differences across ethnic groups in turnout rates in Soroti.
[18] The exception was Ateker, whose estimated mean share was higher among Iteso (.12, SD=.001) than amongst fellow Kumams (.05, SD=.003). This was likely due to the fact that Kumam support is particularly strong for the FDC, and Ateker was the NRM candidate.
[19] These means are weighted by the number of votes cast per polling station.
[20] Samuel Anyolo, an independent, and Engirot Lawrence Okae, of the UPC.

County, schisms between Kumam and Iteso residents are also not so stark as to prevent cross-ethnic voting.

Subject Selection

Within Soroti, subjects were selected through a multi-stage design. The first stage involved the selection of forty-five Enumeration Areas (EAs), with each EA's probability of selection being directly proportional to its population size as of the 2002 census. The selected EAs cover all seven of the sub-counties and nineteen of the twenty-six parishes in Soroti County (Figure 2). Within selected EAs, interviewers selected households via a random-walk pattern, while subjects were recruited from selected households using a kish grid. Subjects had to be at least eighteen years of age, a Ugandan citizen, and be able to participate in an interview conducted in one of the three survey languages (English, Iteso, and Kumam). The vast majority (93.5%) of those selected consented and successfully completed the survey. All the surveys were conducted between 10 February and 17 February 2011.

[Figure 2 goes around here]

Our study benefits in a number of ways from the fact that research was conducted just days before the actual elections.[21] First, the timing enhances external validity generally. Studies on ballot design conducted earlier in, or even prior to, actual campaigns are likely to find inflated cue effects of any kind, since individuals have not had as much time to make a decision about candidates as they would have had by the time they cast a real ballot. Second, given our interest in identifying priming effects, it was important to minimize the possibility that subjects would

[21] Presidential and parliamentary elections were held on 18 February, and district elections on 23 February.

learn about candidates' ethnic identities from ballot cues. By the time of the experiment, subjects for whom ethnicity was a relevant electoral consideration likely had already learned about candidates' ethnic identities, meaning that any variation between treatments we observe in ethnic voting is likely attributable to priming, rather than learning. In fact, as we discuss later, we also collected data specifically to measure learning effects, and we found little evidence that ballot design had any impact on ethnic learning, possibly because subjects had already been exposed to a long campaign by the time of the experiment.

We are not aware of any specific issues that would suggest that our experimental results should not be generalizable (Kam *et al.* 2007), though we cannot be certain about the extent to which our results apply to other populations. According to the 2002 Census, Soroti County is somewhat poorer than the rest of Uganda, although it is only slightly less literate (61.2% versus 68.2% nationally), and our sample is not fully representative of Soroti County[22] Regardless of the specific sample employed, our theoretical argument and experimental evidence have general implications.

[22] Stemming from the fact that questionnaire numbers were used both to select respondents according to kish grid rules and to conduct the randomization, an unanticipated interaction occurred, in which not all positions on the kish grid had an equal probability of being assigned to each ballot treatment. Therefore, in all of the treatment comparisons reported in the analysis section, we compare respondents only from those positions on the kish grid (which were determined by the number of individuals in a household and age rankings within that household) that had an equal probability of being assigned to the paired conditions. This maintains the experimental design, but does cost us considerable statistical power, in that it reduces the number of observations per comparison by more than 50%, and potentially reduces external validity. Fortunately, though, the demographic characteristics of the subjects included in our analysis sample are quite similar to those of the general (representative) sample. The subjects include in our analysis were 48% male, 63% Iteso, and had an average age of 36, while those in the corresponding representative sample were 51% male, 64% Iteso, and had an average age of 35.

Effects of Cues on Ethnic Voting

Our primary dependent variable in the study is total votes for coethnic candidates.[23] Local research assistants coded the ethnicity of all parliamentary and district candidates in the area.[24] We then matched the self-reported "tribal identity" of the subjects with the ethnicity of candidates for whom they voted, in order to construct a measure of coethnic voting.[25] For each contest, subjects were coded as one if they voted for a coethnic candidate and zero if they voted for a non-coethnic candidate or did not vote at all.[26] The indicator for coethnic voting in the MP contest and the indicator for coethnic voting in the district chairperson contest were summed to produce the overall measure of coethnic voting.[27] The outcome ranges from 0 to 2, indicating the number of times a subject voted for a coethnic.

We estimate the following ordered logit model to test our hypothesis that exposure to candidate photographs increases rates of ethnic voting:

$$\textit{Number of votes for coethnics} = \beta_0 + \beta_1 \textit{ Photograph Dummy} + \beta_2 \textit{ Partisan Cues Dummy} + \varepsilon$$

Here, we pool subjects across treatments to estimate the effects of receiving ballots with candidate photographs (i.e., Treatments 2 and 4) on the number of votes for coethnics. We

[23] English-language wordings for all relevant questions are reported in Appendix A, while descriptive statistics for all dependent variables are presented in Appendix B.
[24] In cases of inter-coder discrepancy, family members of the candidates were interviewed to ascertain identities.
[25] 63% of our subjects were Iteso, while 36% were Kumam. 1% either did not have an ethnicity identified, or had an ethnicity identified that was neither Kumam nor Iteso. Individuals who were not Iteso or Kumam are excluded from all analyses.
[26] Our results are similar when subjects who did not vote are dropped from the analysis.
[27] We exclude the presidential contest because no subjects had coethnics in the contests. We also exclude the district women's Member of Parliament contest from this analysis, since all candidates here were Iteso.

include an indicator identifying whether subjects were assigned to conditions including partisan identifiers (i.e., Treatments 3, and 4), in order to control for that possible confounder.

The results are presented in Table 2, Column A. The coefficient on the photograph indicator is statistically significant (b=.47, p=.05), and in the direction hypothesized.[28] There is an 11% increase in the probability of voting for at least one coethnic when pictures are present than when they are not.[29] In line with our theory, the evidence indicates that pictures increase voting for coethnic candidates.

[Table 2 goes around here]

Evaluating the Theorized Priming Mechanism

Are these changes in voting behavior the result of priming mechanism? Evaluating causal mechanisms is difficult with respect to inference (Green *et al*. 2010).[30] We do, however, identify suggestive evidence of mediation, by examining whether our treatments are associated with ethnic salience, the hypothesized mediating variable. We also examine the effect of our

[28] The difference in ethnic voting does not seem to be the result of different voting rates. An ordered logit model in which a variable measuring the number of ballots marked for the two contests studied here is regressed on a picture dummy and a control indicating inclusion of a party identifier finds no significant effect of pictures on the dependent variable (b=.13, p=.71) (see Appendix C, Column A).

[29] We find no significant evidence that individuals are more likely to vote for *perceived* coethnics when photographs are present (see Appendix C, Column B) (b=.18, p=.43). We construct a dependent variable similar to that used for our main analysis, except here the consideration is not whether the subject cast a ballot for an actual co-ethnic, but rather for one he or she perceived to be a co-ethnic.

[30] We must assume sequential ignorability to identify the model. The first assumption, that the treatment is independent of all potential values of the outcome and mediating variables, is satisfied due to random assignment. The second assumption, that the observed mediator is independent of all potential post-treatment and pre-treatment confounding variables, is a stronger one. This assumption implies that ethnic salience is unrelated to other outcomes of exposure to photographs as well as to pre-treatment subject characteristics (Imai *et al*. 2010).

treatments on knowledge of candidate ethnicity to rule out learning as a possible confounding mechanism.

If photographs prime ethnic considerations, and thus increase rates of support for coethnics, we might also observe treatment-induced differences in the strength of subjects' ethnic attachments. Subjects who filled out ballots with photographs would demonstrate stronger ethnic sentiments than those who did not. To measure these sentiments, subjects were asked to weigh the value of their ethnic versus national identities. Individuals had the option of identifying as "only Ugandan" (coded as 0), "more Ugandan than [ethnic group]" (1), "equally Ugandan and [ethnic group]" (2), "more [ethnic group] than Ugandan" (3), and "only [ethnic group]" (4).[31] Here, higher values on the generated variable indicate increasing embrace of ethnic identity, and decreasing embrace of Ugandan identity.[32]

The ordered logit results presented in Table 2, Column B demonstrate that subjects in the photograph treatment groups were significantly more likely to weight their tribal identity as more important than their Ugandan identify (b=.47, p=.05), suggesting that ballot design here might indeed have primed subjects to consider their ethnic identity when "voting." Substantively, subjects who saw photographs were 9% more likely to weight their ethnic identity more than their Ugandan identity. In sum, the evidence provides support for our argument that ethnic cues can affect voting by priming ethnic identity.

A major advantage of our research design is that it allows us to rule out learning as a confounding causal mechanism that might obscure the actual role of priming. We therefore

[31] We recoded fourteen individuals who answered "don't know" to this question as "equally Ugandan and [ethnic group]." However, the results are similar if we exclude these individuals.
[32] Eifert *et al*. (2010) use the same type of question to assess the effects of political competition (i.e., proximity to elections) on the salience of ethnic identity in Africa.

evaluate whether the observed changes in ethnic voting might be attributable to a learning mechanism. Again, our *a priori* expectation was that learning effects here would be minimal, given the timing of the experiment: subjects who consider ethnicity in their electoral decision making likely already would have ascertained candidates' identities by this late point in the actual campaign. As a check that learning is not responsible for supposed priming effects, we tested whether photographs increased post-treatment knowledge of candidate ethnicities. After subjects had "cast" their ballots, they were shown a blank ballot, of the same type they had just been asked to complete. They were then asked a series of questions about each candidate.[33] In other words, subjects in the photograph conditions were looking at photographs both when they marked their ballots and again when asked about the ethnicity of each candidate, while those in non-photograph conditions never saw candidate photographs at any stage in the process. Subjects were asked, amongst other assessments, to identify each candidate's ethnicity. A correct answer was coded as 1, while an incorrect answer or a "don't know" response was coded as 0. These scores were then summed for all fifteen MP and district chair candidates. Scores could therefore range from 0 to 15, with an individual's score indicating the number of candidates he or she correctly identified.

As we expected, OLS regression analysis yields null results (Table 2, Column C), indicating that the photographs did not help subjects correctly infer candidate ethnic identity (b=.02; p=.97).[34] These null results remain when we disaggregate our outcome measure into knowledge of different types of candidates; photographs did not help subjects learn about only

[33] Here, interviewers were instructed to point to the relevant candidate as each question was asked; protocols stipulated that the interviewers provide no assistance whatsoever during the earlier phase, in which subjects filled out and cast their ballots.

[34] A similar analysis including district women's candidates (i.e., a pool of twenty-three candidates, rather than just the fifteen MP and district chair competitors) also yields null results (b=-.21, p=.74).

their preferred candidates (b=-.01; p=.96), only non-preferred candidates (b=.03, p=.94), only major party candidates (b=.19; p=.40), or only non-major party candidates (b=-.11, p=.74) (Appendix C, Columns C-F). Sample size is not likely the cause of the finding that the treatments did not affect ethnic knowledge. The difference in means between the pictures and non-pictures groups is negligible (8.07 for pictures and 8.00 for no pictures), so we would expect null results even with a larger sample. Given the robust null estimated effect of photographs on knowledge, we can have greater confidence in our inference that the photographs increased ethnic voting through a priming mechanism.

We want to caution readers against generalizing broadly about the effect of cues on knowledge based on the null results in this experiment. We specifically designed our experiment to minimize the chances of learning in order to allow greater causal inference for our test of priming. The evidence indicates that we achieved this objective. However, we expect that cues do provide ethnic information under some circumstances, which might affect vote choice. Nonetheless, we speculate that the information mechanism is likely to work under far more restrictive conditions than is generally thought. Ethnic cues can affect voting through the information mechanism only when voters care about ethnicity but do not yet know the ethnicity of candidates. The conceptual and measurement challenge for researchers is that, even in circumstances in which ethnic cues inform, they can also prime. In short, we expect that the priming mechanism is more likely to explain ethnic voting than has been previously thought. Our theory and supporting evidence indicate that priming should receive considerable scholarly attention in research on ethnic voting in developing countries.

Conclusion

While conventional wisdom holds that ethnicity is a key determinant of voting behavior in much of the developing world, there is considerable variation in the extent to which individuals vote along ethnic lines. We theorize that some of this variation can be explained by the potential priming effects of certain cues, which has not been a topic of consideration in studies of ethnic voting in developing countries. Research on voting in such contexts focuses on information access rather than psychological processes of decision making. In contrast, scholars of the United States have tended to attribute the effects of identity cues to priming, even when information effects are equally consistent with the evidence (Lenz 2009). In short, US-focused scholars tend to highlight the role of priming without considering the effects of learning, while their counterparts focusing on developing contexts do the opposite. Previous studies, regardless of the context, do not provide sufficient empirical evidence to distinguish between the two mechanisms.

We conducted an experiment in a developing country context to test whether subtle ethnic cues—candidate photographs on election ballots—prime ethnicity and thereby increase ethnic voting. Just days before the 2011 Ugandan elections, we randomly assigned mock ballots that included or excluded photographs of actual candidates. Importantly, our research design and empirical evidence allow us to isolate the priming mechanism from the potentially confounding influence of learning. The ballot experiment followed an election campaign that provided individuals with numerous opportunities to learn candidates' ethnic identities. In addition, we deliberately measured knowledge to allow for tests of learning.

Evidence from our ballot experiment supports our hypothesis that ethnic cues significantly alter rates of ethnic voting. The probability of voting for at least one coethnic was 11% higher when subjects were exposed to candidate photographs on ballots than when they were not. Importantly, those subjects exposed to photographs were no better able to identify the ethnicity of candidates, but they were more likely to prioritize their ethnic identity over their national one. In short, we find no evidence to suggest that these increases in ethnic voting can be attributed to learning, but we do find evidence in support of a priming mechanism.

This paper contributes to the body of research on priming, most of which is conducted in the U.S. Our research design allows for a stronger test of priming theory by ruling out the main threat to causal inference. We establish that the effects of cues on political preferences are not limited to information effects and that priming remains an important topic of investigation. This research also contributes to the literature on vote choice in developing countries. It is among the first to investigate psychological processes of political decision-making in such contexts. We extend the informational theory of voting by providing evidence that psychological biases, such as priming, also affect ethnic-voting rates in developing countries.

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Table 1: Treatment Conditions by Ballot Elements

	No Partisan Identifiers	Partisan Identifiers
No photographs	1	3
Photographs	2	4

Table 2: Effects of Photographs on Ethnic Voting and Mechanism Tests

	(A) Ethnic voting	(B) Priming	(C) Learning
Photographs	.47 (.23) p=.05	.47 (.25) p=.05	.02 (.40) p=.97
Party Cues	– .25 (.24) p=.29	– .31 (.25) p=.22	.39 (.41) p=.34
Constant			7.89 (.33)
Cut Points	– .28 (.20)	– 1.74 (.24)	
	1.29 (.21)	– 1.39 (.23)	
		1.31 (.22)	
		2.38 (.27)	
N	256	256	256
Model	ologit	ologit	ols

Notes: Cell entries represent coefficient estimates followed by standard errors in parentheses and p-values below. P-values are for two-tailed tests. Outcome variables are: (A) votes for coethnic candidates; (B) importance of ethnic *vis-à-vis* national identity; and (C) correct coding of candidates' ethnicities. Results are for the MP and district chairperson candidates. Respondents who were neither Iteso nor Kumam were dropped from the analysis for each of the three outcomes.

Figure 1: Images of Treatment Features for MP Contest

SAMPLE BALLOT 1

Samuel Anyolo	
Simon Peter Ebitu	
Vincent I. Enomu	
John Lule	
Engirot Lawrence Okae	
Raphael Okoropot	
Peter Omolo	
William Opit	
Jimmy Oriokot	

SAMPLE BALLOT 2

Samuel Anyolo		
Simon Peter Ebitu		
Vincent I. Enomu		
John Lule		
Engirot Lawrence Okae		
Raphael Okoropot		
Peter Omolo		
William Opit		
Jimmy Oriokot		

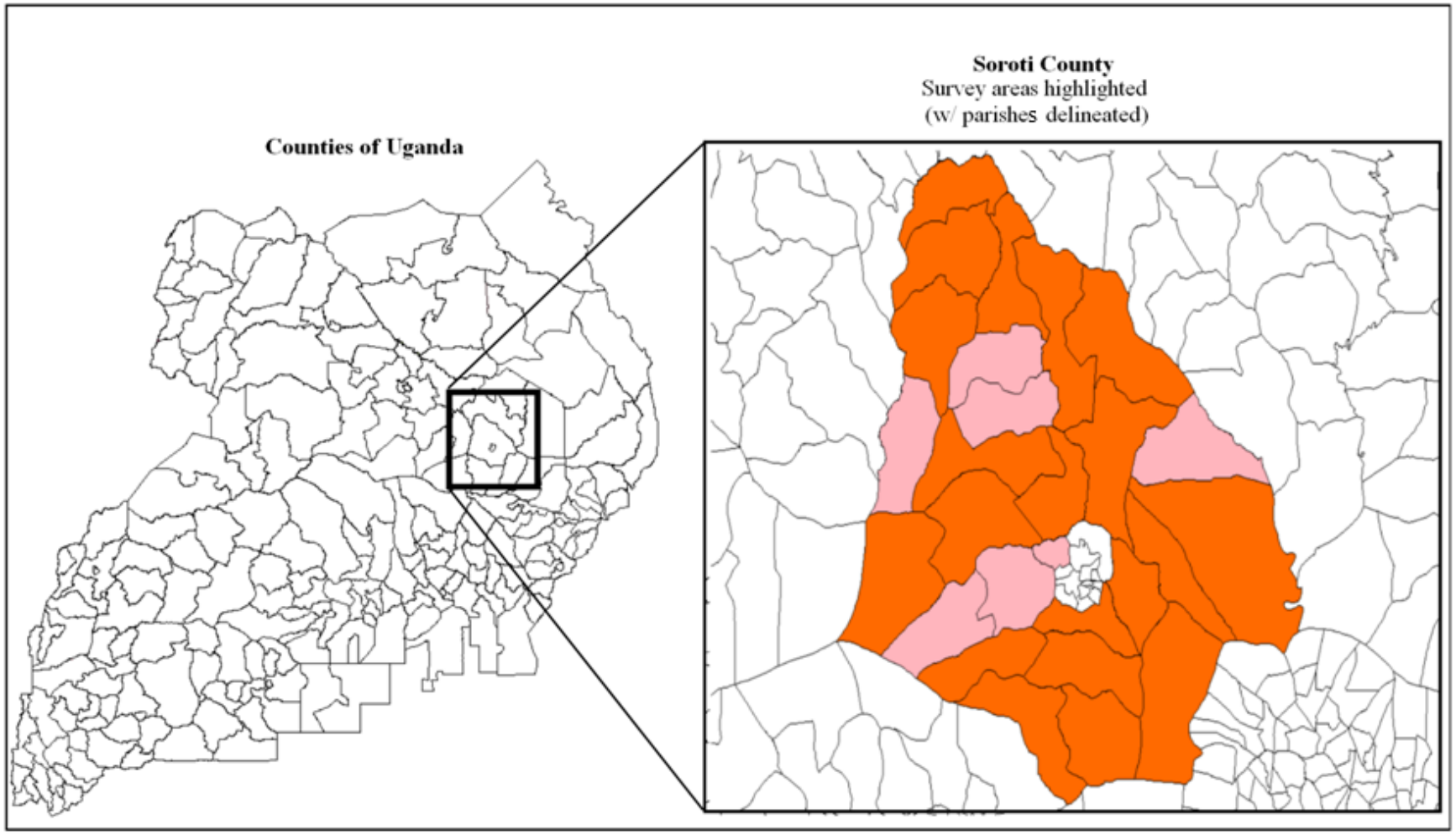
SAMPLE BALLOT 3

Samuel Anyolo	Independent		
Simon Peter Ebitu	Independent		
Vincent I. Enomu	National Resistance Movement (NRM)		
John Lule	Independent		
Engirot Lawrence Okae	Uganda People's Congress (UPC)		
Raphael Okoropot	Democratic Party (DP)		
Peter Omolo	Forum for Democratic Change (FDC)		
William Opit	Independent		
Jimmy Oriokot	People's Progressive Party (PPP)		

SAMPLE BALLOT 4

Samuel Anyolo	Independent			
Simon Peter Ebitu	Independent			
Vincent I. Enomu	National Resistance Movement (NRM)			
John Lule	Independent			
Engirot Lawrence Okae	Uganda People's Congress (UPC)			
Raphael Okoropot	Democratic Party (DP)			
Peter Omolo	Forum for Democratic Change (FDC)			
William Opit	Independent			
Jimmy Oriokot	People's Progressive Party (PPP)			

Figure 2: Maps of Research Sites



Appendix A: English-Language Question Wordings

Respondent Ethnic Identity
What is your tribal identity? [Options not read]

Let's suppose that you had to choose between being a Ugandan and being a [respondent's tribal group]. Which of the following statements best expresses your feelings?

--I feel only Ugandan
--I feel more Ugandan than [respondent's ethnic group]
--I feel equally Ugandan and [respondent's ethnic group]
--I feel more [respondent's ethnic group] than Ugandan
--I feel only [respondent's ethnic group]

Assessment of Candidate Ethnicity
What would you say is the tribe of this candidate? [Options not read]

Appendix B: Descriptive Statistics for Dependent Variables

	Mean	Std. Dev.	Min.	Max.
Variables for Main Analyses				
Votes for coethnic candidates	.84	.79	0	2
Importance of ethnic over national identity	2.02	1.06	0	4
Correct coding of candidates' ethnicities	8.06	3.20	0	15
Variables for Additional Tests				
Number of marked ballots	1.75	.62	0	2
Votes for perceived coethnic candidates	.92	.78	0	2
Knowledge of preferred candidates	1.09	.80	0	2
Knowledge of non-preferred candidates	6.96	2.99	0	13
Knowledge of major-party candidates	2.25	1.13	0	4
Knowledge of minor-party & independent candidates	5.81	2.74	0	11

Appendix C: Additional Tests

A: *Number of marked ballots*
Dependent variable measures the number of ballots (for the MP and District Chair races) on which the subject registered a preference.

B: *Votes for perceived coethnic candidates*
Subjects were asked to identify the ethnic identity of each candidate. Only MP and District Chair candidates are included in this analysis. A dependent variable was constructed measuring the number of times that the subject marked a ballot indicating a preference for a candidate that he/she later coded as a co-ethnic.

C: *Knowledge of preferred candidates*
Dependent variable measures the number of candidates (for the MP and District Chair races) for whom the subject "voted" later correctly identified by the subject in regards to ethnic identity.

D. *Knowledge of non-preferred candidates*
Dependent variable measures the number of candidates (for the MP and District Chair races) for whom the subject did not vote later correctly identified by the subject in regards to ethnic identity.

E: *Knowledge of major-party candidates*
Dependent variable measures the number of candidates (for the MP and District Chair races) from major parties (i.e., the NRM and FDC) correctly identified by the subject in regards to ethnic identity.

F. *Knowledge of minor-party & independent candidates*
Dependent variable measures the number of candidates (for MP and District Chair races) not from major parties correctly identified by the subject in regards to ethnic identity.

	A Number of marked ballots	B Votes for perceived coethnic candidates	C Knowledge of preferred candidates	D Knowledge of non-preferred candidates	E Knowledge of major-party candidates	F Knowledge of minor-party candidates & independents
Photographs	.13 (.35) p=.71	.18 (.23) p=.43	-.01 (.23) p=.96	.03 (.38) p=.94	.19 (.22) p=.40	-.11 (.34) p=.74
Party Cues	.62 (.38) p=.10	-.06 (.24) p=.78	.30 (.23) p=.20	.25 (.38) p=.51	.25 (.23) p=.28	.23 (.35) p=.52
Constant				6.85 (.31) p=.00		5.78 (.28) p=.00
Cut Points	-1.95 (.29)	-.58 (.20)	-.84 (.20)		-2.46 (.28)	
	-1.43 (.27)	1.11 (.21)	.65 (.20)		-.80 (.20)	
					.42 (.19)	
					2.01 (.23)	
N	256	256	256	256	256	256
Model	ologit	ologit	ologit	ols	ologit	ols

Notes: Cell entries represent coefficient estimates followed by standard errors in parentheses and p-values below. P-values are for two-tailed tests.