Crime News Effects and Democratic Accountability:

Experimental Evidence from Repeated Exposure in a Multi-Week Online Panel

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Abstract

Publics hold chief executives uniquely responsible for national well-being, and they learn about national conditions through news. But when news disproportionately covers problems, what happens to democratic accountability? Here, we experimentally test how leader approval changes when crime *loses* prominence in news for a sustained period. We create an online news environment coding real news in real-time, then experimentally filter news for nationally-diverse U.S. panelists over one week. We find causal evidence that *reducing* crime news raises presidential approval and depresses problem importance evaluations for crime. No other leaders are credited, and reducing *all* problems produces no further gains. These effects persist well after exposure but dissipate within a week. We conclude with broad implications for journalism and democratic judgment.

Keywords: crime news, presidential approval, mass media effects, agenda setting

Publics hold their chief executives uniquely responsible for the nation's well-being, and they primarily learn which problems are most pressing from the news. Yet news values often produce misleading views of national problems. Crime news stands out as a particularly egregious case, with the volume of coverage corresponding little with actual crime rates. How does mal-apportioned news coverage of national problems affect public support for elected leaders, and what are the broader consequences for democratic accountability?

Here, we test how approval of the U.S. president and other national leaders changes when crime and other problems lose prominence in news for a sustained time. We created a novel online news environment that aggregated and coded real news articles in real-time. We then experimentally controlled stories seen by 1,395 nationally diverse panelists for one week. Participants were interviewed before news exposure, again in the hours and days after exposure ended, and once more one week after exposure. This design differs from most by experimentally testing *cumulative* news exposure effects rather than one-shot designs with immediate post-tests.

We find strong causal evidence that sustained reductions in crime news raise presidential approval, an attribution effect we theorize distinctly from priming. No other political figures—including the majority party in Congress and other leaders in the president's party—are credited in this way. And reducing *all* problems in the news seems to produce no further gains for the president. These effects persist hours and days after news exposure ended but dissipate by the following week. We also show evidence supporting a natural agenda-setting corollary: reducing crime news lowers perceptions of crime as an important national concern.

Our study contributes new insights extending recent scholarship on news effects in a digital environment full of choices and the cumulative impacts of news exposure. We conclude

by considering implications for journalistic practices and accountability in a democracy. Our work suggests that the routine over-representation of crime in news (e.g. Graber & Dunaway, 2017) depresses presidential approval, with serious implications for elections and governance.

Identifying Problems: News & Perceptions

Most people have no trouble identifying what is going well or poorly in their personal lives, but judgments about national well-being—far beyond direct experience—are harder. News media fill the gap, providing influential glimpses of important events and national trends beyond citizens' limited purview based on news values and audience interests (Gans, 1976).

The power of news to shape citizens' views of the nation's most important problems is well documented. Media scholars since the 1960s have found strong evidence that issues featured in news reshape the public's priorities about what problems government should address, with findings that replicate across changing media environments (e.g. Arceneaux & Johnson, 2013; Cohen, 1963; Iyengar & Kinder, 1987; McCombs & Shaw, 1972; Pingree & Stoycheff, 2013; Pingree et al. 2017). Audience issue interest and news dependency moderates responses, with those more attuned and reliant showing larger agenda-setting effects (Erbring, et al. 1980).

News also influences perceptions of whether problems are getting better or worse, and that view may be skewed. For example, Hetherington (1996) finds news media painted a darker portrait of the national economy than objective indicators in the 1992 presidential election (Hetherington, 1996). Bill Clinton, campaigning on the unofficial motto "It's the Economy, Stupid," took advantage of corresponding pessimism among voters to win.

Of course, the ethical responsibility for accurate news about national conditions can conflict with commercial prerogatives to attract audiences for sale to advertisers (e.g. Dunaway, 2008). Problems that draw audiences may not be those deserving most serious attention, and that

competition degrades the quality of news. In short, news media are expected to educate the public about the state of the nation, providing the "pictures in our heads" for reasoning about the political world, and the content of their coverage clearly has those effects (Lippmann, 1922). But the product of news efforts may fail to meet normative expectations for the press in a democracy.

The Case for Crime

Crime is a unique societal problem in the news: no other topic receives as much coverage nor draws as much audience interest (Hamilton, 2004). Scholars have documented the disconnect between crime rates and crime news for decades (Boydstun, 2013), especially in local news (Davis, 1952; Gilliam & Iyengar, 2000; Sheley & Ashkins, 1981). Editors, producers, and publishers abide by the credo "if it bleeds, it leads" regardless of actual blood amount. News audiences reward their choices by attending to crime more than any other topic in newspapers, local TV news, network TV news, and cable news (Hamilton, 2004). Newsroom cost-cutting has also fed disproportionate crime news, given the low cost of routine crime newsgathering via police reports compared to other news subjects.

As with other issues, news coverage of crime drives perceptions of crime as an important problem (e.g. Gross & Aday, 2003; Iyengar & Kinder, 1987; McCombs & Shaw, 1972). But beyond that, excessive crime news encourages the public to perceive crime rates that bear no resemblance to reality. For example, crime rates *fell by half* between 1993 and 2015 for violent and property crimes. Yet more citizens than not perceived *rising* crime after 2002, with over 60% consistently saying so (Pew, 2017). Similarly, news and fictional programs focused on crime produce the "dangerous world" phenomenon, cultivating audience fears about crime (e.g. Chiricos, et al., 1997; Gerbner & Gross, 1976; Romer, et al., 2003; Shrum et al., 1998).

Finally, crime has a distinctly racialized aspect due to a long history of politicians and journalists linking criminality to blackness (Gilliam et al., 2002; Gilliam & Iyengar, 2000; Mendelberg, 2001; Valentino, 1999). McCombs and Shaw's (1972) original study of agenda-setting documents the intersection of crime and race in news coverage of Nixon's 1968 "law and order" campaign, part of Republican "Southern Strategy" appeals to attract racially prejudiced whites (Mendelberg, 2001).

Presidential Approval & Accountability

When the country is headed in the wrong direction, who does the public hold responsible? And when conditions improve, who is credited? Presidents are popular targets of the electorate's wrath or reward by dint of their unique prominence in the public eye, though the president's fellow partisans can also gain or lose in elections by extension (e.g. Fiorina, 1981; Sides & Vavreck, 2013; Tufte, 1975; Erikson & Wlezien, 2012).[1]

Presidential approval rises and falls based on many factors, including economic downturns, rally-'round-the-flag events, engagement in costly wars, disappointment from unrealistic expectations, divided government, and growing disenchantment over their term (see Gronke & Newman, 2003; Mueller, 1970; Mueller, 1973; Nicholson et al., 2002). Salient issues tend to be those on which the president is most strongly judged, and news drives issue salience (Edwards, Mitchell, & Welch, 1995; Iyengar & Kinder, 1987; Krosnick & Kinder, 1990).[2] This is the central thrust of news priming effects. Thus, when crime is covered more prominently, presidential approval on crime takes on more weight in overall presidential approval.[3]

To be sure, presidents play a role in economic prosperity, national security, and social order, and they should be held to account for that performance. But success and failure often

depends on majorities in Congress, along with many factors beyond their control. But the public disproportionately credits and blames presidents regardless (Achen & Bartels, 2016).

Presidents sometimes claim explicit credit for crime-fighting in particular, most notably with President Clinton's 1994 Crime Bill, which coincided with the highest national violent crime rates in a century (Robertson, 2016). But the dramatic drop in crime since then seems less attributable to specific policy interventions than to social, economic, and environmental factors like income growth and an aging population (Roeder et al., 2015).

Net Presidential Approval Declines from Crime News

Here we make the case for an attribution-based crime news effect—distinct from priming—in which problem coverage directly shapes presidential approval via credit and blame, and perhaps evaluations for other national leaders as well. When citizens hear news about a national problem over a sustained period of time, they use that information to update perceptions of worsening national conditions—in that domain and overall—and those views directly shape presidential evaluations (e.g. Metzger, 2000). Conversely, when people hear less about a major problem, they often assume it has been resolved, and they credit leaders for that improvement.[4] Achen and Bartels' (2016) "blind retrospection" results suggest *any* shift in national well-being perceptions redounds to the benefit or detriment of the president and the president's party.

We expect *direct net effects* from sustained shifts in crime news on presidential evaluations. These could be mediated by effects on crime-specific presidential approval, which then affects overall approval. Alternatively, crime news could be an especially important indicator of national well-being in general, attributed to leader performance. Finally, the effect could occur without mediating judgments, through online information-processing in which evidentiary details are forgotten but the shift in overall approval remains (Lodge et al. 1989).

By contrast, priming effects change the relative weight of domain-specific evaluations in overall presidential approval, not the domain-specific evaluation itself. When crime is primed by news, a person who evaluates the president badly on crime is more likely to downgrade overall approval compared to someone who thinks the president is doing fine on crime (Iyengar & Kinder, 1987). Priming is therefore distinct from our expectation of crime news effects on presidential approval *regardless* of an individual's presidential evaluation on crime beforehand.

Two brief-exposure experiments provide initial evidence of short-term direct net-negative effects of crime content on presidential approval, alongside priming effects. Valentino's (1999) tests show crime news exposure depressed President Clinton's ratings in the 1990s, which he attributes to Republican issue ownership. Holbrook and Hill (2005) conduct a similar experimental test with fictional crime TV shows in the early 2000s, which reduced President Bush's ratings but not former President Clinton's. Holbrook and Hill (2005) find no similar net effects in survey data due to real-world selective exposure. Their result implicating Bush but not Clinton is inconsistent with Valentino's (1999) issue ownership account but consistent with our net-negative attribution explanation. Notably, both studies focus on *conditional* news effects and only briefly mention net effects from crime stories, without much explanation.

We argue attribution effects distinct from priming may be especially strong with repeated crime news exposure that endures over time versus appearing in a single news program, and that substantially *reducing* crime news exposure from normal levels benefits the current president. Accumulating news stories that emphasize or ignore a national problem may cause *lasting* changes in perceptions about the extent of a problem, beyond accessibility effects, and encourage attribution of credit or blame.[5] Note, however, we do not claim a *lack* of priming effects—instead, both mechanisms may work together. Ultimately, our approach supplements and extends

past findings in substance and design and does not challenge robust priming results. We expect to find support for **Hypothesis 1**: reducing crime news will increase presidential approval.

Do these attributions extend beyond the president? We think not. Past studies suggest three possible channels when attributing credit and blame for national conditions: 1) presidential, 2) institutional, and 3) partisan (e.g., Malhotra & Kuo, 2008; Rudolph, 2003a).[6] Presidential attributions are straight-forward: the president, as titular head of the nation and singular authority in one branch of government, stands apart in ways that empirically garner the most credit and blame for national conditions (Achen & Bartels 2016; Fiorina, 1981; Key, 1966; Page, 1978). Institutional attributions suggest Congress' substantial powers in law-making, executive oversight, and the judiciary make the Congressional majority culpable too (see Anderson, 1995; Rudolph, 2003b). Finally, partisan attributions extend credit and blame to others in the president's party (Brown, 2010; Malhotra, 2008; Malhotra & Kuo, 2008; Tilley & Hobolt, 2011). This fits evidence that the president's party does worse in elections with an unpopular president and that economic growth correlates with the majority party vote share (e.g. Tufte, 1975).

Each attribution type is plausible, and all may be held responsible. But the public's limits may focus credit more narrowly, and so we are skeptical that institutional and partisan actors beyond the current president are credited or blamed to the same degree—even if deserving—given the president's national prominence (e.g. Achen & Bartels 2016). Thus, we pose **Research Question 1**: Does reducing crime news affect leader approval *beyond* the president?

We go further than past studies by looking for additional effects when *all* problem news is removed—crime and others. Does that boost approval even more? Crime's salience stands apart, making us skeptical that reducing other issues adds more. Alternatively, reducing news about *any* major problem might help presidential approval without *further* gains from reducing

other problems—sufficient but no more. Thus we pose **Research Question 2:** does reducing *all* problems raise leader approval *beyond* hypothesized effects from reducing crime alone?

Methods

To test our expectations, we created a novel news environment that aggregated and coded real news articles online in real-time. We then experimentally controlled news stories seen by 1,395 nationally diverse panelists for one week. In brief, we randomized participants into three groups. The randomization allows us to rule out alternative explanations for news effects beyond chance. Some saw the full range of news stories about national problems that day. Others saw the same, but with most crime stories stripped out. And a third group saw the same with most stories related to *any* problems (including crime) stripped out. Participants could choose to read any articles available to them in the news portal at any time, and in a place of their choosing. But we controlled the amount and type of news about national problems that they were exposed to. Most experimental tests for communication effects—including priming studies—involve a single-exposure and immediate queries to measure effects. Our methodological approach based on *sustained* experimental exposure to news conditions enables our test for direct effects on leader evaluations, and our design subtracts rather than adds issue coverage from real news.

We surveyed political attitudes just before the news portal began, we re-interviewed participants after the week of portal participation ended, and we re-contacted them a final time one week later. The resulting panel permits precise within-subject tests for change in political views at each stage. The design provides a high degree of control ensuring internal validity with randomized treatments while sacrificing little external validity for testing news media effects.

Online News Portal

Experimental treatments of filtered real-time news were delivered repeatedly over one week. We accomplished this by creating a custom online news portal for participant use. News stories were automatically added to the portal by a PHP script that checked RSS feeds at Google News every 30 minutes, 24 hours a day. New stories were automatically assigned as a coding task for human workers using Amazon's Mechanical Turk API. Each story code was then used to filter some story types out of the news feed for participants randomized into each experimental condition. The news portal ran from May 29 to June 5, 2016 with a total of 10,774 news stories.

The user interface of the news portal was a simplified version of Google News (Figure 1). Each story's headline was displayed along with the publication date, news outlet, and a brief paragraph intro. Stories were organized in a simple chronological list; unlike Google News, they were not grouped together under topic headings (such as U.S., world, sports, etc.) or as groups of news stories about the same news event. Similar to social media sites, scrolling down the list caused older stories to automatically load. Additional details appear in the Online Appendix.

[Figure 1 here]

Participants and Procedures

We recruited a convenience sample of U.S. adults from Amazon's Mechanical Turk. Participants were 53% female, 72% white, and 53% with college degrees, with an average age of 35 (SD = 11.6 years). The sample had more Democrats (44%) and Independents (32%) than Republicans (19%). For the purposes of an experimental factor that introduced state-specific news stories (see below), participants were required to be residents of one of the ten most populous U.S. states (California, Florida, Georgia, Illinois, Michigan, New York, North Carolina, Ohio, Pennsylvania, or Texas). Users who completed any of our news story coding

tasks were not allowed to sign up as study participants, and vice versa. IP addresses and browser cookies showed no evidence of overlap between news coders and study participants.

The study proceeded in four stages. First, study participants completed a pre-test survey (*N*=1,395) for $1. Second, they were asked to regularly use the news portal for one week, beginning immediately after completion of the pre-test survey. Third was a post-test survey (*N*=1,051) available anytime between one and thirty-six hours after the news portal closed. The post-test survey was the same length as the pre-test survey, but subjects were paid $2 instead of $1 as partial compensation for using the news portal. An additional bonus of $2 was awarded to users in the top 1/3 of portal usage to incentivize greater use. Finally, subjects were asked to complete a follow-up survey (*N*=897) four to five days after the news portal closed. Multiple reminder messages were sent via the Mechanical Turk API to use the news portal and to complete the post-test and follow-up surveys. IRB study approval was given May 12, 2016.

Given the longitudinal design, we test for differential attrition by experimental condition in the Online Appendix, though within-subjects tests reduce concerns. Average attrition is indistinguishable across conditions for Wave 2 and somewhat greater in the "no problems" condition for Wave 3. Counter-intuitively, participants with more favorable Wave 1 Obama views were somewhat *less* likely to remain in later waves when only crime was removed.

Design and Treatments

The key to the experimental design was a problem news factor, in which randomized participants viewed an unfiltered baseline of problems in the news, the same news with dramatically less crime exposure, or the same news with dramatically less exposure to *all* problem stories including crime. Notably, our design is able to test whether removing all problems affects leader approval *beyond* removing crime news, but we cannot test removing

other problems separate from crime reduction. All participants in a treatment group saw the same stories when they logged in, so individual engagement with the portal did not change the stories were displayed. The Online Appendix shows no differences in key demographic and political variables across treatments, except race, which does not affect the tests when added as a control.

The broader experimental design fully factorialized the addition of state news or not, and the addition of Fox News, MSNBC, or neither. Although we include these factors in our models for transparency, they play no role in our interpretation. These factors were designed to test other hypotheses as part of an omnibus study on news consumption effects.

Story Coding During Portal

Mechanical Turk users coded problem stories using a checkbox labeled "This story is clearly about some specific problem facing the United States." From a total of 10,774 stories in the unfiltered condition, 3,461 were marked as problem stories. Of these, 2,021 stories (58%) were marked as crime stories, using a checkbox labeled "This is a crime story." Coding was based on common understandings of crime. Most of these stories were individual violent crimes committed around the country, as commonly appear in local and national news. To maximize timeliness, stories only became visible in the portal after at least one coder had coded the story, resulting in an average publication delay of 27 minutes.

At least one researcher monitored coding and resolved coder disagreements continuously throughout the portal. A story's presence in the portal was immediately affected if it was subsequently corrected by a researcher. Thus, even where experimental conditions were defined as complete filtering out of a certain type of news story, some stories of that type could still be seen due to coding disagreements that were fully documented. During and after the portal, 25 stories (1%) coded as crime had that label removed, and crime tags were added to 119 stories

(6%). Exposure and click data were adjusted to reflect these corrections. Crime news filtering reduced exposure by 97%: the average measured exposure to crime stories was over 60 headlines in the unfiltered condition and less than 2 headlines in the filtered condition. Problem news filters similarly reduced exposure about 92%: from over 90 headlines down to 8. The average participant in the unfiltered baseline group clicked on 4 crime stories during the week.

We tested coding reliability on a random subset of 10% of the stories. Inter-coder reliability for crime stories was very high (Krippendorff's *alpha* = .92), while reliability in identifying *any* problem was relatively low (Krippendorff's *alpha* = .38). In retrospect, the low reliability for problems beyond crime is unsurprising. Individuals naturally differ on whether they see certain types of news stories as related to specific problems. Even where disagreement about general problem stories was high, the condition would still generally reduce exposure to problems compared to the unfiltered condition. For this reason, we describe reducing rather than eliminating news stories on problems generally, and our inferences are weaker for this group than for the crime news filter. Notably, the lower reliability for problems in general did not impede the highly-reliable reduction of crime problems in particular even in that condition.

Attitude Measures

We measure approval for leaders with 10-point approve-disapprove scales, rescaled between 0 and 1, with 1 indicating most approval. These evaluations included President Obama, Republicans and Democrats generally, Republicans and Democrats in Congress, Donald Trump, Hillary Clinton, and Bernie Sanders. Each question was repeated in all three survey waves.

Presidential approval is measured with the Obama item (Wave 1: M=5.98, SD=3.26; Wave 2: M= 5.92, SD=3.29; Wave 3: M=5.84, SD=3.43). Approval for the Republican majorities in Congress is measured with that item (Wave 1: M=2.74, SD=2.64; Wave 2: M=2.59, SD=2.53;

Wave 3: *M*=2.59, *SD=2.61*). Partisan attributions extending beyond the president to implicate all Democrats are measured with an additive index of items for Obama, Democrats, Democrats in Congress, Clinton, and Sanders (Wave 1: Cronbach's alpha = .88; *M*=5.03, *SD*=2.51; Wave 2: Cronbach's alpha = .88; *M*=4.97, *SD*=2.53; Wave 3: Cronbach's alpha = .89; *M*=4.90, *SD*=2.62). Results are similar for all individual index items except Obama (see Online Appendix).

Results

Our main tests focus on the effects of problem-reduction treatments on leader evaluations in the post-treatment wave. We expect to see experimentally controlled reductions in crime news improve the president's approval rating compared to those with more crime news. Approval of Republicans in Congress (institutional attribution) or Democrats generally (partisan attribution) could also rise (RQ1), and we test whether reducing all problems from news (including crime) yields any *additional* credit for these actors (RQ2).

We estimate OLS regressions for each of the three outcomes. These models test the effects of the two problem-related treatment conditions—reducing crime news and reducing all problems—on approval outcomes relative to the unmodified stream of news as the reference point. We test within-subjects treatment effects on Wave 2 or 3 responses by controlling for the respondent's Wave 1 response to the outcome. The Online Appendix shows similar results when modeling the outcome as a difference measure (e.g. Wave 2 approval minus Wave 1 approval). For completeness and transparency, the models also include the study's other randomized treatment factors that play no role in our analysis here. Table 1 presents the results.

[Table 1 here]

The first regression model in Table 1 shows that, as expected, reducing crime news from our participants' news portals significantly increased presidential approval ratings hours and

days after exposure ended. The coefficient for reducing crime news shows a 1.6% gain in presidential approval. In contrast, ratings of congressional Republicans and the index of Democrats were not affected (Models 2 & 3). These results reinforce the idea that presidents are held uniquely responsible for national conditions, supporting Hypothesis 1 and answering Research Question 1.

Perhaps surprisingly, substantially reducing *all* problems from the news produces no *additional* benefit to the president or any other leader beyond the benefit of removing crime news in both treatments, answering Research Question 2. In fact, the coefficients for the two treatment conditions are virtually identical. And there is still no sign of any significant news effect on ratings for Republicans in Congress or the Democrats index. The Online Appendix shows similar null effects when the Democratic index is disaggregated as individuals.

If reduced exposure to non-crime problems had yielded a significant influence on presidential approval, we would observe meaningfully different effects compared to the treatment reducing only crime news. Instead, we find that exposure to crime stories changes presidential approval and no additional effects when remaining problems are removed beyond that. And those effects uniquely shape evaluations for the nation's highest office holder.

Duration of Effects

Next, we test the endurance of these effects. Presidential approval in Model 1 was given within hours or a few days of the news portal closing (Wave 2). The fourth model tests whether news effects persist nearly one week later (Wave 3). The model is specified identically to the first column, except the outcome is Wave 3 presidential approval.

Both key coefficients shrink to near zero and statistical insignificance. Reduced crime news the week prior no longer improves presidential approval, and so the crime news effects

from Wave 2 dissipate by Wave 3. Results for Republicans in Congress and Democrats remain null (not shown). The Online Appendix shows this change is not due to attrition: Wave 2 effects are significant among those present in Wave 3. Thus, while our Wave 2 results show news influence enduring well beyond those measured immediately after treatment in most experiments, Wave 3 shows no lasting effects beyond that. This finding is in keeping with a growing literature on the durability of communication effects that shows even sustained communication exposure yields effects that disappear within a week or so from when exposure ends (Chong & Druckman, 2010; Gerber et al., 2011; Hill et al., 2013; Sides & Vavreck, 2013).

An Agenda-Setting Corollary

So far, we found reducing crime news increases presidential approval, and that the effect is moderately short-lived. We argued this effect could arise from perceptions of crime problems resolved, attributed as credit to the president but not other politicians, though other causal routes are possible. Regardless, if reduced crime news is potent enough to drive the approval effect, a voluminous literature suggests we should also observe agenda-setting effects from as well: reducing crime news should lower the share of people describing crime as an important national problem. Although not the direct mechanism we postulate for approval effects, we view agenda-setting effect as a broader test of crime perceptions changed by our treatments.[7]

To test this idea, we asked respondents in each of wave to list three national problems they considered most important with an open-ended response. We measure perceptions of crime importance dichotomously with an automatic text search for the strings “crime” or “criminal,” coded 1 if mentioned, 0 otherwise. This simple approach suffices for our basic purpose here. We predict crime importance in Wave 2 with our usual experimental treatments plus the lagged Wave 1 crime importance item, utilizing a probit regression for the dichotomous outcome.

For this test, we combine the crime-only reduction factor and the factor that reduces all problems including crime into a single reduced-crime factor. That treatment yields a significant negative probit model effect estimate (b=-.32, $s.e.$=.16, p<.05) indicating a within-subject decline in naming crime as an important problem relative to the unfiltered news baseline when crime news is substantially reduced. A model disaggregating the two problem-reduction groups shows both conditions have similarly sized estimates in the same direction, but the "no problems" coefficient is larger and only that one reaches statistical significance (see Online Appendix). With similar agenda-setting estimates, the two crime-reduction conditions were statistically indistinct (p>.5). We see these tests as suggestive evidence that reducing crime news changes crime-related perceptions, reducing the chance that approval effects are due to noise.

Discussion & Conclusions

We set out to test how news attention to national problems affects citizens' evaluations of leaders, with a particular interest in the distinctive problem of crime. To do so, we constructed a novel online panel to view real but experimentally controlled news presented in real-time for a week. We find clear causal evidence that removing stories about crime increased presidential approval, suggesting attribution of presidential credit and blame as we expected. No other political figures—including the Republican majority in Congress and Democrats generally—were rewarded or blamed in this way. In other words, we found no evidence of partisan or institutional attributions of credit and blame. These effects were visible hours and days after news exposure ended but dissipated by the following week. And we show a corollary of this effect with agenda-setting evidence of shifts in crime-related perceptions. The results from this online news environment also point to the digital future of news effects, extending beyond past work focused on newspapers, broadcast, and cable television news.

The effects we find are driven by exposure to news headlines and leads full-stop. Our main tests compare treatment group differences by headline assignment, whether or not stories were read, but we also confirm that observed effects do not depend on reading the article with a supplemental test in the online appendix. Treatment effects on Obama approval are significant among those who clicked on two or fewer crime news articles (55% of unfiltered news participants), and those effects appear to be even larger than those who clicked three or more crime stories, likely because individuals with lower news interest are often more persuadable (e.g. Zaller, 1992). In other words, headlines and blurbs about crime are enough to reduce presidential support, even when stories are unread. Bear in mind, however, that we did not experimentally control *reading* articles, and so this supplement is suggestive. While motivated partisans might avoid *reading* such stories, *headline exposure* remains likely in a broad-coverage non-partisan news portal environment like Google or Yahoo. On the other hand, user settings and individualized site algorithms may still filter content in problem-relevant ways.

Selective exposure may be implicated in another way: randomized portal content might affect the news participants seek outside the portal, which could reinforce or dilute treatment effects, though that systematic dynamic would still be due to our randomized design.[8] Panelists were not asked to change news habits beyond the panel, making those habits orthogonal to treatments, and orthogonal news exposure, which we do not measure, would dilute the filtered news effects found in this study.

News exposure in this study occurred over a sustained period of time, unlike most experimental news studies with one-shot exposure. Accumulating exposure may open a wider range of news effects beyond just making crime views more accessible—changes in crime *beliefs and evaluations* including crime-level perceptions and presidential approval in that

domain. Like Iyengar and Kinder (1987), we find agenda-setting effects for crime. But we do not test or find a conventional priming effect because we did not measure and therefore do not utilize domain specific evaluations to predict overall presidential approval. Instead, we find that the shift in crime news directly changes net support for the president, and not for others. Although we are unable to test a traditional priming hypothesis on whether a priming effect occurs *in addition* to this direct effect, we *can* say that the direct effect we observe of news is not undermined by a priming mechanism.

Under a narrow set of circumstances, priming from crime news could produce a net approval effect, though we argue our effects likely go beyond priming alone, as in past tests involving crime content. Crime priming adds weight to presidential crime evaluations when forming overall approval ratings, and that could cause net negative effects if the average participant regarded the president's handling of crime as especially negative, relative to other areas. Gallup's January 2017 poll with retrospective evaluations of Obama's presidency shows crime rated second worst among 20 issue areas (iPoll), with 56% saying the U.S. "lost ground" on the issue, so that makes a priming a plausible partial explanation. But evidence of net effects recurs in past studies of crime news effects that focused primarily on priming mechanisms (e.g. Holbrook & Hill 2005; Valentino 1999). Those studies tested approval of Clinton (Democrat) and Bush (Republican). Our design tested Obama's approval dynamics (Democrat). The three studies together suggest a robust net crime news effect across presidents and contexts.

Study participants included a broad range of U.S. adults in demographics and viewpoints, but they were not nationally representative. Our sample disproportionately represented young people and Democrats compared to the national adult population. Even so, the experimental behavior among Mechanical Turk workers tends to be similar in studies like ours (e.g. Berinsky

et al. 2012). We find no evidence that partisanship moderates the effects observed (see Online Appendix), and our partisans evaluate leaders like ordinary partisans would: our Democrats gave Obama an average approval score of 0.8 on a 0-to-1 scale, and Reps had an average level at 0.25. A Gallup poll around the same time (with a different scale) found 86% approval among Democrats and 12% approval among Republicans. Finally, our results are similar to others by scholars using much different samples and materials (Holbrook & Hill 2005; Valentino 1999).

Participants consumed the news in environments of their choosing as they would for their usual news consumption. And the news content itself was real and posted in real-time, making experimental component of the study was more realistic than most media effects studies. Likewise, we allowed substantial news choice in this study by simulating a voluminous and diverse news environment while maintaining experimental control, enabling us to find effects despite the potential nullifying role of selective exposure. Most media effects experiments force participants to view specific news content, but recent studies suggest that the effects found predominantly occur among people who would choose entertainment over news in the real world (e.g. Arceneaux & Johnson, 2013). Our work therefore speaks to the increasing interest in research designs that incorporate viewer choice when testing news media effects (Kinder, 2007). Each of these factors extends the external validity of our tests.

Of course, news is not the only source of public perceptions of national problems and especially attributions of blame. Whichever party is out of power has incentives to cast a harsh light on national problems, real or exaggerated—in an effort to win back power. Indeed, some of the problems emphasized in the news are there due to the strategic efforts of partisans seeking political advantage. And the president has incentives to use official government statements—on which journalists depend—as a means to cast national conditions in a more positive light.

Beyond that, ordinary partisans are notorious in their increasingly distorted views of national conditions, with out-partisans perceiving a country heading off the rails on all dimensions and in-partisans taking a far rosier view (e.g. Bartels, 2002). Nevertheless, news media remain a primary source for citizens to learn about national problems outside their direct purview, whether pushed by opposing partisans or dug up independently by journalists themselves. And individual partisan biases seem not to condition the effects driven by crime news we find here.

As for broader contexts, our evidence centers on American politics. There is little reason to doubt its applicability to chief executives in other democratic contexts. But given that our results show effects for presidents and not their parties, our conclusions may apply better in presidential systems rather than parliamentary democracies. That, though, remains to be seen. Additionally, most crime news stories here were national coverage of local crimes. While past research does not find audiences to be discerning in problem judgments, especially as related to presidential evaluation, future tests could test for variations with local, state, or national crime news. Erbring, Goldenberg, and Miller's (1980) audience-contingent model is another avenue for more study, to examine whether effects depend partly on audience interests and news dependence.

Finally, the racialization of crime news is well documented, and the nation's first African American president might have been held uniquely responsible for crime problems. Past studies indicate crime news effects are not limited to a black president, but future tests may determine whether these effects are *larger* under presidents who are racial or ethnic minorities. Amidst a steady decline in crime without clear policy causes, Americans notably rated George W. Bush 17 percentage points better for "making progress" on crime versus "losing ground" compared to Obama at the end of each presidency (Saad & Jones, 2009; Smith & Newport, 2017). Local

crime news was less prevalent in 2010 than 2005 (17% vs. 29%; Pew 2013), pointing to other reasons for why Obama was judged more harshly on crime than his predecessor.

News Coverage & Democratic Accountability

How much crime should news cover? Americans today think violent crime is at all-time highs when it is at half its rate from a generation ago (Pew, 2017). Part of that is partisan politics, with Republican rhetoric on "law & order" and, more recently, Republican citizens motivated to think the worst under a Democratic presidential administration. But news media also bears some of the blame with their disproportionate emphasis on crime to draw audiences in an increasingly competitive news market. Certainly, we should expect news attention to crime to rise and fall with real crime statistics, especially since citizens reasonably use this information to judge national conditions. The fact that reducing the usual volume of crime news raises presidential approval suggests that current levels of crime news today hold down presidential ratings. In other words, the perpetual over-emphasis on crime in news likely causes an *enduring* depression in presidential support due to public misperceptions about crime and misattributions of blame.

Public presidential approval is hugely important in the political behavior of citizens and leaders. Approval influences the fate of the president's legislative agenda (e.g. Canes-Wrone & De Marchi, 2002), a president's reelection chances (e.g. Sides & Vavreck, 2013), and the electoral success of the president's fellow-partisans (e.g. Tufte, 1975; Wleizien & Erikson, 2012). That means the effects found here radiate out to influence broader democratic processes.

Ultimately, this work provides new evidence on the power of news media to shape public evaluations of national leaders. Disproportionate news emphasis on crime directly affects which problems citizens see as most pressing, and by shifting perceptions of problems, news media change public evaluations of leaders who are credited or blamed for those changes. Citizens use

problem evaluations to judge leaders and cast votes, but they hold the chief executive uniquely to account, even when the president's actions have little or no role in the outcome (Achen & Bartels, 2016). Whether citizens are aided toward accurate views of the national conditions or misled in these judgments depends in large part on whether journalists present problems as they are or as audiences might like to see. When news leads audiences astray, it weakens individual leaders, but it also undermines democratic mechanisms by which leaders are held accountable for past actions and restrained by anticipation of public reaction as they guide the nation.

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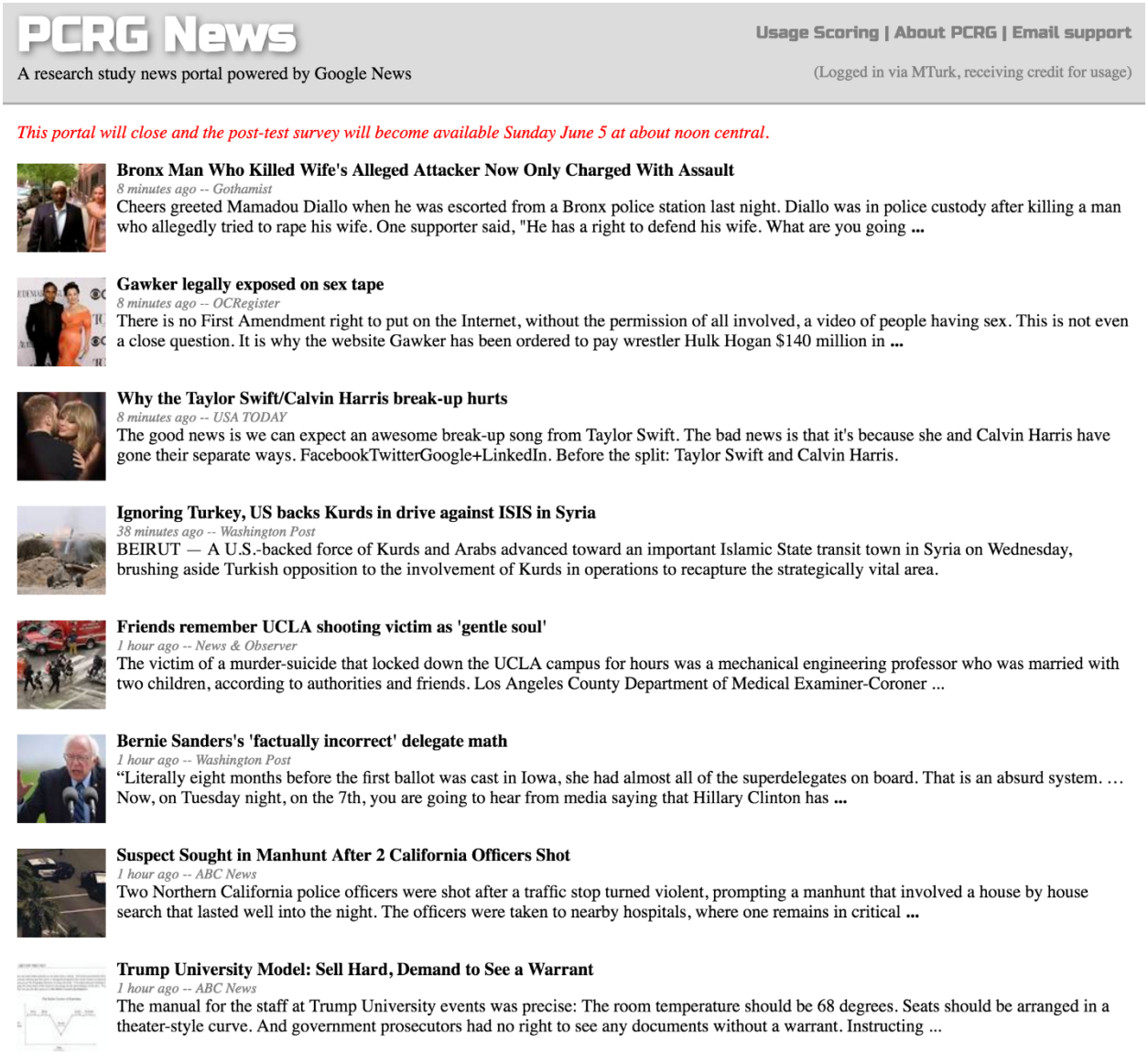
Figure 1: Participant View of the News Portal



Note: Screenshot of the news portal panel at one point during the study.

Table 1: OLS Estimates of Crime News Effects on Subsequent Leader Approval Ratings.

	(1) Obama approval, wave 2	(2) Republican approval, wave 2	(3) Democratic approval index, wave 2	(4) Obama approval, wave 3
Reduced exposure to crime news	0.016**	-0.005	0.005	0.009
	(0.008)	(0.010)	(0.006)	(0.009)
Reduced exposure to all problems	0.017**	-0.003	-0.003	0.003
	(0.008)	(0.010)	(0.006)	(0.010)
More exposure to MSNBC	-0.000	-0.003	0.008	-0.000
	(0.008)	(0.010)	(0.006)	(0.009)
More exposure to Fox	-0.002	-0.010	0.009	-0.011
	(0.008)	(0.010)	(0.006)	(0.010)
More exposure to state news	0.004	0.006	-0.001	0.006
	(0.006)	(0.008)	(0.005)	(0.008)
Obama approval, wave 1	0.965***			0.976***
	(0.010)			(0.012)
Republican Congress approval, wave 1		0.832***		
		(0.017)		
Democratic party approval, wave 1			0.972***	
			(0.009)	
Constant	0.006	0.045	0.004	0.004
Observations	1,016	1,015	1,023	863
R^2	0.906	0.715	0.917	0.890

Note: 2016 Mechanical Turk study of U.S. adults. Question wording: "Rate your feelings towards the following on a scale of 0 to 10, with 10 being the most positive." Evaluation targets: "President Barack Obama" "Republicans in Congress" "Democratic Party" "Democrats in Congress" "Hillary Clinton" "Bernie Sanders." Response scale labeled "very negative" at 1 and "very positive" at 10. Rescaled 0 to 1. Democratic approval index combines the five Democratic targets. All rescaled 0 to 1. Indicator variables for treatment conditions. OLS regression. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, two-sided.

[1] Retrospective voting is myopic (Achen & Bartels, 2016), casting doubt on its rational basis. Partisanship limits accuracy in judging national conditions due to motivated reasoning (Bartels, 2002), though out-party presidential evaluations do respond to national economic shifts (Lebo & Cassino, 2007).

[2] Whether knowledgeable citizens are more or less affected remains a matter of scholarly debate (Arceneaux & Johnson, 2013; Iyengar & Kinder, 1987; Miller & Krosnick, 2000).
[3] These effects may be muted by entertainment choices or opposing news (Arceneaux & Johnson, 2013). Our design allows such choices. Holbrook and Hill (2005) find similar effects for fictional crime stories. News frames also matter for attributions: anecdotal news suggests individuals are to blame for problems and not leaders, in contrast to news framed with national trends (Iyengar 1991).
[4] Mueller (1970) found blame for economic downturns but little credit for upturns, which cuts against our expectation of credit for decreasing crime news, unless crime is distinctive.
[5] In observational data, Althaus and Kim (2006) find *cumulative* and short-term exposure change the dimensions for presidential evaluation. We are also interested in cumulative exposure, but we expect broader effects through shifts in views of national conditions, wholly separate from traditional priming.
[6] See Malhotra & Kuo (2007) for similar distinctions of partisan vs. institutional attributions.
[7] Problem importance is not tied to leader credit. Thus, a Democrat in 2012 could see the economy as important but blame the previous president (Sides & Vavreck, 2013). Tests with American National Election Study data (not shown) show no correlation between crime problem perceptions and presidential approval. Our study did not include issue-specific approval of politicians for more direct tests.
[8] Thanks to an anonymous reviewer for this suggestion.