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Does media coverage influence public attitudes towards welfare recipients? The impact of the 2011 English riots

British Journal of Sociology

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Abstract
Following the shooting of Mark Duggan by police on the 4th August 2011, there were riots in many large cities in the UK. As the rioting was widely perceived to be perpetrated by the urban poor, links were quickly made with Britain's welfare policies. In this paper, we examine whether the riots, and the subsequent media coverage, influenced attitudes toward welfare recipients. Using the British Social Attitudes survey, we use multivariate difference-in-differences regression models to compare attitudes toward welfare recipients among those interviewed before (pre-intervention: i.e. prior to the 6th of August) and after (post-intervention: 10th of August – 10th of September) the riots occurred (N = 3,311). We use variation in exposure to the media coverage to test theories of media persuasion in the context of attitudes toward welfare recipients. Before the riots, there were no significant differences between newspaper readers and non-readers in their attitudes towards welfare recipients. However, after the riots, attitudes diverged. Newspaper readers became more likely than non-readers to believe that those on welfare did not really deserve help, that the unemployed could find a job if they wanted to and that those on the dole were being dishonest in claiming benefits. Although the divergence was clearest between right-leaning newspaper and non-newspaper readers, we do not a find statistically significant difference between right- and left-leaning newspapers. These results suggest that media coverage of the riots influenced attitudes towards welfare recipients; specifically, newspaper coverage of the riots increased the likelihood that readers of the print media expressed negative attitudes towards welfare recipients when compared with the rest of the population.

Keywords: Welfare, Social Attitudes, Riots, Mass Media

Introduction

Following the shooting of Mark Duggan by police on the 4th August 2011, there were riots in many large cities in England. The riots began in London on the 6th of August following a protest over Mark Duggan's death. They then spread to a number of other English cities; lasting around six days before petering out. The riots generated both looting and arson, receiving blanket coverage in the UK media. As the rioting was widely perceived to be perpetrated by the urban poor, links were quickly made with Britain's welfare policies. An e-petition was posted on a government website calling for rioters to 'loose [sic] all benefits'. It rapidly gained more than 250,000 signatures and received widespread media attention (Mains, 2011). On the 11th of August, the government explicitly made the connection between the riots and welfare policy. Iain Duncan Smith, the Secretary of State for Work and Pensions, noted to the media that he was considering changes to an upcoming welfare reform bill, adding an amendment which would cut welfare benefits to convicted rioters (Porter and Kirkup, 11 Aug 2011). These events led to widespread media debate regarding class, welfare, and poverty, and brought the issue of the deservingness of welfare recipients to the fore. But what impact did the riots, and the subsequent media coverage, have on attitudes toward welfare recipients? Using this national media event, we analyse the impact of the media on attitudes towards the welfare state and also welfare recipients.

There is substantial interest among social scientists in the role the media plays in shaping political attitudes and in democracies more broadly (Mccombs and Shaw, 1972, Brynin and Newton, 2003, Drew and Weaver, 2006). While it is commonly assumed that the media have some influence on political attitudes and preferences, there is ongoing debate as to the nature and extent of this effect (Bartels, 1993, Drew and Weaver, 2006). During the 1990s and early 2000s, numerous studies documented the persuasive power of the mass media (Bartels, 1993,

Prior, 2013, Ladd and Lenz, 2009). However, fragmentation of media markets due to increasingly personalized media choices has led some to hypothesize that the media now has only 'minimal effects' on attitudes (Bennett and Iyengar, 2008). In this paper, we examine these competing hypotheses and consider some of their implications by observing whether media coverage influenced attitude change in response to the 2011 English riots.

Minimal effects? Persuasion and the media

Much of the literature on the persuasive power of the media has focused on whether members of the public change their attitudes or voting preferences in response to some media message or campaign. One set of media-persuasion theories argues that the media can have a sizeable impact on political attitudes. Media coverage tends to increase awareness of political events among those exposed (Iyengar and Reeves, 1997). Newspaper endorsements of a particular party increase the likelihood of readers voting for that party (Ladd and Lenz, 2009) and economic expectations among the public are more positive if the media reports 'good' economic news (Gavin and Sanders, 2003).

This research has mostly been observational in nature. However, there have been a number of experimental studies attempting to test whether media coverage can persuade people to adopt particular political ideas (Levendusky, 2013). Such studies show that party identification is more malleable than attitudes and values (Gerber et al., 2009). Similar results have been observed in quasi-experimental studies. One set of natural experiments tracked the differential roll-out of Fox News in U.S. towns. Exposure to Fox News, when it became available, increased the vote share of the Republican party by approximately 10% among viewers (DellaVigna and Kaplan, 2007).

Experimental studies have a number of advantages in terms of isolating a causal effect of media representations but also have some limitations. Replicating the behaviour and decision-making processes found in the real world has proven difficult in the artificial setting of the laboratory (Prior, 2013). Field experiments (where participants are randomly assigned to read particular real-life newspapers) may not correspond to actual media use, or may not apply to readers who already subscribe to the 'intervention' newspapers (Prior, 2013). Additionally not all subjects will willingly read print media (Levendusky, 2013), and effects may also extend to non-readers, who may be exposed through diffusion via social networks. It is also likely that the media's effects vary considerably with individual receptivity, societal circumstances, and with the polarisation of the media context itself (Zaller, 1992).

Taking these criticisms in account, another strand of empirical research has characterised the impact of the media on political attitudes as highly variable (Gentzkow and Shapiro, 2010) and "minimal at best" (Druckman, 2005). This marks a return to many of the classic studies in the field, which observed that the media exhibited "minimal effects" on attitudinal formation or conversion (Klapper 1960). Instead, media consumption is argued to simply reinforce pre-existing attitudes (Norris, 2006).

What little power the media possessed to alter people's political attitudes may have been further eroded by changes in mass media consumption patterns (Bennett and Iyengar, 2008). Rising numbers of media outlets, for example news websites and digital television channels, have fragmented the market and may have led to an 'individualisation' of media consumption (Arceneaux et al., 2013). People tend to avoid information that conflicts with their pre-existing values and beliefs (Prior, 2013). Increasing diversification of the media market

allows people to avoid conflicting information more easily – to restrict their news consumption to only those sources which affirm their existing beliefs (Levendusky, 2013). Further, this fragmentation has led to the decline of the inadvertent audience – those who would watch because they had no other choice. This group can now potentially avoid news media altogether (Prior, 2007).

Yet there are reasons to be cautious about hypothesizing a minimal effect of the media on public attitudes in the UK, particularly in terms of newspapers. Much of the above cited empirical work has been conducted in the US. While daily circulation of the UK print media has declined by 4 million over the last 20 years, the UK print media market, unlike the US, continues to be dominated by a few national newspapers which remain a major source of political information (Brynin and Newton, 2003). Again, unlike the US, these UK newspapers are highly partisan, with the overwhelming majority leaning towards the political right. Only 15% of all newspaper circulation in 2010 supported the Labour party during the 2010 election (Wring and Deacon, 2010). Newspaper readers are therefore frequently exposed to right-leaning arguments and attitudes. Despite this decline in circulation, the greater degree of homogeneity in the UK context suggests media exposure may continue to influence political attitude formation and change.

This minimal effects debate has also spurred other research documenting alternative mechanisms of media influence, including information, agenda-setting, and framing. While mass media communicate information most citizens remained relatively uninformed about particular topics. Rather than using the media as a source of developing detailed knowledge, most use the media as a heuristic through which to make decisions that emulate the behaviour of the relatively well-informed (e.g., journalists) (Lupia, 1994). Agenda-setting theorists

argue that the media shapes the picture of the world in people's heads which, in turn, creates a sense of what the most important current issues are, e.g. immigration (Mccombs and Shaw, 1972). Media also affects framing, the process by which people develop a particular conception of a specific topic, which in turn influences attitudes (Chong and Druckman, 2007). For example, certain newspapers may frame the riots within the context individual moral failure or they may frame it as a response to material deprivation (Lightowlers, 2015). Selecting a particular frame for the riots may then influence whether people feel sympathy for the rioters.

Whether or not the media is able to influence public opinion through these processes has implications for its role in a functioning democracy (Baker, 2007). The rise of the mass media has been coupled with concerns that a small number of actors influences public opinion through media content. However, if the media has only minimal effects on political attitudes then the influence of ownership on content becomes less important. By contrast, if the media is able to shape political attitudes through persuasion, agenda-setting and/or framing, and ownership influences content, then the role of ownership and the media in facilitating public debate in a democracy becomes a critical issue. These concerns formed part of the motivation for the recent Leveson inquiry into press standards in the UK, which drew substantial public attention by shining a light on the relationships between the media and political leaders.

Media coverage of the 2011 riots – the link to welfare recipients

Although the print media in the UK remains highly partisan and right-leaning, is there evidence that this influenced reporting of the riots?

Certainly, prominent political leaders on the right made an explicit link between welfare recipients and the riots. Prime Minister David Cameron suggested that if people in social housing "misbehave, [they could] be thrown out of [their] house" (11/8/11). As noted above, Secretary of State for Work and Pensions Iain Duncan Smith (supported by the Prime Minister) also called for extensions to the law allowing the government to remove state assistance from those convicted of rioting (15/8/11).

This relationship between the riots and welfare benefits was also reflected in mainstream media coverage. However, there were strong differences between media outlets, both in the frequency with which the riots-welfare link was made, and in the tenor of this content. To investigate these differences, we examined coverage of the riots in two right and left-leaning newspapers (*The Daily Mail/Mail on Sunday*, and the *Guardian/Observer*), and on the BBC News website (the UK's most popular internet news source at this time, based on data from the British Social Attitudes Survey) (see Web Appendix 1 for more details on how we examined newspaper coverage).

Searching the Lexis Nexis news database for the period August 6th – Sep 10th (the week of the riots and the month following) we found 893 articles across the four newspapers which directly addressed the riots. Within this group we then identified 109 articles which additionally included a reference to welfare benefits (12% of the total coverage of the riots in these newspapers). Examining the sources separately, we found that 9% of *Guardian/Observer* and 18% of *Daily Mail/MoS* articles on the riots made a connection to welfare. Searching the BBC News online archive using the same method we found that only 4% of BBC News articles on the riots made the link to welfare.

We subsequently manually coded articles linking the riots to welfare into the following three categories: 1. Positive (articles supportive of welfare claimants, e.g., an article describing the proposal to remove benefits from convicted rioters as "fundamentally wrongheaded" (Comment is Free, 29/8/11); 2. Negative (articles critical of welfare claimants, e.g., an article citing "welfare handouts" as one of the factors leading to the behaviour of the "young thugs" (Shipman, 11/8/11); and 3. Neutral (articles with a balanced view, e.g., an article discussing the proposal to dock benefits for convicted rioters without positive or negative commentary (Wintour, 7/09/11).

Using this coding scheme, we found that 59% of *Guardian/Observer* articles linking the riots to welfare were positive, 34% were neutral, and 6% were negative. In the *Daily Mail/MoS* 7% were positive, 13% were neutral, and 80% were negative. On the BBC News website 10% were positive, 90% were neutral, and none were negative. This largely neutral line taken by the BBC News website is also likely to have been reflected in its television coverage of the riots.

Consumers of different sources of news media received diverging pictures of the riots. Newspaper readers, and particularly readers of the right-leaning *Mail* papers, were exposed to a substantial volume of coverage linking the riots with the welfare system and with welfare recipients; whereas readers relying primarily on the BBC News website were not so exposed. Readers of the *Mail* would also have been more frequently exposed to coverage which portrayed welfare benefit claimants in a negative light and argued that welfare dependency was a strong cause of the riots. Coverage of this type was also common in other right-leaning newspapers such as *The Sun* and *The Daily Express*. In contrast, non-readers (e.g., web or TV

news consumers) may become more sympathetic to welfare recipients because the coverage in these alternative sources was more likely to explain the riots in terms of deprivation or other social explanations. People are obviously exposed to a variety of media sources and so readers of left-leaning papers or of BBC News were aware of the government's linking of welfare policy to the riots; but such claims would have been more consistently counterbalanced (or potentially overwhelmed, in the case of left-wing newspapers) by other viewpoints.

Hypotheses

The media coverage of the riots allowed us to test theories of media persuasion in the context of attitudes toward welfare recipients. The riots were a huge national event in the UK and received blanket media coverage. Readers of the print media were presented with very different messages about the rioters than were non-readers, specifically with respect to the link between the riots and welfare claimants. We would therefore expect attitudes toward welfare recipients to diverge between these groups after the riots had occurred. Specifically, we expected that after the riots the attitudes of newspaper readers would differ more strongly in a negative direction from those of non-readers. We predicted that this effect would be strongest between readers of right-wing newspapers, such as *The Sun* and *The Daily Mail*, and non-readers.

Commentary linking welfare recipients to the riots focused most strongly on the concept of 'deservingness'. That is, the debate centred on whether rioters (the majority of whom were assumed to be claiming state benefits) were deserving of welfare. We therefore predicted that the effect of newspaper coverage of the riots would be strongest for attitudes relating to

deservingness; for example, whether people believed that most people receiving welfare really deserved help.

Data and method

We used data from the 2011 wave of the British Social Attitudes (BSA) survey (N=3,311). The BSA is an annual cross-sectional survey that uses multi-stage stratified random sampling to obtain a nationally representative sample of the British adult population. The sample of addresses was drawn from the Postcode Address File and one adult (18+) was selected within each selected dwelling unit. Weighting is used to correct for the unequal selection probabilities arising from these procedures. More details of the survey are available from the UK Data Archive (Stafford, 2011). Data collection for the 2011 wave began in June 2011 and ended in November 2011. Respondents interviewed prior to the riots (i.e. prior to the 6th of August) constituted the pre-treatment sample, and those interviewed in the month after the riots (10th of August – 10th of September) constituted the post-treatment sample. In order to focus on the immediate aftermath of the riots, we excluded respondents interviewed while the riots were still ongoing, and those interviewed more than a month after they were over. The interview date variable is not publicly available in the 2011 version of the data set but is available from NatCen on request (subject to a small processing fee).

One of the aims of the BSA survey is to assess attitudes towards the welfare state and toward recipients of welfare. Media coverage linking the riots to welfare policy focused strongly on whether welfare claimants were truly deserving of the help they received. Consequently we primarily examined the impact of the media's coverage of the riots on responses to three attitudinal items in the BSA (each of these items was put as a statement, with which

respondents were required to indicate their agreement on a 1-5 scale – we re-scored these items such that 1 indicated strong disagreement and 5 strong agreement):

1. Many people who get social security don't really deserve any help
2. Around here, most unemployed people could find a job if they really wanted one
3. Most people on the dole are fiddling in one way or another

We also examined changes in attitudes toward the welfare state in general using the BSA's welfarism scale. This is a cumulative measure derived from eight questions; including whether respondents believe the welfare state is Britain's greatest achievement and whether welfare stops people from standing on their own two feet. In the BSA dataset, this item is scored on a 1-5 scale, with lower scores indicating greater support for the welfare state. In our analysis we have inverted the scale to aid interpretation.

As a check on our findings, we replicated our primary analyses in the 2005, 2007, and 2008 waves of the BSA. These are waves for which the exact interview date of each participant is publicly available, and in which no nationwide rioting occurred.

Study design

The occurrence of the riots in roughly the middle of the 2011 BSA data collection period create conditions approximating a natural experiment. Natural experiments commonly have three characteristics: 1) they are observational studies, 2) where some people are exposed to a particular intervention or event and others are not, and 3) the exposure to the intervention is not controlled by the researchers.

One important component of natural experiments is that exposure to the intervention should approximate the conditions of an actual experiment. In other words, assignment to the intervention should be random or 'as-if' random. In this study we assume that BSA data collection was not causally related to the riots, and that the riots did not affect the data collection (i.e. who was sampled and when they were sampled). Proceeding from this assumption, we argue that the pre-riots data collection forms one nationally representative sample and the post-riots data collection forms another nationally representative sample. The only difference between these two groups should be their knowledge of the riots.

If this is not the case then it is possible that our results may have been influenced by some confounding factor. For example, did the riots change 1) the number of people reading a newspaper, 2) the ideological slant of the newspapers that individuals read, or 3) support for particular political parties? We found that the riots were not associated with a shift in the ideology of newspaper readership ($p = 0.16$) or in the number of people who were reading a newspaper ($p = 0.96$). We also observed no change in party identification across this period ($p = 0.14$). We also tested whether there were differences in the socio-demographics of the sample before and after the riots but found no qualitative differences between these periods (Table 1).

[Table 1 here]

Further we examined whether there were regional differences in the data collection. Here we found that Welsh respondents (n = 135) were more common before the riots while Scottish respondents were more common after the riots (n = 167). As relatively small proportions of the entire sample, these variations are unlikely to influence our results (see Table 1). Both

Wales and Scotland are left-leaning areas that might be more sympathetic to welfare recipients and so the influence of the data collection on the sample composition would be minimal (given that the Welsh sample is more common before the riots and the Scottish sample after). This is confirmed in Table 1 where support for the Conservative party does not vary over time. We also find no difference in whether people support both increasing taxation and spending more on welfare, education, and health across this same period (Difference between pre- and post-riots sample = 0.002, p = 0.95). To ensure these differences are not altering our results we adjust for region in our models as a robustness check.

Statistical analysis

To estimate the effect of the media on attitudes toward welfare recipients we used difference-in-difference models (DiD). DiD models are a form of fixed-effects estimation which estimate differences in the mean value of an outcome of interest for two (or more) populations over a specific time period (Angrist and Pischke, 2009). This approach removes some of the bias created by consistent differences between these groups (Angrist and Pischke, 2009). The strength of this econometric technique is that it mimics an experimental research design using observational data by estimating the effect of an intervention on an outcome by comparing the average change in the intervention group with the average change in the non-intervention group. Ideally, repeated observations would be measured within the same individuals over time but this technique is widely used with repeated cross-sectional data (Angrist and Pischke, 2009). One of the innovative components of this research is combining this within sample contrast (which views the data as repeated cross-sections) with this DiD approach. This modelling framework estimates differences in attitudes toward welfare recipients before and after the riots for newspaper readers vs. non-readers.

Eq. 1: $Intervention\ effect = \left(\bar{W}_{Post,\ read} - \bar{W}_{Pre,\ read}\right) - (\bar{W}_{Post,\ non} - \bar{W}_{Pre,\ non})$

$\bar{W}$ is a measure of the average level of support for welfare recipients among a particular group of people (readers versus non-readers) at a particular time (pre- and post-riots). $\bar{W}$ is a vector of three different attitude measures, as described above. The subscript *Post* refers to those people interviewed after the riots while the subscript *Pre* indicates those who were interviewed before the riots. The subscript *read* indicates those who self-reported reading a newspaper either before or after riots while the subscript *non* refers to those who self-reported that they did not read a newspaper before or after the riots. To clarify this estimation procedure, consider Jane, who was interviewed after the riots and reads a newspaper. Her answers to these attitudinal questions about welfare recipients ($W_{Post,\ read}$) will be included in the measure of the average level of support for welfare recipients among other individuals who were also interviewed after the riots and who read a newspaper ($\bar{W}_{Post,\ read}$). However, because of this she cannot be a member of any of the other three averages ($\bar{W}_{Pre,\ read}$, $\bar{W}_{Post,\ non}, \bar{W}_{Pre,\ non}$). The intervention effect is our coefficient of interest and is the difference between these two observed effects for readers and non-readers, yielding the main difference-in-differences estimator (Angrist and Pischke, 2009).

To put this equation (eq. 1) into a linear regression framework we can write the difference-in-difference estimator as:

Eq 2: $Welfare\ attitudes_{it} = \beta_1 Non - readers_{it} + \beta_2 Readers_{it} + \beta_3 Riots_t + \beta_4 Readers_i \times Riots_t + \varepsilon$

Where β_1 estimates the average level of support for welfare recipients among those individuals interviewed before the crisis (this becomes the constant). β_2 estimates the difference between readers and non-readers in the average level of support for welfare recipients. β_3 estimates the difference in the average level of support for welfare recipients for non-readers before-and-after the riots. Changes in this latter group reflect what would have happened had the readers been non-readers and includes other background trends. β_4 is the coefficient of interest and estimates the change in the difference in the average level of support for welfare recipients between readers and non-readers after the riots. ε is the error term.

To test our hypotheses we set up four intervention-control pairs. First, we compared all newspaper readers with all non-readers. Second, we compared only readers of right-leaning newspapers with all non-readers. Third, we compared readers of all left-leaning newspapers with all non-readers. Fourth, we compared those who read online news (predominantly the BBC news website) with other non-newspaper readers. This final contrast was intended to investigate the attitudinal effect of the riots on readers of a non-partisan news source. We use the BBC News website primarily because it is the largest online source of news in our sample that we can identify. After the BBC (n = 758), the next largest online news outlets in the BSA sample are Sky News (n = 92) and the Daily Mail (n = 85). During the riots the BBC News website received huge attention, with 10.9 million unique UK users on 9 August 2011 alone (Wilson, 24/07/13). Theoretically, the BBC also represents a useful comparison due to its strong stated emphasis on objectivity and neutrality.

Previous research indicates that both education and party identification influence newspaper readership and attitudes toward welfare. Consequently, in the main models reported below we

adjust all our estimates for education and party identification. To test the robustness of our findings, we report the unadjusted findings (without controlling for education and party identification) and we report a fully adjusted model which controls for other key socio-demographic confounders, including age, gender, marital status, social class, whether respondents watch television news, whether respondents read the news online, and their geographical region of residence. Adjusting for the impact of these other news sources, such as television and online is particularly important because they may also influence attitudes. Unfortunately we do not have data on radio news and so this is not included in the analysis. All analyses are weighted using the BSA population and design weights.

Results

Table 2 shows that, before the riots, there were no significant differences between newspaper readers and non-readers in their attitudes towards welfare recipients on any of the three measures. However, after the riots, attitudes diverged. Newspaper readers became more likely than non-readers to believe that those on welfare did not really deserve help, that the unemployed could find a job if they wanted to, and that those on the dole were being dishonest in claiming benefits. Common among studies of social attitudes, the R^2 in these models is quite low, approximately ~0.05 (Cohen, 1977). Figure 1 shows that the source of this divergence is both an increase in negative attitudes among readers and a decrease in negative attitudes among non-readers.[1]

[1] There were no overall differences in welfare attitudes between the pre- and post-riots samples. Post-riots respondents were not more or less likely to believe welfare recipients deserved help (Difference in means = -0.026, p = 0.55, n = 2160), whether they could find a job (Difference in means = 0.025, p = 0.58, n = 2161) or whether they were fiddling the dole (Difference in means = -0.008, p = 0.85, n= 2159) (Web Appendix 2). However, the difference-in-difference models revealed a substantial divergence in attitudes between newspaper readers and non-readers pre- and post-riots.

Our models show that the attitudes of newspaper readers and non-readers diverged by approximately 0.25 points following the riots (on a 5 point scale). Taking the whole scale into account, this is a fairly small effect. But, given that this divergence occurred over a relatively short period of time, it is surprisingly large. To put these effects into a more readily interpretable context we also re-estimated the models in table 2 using logistic regression models (1 = agree or strongly agree with statement; 0 = otherwise). Before the riots occurred, approximately 36% of readers and 36% of non-readers believed welfare recipients "don't really deserve help". After the riots, 41% of readers and 30% of non-readers believed the same statement. Similar results can be observed for the other two measures of support for welfare.

[Table 2 here]

[Figure 1 here]

We also examined attitude differences for other groups of news consumers: those who only reported consuming print news, those who only reported consuming web news, those who reported consuming both web news and print news, and those who did not consume any of these forms of news. Only the print media readers diverged from the non-news consumers in terms of their attitudes towards welfare recipients over the riots (Web Appendix 3). Across this period web news consumers and non-consumers exhibited a non-significant decline in negative attitudes towards welfare recipients (Figure 2). Similar trends are observed for those who only consume TV news (Web Appendix 4). This suggests that the decrease in support for welfare recipients across this period among newspaper readers may be set against a background of generally increasing support in the rest of the population.

[Figure 2 here]

Having observed a significant divergence between all newspaper readers and non-readers, we subsequently examined the impact of the riots on readers of right and left wing papers separately. This distinction tests whether, as anticipated, the divergence between the print media and non-readers is concentrated among right-leaning newspapers rather than left-leaning newspapers. Similar to the results shown in Table 2 for newspaper readers in general, Table 3 shows that before the riots there were no differences in attitudes between readers of right-leaning papers and those who did not read newspapers. After the riots, readers of right-wing papers were more likely than non-newspaper readers to agree that welfare recipients didn't really deserve help and that they could find a job if they really wanted to. They were also somewhat more likely to agree that most people on the dole were 'fiddling', but this difference was not statistically significant at the $\alpha = 0.05$ level.

Table 3 shows that the results for left-leaning newspaper readers were contrary to our expectations. The coefficients indicating the divergence of left-wing readers from non-newspaper readers are in the same direction and are similar in size to those for right-wing readers. In fact, in the case of 'could find a job', the divergence for left-wing readers is actually somewhat larger (0.29 versus 0.26). This could constitute evidence against our preferred explanation for these results (an effect of media coverage focused on right-leaning newspapers). However, the sample of readers of left-leaning newspapers was extremely small, meaning that our estimates are highly uncertain.

[Table 3 here]

Impact of the riots on alternative indicators of welfare support and other social attitudes

The BSA includes other indicators of attitudes toward the welfare state and welfare recipients (Web Appendix 5). These measures are less focused on deservingness, and we therefore expected them to be less influenced by media coverage of the riots. As predicted, we did not observe any clear patterns of divergence on these alternative attitudinal measures. However, using the BSA's welfarism scale, which is a cumulative measure incorporating all of the welfare attitude items, we observed that newspaper readers became less sympathetic towards welfare recipients than non-readers after the riots (Web Appendix 5).

As a further check on our findings, we investigated the effect of the riots on attitudes towards non-welfare and non-riot related topics. If these attitudes also changed over the riots period, it would point towards an alternative explanation than an effect of the riots themselves. We replicated our primary analyses with four different attitudinal measures: 1) whether respondents agreed that big business primarily benefits the owners, 2) whether respondents agreed that there is one law for the rich and one law for the poor, 3) whether they agreed that censorship is necessary to uphold moral standards, and 4) whether they agreed that corporate management try to get the better of their employees (Web Appendix 6). Consistent with our predictions, there was no divergence in any of these variables before and after the riots in 2011.

Counterfactual analysis

In the above analyses we assumed that the division of the BSA 2011 sample into pre- and post- riots observations was 'as if random'. However, there may be systematic unmeasured differences between those who responded to the survey prior to August 6th, and those who responded between August 10th and September 10th; for example a seasonality effect. To

check this possibility we therefore re-ran our analyses in three previous BSA waves for which the respondent interview date is publicly available; 2005, 2007, and 2008 (see Web Appendix Tables 7-12). In 2005 we found no evidence of a divergence in welfare attitudes between newspaper readers and non-readers across the 'riots' period. We also found qualitatively similar results for 2007 (Web Appendix Tables 9 and 10) and 2008 (Web Appendix Tables 11 and 12). Taken together, the divergence in support for welfare recipients observed in 2011 has not been observed in previous years.

Sensitivity analyses

We conducted a series of additional sensitivity tests to ensure our findings are consistent across different model specifications. We re-ran the analyses including all respondents interviewed after the 10th of August in the post-riots sample. This did not qualitatively alter our results but the impact of the media on whether respondents believe welfare recipients are cheating the dole was attenuated slightly (p <0.1) (Web Appendix 13). Variation in the proportion of refusals or don't knows across the study period could influence these findings but we find that this does not vary between the pre- and post-samples on any of the three primary welfare questions, e.g., those on benefits deserve help (p = 0.15).

Many factors influence why people read particular newspapers and also their response to an event such as the riots. We therefore re-estimated our primary models, additionally adjusting for age, gender, marital status, social class, geographical region, whether respondents watch the news on TV, and whether respondents read the news online, finding that our results did not qualitatively change (Web Appendix 14). We also re-estimated our models removing all other covariates, i.e., without controlling for education or support for political party, and again found that our results did not change (Web Appendix 15).

Given our unexpected findings for left-leaning newspaper readers (see Table 3 and accompanying text), we decided to directly test the divergence between this group and right-leaning newspaper readers using the same methods as previously.. Here, the models are inconclusive. The results are somewhat contrary to our expectation that readers of right-leaning newspapers would become less sympathetic to welfare recipients than readers of left-leaning papers. We find that the coefficients are in the expected direction in three case but one of these is almost negligible ('Dole cheating') whereas two of them (Don't really deserve help' and 'Support for the welfare state') are comparable with the coefficients observed in table 3, which compare right-leaning readers and non-readers. Our results also suggest that readers of left-leaning papers became slightly more likely to believe that unemployed people could find a job if they want to. However, none of these differences were statistically significant at the $\alpha = 0.05$ level, likely because this contrast is under-powered given the small number of left-leaning newspaper readers (see Web Appendix 16).

The observed changes in welfare attitudes may be driven by an effect of the riots on respondents' perceptions of threat. The riots, as a threatening event, may have made newspaper readers more fearful and mistrustful of others, with changes in their welfare support being a symptom of this broader effect (Kaariainen and Lehtonen, 2006). To test this possibility we examine whether there are changes in the level of social trust over this period. We find that after the riots there is no significant difference in the level of social trust between newspaper readers and non-readers (Difference-in-differences $\beta = 0.07$, $p = 0.26$).

Finally, we considered the possibility that those with less interest in politics may be more uncertain in their attitudes towards welfare recipients, and therefore that they may be more

likely to change their views due to media reporting. First, we examined whether the politically interested and non-interested diverged in their attitudes toward welfare recipients across this period. We find no evidence of divergence on all three measures; deserve help ($p = 0.91$), find a job ($p = 0.72$), or 'fiddling' the dole ($p = 0.47$).

Discussion

The not-so-minimal effects of the media

These findings contribute to a growing literature using design-based research (such as natural experiments) to estimate the effect of the media on political preferences and attitudes. Consistent with this literature on media effects, our results suggest that print media coverage of the riots increased negative attitudes toward welfare recipients.

While growth in the number of outlets has fragmented the media market, this has not necessarily reduced the media's impact on political attitudes. Especially in the United Kingdom, where the print media remains a highly centralized and important source of information regarding current affairs and political debate, the media's persuasive power remains.

Although the fragmentation of the mass media may undermine the impact of any particular news outlet, this diversification may also allow the media to increasingly mediate the way in which people perceive the social world. Mediatization refers to how the media actively shapes the political discourse (Mazzoleni and Schulz, 1999, Kepplinger, 2002). The media are not passive transmitters of information or facts. They frame, construct, and shape the information they receive (Stromback, 2008). Readers and viewers are then exposed to these messages and – as our results indicate – develop mediatized political attitudes based on this

narrative. For example, this mediatized political narrative influences whether people believe those receiving unemployment benefit are able to find a job or not regardless of whether there are jobs available. Additionally, the Department for Work and Pensions' estimates of the extent of benefit fraud have been below 5% since 2004 and yet after the riots newspapers readers, compared with non-readers, became more likely to believe that 'most people on the dole are fiddling one way or another'. These fluctuations do not reflect an objective reality but rather reflect the capacity of the news media to create a narrative through which the social realities of unemployment, social welfare, and the economy are understood.

This sudden shift in attitudes toward welfare recipients in 2011 must be set against a backdrop of increased negativity in media coverage of welfare in the UK over the last 20 years. The extent of coverage has not radically increased but the tone became noticeably more negative around 2010 (Baumberg et al., 2012). Given this trend, could coverage of a single event influence attitudes? Certainly the riots were only one event, but they were a uniquely large and conspicuous event in recent UK history, receiving blanket and continuous coverage while dominating the national conversation for a substantial period. Our results suggest this did indeed have a measurable effect on welfare attitudes among newspaper readers while analysis of previous years showed no similar effects.

The controversy regarding media effects has been difficult to resolve because capturing the influence of the mass media is challenging (Brynin and Newton, 2003, Ladd and Lenz, 2009). Design-based research has been able to address some of these challenges while consistently providing evidence of the continued impact of the media on partisanship and political attitudes, suggesting the process of mediatization shapes perceptions of the social world.

The persuasive power of the media

What is less clear from these findings is the mechanism by which readers alter their perceptions of the social world. Two main possible mechanisms have been suggested in the literature. First, political attitudes may be derived from social group membership (Green et al., 2002). In making decisions about political attitudes, Green et al. argue that people consider the different social groups which they believe align (or not) with different attitudes. They then ask themselves whether they are a member of that group. The implication is that if a person views themselves as a *Daily Mail* reader, and the *Daily Mail* argues that rioters are predominantly benefit claimants who do not deserve help, then they will be more likely to support this position.

Alternatively, persuasion may affect readers because beliefs change. By this view, *Daily Mail* readers (for example) are (semi-)rational actors who adopt new beliefs based on the evidence presented to them (DellaVigna and Gentzkow, 2010). Although decisions about beliefs often rest on imperfect memories, double-counting repeated information, and other forms of judgment errors, they still reflect changes in belief based on information that is communicated from a sender to a receiver. In this view, persuasion should be more effective when recipients are more uncertain about the truth and yet we do not find unqualified support for this mechanism.

The apparent effect of print media coverage of the riots on attitudes toward welfare was clearest for readers of right-leaning papers. However, we were unable to statistically distinguish the between readers of left and right-wing papers in terms of these effects (see Table 3 and Web Appendix 16). In fact, in some cases the coefficients suggested a slightly larger negative media effect among left-wing readers. Broadly, there are two possible

explanations for these results. First, our sample of left-wing newspaper readers was very small, and our estimates of the media effect for this group are consequently highly uncertain. It is possible that, given a sufficiently large sample of left-wing newspaper readers, we would observe that their attitudes were indeed less negatively affected by media coverage of the riots than were readers of right-wing papers. Alternatively, the results may reflect a genuine similarity in the effects for both left and right-wing print media consumers. This would be difficult to explain on the basis of the content of the media coverage, and would therefore likely point to an alternative explanation for our findings.

In contrast to the right-leaning papers, non-readers became more sympathetic toward welfare recipients. This increase in sympathy is consistent with the non-print media coverage, e.g., BBC Online News (which, as noted above, is likely to also represent the tone of the coverage of BBC television news), suggesting that media coverage from these sources also influenced attitudes. If interest in politics does not explain these findings, are they driven by group identification? While *Daily Mail* readers might view themselves as part of a group of like-minded individuals, it might be surprising to find that BBC Online News readers would view themselves in the same way. In fact, television and radio news content may not evoke the same degree of group identity potentially associated with the print media. In short, while there are no clear theoretical reasons why partisan media of any ideology (or even neutral media) would not have similar effects on readers, more research is needed to understand the mechanisms through which newspapers and other forms of media, such as television and radio, may influence attitudes.

Democracy and ideological diversity

Although developing a detailed model of the role of the media in democracies is beyond the scope of this paper, these results do raise some questions about this relationship, particularly around the issue of media ownership. Faced with the rise of the mass media, many governments have implemented regulation to restrict the concentration of power in media markets. Two ideas underline why governments have regulated media ownership. First, media markets that are not regulated will tend to produce ideological homogeneity. Second, this homogeneity will influence citizens. Based on these two ideas, governments regulate media markets in an effort to create ideological diversity, which is assumed to enable citizens to make more informed political decisions (Baker, 2007).

But are unregulated markets more likely foster ideological homogeneity? If newspapers reflect rather than create public opinion then ideological homogeneity may be driven by the public rather than owners of media outlets. For example, if the public is already ideologically homogenous then a newspaper may seek to maximize profits and secure a larger market share by bringing their ideology in line with that of the public. By this view, the impact of owners on shaping content is considered to be minimal (Gentzkow and Shapiro, 2010). Evidence supporting this process mostly comes from the US where the majority of newspapers serve relatively local markets. This is problematic because newspapers tend to be less partisan in more localized markets where they need to appeal to a larger proportion of the community (Dalton et al., 1998). Yet, even in the US, newspaper owners shape content to reflect their own preferences. Ownership influences the extent of election coverage around particular issues (Dunaway, 2008) as well as the slant of the coverage on those same issues (Gilens and Hertzman, 2000). The UK is no exception. Two of the largest national newspapers are owned by Rupert Murdoch, who is unabashed about the influence of his right-wing political views on the content of his newspapers.

Regulation has often been used to minimise the ideological homogeneity created by ownership. In the UK, for example, radio and TV are legally bound to present balanced political news coverage and to limit political editorializing (Brynin and Newton, 2003). We found that consumers of these media sources (television news and the online news service provided by the BBC – which is primarily a broadcast service) were not affected by the riots in the same way as were readers of the highly partisan print media. The partisan print media seems to affect consumers in ways that are distinct from the regulated broadcast media; suggesting that more diversity among the print media may influence political attitudes in the population.

Recent trends in public policy have weakened safeguards intended to prevent the consolidation of media ownership, which may reduce diversity among the print media. Since the 1990s both the Conservative and the Labour party have issued policy statements which stress the importance of ideological pluralism and diversity for democracy (Department of National Heritage, 1995, Department of Media Culture and Sport (DMCS), 2001). Yet, these statements have been concurrent with policy changes which allow increased consolidation of media ownership.

Of course, these issues not only apply to the relationship between welfare and social protection but also have implications for other policy domains, such as the environment. Gavin and colleagues have examined the mediatisation of climate change in the UK and beyond (Gavin and Marshall, 2011). They argue that the media's coverage of these issues is both agenda-setting and communicating important information but this coverage has, at times, been too heavily influenced by climate change sceptics (Gavin et al., 2011). As a

result, people may have become more confused about climate change (Gavin and Marshall, 2011). Bringing these two research streams together has a number of implications. First, it raises questions regarding the role of the media in fostering (or hindering) public debate. For example, it may give the impression that there is a climate change debate when there is not or it may give the impression that welfare fraud is common when it is not. Second, it highlights the role of vested interests in these political debates. Here the issue of ownership is again highly salient but more research is required, inside and outside the US, regarding whether ownership influences content and on what specific issues. This cross-national approach is critical because there is likely to be variation across contexts in whether climate change scepticism is associated with political ideology and therefore whether it would influence content.

Taken together, these examples highlight that the role of the media in democracies requires more sustained engagement across a range of topics, including welfare, climate change and others. Results from this study suggest media coverage can influence public attitudes towards vulnerable groups. Given this association, the implications of increasing consolidation of media ownership, and the consequent ideological homogeneity of media content, requires further debate.

Limitations

Our study has several important limitations. First, because we relied on a within-sample contrast between those interviewed for the BSA before the riots and those interviewed afterward, we were unable to estimate attitude change within individuals over time. A second concern is that the pre- and post-riots split in the sample was not ‘as-if’ random and that unobserved differences between the samples may remain, e.g., regional differences. While we

cannot rule this out entirely, we do not find significant difference between these samples on a range of socio-demographic indicators, offering some support for this assumption. Third, people often select the news media they consume based on pre-existing preferences, which may reflect their increased susceptibility to arguments about the deservingness of welfare recipients. Not only did we fail to find significant differences between readers and non-readers before the riots but our findings were not explained by party identification – a useful proxy for existing preferences. Fourth, it is impossible to disaggregate the effect of the riots themselves on attitudes, separate from the media effects. This is because media effects spill-over and influence those who may not consume the mass media. In other words, there is no clear intervention and control group because those who 'read a newspaper' are still friends with and talk to those who are not. A final limitation of this study is that we were not able to capture the long-term effects of the riots on attitudes towards welfare recipients. Nevertheless, we were able to show that an effect persisted some weeks and even months after the riots had ended. Although these effects may not reflect permanent attitudinal change, they are not necessarily short-lived.

Conclusion

The 2011 riots raised the profile of issues related to the deservingness of welfare recipients. Our findings suggest that media coverage of this event was able to significantly affect attitudes towards this group over the short-term. Specifically, those exposed to print media (but not those exposed to broadcast or web news) diverged significantly from the rest of the population in terms of their negative attitudes towards welfare recipients.

These findings have implications for future policy debates. Attitude divergence in the short-term was observed among those consuming the highly partisan print media (although, as noted above, we were unable to clearly differentiate between readers of right- and left-leaning newspapers). Highly partisan print media appears to influence consumer's beliefs about the social world in ways that are distinct from non-partisan consumers (such as the television news or the online news service provided by the BBC), suggesting that the regulatory requirement of ideological neutrality of the TV media and the BBC may have consequences for political attitudes in the UK. These results should prompt further debate concerning how media influences attitudes and whether media partisanship coupled with highly centralized ownership is a public concern.

References

Angrist, J. D. & Pischke, J.-S. 2009. *Mostly harmless econometrics : an empiricist's companion,* Princeton, N.J., Princeton University Press.

Arceneaux, K., Johnson, M. & Cryderman, J. 2013. Communication, Persuasion, and the Conditioning Value of Selective Exposure: Like Minds May Unite and Divide but They Mostly Tune Out. *Political Communication,* 30**,** 213-231.

Baker, C. E. 2007. *Media concentration and democracy: why ownership matters,* Cambridge, Cambridge University Press.

Bartels, L. M. 1993. Messages Received - the Political Impact of Media Exposure. *American Political Science Review,* 87**,** 267-285.

Baumberg, B., Bell, K. & Gaffney, D. 2012. Benefits stigma in Britain. London: Turn2us.

Bennett, W. L. & Iyengar, S. 2008. A New Era of Minimal Effects? The Changing Foundations of Political Communication. *Journal of Communication,* 58**,** 707-731.

Brynin, M. & Newton, K. 2003. The national press and voting turnout: British general elections of 1992 and 1997. *Political Communication,* 20**,** 59-77.

Chong, D. & Druckman, J. N. 2007. Framing theory. *Annual Review of Political Science,* 10**,** 103-126.

Cohen, J. 1977. *Statistical Power Analysis for the Behavioural Sciences,* London, Routledge.

Comment is Free. 29/8/11. After the riots: rights and wrong'uns. *Guardian*.

Dalton, R. J., Beck, P. A. & Huckfeldt, R. 1998. Partisan cues and the media: Information flows in the 1992 presidential election. *American Political Science Review,* 92**,** 111-126.

DellaVigna, S. & Gentzkow, M. 2010. Persuasion: Empirical Evidence. *Annual Review of Economics, Vol 2,* 2**,** 643-669.

DellaVigna, S. & Kaplan, E. 2007. The Fox News effect: Media bias and voting. *Quarterly Journal of Economics,* 122**,** 1187-1234.

Department of Media Culture and Sport (DMCS) 2001. Consultation on Media Ownership Rules. PP429.

Department of National Heritage 1995. Media Ownership: The Government's Proposals HMSO.

Drew, D. & Weaver, D. 2006. Voter learning in the 2004 presidential election: Did the media matter? *Journalism & Mass Communication Quarterly,* 83**,** 25-42.

Druckman, J. N. 2005. Media matter: How newspapers and television news cover campaigns and influence voters. *Political Communication,* 22**,** 463-481.

Dunaway, J. 2008. Markets, Ownership, and the Quality of Campaign News Coverage. *Journal of Politics,* 70**,** 1193-1202.

Gavin, N. T., Leonard-Milsom, L. & Montgomery, J. 2011. Climate change, flooding and the media in Britain. *Public Understanding of Science,* 20**,** 422-438.

Gavin, N. T. & Marshall, T. 2011. Mediated climate change in Britain: Scepticism on the web and on television around Copenhagen. *Global Environmental Change-Human and Policy Dimensions,* 21**,** 1035-1044.

Gavin, N. T. & Sanders, D. 2003. The Press and Its Influence on British Political Attitudes under New Labour. *Political Studies,* 51**,** 573-591.

Gentzkow, M. & Shapiro, J. M. 2010. What Drives Media Slant? Evidence From US Daily Newspapers. *Econometrica,* 78**,** 35-71.

Gerber, A. S., Karlan, D. & Bergan, D. 2009. Does the Media Matter? A Field Experiment Measuring the Effect of Newspapers on Voting Behavior and Political Opinions. *American Economic Journal-Applied Economics,* 1**,** 35-52.

Gilens, M. & Hertzman, C. 2000. Corporate ownership and news bias: Newspaper coverage of the 1996 Telecommunications Act. *Journal of Politics,* 62**,** 369-386.
Green, D. P., Palmquist, B. & Schickler, E. 2002. *Partisan hearts and minds: political parties and the social identities of voters,* New Haven, Conn. ; London, Yale University Press.
Iyengar, S. & Reeves, R. 1997. *Do the media govern? : politicians, voters, and reporters in America,* Thousand Oaks, Calif. ; London, Sage Publications.
Kaariainen, J. & Lehtonen, H. 2006. The variety of social capital in welfare state regimes - A comparative study of 21 countries. *European Societies,* 8**,** 27-57.
Kepplinger, H. M. 2002. Mediatization of politics: Theory and data. *Journal of Communication,* 52**,** 972-986.
Ladd, J. M. & Lenz, G. S. 2009. Exploiting a Rare Communication Shift to Document the Persuasive Power of the News Media. *American Journal of Political Science,* 53**,** 394-410.
Levendusky, M. S. 2013. Why Do Partisan Media Polarize Viewers? *American Journal of Political Science,* 57**,** 611-623.
Lightowlers, C. 2015. Let's get real about the 'riots' – exploring the relationship between deprivation and the English summer disturbances of 2011. *Critical social policy,* 35**,** 89-109.
Lupia, A. 1994. Shortcuts Versus Encyclopedias - Information and Voting-Behavior in California Insurance Reform Elections. *American Political Science Review,* 88**,** 63-76.
Mains, S. 2011. *Convicted London rioters should loose all benefits.* [Online]. Available: http://epetitions.direct.gov.uk/petitions/7337 [Accessed 19/02/14].
Mazzoleni, G. & Schulz, W. 1999. "Mediatization" of politics: A challenge for democracy? *Political Communication,* 16**,** 247-261.
Mccombs, M. E. & Shaw, D. L. 1972. Agenda-Setting Function of Mass Media. *Public Opinion Quarterly,* 36**,** 176-&.
Norris, P. 2006. Did the Media Matter? Agenda-Setting, Persuasion and Mobilization Effects in the British General Election Campaign. *British Politics,* 1**,** 195-221.
Porter, A. & Kirkup, J. 11 Aug 2011. UK riots: we will make criminals suffer, say MPs. *The Daily Telegraph*.
Prior, M. 2007. *Post-broadcast democracy : how media choice increases inequality in political involvement and polarizes elections,* Cambridge, Cambridge University Press.
Prior, M. 2013. Media and Political Polarization. *Annual Review of Political Science, Vol 16,* 16**,** 101-127.
Shipman, T. 11/8/11. Parts of our society are not broken but sick - the Prime Minister's verdict on Riot UK. *Mail Online*.
Stafford, R. 2011. British Social Attitudes 2011: User Guide.
Stromback, J. 2008. Four phases of mediatization: An analysis of the mediatization of politics. *International Journal of Press-Politics,* 13**,** 228-246.
Wilson, G. 24/07/13. Royal baby and record page views. *BBC News Online*.
Wintour, P. 7/09/11. UK riots: courts could be asked to dock benefits. *Guardian*.
Wring, D. & Deacon, D. 2010. Patterns of press partisanship in the 2010 General Election. *British Politics,* 5**,** 436-454.
Zaller, J. 1992. *The nature and origins of mass opinion,* Cambridge England ; New York, NY, USA, Cambridge University Press.

Figures and Tables

Figure 1: Attitudes towards welfare recipients before and after the riots, by newspaper readership

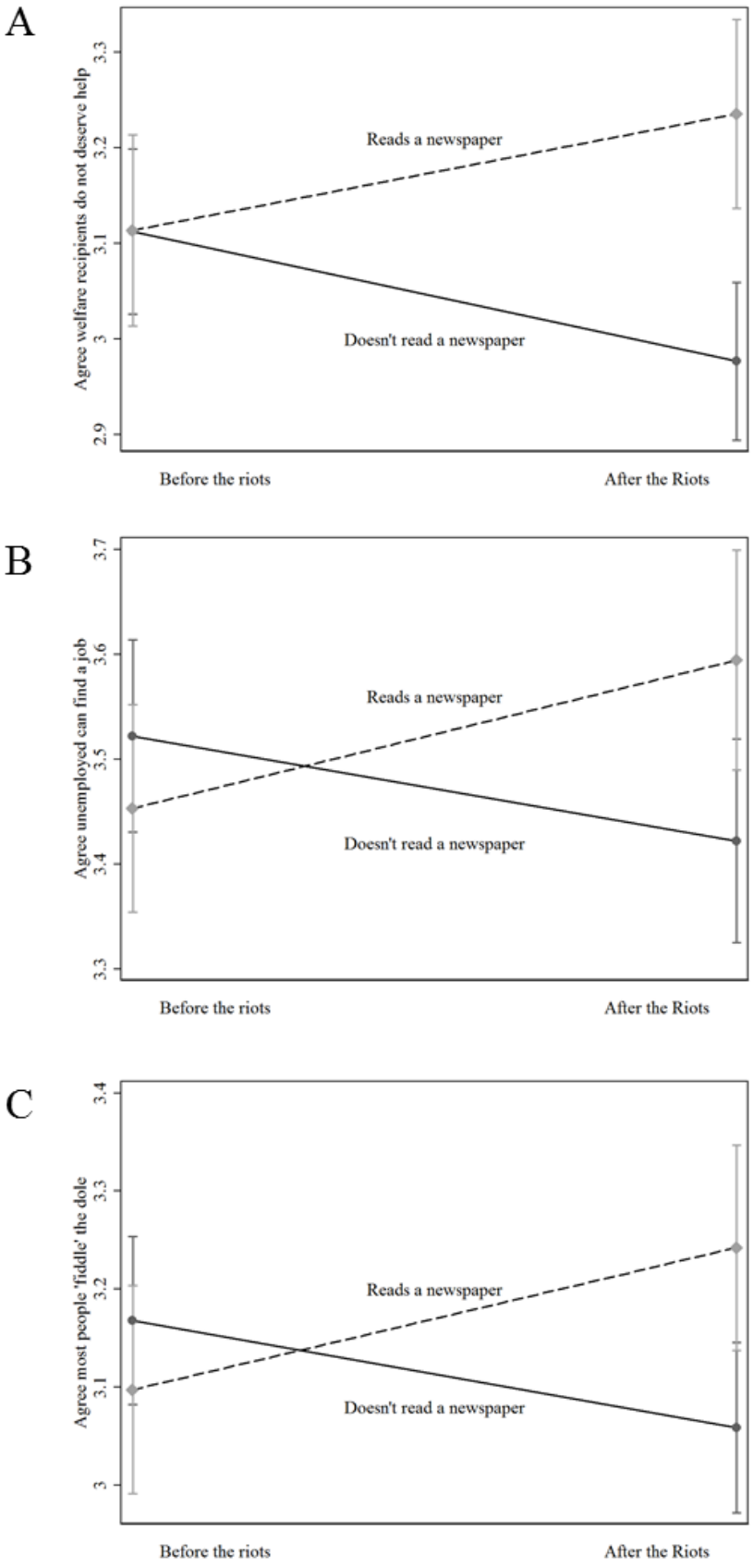
Figure 2: Attitudes towards welfare recipients before and after the riots, by web news readership

Table 1: As-if randomization tests for pre- and post-riots samples

Table 2: Effect of newspaper readership on attitudes toward welfare recipients before and after the riots, from linear difference-in-difference models

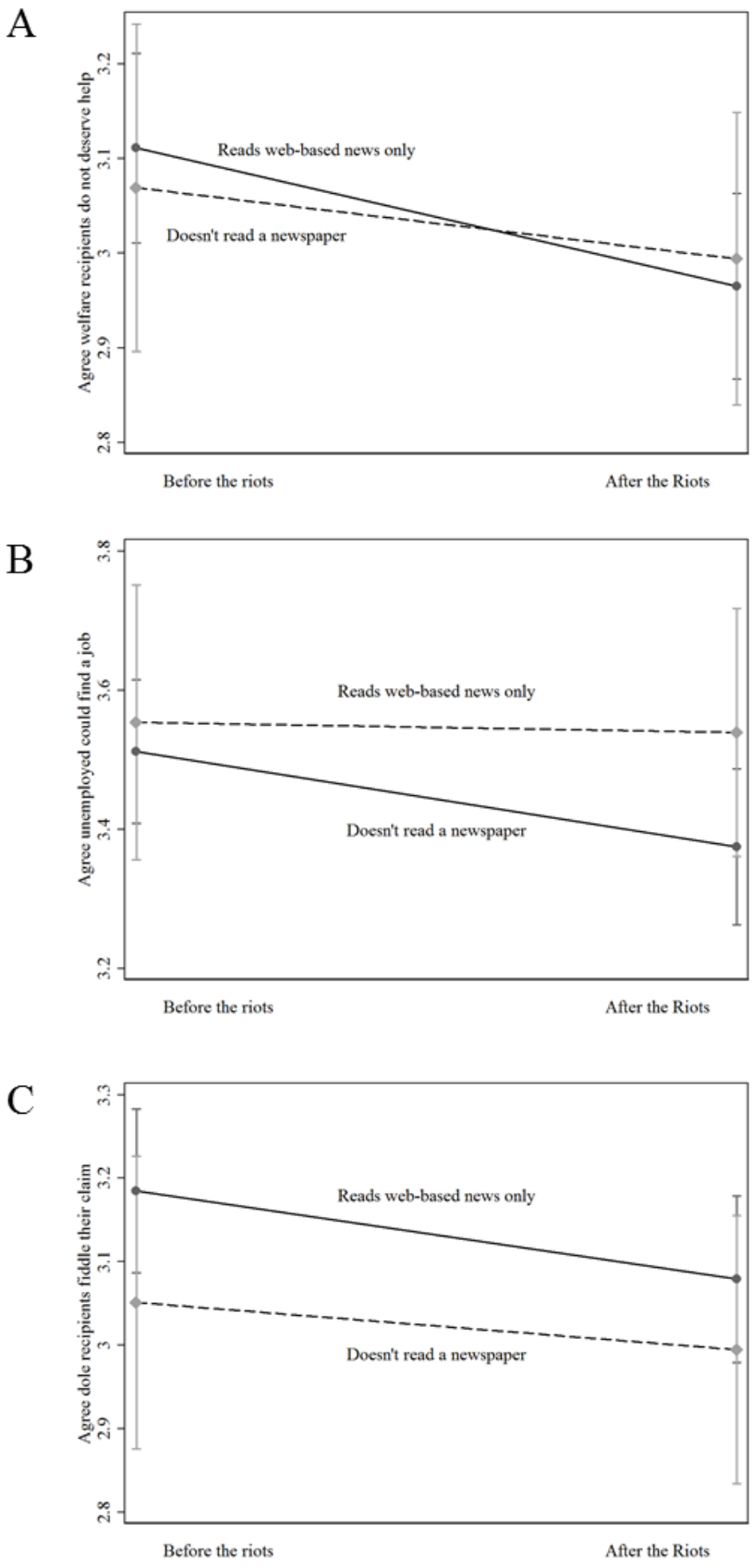
Table 3: Effect of partisan newspaper readership on attitudes toward welfare recipients before and after the riots, from linear difference-in-difference models

Figure 1: Attitudes towards welfare recipients before and after the riots, by newspaper readership



Notes: Vertical bars are 95% confidence intervals.

Figure 2: Attitudes towards welfare recipients before and after the riots, by web news readership



Notes: Vertical bars are 95% confidence intervals.

Table 1: As-if randomization tests for pre- and post-riots samples

	Pre-riots (n = 1035)	**Post-riots (n = 1035)**	**Difference**	
Variable	*Mean (Std. Dev.)*	*Mean (Std. Dev.)*	*Pre-riots-Post-riots (Std. Error)*	*p-value*
Gender (Female = 1)	55.7% (1.55)	54.2% (1.55)	1.45% (2.19)	0.51
Age	52.2 (0.55)	51.0 (0.54)	1.24 (0.77)	0.11
Post-secondary education	44.6% (1.55)	47.5% (1.55)	-2.90% (2.19)	0.19
Support for Conservative party	32.8% (1.46)	29.8% (1.42)	3.00% (2.04)	0.14
Read a newspaper	41.4% (1.53)	41.3% (1.53)	0.097% (2.17)	0.96
Married	57.7% (1.54)	57.7% (1.54)	0.01% (2.17)	0.99
Professional service class	38.4% (1.51)	40.2% (1.52)	-1.84% (2.14)	0.39
Watch TV News daily	76.0% (2.64)	78.3% (2.53)	-2.22% (3.66)	0.54
Children in household	66.2% (1.47)	66.4% (1.47)	-0.19% (2.18)	0.93

Notes: p-value is calculated using two-tailed t-test assuming unequal variances.
<0.05, ** p < 0.01

Table 2: Effect (β coefficients) of newspaper readership on attitudes toward welfare recipients before and after the riots, from linear difference-in-difference models

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)
Change in the difference between readers and non-readers after the riots	0.27**	0.24*	0.24*
	(0.093)	(0.099)	(0.097)
Difference between readers and non-readers before the riots	-0.042	-0.060	-0.090
	(0.067)	(0.069)	(0.070)
Change in attitudes among non-readers before-and-after riots	-0.14*	-0.11	-0.099
	(0.061)	(0.067)	(0.062)
Constant	3.55**	3.62**	3.51**
	(0.067)	(0.074)	(0.072)
Observations	2124	2125	2123
R^2	0.068	0.041	0.068

Notes: All models are weighted. Constant is reported as Pre-riots non-newspaper reader. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. All models adjusted for education and political affiliation.

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Table 3: Effect (β coefficients) of partisan newspaper readership on attitudes toward welfare recipients before and after the riots, from linear difference-in-difference models

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)
Right-wing papers			
Change in the difference between readers and non-newspaper readers after the riots	0.31**	0.26*	0.23
	(0.11)	(0.12)	(0.12)
Difference between readers and non-newspaper readers before the riots	-0.027	-0.059	-0.081
	(0.080)	(0.087)	(0.090)
Change in attitudes among non-newspaper readers before-and-after riots	-0.15*	-0.13	-0.11
	(0.071)	(0.078)	(0.072)
Constant	3.52**	3.61**	3.51**
	(0.076)	(0.085)	(0.082)
Observations	1504	1505	1504
R^2	0.065	0.034	0.059
Left-wing papers			
Change in the difference between readers and non-newspaper readers after the riots	0.090	0.29	0.19
	(0.21)	(0.22)	(0.23)
Difference between readers and non-newspaper readers before the riots	-0.19	-0.16	-0.28
	(0.14)	(0.14)	(0.15)
Change in attitudes among non-newspaper readers before-and-after riots	-0.15*	-0.13	-0.11
	(0.071)	(0.077)	(0.072)
Constant	3.50**	3.60**	3.50**
	(0.087)	(0.098)	(0.092)
Observations	1104	1106	1104
R^2	0.050	0.069	0.069

Notes: All models are weighted. Constant is reported as Pre-riots. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. All models adjust for education and political affiliation. We also exclude those non-readers who use online news pages and those who read both online and print media.

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix

Web Appendix 1: Description of the method for analysing content of print and online media

Web Appendix 2: Change in attitudes toward welfare recipients before-and-after the riots

Web Appendix 3: Effect of media consumption on attitudes toward welfare recipients

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Web Appendix 5: Effect of newspaper readership on attitudes toward the welfare state before and after the riots, from difference-in-difference models

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Web Appendix 7: Effect of newspaper readership on attitudes toward welfare recipients before and after riots period in 2005, from difference-in-difference models

Web Appendix 8: Adjusted effect of partisan newspaper readership on attitudes toward welfare recipients before and after the riots period in 2005, from difference-in-difference models

Web Appendix 9: Effect of newspaper readership on attitudes toward welfare recipients before and after riots period in 2007, from difference-in-difference models

Web Appendix 10: Adjusted effect of partisan newspaper readership on attitudes toward welfare recipients before and after the riots period in 2007, from difference-in-difference models

Web Appendix 11: Effect of newspaper readership on attitudes toward welfare recipients before and after riots period in 2008, from difference-in-difference models

Web Appendix 12: Adjusted effect of partisan newspaper readership on attitudes toward welfare recipients before and after the riots period in 2008, from difference-in-difference models

Web Appendix 13: Effect of newspaper readership on attitudes toward welfare recipients including those interviewed after September 10th 2011

Web Appendix 14: Effect of newspaper readership on attitudes toward welfare recipients before and after the riots, adjusted for socio-demographic variables

Web Appendix 15: Effect (β coefficients) of newspaper readership on attitudes toward welfare recipients before and after the riots without control variables, from linear difference-in-difference models

Web Appendix 16: Effect (β coefficients) of the ideology of newspaper readership on attitudes toward welfare recipients before and after the riots, from linear difference-in-difference models

Web Appendix 1: Description of the method for analysing content of print and online media

For the print media sources we searched the Lexis Nexis news database for the period August 6th – Sep 10th (the week of the riots and the month following) for any article published in the relevant sources which included "riots" as an index term, and which also included this term at the start of the article (using the Lexis Nexis option to exclude duplicates based on moderate similarity). We manually excluded articles in which the riots were not the primary topic – for example, celebrity interviews where the riots were mentioned. This left 893 articles across the four newspapers which directly addressed the riots. Within this group we then identified 109 articles which additionally included a reference to welfare benefits (12% of the total coverage of the riots in these newspapers). Examining the sources separately, we found that 9% of *Guardian/Observer* and 18% of *Daily Mail/MoS* articles on the riots made a connection to welfare.

Articles published on the BBC News website are not systematically archived on the Lexis Nexis newspaper database. We therefore searched the BBC News online archive directly using the same terms and exclusion criteria (additionally excluding articles which were primarily advertisements for upcoming BBC broadcast programs, or invitations to participate in interactive activities like webchats. Only 4% of BBC News articles on the riots made the link to welfare.

We subsequently manually coded articles linking the riots to welfare into the following three categories:

1. Positive - Articles were coded as positive if they primarily made arguments supportive of welfare benefit claimants or the welfare system – for example, that welfare benefit claimants are genuinely in need of help. An example of a positive article from the *Guardian* described the proposal to remove benefits from convicted rioters as "fundamentally wrongheaded" (Comment is Free, 29/8/11).

2. Negative – Articles were coded as negative if they primary made arguments critical of welfare recipients or the welfare system; for example arguing that welfare recipients are undeserving, or that benefits dependency was one of the primary causes of the riots. An example of a negative article from *The Daily Mail* cited "welfare handouts" as one of the factors leading to the behaviour of the "young thugs" (Shipman, 11/8/11).

3. Neutral – Articles were coded as neutral if a balanced view of different sides of the debate was presented (for example, where equal space was given to quotes from supportive and critical organisations), or where an event such as a policy announcement was presented without commentary. An example of a neutral article from the *Guardian* described the government's proposal to dock benefits for convicted rioters without positive or negative commentary.(Wintour, 7/09/11).

Web Appendix 2: Change in attitudes toward welfare recipients before-and-after the riots

Variable	Pre-riots Mean (Std. Err.)	Post-riots Mean (Std. Err.)	Difference (Post-Riots – Pre-riots)	N	p-value
Don't really deserve help[1]	3.11 (0.03)	3.09 (0.03)	-0.026	2160	0.55
Could find a job[2]	3.46 (0.03)	3.48 (0.03)	0.025	2161	0.58
Dole cheating[3]	3.13 (0.03)	3.12 (0.03)	-0.008	2159	0.85

Notes: Pre-riots includes those interviewed before August 6th 2011. Post-riots sample includes those who were interviewed after August 10th 2011 and before September 10th 2011. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 3: Effect of media consumption on attitudes toward welfare recipients

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)
Change in the difference between newspaper readers only and non-readers after the riots	**0.28**** **(0.10)**	**0.25*** **(0.11)**	**0.23*** **(0.11)**
Change in the difference between web-based news readers and non-readers after the riots	0.068 (0.14)	0.14 (0.15)	0.049 (0.14)
Change in the difference between Newspaper and web-based news readers and non-readers after the riots	0.29 (0.19)	0.32 (0.18)	0.34 (0.18)
Difference between newspaper readers only and non-readers before the riots	-0.066 (0.074)	-0.10 (0.077)	-0.13 (0.078)
Difference between web-based only and non-readers before the riots	-0.019 (0.10)	0.038 (0.11)	-0.12 (0.10)
Difference between Newspaper and web-based news readers and non-readers before the riots	0.030 (0.14)	0.14 (0.13)	-0.064 (0.13)
Change in attitudes among non-readers before-and-after riots	-0.15* (0.071)	-0.14 (0.078)	-0.11 (0.072)
Constant	3.57** (0.071)	3.66** (0.078)	3.55** (0.075)
Observations	2124	2125	2123
R^2	0.069	0.046	0.070

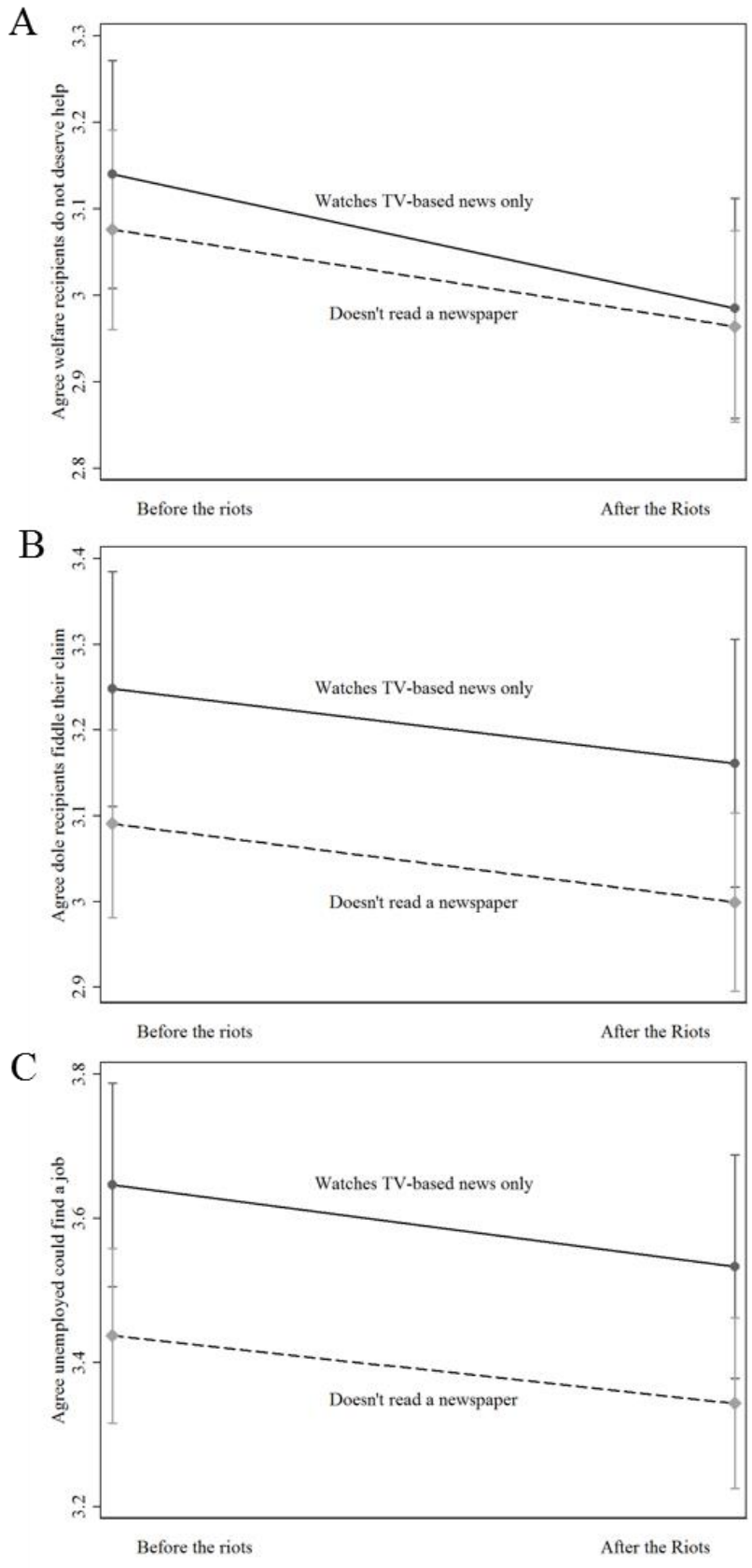
Notes: All models are weighted. Pre-riots includes those interviewed before August 6th 2011. Post-riots sample includes those who were interviewed after August 10th 2011 and before September 10th 2011. Constant is reported as Pre-riots non-news readers (Web or Print). Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. All models adjust for education and political affiliation.

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 4: Attitudes towards welfare recipients before and after the riots, by TV news consumption



Notes: Vertical bars are 95% confidence intervals.

Web Appendix 5: Effect of newspaper readership on attitudes toward the welfare state before and after the riots, from difference-in-difference models

	Proud of Welfare state[1]	Welfare state stops people from standing on own[2]	Reducing welfare would damage too many peoples lives[3]	Welfare encourages people to stop helping each other[4]	Spend more on the poor[5]	Support for Welfare state[6]
	(1)	(2)	(3)	(4)	(5)	(6)
Change in the difference between readers and non-readers after the riots	-0.096	0.18	-0.027	0.17	-0.067	**-0.16***
	(0.11)	(0.11)	(0.10)	(0.100)	(0.11)	(0.067)
Difference between readers and non-readers before the riots	**0.26****	-0.000071	-0.034	-0.032	0.069	0.081
	(0.079)	(0.079)	(0.077)	(0.072)	(0.074)	(0.047)
Change in attitudes among non-readers before-and-after riots	0.071	-0.089	0.041	-0.077	0.027	**0.086***
	(0.070)	(0.075)	(0.067)	(0.062)	(0.067)	(0.043)
Constant	3.54**	3.89**	3.11**	3.37**	2.79**	2.68**
	(0.078)	(0.078)	(0.073)	(0.070)	(0.074)	(0.048)
Observations	1692	1691	1692	1687	1689	1694
R^2	0.074	0.075	0.056	0.051	0.072	0.093

Notes: All models are weighted. Pre-riots includes those interviewed before August 6th 2011. Post-riots sample includes those who were interviewed after August 10th 2011 and before September 10th 2011. Constant is reported as Pre-riots non-newspaper reader. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. All models adjust for education and political affiliation. We also exclude those non-readers who use online news pages and those who read both online and print media.

1 – The creation of the welfare state is one of Britain's proudest achievements? [1 Disagree strongly, 5 Agree strongly]

2 – If welfare benefits weren't so generous, people would learn to stand on own feet? [1 Disagree strongly, 5 Agree strongly]

3 – Cutting benefits would damage too many people's lives? [1 Disagree strongly, 5 Agree strongly]

4 - The welfare state encourages people to stop helping each other? [1 Disagree strongly, 5 Agree strongly]

5 - The government should spend more money on welfare benefits for the poor? [1 Disagree strongly, 5 Agree strongly]

6 – Welfarism scale [1 – poor do not deserve help, 5 –Sympathetic to welfare state]. Combined and scaled measure of the following variables of the other 5 variables included in this table and the three main indicators used in the analysis: Welfare recipients don't really deserve help, could find a job, and they cheat on the dole.

Web Appendix 6: Effect of newspaper readership on other political attitudes with before and after the riots, from difference-in-difference models

	Big business benefits owners[1]	One law for Rich and one law for poor[2]	Censorship is necessary to uphold moral standards[3]	Management try to get better of employees[4]
	(1)	(2)	(3)	(4)
Change in the difference between readers and non-readers after the riots	-0.063 (0.10)	0.083 (0.11)	-0.095 (0.11)	0.065 (0.10)
Difference between readers and non-readers before the riots	-0.13 (0.072)	-0.15 (0.078)	0.054 (0.088)	-0.057 (0.076)
Change in attitudes among non-readers before-and-after riots	0.098 (0.067)	0.036 (0.075)	-0.035 (0.073)	0.064 (0.069)
Constant	2.71** (0.074)	2.52** (0.080)	1.98** (0.074)	2.42** (0.075)
Observations	1682	1690	1698	1693
R^2	0.040	0.088	0.056	0.072

Notes: All models are weighted. Pre-riots includes those interviewed before August 6th 2011. Post-riots sample includes those who were interviewed after August 10th 2011 and before September 10th 2011. Constant is reported as Pre-riots non-newspaper reader. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. All models adjust for education and political affiliation. We also exclude those non-readers who use online news pages and those who read both online and print media.

1 – Big business benefits owners at the expense of workers? [1 Disagree strongly, 5 Agree strongly]

2 – There is one law for the rich and one for the poor? [1 Disagree strongly, 5 Agree strongly]

3 – Censorship of films and magazines is necessary to uphold moral standards? [1 Disagree strongly, 5 Agree strongly]

4 - Management will always try to get the better of employees if gets chance? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 7: Effect of newspaper readership on attitudes toward welfare recipients before and after 'riots' period in 2005, from difference-in-difference models

	Don't really deserve help[1]	Could find a job[2]	Dole cheating[3]
	(1)	(2)	(3)
Change in the difference between readers and non-readers after riots period	-0.096	-0.013	-0.026
	(0.12)	(0.10)	(0.12)
Difference between readers and non-readers before the riots period	0.046	0.029	0.058
	(0.057)	(0.051)	(0.059)
Change in attitudes among non-readers before-and-after riots period	-0.069	-0.026	-0.055
	(0.084)	(0.074)	(0.084)
Constant	3.20**	3.74**	3.15**
	(0.040)	(0.036)	(0.041)
Observations	1915	1918	1913
R^2	0.0033	0.00046	0.0015

Notes: All models are weighted. Pre-riots period includes those interviewed before August 6th 2005. Post-riots period includes those who were interviewed after August 10th 2005 and before September 10th 2005. Constant is reported as Pre-'riots' non-newspaper reader. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 8: Effect of partisan newspaper readership on attitudes toward welfare recipients before and after the riots period in 2005, from difference-in-difference models

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)
Right-wing papers			
Change in the difference between readers and non-readers after riots period	-0.17	-0.094	-0.15
	(0.12)	(0.11)	(0.13)
Difference between readers and non-readers before riots period	**0.13***	**0.12***	**0.17****
	(0.062)	(0.054)	(0.063)
Change in attitudes among non-readers before-and-after riots period	-0.069	-0.026	-0.055
	(0.084)	(0.074)	(0.084)
Constant	3.20**	3.74**	3.15**
	(0.040)	(0.036)	(0.041)
Observations	1633	1635	1634
R^2	0.0069	0.0042	0.0075
Left-wing papers			
Change in the difference between readers and non-readers after riots period	0.10	0.063	0.30
	(0.21)	(0.19)	(0.21)
Difference between readers and non-readers before riots period	-0.21	-0.18	-0.25*
	(0.11)	(0.098)	(0.11)
Change in attitudes among non-readers before-and-after riots period	-0.069	-0.026	-0.055
	(0.084)	(0.074)	(0.084)
Constant	3.20**	3.74**	3.15**
	(0.040)	(0.036)	(0.041)
Observations	1146	1149	1146
R^2	0.0053	0.0048	0.0059

Notes: All models are weighted. Pre-riots period includes those interviewed before August 6th 2005. Post-riots period includes those who were interviewed after August 10th 2005 and before September 10th 2005. Constant is reported as Pre-'riots'. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. All models adjust for education and political affiliation. We also exclude those non-readers who use online news pages and those who read both online and print media.

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 9: Effect of newspaper readership on attitudes toward welfare recipients before and after riots period in 2007, from difference-in-difference models

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)
Change in the difference between readers and non-readers after riots period	0.0063 (0.11)	-0.041 (0.10)	0.10 (0.11)
Difference between readers and non-readers before riots period	0.10 (0.069)	0.12 (0.066)	0.061 (0.069)
Change in attitudes among non-readers before-and-after riots period	0.067 (0.078)	0.080 (0.071)	-0.024 (0.075)
Constant	2.97** (0.049)	2.40** (0.047)	2.86** (0.046)
Observations	1686	1688	1666
R^2	0.0041	0.0041	0.0034

Notes: All models are weighted. Pre-riots period includes those interviewed before August 6th 2007. Post-riots period includes those who were interviewed after August 10th 2007 and before September 10th 2007. Constant is reported as Pre-riots non-newspaper reader. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 10: Effect of partisan newspaper readership on attitudes toward welfare recipients before and after the riots period in 2007, from difference-in-difference models

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)
Right-wing papers			
Change in the difference between readers and non-readers after riots period	0.043	0.12	-0.085
	(0.14)	(0.12)	(0.14)
Difference between readers and non-readers before riots period	-0.17*	-0.16*	-0.024
	(0.087)	(0.078)	(0.086)
Change in attitudes among non-readers before-and-after riots period	-0.055	-0.074	0.035
	(0.077)	(0.069)	(0.072)
Constant	2.63**	2.23**	2.57**
	(0.079)	(0.071)	(0.079)
Observations	1240	1240	1224
R^2	0.057	0.025	0.080
Left-wing papers			
Change in the difference between readers and non-readers after riots period	-0.21	-0.073	-0.19
	(0.15)	(0.13)	(0.14)
Difference between readers and non-readers before riots period	0.066	-0.097	-0.073
	(0.093)	(0.094)	(0.095)
Change in attitudes among non-readers before-and-after riots period	-0.045	-0.065	0.037
	(0.077)	(0.070)	(0.072)
Constant	2.50**	2.19**	2.48**
	(0.081)	(0.078)	(0.081)
Observations	1219	1220	1207
R^2	0.071	0.034	0.11

Notes: All models are weighted. Pre-riots period includes those interviewed before August 6th 2007. Post-riots period includes those who were interviewed after August 10th 2007 and before September 10th 2007. Constant is reported as Pre-riots. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. All models adjust for education and political affiliation. We also exclude those non-readers who use online news pages and those who read both online and print media.

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 11: Effect of newspaper readership on attitudes toward welfare recipients before and after riots period in 2008, from difference-in-difference models

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)
Change in the difference between readers and non-readers after riots period	-0.15 (0.10)	-0.12 (0.10)	-0.080 (0.11)
Difference between readers and non-readers before riots period	0.078 (0.048)	-0.00048 (0.044)	0.015 (0.047)
Change in attitudes among non-readers before-and-after riots period	0.025 (0.070)	-0.025 (0.068)	-0.0091 (0.072)
Constant	3.13** (0.033)	3.77** (0.030)	3.16** (0.032)
Observations	2504	2515	2502
R^2	0.0019	0.0024	0.00066

Notes: All models are weighted. Pre-riots period includes those interviewed before August 6th 2008. Post-riots period includes those who were interviewed after August 10th 2008 and before September 10th 2008. Constant is reported as Pre-riots non-newspaper reader. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. All models adjust for education and political affiliation. We also exclude those non-readers who use online news pages and those who read both online and print media.

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 12: Effect of partisan newspaper readership on attitudes toward welfare recipients before and after the riots period in 2008, from difference-in-difference models

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)
Right-wing papers			
Change in the difference between readers and non-readers after riots period	-0.13	-0.12	-0.059
	(0.12)	(0.11)	(0.12)
Difference between readers and non-readers before riots period	0.15**	0.069	0.078
	(0.053)	(0.048)	(0.052)
Change in attitudes among non-readers before-and-after riots period	0.025	-0.025	-0.0091
	(0.070)	(0.068)	(0.072)
Constant	3.13**	3.77**	3.16**
	(0.033)	(0.030)	(0.032)
Observations	2167	2176	2164
R^2	0.0042	0.0022	0.0014
Left-wing papers			
Change in the difference between readers and non-readers after riots period	-0.14	-0.19	-0.27
	(0.20)	(0.19)	(0.20)
Difference between readers and non-readers before riots period	-0.16	-0.16	-0.16
	(0.094)	(0.089)	(0.093)
Change in attitudes among non-readers before-and-after riots period	0.025	-0.025	-0.0091
	(0.070)	(0.068)	(0.072)
Constant	3.13**	3.77**	3.16**
	(0.033)	(0.030)	(0.032)
Observations	1599	1603	1595
R^2	0.0044	0.0063	0.0069

Notes: All models are weighted. Pre-riots period includes those interviewed before August 6th 2008. Post-riots period includes those who were interviewed after August 10th 2008 and before September 10th 2008. Constant is reported as Pre-riots. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. All models adjust for education and political affiliation. We also exclude those non-readers who use online news pages and those who read both online and print media.

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 13: Effect of newspaper readership on attitudes toward welfare recipients including those interviewed after September 10th 2011

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)
Change in the difference between readers and non-readers after the riots	**0.19*** **(0.088)**	**0.20*** **(0.092)**	**0.14 (0.091)**
Difference between readers and non-readers before the riots	0.0015 (0.067)	-0.069 (0.069)	-0.071 (0.070)
Change in attitudes among non-readers before-and-after riots	-0.096 (0.057)	-0.073 (0.062)	-0.061 (0.058)
Constant	3.11** (0.044)	3.52** (0.047)	3.17** (0.044)
Observations	2557	2555	2555
R^2	0.0051	0.0027	0.0011

Notes: All models are weighted. Pre-riots includes those interviewed before August 6th 2011. Post-riots sample includes those who were interviewed between August 10th 2011 and the end of the data collection in October 2011. Constant is reported as Pre-riots non-newspaper reader. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]
2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]
3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 14: Effect of newspaper readership on attitudes toward welfare recipients before and after the riots, adjusted for socio-demographic variables

	Many people who get social security don't really deserve any help?[1]									
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Change in the difference between readers and non-readers after the riots	**0.26**** (0.094)	**0.26**** (0.093)	**0.26**** (0.093)	**0.26**** (0.094)	**0.26**** (0.094)	**0.27**** (0.093)	**0.26**** (0.094)	**0.26**** (0.094)	**0.26**** (0.094)	**0.25**** (0.095)
Difference between readers and non-readers before the riots	0.0015 (0.067)	-0.042 (0.067)	-0.043 (0.067)	-0.033 (0.068)	-0.034 (0.067)	-0.053 (0.066)	-0.054 (0.068)	-0.052 (0.068)	-0.051 (0.068)	-0.044 (0.068)
Change in attitudes among non-readers before-and-after riots	-0.14* (0.061)	-0.13* (0.061)	-0.13* (0.061)	-0.12 (0.062)	-0.12* (0.062)	-0.14* (0.062)	-0.14* (0.063)	-0.14* (0.063)	-0.14* (0.063)	-0.14* (0.064)
Age		0.0058** (0.0013)	0.0058** (0.0013)	0.0045** (0.0015)	0.0029 (0.0017)	0.0011 (0.0017)	0.00096 (0.0018)	0.0012 (0.0019)	0.0013 (0.0020)	0.0013 (0.0020)
Female			-0.018 (0.046)	-0.028 (0.047)	-0.021 (0.047)	-0.0078 (0.047)	0.00087 (0.050)	0.00094 (0.050)	0.0026 (0.050)	0.0049 (0.050)
Highest educational attainment[2]										
CSE, O Level or equivalent				-0.053 (0.068)	-0.063 (0.069)	-0.095 (0.068)	-0.071 (0.071)	-0.072 (0.071)	-0.073 (0.071)	-0.079 (0.071)
A level or equivalent				-0.068 (0.080)	-0.071 (0.081)	-0.087 (0.081)	-0.062 (0.084)	-0.062 (0.085)	-0.065 (0.084)	-0.069 (0.085)
Higher education below degree				-0.18* (0.086)	-0.20* (0.086)	-0.22* (0.086)	-0.15 (0.092)	-0.15 (0.092)	-0.15 (0.092)	-0.16 (0.092)
Degree or equivalent				-0.25** (0.076)	-0.28** (0.076)	-0.27** (0.077)	-0.16 (0.089)	-0.16 (0.089)	-0.17 (0.090)	-0.17 (0.090)

Marital Status[3]						
Separated or Divorced	-0.20**	-0.17*	-0.16*	-0.16*	-0.16*	-0.16*
	(0.072)	(0.071)	(0.071)	(0.071)	(0.071)	(0.071)
Widowed	-0.045	-0.026	-0.033	-0.034	-0.034	-0.030
	(0.088)	(0.087)	(0.090)	(0.090)	(0.090)	(0.090)
Never married	-0.19**	-0.15*	-0.14*	-0.14*	-0.14*	-0.15*
	(0.067)	(0.066)	(0.069)	(0.069)	(0.069)	(0.069)
Party identification[4]						
Labour		-0.41**	-0.43**	-0.43**	-0.43**	-0.42**
		(0.060)	(0.061)	(0.061)	(0.061)	(0.062)
Liberal Democrat		-0.57**	-0.56**	-0.56**	-0.56**	-0.56**
		(0.082)	(0.083)	(0.083)	(0.082)	(0.083)
Other party		-0.099	-0.13	-0.13	-0.13	-0.092
		(0.12)	(0.12)	(0.12)	(0.12)	(0.13)
None		-0.27**	-0.29**	-0.30**	-0.29**	-0.29**
		(0.075)	(0.076)	(0.076)	(0.076)	(0.076)
Green Party		-0.74**	-0.81**	-0.81**	-0.81**	-0.81**
		(0.15)	(0.15)	(0.15)	(0.15)	(0.15)
Other		-0.24*	-0.22*	-0.22*	-0.22*	-0.21*
		(0.095)	(0.096)	(0.096)	(0.096)	(0.097)
NSSEC Social class[5]						
Lower supervisory and technical			0.050	0.051	0.053	0.063

	(0.089)	(0.089)	(0.090)	(0.090)
Employers in small organizations	0.084 (0.086)	0.082 (0.086)	0.081 (0.086)	0.079 (0.086)
Intermediate occupations	-0.012 (0.080)	-0.010 (0.081)	-0.012 (0.081)	-0.0024 (0.080)
Managerial & professional	-0.16* (0.070)	-0.16* (0.070)	-0.16* (0.071)	-0.16* (0.071)
Watch TV News at least daily		-0.017 (0.032)	-0.018 (0.032)	-0.016 (0.032)
Read web-based news at least daily			0.0094 (0.028)	0.0095 (0.028)
Region[6]				
Midlands				0.11 (0.072)
South West				0.066 (0.086)
East/South East				0.043 (0.064)
London				0.052 (0.10)
Wales				-0.090 (0.11)

Scotland										-0.035
										(0.12)
Constant	3.11**	2.85**	2.88**	3.04**	3.18**	3.51**	3.54**	3.56**	3.55**	3.50**
	(0.044)	(0.077)	(0.11)	(0.14)	(0.14)	(0.15)	(0.16)	(0.16)	(0.17)	(0.17)
Observations	2160	2159	2159	2125	2123	2121	2047	2046	2046	2046
R^2	0.0084	0.019	0.019	0.029	0.035	0.074	0.079	0.080	0.080	0.082

Notes: All models are weighted. Pre-riots includes those interviewed before August 6th 2011. Post-riots sample includes those who were interviewed after between August 10th 2011 and the end of the data collection in October 2011. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Male is baseline

3 – Married is baseline

4 – Conservative is baseline

5 – Semi-routine and routine manual

6 – North is baseline

Web Appendix 15: Effect (β coefficients) of newspaper readership on attitudes toward welfare recipients before and after the riots without control variables, from linear difference-in-difference models

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)
Change in the difference between readers and non-readers after the riots	0.26** (0.094)	0.24* (0.10)	0.25** (0.098)
Difference between readers and non-readers before the riots	0.0015 (0.067)	-0.069 (0.069)	-0.071 (0.070)
Change in attitudes among non-readers before-and-after riots	-0.14* (0.061)	-0.10 (0.068)	-0.11 (0.062)
Constant	3.11** (0.044)	3.52** (0.047)	3.17** (0.044)
Observations	2160	2161	2159
R^2	0.0084	0.0038	0.0044

Notes: All models are weighted. Constant is reported as Pre-riots non-newspaper reader. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$.

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

Web Appendix 16: Effect (β coefficients) of the ideology of newspaper readership on attitudes toward welfare recipients before and after the riots, from linear difference-in-difference models

	Don't really deserve help[1] (1)	Could find a job[2] (2)	Dole cheating[3] (3)	Support for Welfare state[4] (4)
Change in the difference between left-leaning readers and right-leaning readers after the riots	-0.32 (0.20)	-0.046 (0.20)	-0.039 (0.21)	0.20 (0.13)
Difference between left-leaning readers and right-leaning readers before the riots	-0.17 (0.15)	-0.28 (0.15)	-0.28 (0.17)	0.20* (0.093)
Change in attitudes among right-leaning readers before-and-after riots	-0.18 (0.21)	0.057 (0.24)	-0.0067 (0.24)	0.084 (0.15)
Constant	3.58** (0.088)	3.57** (0.098)	3.44** (0.099)	2.70** (0.058)
Observations	626	625	626	626
R^2	0.13	0.042	0.081	0.14

Notes: All models are weighted. Constant is reported as Pre-riots non-newspaper reader. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. All models adjusted for education and political affiliation.

1 – Many people who get social security don't really deserve any help? [1 Disagree strongly, 5 Agree strongly]

2 – Around here, most unemployed people could find a job if they really wanted one? [1 Disagree strongly, 5 Agree strongly]

3 – Most people on the dole are fiddling in one way or another? [1 Disagree strongly, 5 Agree strongly]

4 – Welfarism scale [1 – poor do not deserve help, 5 – Sympathetic to welfare state]. Combined and scaled measure of the following variables of the other 5 variables included in this table and the three main indicators used in the analysis: Welfare recipients don't really deserve help, could find a job, and they cheat on the dole.