Motivations behind intergroup conflict: an experimental study of Greek students after the 2008 riots*

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Abstract

We report a laboratory experiment on student discrimination against outgroups in the context of the December 2008 riots in Greece, after the killing of a 15-year-old student by a special police agent. In order to test theories of why people participate in costly collective action against political opponents, and even opt for violent acts, we examine students' allocations between themselves and others, including police, in modified Dictator games, allowing us to test theories of discrimination on behavior with real payoff consequences. Various treatments examined the effect of in-group norms among students, and priming from media reports, on discrimination. We find that cues in the environment increase discrimination. However, contrary to existing research, in-group norms do not increase discrimination, perhaps due to the diversity of the student identity. A correlation of discrimination with attitudes towards the riots themselves provides a laboratory test of the "frame alignment" theory of mobilization. Laboratory behaviour was correlated with self-reported participation in demonstrations, supporting the external validity of our measure.

Keywords: Discrimination, Experiment, Greece, Priming

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1 Introduction

In December 2008, after the police killing of a 15-year-old schoolboy, Greece was shaken by a series of demonstrations, which swiftly turned violent. Participants fought the police and destroyed property. Although mass violence has subsided at the time of writing, terrorist attacks on Greek police have continued, and the December events continue to affect Greek politics and society.

What makes people take action against those in opposed political groups? Although large literatures in contentious politics and intergroup discrimination address these questions, clear answers are hard to come by. Psychological experiments have thrown light on the causes of discrimination, but have remained subject to concerns about external validity: can they really explain real-world behaviour? On the other hand, case studies of protest, riots and civil violence have led to interesting hypotheses, but have problems identifying causality. In this paper we use experimental methodology to test hypotheses from both strands in the literature, innovating in two ways. First, we used cash payoffs, so that the choice to discriminate had real monetary consequences for those involved. Second, experiment participants were Greek students, allocating money between themselves and (among other groups) Greek police, in the charged atmosphere after the December 2008 riots. We could therefore validate our experimental results against participation in anti-police demonstrations.

In particular we focus on three questions, derived from previous work (see Section 3). Our dependent variable is individuals' willingness to take actions that harm others, because of those others' membership in a particular social group. In some circumstances – for instance, ethnic conflict – these actions are called "discrimination". In others, they may be better described as conflict motivations, or other-damaging preferences. For brevity, we sometimes use the term discrimination, but advisedly, without intending to connote that the behaviour is caused by any specific underlying beliefs about the group in question. (We do, though, investigate whether specific political beliefs may cause "discriminatory" behaviour in the Greek case.)

- In intergroup conflict, do individuals follow their own preferences? Or are they conforming to group norms?

Recent work proposes that ethnic discrimination can be explained not by underlying preferences, but by the "technology of punishment" - that is, bad behaviour towards coethnics is more likely to be punished, for instance by loss of reputation within one's social network (Habyarimana et al. 2007). An experiment in Bosnia found relatively low levels of intergroup discrimination in a dictator game where behaviour was private (Whitt and Wilson 2007). Similarly, some explanations of group conflict claim that only a minority of extremists actually desire violent conflict, but that they pressure other group members into joining in violent action (Hardin 1995).

Social psychologists have suggested that outgroup discrimination takes place when norms preventing it are – sometimes deliberately – broken down (Bar-Tal 1990, Gaertner and Insko 2001, Staub 1990). Finally, recent experimental work on the Dictator Game suggests that altruistic behaviour in general may be driven more by norms than by innate preferences (Dana et al. 2006).

- Can intergroup conflict motivations be reinforced by cues in the environment?

A large literature on civil war claims that hatred can be fomented by politicians acting instrumentally. The puzzle is to explain why people are affected by politicians' speeches or prejudiced media coverage, when they should be aware of the underlying motivations. We propose that the mechanism is subconscious priming: cues in the environment, such as newspaper headlines, can awaken mistrust and aggression. We test this claim.

- Are intergroup conflict motivations mediated by attributions of responsibility to opposing group members, and can environmental cues reinforce the effect of these attributions?

That is, are subjects who blame individual members of the opposing group for a conflict situation more likely to behave antagonistically than those who instead blame chance or institutional structures? This question is motivated both by work on violence, in which blame is used to justify aggression, and by the literature on "frame alignment" for protest mobilization.

To examine these questions, we run experiments in which students may allocate money between (1) themselves, (2) other anonymous recipients identified only by profession and (3) members of the Thessaloniki police force, identified only as police. Our treatments vary the publicity of subjects' decisions, and expose them to different cues beforehand. Since Thessaloniki was a center of anti-police activity, and since students were centrally involved, we have a rare opportunity to examine the aftermath of recent civil conflict. We build on an established tradition of examining intergroup behaviour using economic and psychological experiments (Tajfel et al. 1971, Tajfel 1982, Bouckaert and Dhaene 2004, Fershtman and Gneezy 2001a, Chen and Li 2006). However, this is one of the first economic experiments to analyse behaviour between members of opposed political groupings.[1] Our main findings are that environmental cues can indeed increase people's willingness to harm the police. On the other hand, in-group norms among students do not appear to have affected discrimination in our experiment, in contrast with the studies mentioned above. Indeed, there was clear evidence of discrimination even when choices were private. Lastly, blame attribution had only a weak effect, suggesting that frame alignment and blaming have limited explanatory power in this case.

[1] The first, to our knowledge, is Fowler and Kam (2007), which examined giving to identified Democrats and Republicans in a dictator game.

In the next section, we describe the background of our experiment: the Greek riots of 2008, and contemporary Greek society. Section 3 describes the literature from which we derive our hypotheses. Section 4 sets out our design and Section 5 gives our results.

2 Background: the 2008 Riots

The December 2008 riots in Greece were the response to the killing of a 15-year-old Athenian schoolboy by a special police agent. The outrage of a traditionally highly politicised society (Alivizatos 1990:137) escalated to a month-long conflict between the police and demonstrators, including both peaceful demonstrations and violent riots. Aggression against the police and other symbols of state and media power, such as university teachers and journalists, has continued in subsequent months.

The violence demonstrates many Greeks' anger towards government and state institutions. Public dissatisfaction with public administration, corruption and unsuccessful governance has for many years lacked an effective means of expression, due to Greece's weak civil society (Mouzelis 1979: 19). The major parties, a mobilizing force of the masses in the post-1974 era (Alivizatos 1990:137), have provided the main alternative to civil society, and have dominated social relations (Pridham 1990: 116). However, in recent years, disillusionment with the parties has grown, creating a representation gap. Greek politics combines new elements from after the 1974 democratization with old practices of the pre-dictatorship era (Lyrintzis 1984: 99-118; Samatas 1986: 35), to the frustration of many. Politics was traditionally in the hands of a few strong families, and although after 1974 entering politics became easier, the tradition of exclusivist parliamentarism remained and continues to oppose the democratization of politics (Mouzelis 1979: 133). Thus, Greeks, particularly youngsters, judge their political system as elitist, corrupt and inflexible, catering only for its own survival and reproduction instead of the country's interests (Karamichas 2009: 291).

The main target of the December 2008 protests was the police force. The police was framed as both symptom and cause of political failure (Fetherstone 2009: 2). The Greek population's lack of trust in the police force runs deep (Mouzelis 1979: 133), but is also constantly reinforced by the police's inability to provide good services (Kathimerini 28/12/2008), and the fact that the police is seen as the shield of the establishment, the dominance of the two major parties. Before 1974, the police was used by both dictatorships and elected Right-wing governments to keep the masses out of politics (Mouzelis 1979: 133; Veremis 1997). Support for democracy was suppressed; the state employed family responsibility for "political crimes" to increase mass political surveillance using a vast network of police informers (Samatas 1986: 35). The police infiltration of

private life provoked deep hatred. By 1974 the police force was composed mainly of anti-democratic individuals and junta sympathizers. The democratization of the state apparatus by the Karamanlis administration introduced no major reforms in order to avoid a backlash (Clogg 2002: 173; Clogg 1975: 338-42). This led to the disillusionment of ordinary Greek citizens with the police and the civil service (Kassimeris 2001: 262). The death of the school boy only added to this disillusionment, increasing the number (eighteen in total, mostly young males) of controversial deaths attributed to the police since the 1980s (Ios 2006).

Thus, many Greek citizens identify the police with oppression rather than with the provision of security in a democratic country. Students are traditionally seen as a force of political change, both among students themselves and in Greek society in general. Thir being the major protest group in the December 208 riots gives us a valuable opportunity for research into outgroup discrimination. The strained relations between students and police means that we have a chance to examine outgroup discrimination in a strong form – something that is extremely hard to create with minimal groups in the lab. On the other hand, norms of fairness between ethnic groups, which are common in modern society and may regulate inter-ethnic behaviour in many settings (Fearon and Laitin 1996), are more likely to be absent due to the political nature of the conflict. These norms may interfere with research if they especially affect behaviour under the eye of the experimenter. Indeed, experimental work with "home-grown" groups often finds weaker results than that with minimal groups (e.g. Habyarimana et al. 2007, Whitt and Wilson 2007, Goerg et al. 2008; but cf. Bernhard et al. 2006). Finally, the political situation allows us to examine how social and political beliefs – in particular, blame attributions – affect motivations to harm outgroup members.

3 Existing Literature

We examine discriminatory behaviour in the context of social conflict. Both discrimination and conflict have given rise to huge literatures. Social psychologists have examined discrimination in depth. The "minimal group" experiments of Tajfel and Turner (1981, 1971, 1982), and the Social Identity Theory developed to explain their results, have been particularly influential. The experiments seemed to show that individuals would willingly discriminate against outgroup members in a laboratory setting, even if the group was experimentally created and explicitly arbitrary, and membership knowledge was private. Social Identity Theory explains this as follows: individuals derive part of their sense of identity from belonging to groups. Discrimination against other groups can then be used to bolster or protect self-esteem by increasing the (subjective) value of one's own group membership. Though Social Identity Theory has a solid track record of predicting laboratory behaviour,

it has limitations. The logic works best as a theory of “ingroup love” rather than “outgroup hate”, and indeed it is hard to create discrimination in the lab when people are allocating negative payoffs (Mummendey et al. 1992, Brewer 1999). Other laboratory experiments have examined behaviour between real social groups. These face a potential “reverse experimenter demand effect”: becoming aware of the experiment’s purpose might trigger anti-discrimination norms, biasing findings against discrimination. Indeed, the evidence from such experiments is quite mixed (Habyarimana et al. 2007, Bernhard et al. 2006, Bouckaert and Dhaene 2004, Fershtman and Gneezy 2001b, McLeish and Oxoby 2007, Whitt and Wilson 2007). In this context, using real, but non-ethnic, social groups may be a useful approach.

The concept of identity has a central role in social movement literature on collective action frames. People are more willing to engage in collective action, in the Greek case potentially violent demonstrations, when they perceive the existence of an opposing group with different interests or values and clear agency in the issue at hand. This group becomes "they" as opposed to "we" and becomes the target of collective action (Gamson 1992). Discrimination against the outgroup does not always imply generalized hatred. In laboratory experiments it may be a way to express an opinion, the laboratory analogue of the collective action observed on the field.

The literature on social conflict is equally large and diverse. Nevertheless, some key themes emerge. First, participation in conflict and violence, rather than being solely a matter of individual preferences, may be driven by norms in which a few extremists encourage or force others to participate (Kuran 1998, Hardin 1995). This is a widespread interpretation of the war in the former Yugoslavia, for example (Mueller 2000). Political scientists and psychologists agree that violence towards outgroups can be supported when norms which encourage it emerge (Horowitz 2001, Bhavnani 2006). Alternatively, the breakdown of norms which usually guard against aggression may also be important (Bar-Tal 1990, Bandura 2002). This is a compelling story, which we would like to test in a controlled fashion (cf. Habyarimana et al. 2007):

Conjecture 1. *Discrimination will be driven by norms, rather than by individual preferences, and will be most strongly present when individuals are subject to social pressure.*

Second, case studies repeatedly blame outbreaks of violence on opportunistic behaviour by politicians, who use rhetoric to whip up tensions with the help of a compliant media (Oberschall 2001, 2000, Kaufman 2001, Ignatieff 1998, Bauerlein 2001). For instance, during the Greek riots, the media framed the police force as an enemy, creating an opposition between student and police identities by listing police failings. This may have increased media consumers’ propensity to take part in actions against the police. The puzzle in this story is to explain why people listen to a media they should know is biased, or to politicians whom they should expect to be opportunistic. One possible psychological mechanism is that of “priming”. Reporting of violence on the

media may affect people's attitudes without them being fully aware of it. Again, we wish to test this mechanism in a controlled way.

Conjecture 2. *Discrimination will be increased by priming from cues in the environment.*

Another strand of the literature, focused on riots, activism and civil disobedience, takes a more optimistic view of conflict participants' agency. Participation in conflict can be mediated by role identities and attributions of responsibility (Reicher 1996, Stott and Reicher 1998, Stott and Drury 2000, White 2001). Similarly, a large literature in the study of social movements claims that individuals' responses to "collective action frames" (defined by Snow and Benford (1992) as "action oriented set of beliefs and meaning that inspire and legitimate social movement activities and campaigns") affect their willingness to support particular movements (Klandermans 1984, Snow et al. 1986, Gamson et al. 1982, Ferree and Miller 1985). Basic components of collective action frames are perceived injustice, agency and identity (Gamson 1992:7). The killing of an innocent person by a police agent offered a clear frame of injustice. Specific motivated actors were to blame for the grievances, while nobody contested the injustice of this action. What is more, citizens' views were reinforced by the media, as described above. (For the central role of challenging an unjust authority see the experimental study of Gamson et al. (1982).) On this account, someone's willingness to take action harming certain groups may be a form of expressive political action, and may depend on their attributions of blame for particular events or on their analysis of the situation as a whole, based on their political and social views. After all, a frame is much more efficient when it fits the personal experiences of the subject targeted for mobilization (Snow and Benford 1988: 208)

Conjecture 3. *Discrimination will be mediated by individuals' political and social views, including their attributions of responsibility.*

However there is a debate on the role of such grievances and attribution of responsibility. Critics point out that grievances are themselves subject to interpretation and can in turn be framed (Snow et al. 1986; Hanspeter Kriesi and Giugni 1998). Thus "priming" and "frame alignment" – the process by which social movements bring individuals to subscribe to a collective frame interpreting a situation – may play a role in mobilizing individuals (Snow et al. 1986). How such framing translates into grass roots action has received little experimental testing (but cf. Dardis 2007; Zuo and Benford 1995); in particular, we lack experimental evidence in which frame alignment is causally linked to actions with real consequences. Although the concept of framing is different from priming, the distinction is not absolute, and the frame-alignment process may be thought of as an interaction between environmental primes and the individual's prior beliefs. This leads to our

final conjecture:

Conjecture 4. *Individuals' political and social views will have a stronger effect on discrimination in the presence of priming.*

4 Experimental Design

We employed a 2×2 factorial design, where we varied the publicity of the decisions and the primes administered. We applied these four treatments between subjects. The experiment had two stages: in the first stage subjects were presented with a priming task that used either a neutral prime or a riot prime. In the second stage, subjects played a series of dictator games in which their decisions were either public or private. (Whether the subjects were in the *private* or the *public* treatment was determined before and did not change during the experiment. This was communicated to the subjects before they made any decisions.) In each dictator game subjects could give money to people outside the lab, identified by their profession and gender. In these games we varied the recipient (the *other*) and the relative price of giving to the other. After the actual experiment, subjects filled out a questionnaire. Table 1 gives an overview of the experimental design. We describe each stage in detail.[2] All sessions were conducted by the same experimenters who took the same roles in each session.

Priming Task

Priming tasks are frequently used in psychological research to make a certain concept more salient (Bargh and Chartrand 2000; see e.g.Tajfel 1981, or Benjamin et al. forthcoming for an application to economics). As we were interested in the role of media in evoking discrimination, we asked subjects to read an article from a Greek newspaper and find spelling mistakes.[3] Subjects had five minutes to complete the task. Half of the subjects read a neutral article about business activities of a large internet telephony company in Greece. The other half was presented with an article connected to the riots, containing a detailed description of the shooting of the 15-year old boy. Subjects were asked to count the spelling mistakes and rewarded €1 for getting the correct number (which was 10).

Recipients

The recipients were identified to the subject by profession and gender. To avoid inducing experimenter demand effects by making the police/other distinction obvious, recipients were either police or members of one of 5 other

[2] The protocol and written instructions are available on request.

[3] A translation of the articles (without spelling mistakes) can be found in the Appendix.

professions: firefighter, private employee, civil servant, housewife and entrepreneur. Firefighters in particular provide a close comparison group with police, since both groups are uniformed state employees with a strong group identity. This allowed us to check whether our results come from general intergroup hostility, rather than specifically from discrimination against members of the police group. Recipients were shown with invented names that preserved gender, and subjects were informed of this.

Dictator Game

In a dictator game subjects are asked to split money between themselves and a recipient. Each subject played six turns of a modified dictator game - one for each profession. In each turn a profession was chosen randomly without replacement, and a recipient was chosen randomly from a pool of potential recipients of the chosen profession. The subject then made 9 decisions allocating money between him- or herself and the recipient. So every subject was presented with all of the six professions in random order.

Motivated by analogous behaviour in civil conflict, we wished to learn how subjects behaved when discrimination carried a cost to the discriminator, and more generally how discrimination was affected by changes in its cost. Therefore, we varied the price of giving to the other person across the 9 decisions.[4] Subjects were shown a series of different budget sets, with payoff to oneself on the y-axis and payoff to the recipient on the x-axis, and were asked to pick a point on the boundary of the budget set, as shown in Figure 1. (Before the actual task, subjects made a non-paid trial choice to ensure that the setup was well understood.) After a point was chosen, the resulting allocation was shown in figures in the top right corner of the screen. If the subject was satisfied with the decision taken, she could confirm the choice. There were three different kinds of budgets. Four were standard budget sets crossing the x-axis at 7.5 or 15, and the y axis at 7.5 or 15. Thus, the price to give to the other person was either 0.5, 1 or 2 and the own endowment was either 7.5 or 15. One budget set had a zero price of giving: the set crossed the y-axis at 7.5, continued to (7.5,7.5) and then dropped to cross the x-axis at 7.5. Three budget sets had a negative price of giving, i.e. it was actually costly not to give to the other. These started at the origin, and went to either (5,10), (7.5,7.5) or 10,5), so that the price of *not* giving was 0.5, 1 or 2. This is the closest laboratory analogue to behavior, such as participation in riots, that has costs to the actor as well as to the potential victims.

——-FIGURE 1 ABOUT HERE————

The final budget set in each term was step-shaped (see Figure 2). The step-shaped budget set is suitable for

[4]For a similar approach see Andreoni and Miller (2002) or Fisman et al. (2007).

detecting some prototypical forms of other-regarding preferences in a non-parametric way, as choices within certain subsets on the budget line have a direct interpretation in terms of social preferences.

———FIGURE 2 ABOUT HERE ————

Competitive subjects want to maximize the difference between their income and the income of the recipient. *Selfish* subjects choose the highest possible outcome for themselves but, given this choice, do not maximize the payoff of the other. *Lexself* subjects maximizes their payoff and then the payoff of the other. *Inequality averse* subjects will forego their own profit in order to reduce inequality. The *Egalitarian* point indicates strong preferences for fairness. Points to the right of this point indicate other-damaging behavior on the horizontal line, and self-damaging behavior on the vertical line.

Private and Public Treatments

Half the subjects were in the public treatment, half in the private. In the public treatment, after the dictator games, one set of decisions was chosen and displayed to a single neighbour of the subject; pairs of neighbours were then asked to chat (using the zTree interface) about their decisions for three minutes. In the private treatment, decisions were anonymous and could not be connected to subjects' real identities by experimenters. In both cases, subjects were informed of this in advance.

Questionnaire

The questionnaire started with open questions on the content of the experiment, in order to check for potential demand effects, which occur if subjects alter their behavior because they know the purpose of the experiment. Along with demographics, the questionnaire included questions on attachment to the student identity, the attribution of blame for the riots, and participation in demonstrations and riots.

———TABLE 1 ABOUT HERE ————

Hypotheses

We operationalize our conjectures as follows, using a simple measure of discrimination: the difference between giving to the police, and giving to other groups. First, since norms affect behaviour by imposing costs on those who publicly violate them, Conjecture 1 leads to:

Hypothesis 1: Discrimination will be greater in the public treatment.

Conjecture 2 similarly gives us

Hypothesis 2: Discrimination will be greater in the riot prime treatment.

Finally, we use the questionnaire to test whether discriminatory behaviour is correlated with expressed political beliefs, and whether this interacts with the effect of cues, as in Conjectures 3 and 4.

Hypothesis 3: Discrimination will be greater among subjects who blame the police for the shooting.

Hypothesis 4: The difference in discrimination from neutral to riot treatment will be larger among subjects who blame the police.

5 Results

Experiments were conducted from April 8 to April 11, 2009 at the University of Macedonia, Thessaloniki, Greece in 9 sessions.[5] The sessions were held in the computer laboratory of the Economics Faculty, with adaptations for running computerized experiments.[6] Subjects were recruited via two methods: a) voluntary registration during lectures at the European and International Studies department and b) posters and leaflets distributed in and around the University of Macedonia and in the city centre. The subjects were aware of a minimum participation fee of 2.5 Euro plus the potential of earning more, depending on their answers. Volunteers had to contact us by phone, by email or in person to subscribe to the session of their choice and were informed that the sessions would run for an hour. In total 184 subjects participated; the number of subjects per session varied between 12 and 28. 58.6% of the subjects were female. 20.2% of the women and 30.9% of the men stated that they participated in demonstrations connected to the events in December, but nobody admitted taking violent actions. The experiment lasted around one hour. The average payment (including show-up fee and rewards for correct guesses) was about €10.

Table 2 shows average allocations to the different professions by treatment over all budget sets.The first observation we make is that giving when the decision is observed increases giving to the other by around 50€c (t-test, p-value < 0.001). In contrast, there is no significant difference between the riot and the neutral prime over all profession types.

———TABLE 2 ABOUT HERE————-

In the private treatment, when subjects received the neutral prime, policemen and entrepreneurs received the lowest average contributions. In the riot prime, the donation to the policemen was lower at 4.01 while the contributions to the other professions increased (or stayed nearly the same as in the case of the civil servant). In the public treatment, the riot prime decreased contributions for all profession types. The difference between

[5] Due to the fact that April 11 was a Saturday, we might have selection effects. We have too few observations on Saturday (38 in total in four treatments) to explicitly test for selection effects. However, our results are robust to the exclusion of the Saturday session (results available upon request).

[6] Photographs are available on request.

police and fire service personnel is clear and we do not investigate this further. Table 4 reports donations to police vs non-police recipients in the different treatments. There is a significant difference for decisions made in the private, riot prime treatment.

————TABLE 4 ABOUT HERE ————

We now turn to our hypothesis tests.

5.1 Non-parametric tests

We created a simple measure of an individual's "discrimination level": average giving to non-police, minus average giving to police. (Results do not change using more complex measures, such as the t-statistic of a Police dummy in a regression of an individual's giving.) Table 3 shows average discrimination by cue and treatment.

———— TABLE 3 ABOUT HERE ————

We then ran Mann-Whitney tests on discrimination in the different treatments. While there was a marginally significant increase in discrimination in the riot cue over the neutral cue ($p = 0.127$, one-tailed), there was, as the table suggests, no increase in the public treatment ($p = 0.986$, one-tailed), indeed a significant decrease. Thus, Hypothesis 1 receives no support in the data.

To examine Hypothesis 2 (the effect of cueing) more closely, we created two further measures: "costly" and "cheap" discrimination. These are differences in average giving between police and non-police, taken over upward-sloping budget sets, and all other budget sets, respectively. Figure 3 shows density plots of cheap discrimination by cue, treatment and blame for the police. Costly discrimination does not significantly vary between cues. Cheap discrimination, however, increases significantly after the riot prime ($p = 0.00928$, one-tailed). Thus, Hypothesis 2 receives qualified support: we have evidence that priming can increase discriminating actions, but not when those actions are costly to the agent. Table 6 gives further support for result 2 for the step-shaped budget set. We categorized subjects' choices on the step-shaped set by their corresponding prototypical social preferences, as described above. The distributions of social preference types for police and non-police recipients are significantly different (χ^2-test, p-value: 0.01) in the private, riot prime treatment. In particular, subjects are much more likely to show competitive preferences towards police than to non-police. In the other three treatment combinations we do not observe this difference.

———— FIGURE 3 ABOUT HERE ————

———— TABLE 6 ABOUT HERE ————-

Turning to Hypothesis 3, we compare subjects who blamed the police or police leadership for the riots with

those who did not. Discrimination is not greater among those who blamed the police – in fact it is less (0.153 vs. 0.26, $p = 0.921$, one-tailed). The same holds for cheap discrimination. However, we note that in the private treatment, this pattern is reversed: discrimination is higher among those who blame the police, and for cheap discrimination this is marginally significant ($p = 0.0576$, one-tailed).

To examine Hypothesis 4, we look whether there is a significant trend towards discrimination when changing from the neutral primes to the riot primes.We find that cheap discrimination is significantly higher (difference: 0.59, Kruskal Wallis test, p-value: 0.06) when subjects blame the police and their decision is private. We also find an increase in discrimination in the public treatment, but this is not significant at conventional levels (difference: 0.33, Kruskal Wallis test, p-value: 0.15). We do not find significant differences in discriminatory between the riot and the neutral cue treatments behavior with subjects who did not blame the police.

5.2 Regression tests

The overall pattern revealed so far is that discrimination is only observed when it is not costly, and only in private. To investigate this further, we run OLS regressions on giving to others, using clustered robust standard errors for inference, where the cluster is the individual. Table 5 reports the results. *Riot* and *Public* are dummies for the riot prime and public treatments respectively.

———-TABLE 5 ABOUT HERE ———

The regression analysis shows the effect of prices and endowments. While for positive prices these effects go in expected directions, i.e. higher prices reduce giving to the other and higher endowment increases it, the effect of endowment on giving goes in an unexpected direction: the higher the endowment (measured in terms of the maximum that a subject could give to herself), the lower the willingness to contribute, even controlling for the price. This also drives the aggregate results in the column (1) of table 5.

The effects of both priming and publicity treatments on giving to non-police do not reach significance, except for the public treatment effect when prices are zero. For the publicity treatment this is surprising, as these findings are not in line with previous research on social distance and other-regarding behavior (for early evidence in simple dictator games see Hoffman et al. (1996)). The fact that recipients are not present in the laboratory may have dampened the effect of publicity.[7]

Examining the *Police* dummies – and their crosses with different treatments – confirms the results of the non-parametric tests. We see no evidence for discrimination against police in the public treatment: the combined coefficient of *police* plus *police* $\times$ *public* is not significantly different from zero. On the other hand,

[7] Findings that donations to a third party outside the lab are higher when identity is reported to a subject *within* the lab have been found - to the best of our knowledge - only in research on charitable giving. See for example Reinstein and Riener (2009) in the context of charities.

the combined coefficient of *police* plus *police* $\times$ *riot* is significantly different from zero and negative. Thus, Hypothesis 2 cannot be rejected for private decisions. However, publicity appears to eliminate the effect of the riot prime, since the combined coefficient *police* + *riot* $\times$ *police* + *police* $\times$ *public* + *riot* $\times$ *police* $\times$ *public* is not significantly different from 0.

We now turn to Hypothesis 4. Table 8 shows a simple regression of discrimination on treatment dummies, crossed with a dummy for those who blamed police or police leadership. If the riot cue had more effect on this group, then the difference between "riot blame" and "neutral blame" will be greater than between "riot no-blame" and "neutral no-blame", in either the private or the public treatment. Although the size of the effect is right (0.89-0.30 > 0.33-.14 in the private treatment; -.17- -.51 > .25-.13 in the public treatment), it is not significant. Similar results (not shown) were obtained for regressions on individual giving decisions. Thus, we cannot reject the null that cueing has no extra impact on individuals who blamed the police.

——— TABLE 8 ABOUT HERE ————

5.3 Participation in demonstrations

Laboratory behaviour can be accurately measured, but does it correlate with behaviour in the real world? To address these concerns, our questionnaire included measures of participation in the demonstrations. We examine how discrimination correlates with these self-reports.

Around 23% of our subjects participated in the demonstrations. Table 7 shows average donations by treatments and groups. We see very clear and significant discrimination against police among subjects who participated in the demonstrations, but only in the private treatment. The discrimination is stronger in the riot prime treatment. In the public treatment, we do not see discrimination. In contrast, the group of subjects who did not take part in the demonstrations do not appear to discriminate against the police, except in the private treatment when they have been primed with the riot cue.

———TABLE 7 AROUND HERE ————

We also examined whether subjects who showed greater antagonism towards the police - those subject who chose the competitive point in the step-shaped budget set - were more likely to have been involved in the

demonstrations. Estimating a linear probability model with participation in demonstrations on the left hand and the preference type on the right hand side of the equation, we find that those with competitive preferences were significantly more likely to participate in the demonstrations (results available on request).

It could be that subjects misreported their participation in demonstrations so as to justify their behaviour in the experiment. We cannot rule this out completely. However, as a robustness check we examined whether the answers on participation were different between the treatments. If self-justification explained the answers, we would expect that the effect of the treatment on giving would be reflected in the answers. Fortunately, we cannot reject the null hypothesis that the distribution of answers are equal (publicity treatments: χ^2-test, p-value: 0.141, cueing treatments: χ^2-test, p-value: 0.797).

We expected to find that subjects who participated in the demonstrations gave less to the police in the upward sloping budget sets, but this was not the case. So, although participation was linked to laboratory behavior, we could not replicate the kind of behaviour that has material costs and risks, such as participation in political protest. Further work with a more selected group of subjects might address this issue.

5.4 Credibility and debriefing

Greece is a low-trust society, so we were concerned to establish the credibility of our experiment. Initial instructions for participants, which were read out in public, stressed that economic experiments did not use deception. Subjects were shown the cash box and a set of envelopes with recipients' names and addresses (concealed for identity protection reasons) and were told that at the end of the session the money allocated to each recipient would be posted, and a volunteer would be asked to witness the researchers taking the envelopes to the postbox. This was done. In the post-experimental questionnaire, we asked whether subjects trusted the experimenters to send the money. Answer could be given on a scale from 1-7, where 1 is "Not at all" and 7 "Very much". The average responses by treatment were: riot/pivate: 6.02 riot/public: 6.06 neutral/pivate: 5.70 neutral/public 5.60. The differences are not significantly different from 0 at a 10% significance level using rank-sum tests.

Another concern in psychological experiments is that participants may behave in ways they think the experimenters want. This makes it important that participants do not guess the purpose of the experiment. Priming tasks can be a particular area of concern (Bargh and Chartrand 2000). By including multiple social groups as recipients, and by presenting the article primes as a spelling task, we aimed to avoid this. As a check, our questionnaire included open questions on the experiment topic. No participant mentioned the police or the December 2008 disturbances.

5.5 Discussion

We sum up our results as follows. Discrimination against police was not significantly greater in the public treatment. Thus, Hypothesis 1 is not supported. Indeed, if anything, publicity lessened discrimination. Discrimination against police was higher in the riot prime treatment, but only when decisions are private. Similarly, when decisions were private, discrimination was correlated with blame for the police. Hypotheses 2 and 3 therefore received qualified support. Lastly, we examined whether those who blamed police were more affected by cueing (Hypothesis 4). We found no evidence for this.

6 Conclusion

A large body of literature on conflict proposes that outgroup hatred can be whipped up by media and elite rhetoric. We were able to reproduce this effect in the lab. Subjects exposed to an inflammatory newspaper article gave significantly less to police than to others in a dictator game. This opens the way to more in-depth study of the media's effect on preferences - an important research topic given the role played by media in some recent episodes of conflict and genocide.

On the other hand, we were not able to support the claim that discrimination is driven by norms. Indeed, discrimination was more evident in private than in public. Our result contrasts with recent work that has proposed a major role for norms, and a relatively minor one for individual preferences, in driving discrimination. However, the findings of these inter-ethnic laboratory experiments may have been biased, since subjects were aware they were being observed by the experimenter, and since there is in fact a widespread norm *against* ethnically-based discrimination. In any case, either existing work is mistaken in making social norms so important to discrimination, or norms take effect in some way which our experiment did not capture. For example, ingroup norms may only become activated during brief periods of conflict; or our subjects may not have been sure enough of the beliefs of their fellow students.

Laboratory experiments will always face questions of external validity. While we have no panacea for these concerns, we were able to link behaviour in the experiment to self-reported participation in demonstrations. It is possible that subjects lied or misremembered their own actions, but we think the simple explanation that there was a genuine correlation with real-world behaviour is more likely, especially as reported participation levels did not vary between treatments.

Our laboratory results cannot explain the causes of the December 2008 riots in Greece. However, we can make inferences about discrimination and its triggers among Greek students. First and foremost, we found no

indication of the existence of a strong political student identity, governed by in-group norms. Students come from different backgrounds and have diverse opinions about the events of December 2008, which in the end matter more than their participation in the student community. Students were reluctant to discriminate in the public treatment, perhaps because they feared the disapproval of fellow participants whose political views were unknown. However, behaviour in the private treatments suggest that for many students, anti-police behaviour can be elicited rather easily – for instance, by our media article. When given an appropriately chosen frame to understand recent events, many students gave less to the police. The riots on the recent anniversary of Alexandros Grigoropoulos' death suggest that this reserve of attitudes remains available to be tapped.

Where to go from here? Our experiment supports the idea that cues from the media can affect people's behaviour towards others. More generally, we believe that experimental work will become increasingly important in studying the motivations behind political protest, contentious politics and even civil conflict. Both field and laboratory experiments have a role. A key issue will be defining and finding the population of interest. We also hope that our work will generate interest in linking experimental and case-study approaches to these issues. As our experiment shows, the insightful hypotheses provided by qualitative work can be tested experimentally.

A Newspaper Articles

A.1 Neutral

Skype comes to your iPhone

Taken from *Kathimerini* 30/03/2009[8]

The famous phone service provider using computer "Skype" plans its adaptation for mobile phones such as iPhone and Blackberry, scheduled for March.

Skype has been trying for a while now to make its services compatible with the most advanced mobile phones in the market. In an attempt to expand its current user base, reaching 400 million people, skype offered low cost and occasionally free calls.

Skype manager, Scott Darslang, did not hide his great expectations for the success of adaptation on the iPhone, considering it a great piece of technology very compatible with skype services. "The most important request from our users is the transfer of our service on the iPhone, and this demand is constantly rising", commented Darslang in his recent interview.

[8]Translated by Alexia Katsanidou

Even thought video-calls are the most famous functions of skype, the company has not made clear yet if this function will be available on the iPhone. “We are very careful when it comes to quality”, explained Darslang and he pointed out that they have to first make sure that it can wok without mistakes, before incorporating it in the iPhone package.

http://portal.kathimerini.gr/4dcgi/_w_articles_kathworld_1_30/03/2009_273107

A.2 Riot

The constitution and the blood

Abstract from an article of Pantelis Boukalas *Kathimerini* 9/12/2008[9]

December 2008. Exarchia. A special police agent, called “Rambo” by his colleagues, kills the high school student Alexandros Grigoropoulos; the bullet hits the fifteen-year-old in the chest. The tens of protest voices on television, the internet do not let the police to pass the scenario of “policemen in defence” and “emotional turbulence”. Eyewitnesses confirm that the policemen shot cold blooded the boy following an insignificant verbal incident, and immediately after he left with his colleague leaving the boy to die.

Students across the country shocked by their brother’s murder protested in anger. Fully aware and bitter that their voice will not be heard they left books (Ancient Greek, Literature, Maths, everything a child reads) and flowers on the “unknown soldier” monument in front of the Greek parliament. In between the books we might see a copy of our constitution with underlined two points: Article 2.1: “The respect and protection of the value of the human being are a major responsibility of the State”. Article 5.2 “Everyone residing in Greece enjoys the full protection of their life, honour and freedom”. The students have underlined this “everyone”. With their blood.

http://news.kathimerini.gr/4dcgi/_w_articles_columns_2_09/12/2008_295314

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Figure 1: Examples of Budget Sets

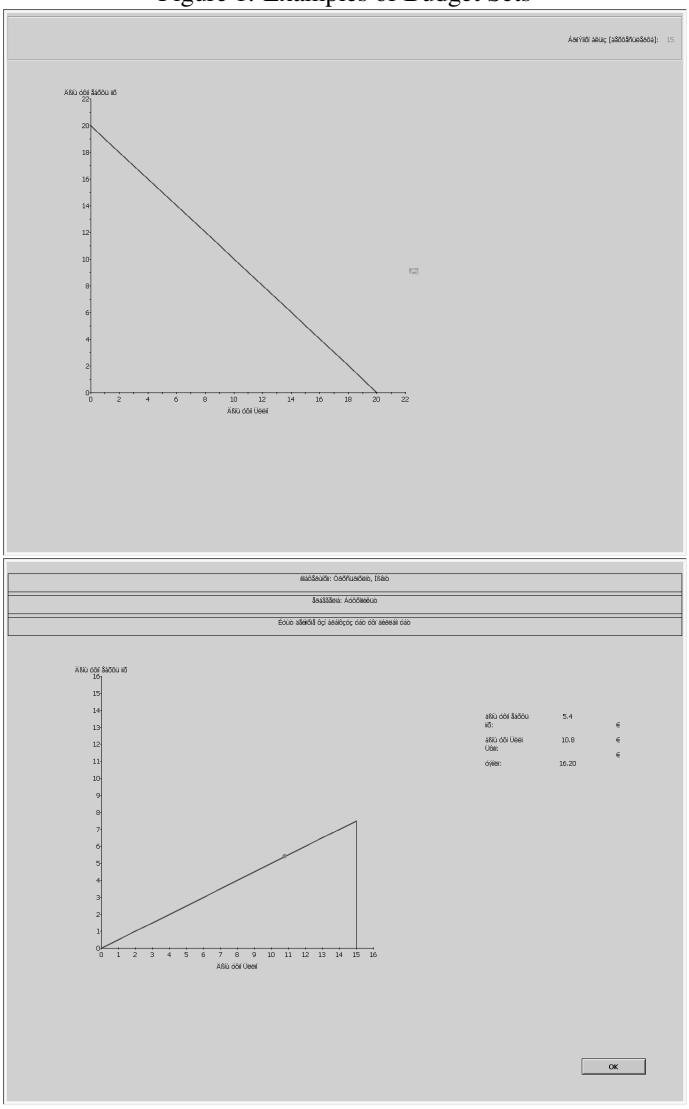
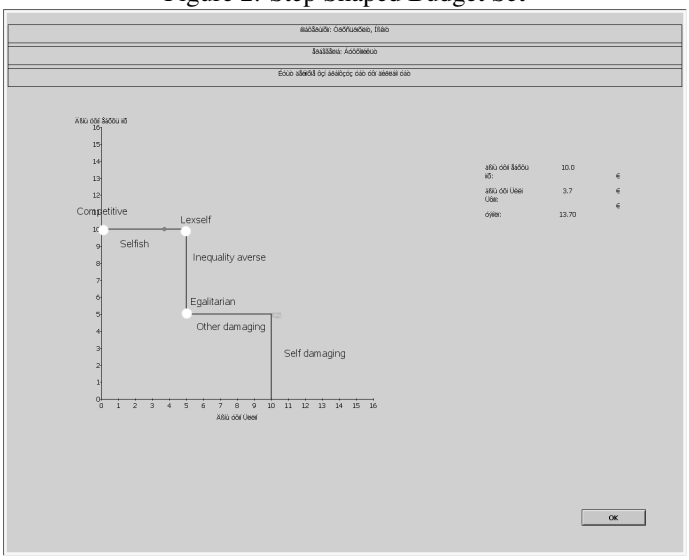


Figure 2: Step Shaped Budget Set



Note: Diagram labels and emphasized points were not shown on the experimental screen.

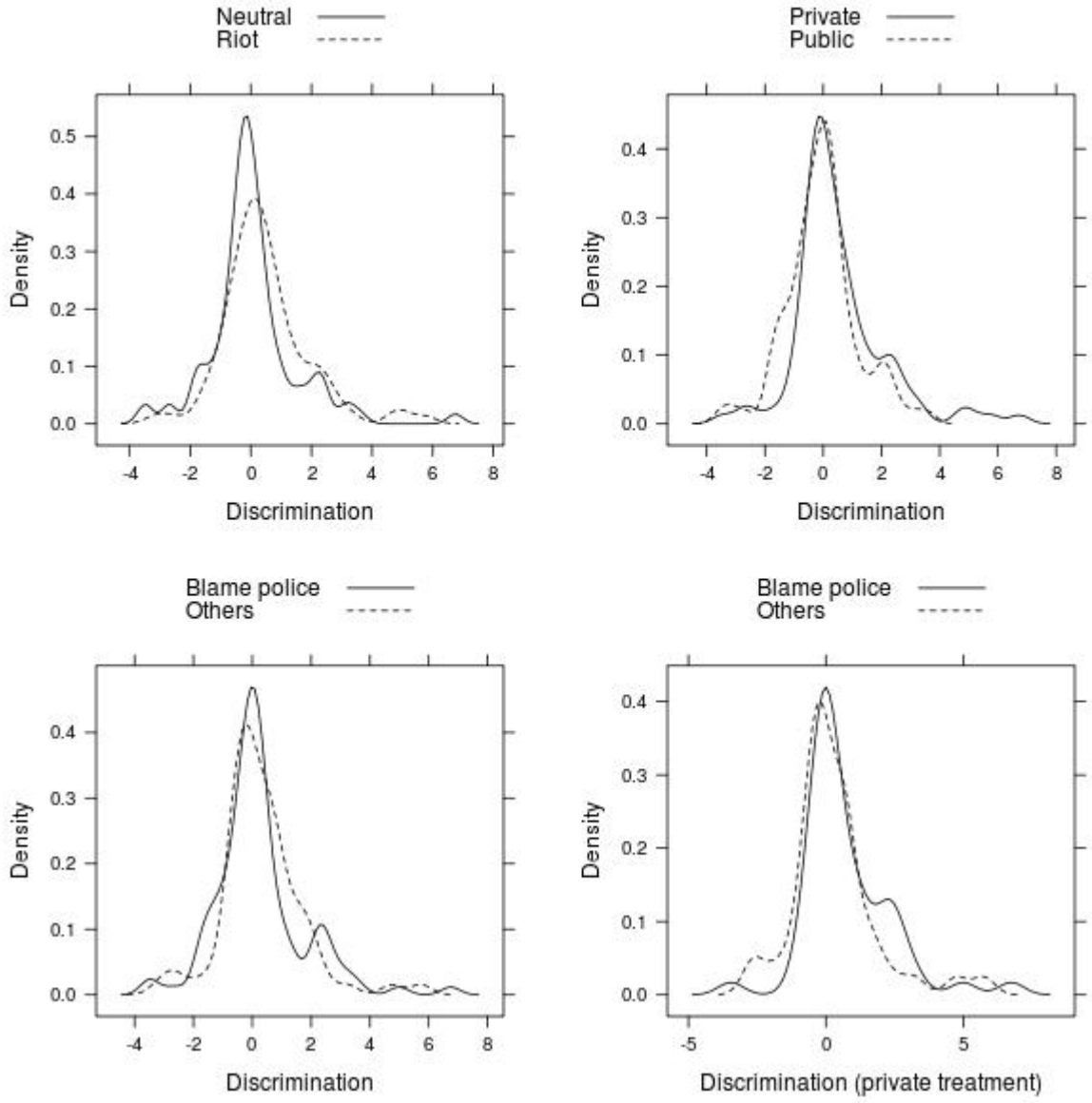


Figure 3: Density plots of “cheap” discrimination

Table 1: Structure of the experiment

I	*Introduction and Explanation of Experiment*	
II	**Neutral Prime**	**Riot Prime**
III	Example for choice on the budget sets	
	Treatments stratified over primes	
	Decisions Private	**Decisions Public**
IV	Profession chosen at random without replacement out of six professions	
V	Choice on linear budget set chosen randomly without replacement out of 9 different	
	Return to V nine times	
VI	Choice on step-shaped budget set	
	Return to IV six times	
	Post experimental questionnaire	

Table 2: Average giving over all budget sets (pooled) by treatments

	Treatment				
	Private		*Public*		
Profession	*Neutral* €	*Riot* €	*Neutral* €	*Riot* €	***Total*** €
- Policeman	4.16 (0.17)	4.01 (0.16)	5.08 (0.15)	4.92 (0.17)	4.53
[All non-police]	4.41 (0.07)	4.66 (0.07)	5.00 (0.07)	4.90 (0.08)	4.74
- Civil servant	4.27 (0.16)	4.26 (0.15)	4.63 (0.15)	4.87 (0.17)	4.49
- Private employee	4.41 (0.16)	4.62 (0.15)	5.06 (0.15)	4.81 (0.17)	4.73
- Housewife	4.86 (0.16)	5.07 (0.15)	5.48 (0.15)	5.34 (0.16)	5.18
- Entrepreneur	3.90 (0.17)	4.25 (0.15)	4.47 (0.16)	4.24 (0.17)	4.22
- Firefighter	4.62 (0.16)	5.12 (0.15)	5.37 (0.15)	5.24 (0.16)	5.09
Total	4.37	4.56	5.01	4.90	

Standard error of means in parenthesis

	Private		Public		Total	
Cue	N		N		N	
Neutral	45	0.258	48	−0.0898	93	0.0784
Riot	48	0.614	38	−0.0451	86	0.323
Total	93	0.442	86	−0.0700	179	0.196

Table 3: Discrimination by cue and publicity

Table 4: Average giving over budget sets with positive prices by treatment

Treatment	Neutral/Private	Neutral/Public	Δ
Non-police	2.75	3.39	-0.64 (0.00)
Police	2.60	3.67	-1.06 (0.00)
Δ	0.15 (0.42)	-0.28 (0.17)	

Riot/Private	Riot/Public	Δ
3.25	3.73	-0.48 (0.03)
2.56	3.64	-1.08 (0.00)
0.69 (0.01)	0.09 (0.65)	

Treatment	Neutral	Riot	Δ
Non-police	3.08	3.46	0.38 (0.57)
Police	3.15	3.04	-0.11 (0.15)
Δ	-0.07 (0.75)	0.43 (0.02)	

p-values of rank-sum test in parentheses H_0: Differences are equal to 0

Table 5: Police vs Others

	(1)	(2)	(3)	(4)
	Non-zero prices	Positive prices	Negative prices	Zero price
Price	0.802*** (0.0781)	-2.333*** (0.155)	2.342*** (0.0844)	
Endowment	-0.0755*** (0.0138)	0.270*** (0.0156)	-0.0642** (0.0226)	
Riot	0.201 (0.254)	0.502 (0.460)	-0.199 (0.309)	0.471 (0.428)
Public	0.517 (0.275)	0.640 (0.448)	0.350 (0.288)	1.158** (0.404)
Police	-0.154 (0.199)	-0.146 (0.242)	-0.166 (0.202)	-0.711 (0.393)
Riot × public	-0.188 (0.362)	-0.159 (0.633)	-0.225 (0.436)	-1.159* (0.583)
Police × public	0.278 (0.235)	0.427 (0.314)	0.0818 (0.257)	0.668 (0.512)
Police × riot	-0.381 (0.297)	-0.547 (0.340)	-0.161 (0.326)	-0.220 (0.575)
Police × riot × public	0.363 (0.355)	0.173 (0.449)	0.614 (0.409)	-0.206 (0.769)
downward	-4.627*** (0.336)			
Constant	7.527*** (0.319)	2.339*** (0.376)	9.511*** (0.394)	5.353*** (0.348)
*C*ombined coefficient				
Police + police × riot	-0.536** (0.221)	-0.692*** (0.241)	-0.327 (0.256)	-0.931 **(0.420)
Police + police × public	0.124 (0. .125)	0.281 (0.200)	-0.083 (0.158)	-0.042 (0.328)
Police + police × public				
+ police × riot. + police × public × riot	.105 (0.149)	-.092 (0.214)	0.369 (0.190)	-0.468 (0.391)
Observations	7607	4348	3259	1087
R^2	0.2278	0.0989	0.3178	0.0365

Standard errors in parentheses

Baseline: decision private, neutral cue, non-police recipient

* $p < 0.05$, ** $p < 0.01$, ***$p < 0.001$

Table 6: Preference Types elicited from Choices on the Step Shaped Set (in percent)

Preference type	Private				Public			
	Neutral		Riot		Neutral		Riot	
	Police	Not police	Police	Not police	Police	Not police	Police	Not police
	% of subjects in category							
Competitive	13.33	10.67	25.00	8.57	4.17	3.72	13.16	11.40
Egoistic	26.67	18.22	18.75	12.24	14.58	13.22	13.16	11.92
Lexicographic self	35.56	47.56	29.17	41.22	45.83	58.26	34.21	33.16
Egalitarian	4.44	9.33	2.08	6.12	10.42	5.37	10.53	8.29
Equity	11.11	5.78	20.83	17.55	18.75	11.57	15.79	21.24
Other damaging	6.67	6.22	4.17	12.65	6.25	10.42	13.16	11.92
Self damaging	2.22	2.22	0	1.63	0	0	0	2.07
Pearson's χ^2-test	5.45 (0.49)		17.17 (0.01)		4.57 (0.47)		1.61 (0.95)	

p-value in parentheses

Table 7: Average giving over budget sets with positive prices by treatment

Participated in demonstrations				
	Neutral/Private	Neutral/Public	Riot/Private	Riot/Public
Non police	2.98	3.34	4.15	2.12
Police	1.98	3.85	2.46	1.69
Δ	1.00 (0.053)	-0.51 (0.240)	1.69 (0.007)	0.434 (0.32)

Not participated in demonstrations				
	Neutral/Private	Neutral/Public	Riot/Private	Riot/Public
Non police	2.67	3.43	3.02	4.22
Police	2.80	3.52	2.58	4.30
Δ	-0.13 (0.660)	-0.08 (0.780)	0.44 (0.100)	-0.08 (0.830)

t-test for differences. p-value in parenthesis.

Table 8: Linear regression: Cheap discrimination and blame attributions

Base: Private neutral no-blame	0.14 (0.29)
Private neutral blame	0.30 (0.46)
Private riot no-blame	0.33 (0.49)
Private riot blame	0.89* (0.40)
Public neutral no-blame	0.13 (0.36)
Public neutral blame	-0.51(0.39)
Public riot no-blame	0.25 (0.45)
Public riot blame	-0.17 (0.36)

Robust standard errors in parenthesis. Results for downward sloping budget sets.

* p<0.10, ** p<0.05, *** p<0.01

A two-sided t-test rejects the hypothesis that in the private treatment the riot cue has a different effect on subjects who blame the police and subjects who don't (p-value: 0.24).