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Abstract

Riots have devastating consequences for communities, including the destruction of infrastructure, businesses, and human lives. The police, tasked with restoring order, are often perceived as either protectors or sources of threat and incompetence. This research investigates the impact of riot exposure on public trust in the police by incorporating both temporal and spatial dimensions of exposure, diverging from previous studies that focused solely on temporal effects. Using the terror management theory (TMT) framework, extended to inter-group conflict, this study conceptualises the police and the public as distinct groups whose behaviours and attitudes may conflict during riots. Matching geocoded Afrobarometer data with the Armed Conflict Location & Event Data Project (ACLED) and employing a spatial difference-in-differences analysis, the study reveals a complex relationship between riot exposure and public trust in the police. While exposure to riots negatively impacts trust among residents living closer to riot sites – driven by heightened anxiety and direct exposure to violence – it increases trust among those living farther away. Furthermore, riot type and severity play crucial roles. Mob violence, with its chaotic nature, tends to bolster trust in the police, while violent demonstrations, which are more organised and often pursue political goals, do not. Moreover, lethal riots erode public trust in police more than non-lethal ones do. These findings underscore the importance of context-sensitive policing strategies that address the security concerns of riot-affected communities while maintaining trust across diverse populations. Policy makers must balance suppressing violence with building resilience and protecting vulnerable communities.

Keywords: riots, trust police, terror management theory, Africa

Introduction

Riots have devastating consequences for communities, leading to the destruction of infrastructure, businesses, and human lives. However, the police, tasked with restoring order, can often be perceived as either threatening or incompetent in their responses. Previous research typically overlooks the spatial and temporal effects on public attitudes toward the police following riots, failing to account for how proximity to violence influences public perception of the police. A resident's account of the July 2021 riots in South Africa highlights these concerns: "We did our best to protect our community, but there were just too many people. They just pushed us away. We never saw the police."[1] This experience illustrates feelings of abandonment and the need for self-defence as anxious residents seek to protect their homes and businesses. It raises the question of how riots, which induce threat-related anxiety, affect the public's perceptions regarding law enforcement agencies.

This study addresses this knowledge gap by examining the effect of riot exposure on public attitudes toward the police. Riot exposure refers to individuals living in or near areas experiencing civil unrest or violent demonstrations. Drawing upon the terror management theory (TMT) framework, I investigate the dynamics of inter-group conflict within the context of the police-citizen relationship. The nature of interactions between the police and citizens, the surrounding context, and individuals' perceptions of local law enforcement all play a crucial role in shaping public trust. TMT posits that when individuals become acutely aware of threats to their safety, they adopt behaviours and attitudes designed to reduce anxiety (Pyszczynski, Greenberg, & Solomon, 1999; Pyszczynski, 2004; Phillips, 2024).

This study extends TMT by (1) generalising the concept of mortality-related anxiety to broader threats and (2) applying it to inter-group conflict, where the police and the public are distinct groups with sometimes conflicting behaviours and attitudes. I argue that public trust in the police erodes when (1) individuals feel unsafe due to violence disrupting their neighbourhoods, and (2) they hold the police accountable for either failing to prevent or exacerbating the violence. While previous research has applied TMT to police behaviour during specific high-threat events (Phillips, 2024), this study concentrates on the general public, particularly those affected by riots.

Focusing on sub-Saharan Africa, this study is motivated by the region's history of high-mortality riots, as documented by Christensen (2018) and evidenced by the Armed Conflict Location & Event Data Project (ACLED) (Raleigh, Linke, Hegre, & Karlsen, 2010). Additionally, the region's relatively low levels of public trust in the police, combined with limited research in non-Western contexts, provide a compelling setting for the investigation. Using geocoded data from the 2016/2018 Afrobarometer surveys, this study matches about 14,400 respondents in 23 African countries to their nearest recorded riot location from ACLED data at the time of Afrobarometer fieldwork. The primary finding of this study is that exposure to riots negatively impacts public trust in the police. A linear distance-based analysis further reveals that trust in the police is positively correlated with distance from riot locations, suggesting that individuals residing farther from riot zones tend to have higher levels of trust in the police, while trust is more diminished for those living closer to riot sites.

This research provides a valuable lens for examining the effects of riot exposure – in terms of both space and time – on public trust in the police by considering the varying levels of anxiety associated with proximity to riots. As violent events, riots induce public anxiety, and the intensity of this anxiety may vary depending on how close residents live to riot locations. Recognising this heterogeneity, I argue that trust in the police is contingent on individual levels of anxiety regarding personal safety during riots. By accounting for this variation, this study aims to provide a unified framework that reconciles the conflicting findings in the

[1] The riot resulted in more than 300 deaths and caused approximately 50 billion rand (U.S. $3.2 billion, 2.8 billion euros) in damage (Burke, 2021).

literature regarding public trust in the police. While previous research has predominantly examined how repressive tactics and police misconduct contribute to the erosion of public trust in the police (Muñoz & Anduiza, 2019; Nivette, Nägel, & Gilbert, 2023; Nägel & Nivette, 2023b, 2023a), other studies suggest that violent protests or demonstrations, particularly those involving significant damage or destruction, can result in public disapproval of violent tactics and increased support for repressive police measures (Muñoz & Anduiza, 2019; Metcalfe & Pickett, 2022; Nägel & Nivette, 2023b). Thus, riots do not inevitably lead to negative evaluations of the police or a loss of trust.

Moreover, the type of riot plays a significant role in shaping public trust. The study finds that individuals exposed to mob violence – characterised by its spontaneous and chaotic nature – tend to exhibit increased trust in the police compared to those exposed to demonstrations. The heightened fear and vulnerability experienced during such riots may lead residents to view the police as essential protectors, boosting their reliance on law enforcement for safety. In contrast, violent demonstrations, which are typically more organised and politically or socially motivated, evoke a more critical evaluation of police actions. The police response to these demonstrations, particularly if perceived as heavy-handed or ineffective, can erode public trust. This distinction underscores the complex relationship between the nature of the violence, the emotional response it triggers, and subsequent attitudes toward the police.

This study makes three key contributions to the existing literature on public attitudes toward the police during riots. Empirically, it extends research by leveraging respondent geolocation data to examine how proximity to violence influences public attitudes toward their local police. Therefore, it enhances previous approaches by incorporating spatial and temporal analyses, refining the understanding of how riot exposure impacts public trust. Theoretically, this study integrates TMT with social identity theory to explain how anxiety induced by proximity to riots shapes trust in the police. In terms of policy implications, the findings underscore the importance of neighbourhood security in shaping public trust in the police during times of civil unrest. As demonstrated in the findings, residents closer to riot sites are more likely to experience a decline in trust in the police, underscoring the need for policing strategies that balance the suppression of violence with the protection of vulnerable communities, particularly those closer to the epicentre of riots. Furthermore, the severity and type of riot – lethal vs. non-lethal, mob violence vs. violent demonstrations – emerge as critical factors in shaping public attitudes.

Theory and approach

To what extent does experiencing riots affect public attitudes toward the police in Africa? Research to date has primarily examined how repressive tactics and police misconduct contribute to the erosion of public trust in the police (Muñoz & Anduiza, 2019; Nivette, Nägel, & Gilbert, 2023; Nägel & Nivette, 2023b, 2023a). This body of research starts with a context where the police can be seen as a threatening out-group to the community and therefore part of the problem instead of a solution to violence. The inter-group conflict perspective (Hawdon, 2008) shows that communities or groups feeling fearful of police repression will come together as a group (us) and perceive the police as a threatening out-group (them). The us-against-them or inter-group conflict will decrease public trust in the police among citizens who feel threatened by the police. This is particularly evident in marginalised communities, such as black communities and disadvantaged neighbourhoods, which may view the police as a threat rather than a protector (Weitzer, 2015; Weitzer & Tuch, 2005). The police as a hostile out-group are held accountable for their use of violence or their failure to provide safety to the local community (Tankebe, 2008). When the police are perceived as a threat, they lose the trust of their community. Therefore, exposure to riots can negatively impact public trust in the police, particularly when police are perceived as ineffective and their actions as excessive or threatening.

While the police are frequently criticised for excessive force and misconduct, they are also, at times, viewed as protectors of the community. Public disapproval of protesters' violent tactics tends to increase when such events result in significant damage or destruction, often

leading to greater support for repressive police measures (Metcalfe & Pickett, 2022; Muñoz & Anduiza, 2019; Nägel & Nivette, 2023). Riots do not necessarily lead to a negative evaluation and a loss of trust in the police. There is a complex dynamic that needs to be analysed, an ecosystem of violence with players who react based on their interests.

This research provides valuable insight into how the public evaluates their local police following instances of riots. Public attitudes toward the police, mainly their trust in their local police, depend on whether the key actors involved are perceived as a threatening out-group and held accountable for the violence and destruction.

Arguments

I argue that situational threats, such as those encountered during riots, induce heightened anxiety among individuals close to potential harm. Anxiety is a highly distressing emotion, often considered the most intolerable one, with individuals willing to "do almost anything to avoid being afraid" (Pyszczynski, 2004). Threat-related anxiety can be a potent driver of human behaviour and attitudes. I argue that the destructive and potentially lethal nature of riots offers a valuable framework for analysing human behavioural responses to threats to one's safety and life. Crucially, this context provides a lens through which to understand how people evaluate the "guardians of peace," their local police, following disruptions caused by riots in a country or neighbourhood.

According to terror management theory, awareness of death gives rise to potentially paralysing terror that is assuaged by embracing cultural worldviews and meeting or exceeding the standards of value associated with them (i.e. self-esteem) in pursuit of immortality (literal and/or symbolic). This has two behavioural implications. The individual can develop a proximal defence or immediate reaction, which consists of suppressing the death-related thoughts by denying one's vulnerability. Alternatively, a distal reaction to a threat such as violence involves psychological strategies to maintain self-esteem and a positive worldview. This can help individuals cope with the fear of death and maintain a sense of control over their lives (Pyszczynski et al., 1999; Zanna & Olson, 2015). These modes of defence against death anxiety can take the form of conscious denial of danger or pragmatic efforts to increase safety. Distal reactions may include the search for meaning and value (e.g. prayer), nationalistic sentiments, less tolerance, and greater hostility toward different values and views (e.g. negative attitudes toward immigrants (Weise, Arciszewski, Verlhiac, Pyszczynski, & Greenberg ,2012), altruistic and prosocial behaviours, and gratitude for helpers (Phillips, 2024).

I extend the TMT framework to incorporate social identity theory, which emphasises the significance of group membership as a source of identity and meaning (Tajfel & Turner, 2003; Weise et al., 2012). Thus, I argue that group identity is instrumental in managing existential anxiety related to mortality. The occurrence of riots establishes three distinct groups: residents, police, and rioters. Given the limited availability of data on rioters and public attitudes toward them, this research focuses on residents and police. Extending the TMT framework, I posit that riots spark anxiety among residents (and the general public), who may identify with either the police or the rioters. The following section defines the roles of these groups.

The rioters

Riots, as defined by ACLED, are violent protests involving crowds of three or more people. They can include property damage, physical clashes, and other destructive acts. Riots can be classified as either mob violence or violent demonstrations. Mob violence refers to instances where rioters intentionally target civilians, property, or armed groups. In contrast, violent demonstrations involve the use of violence by rioters against other demonstrators, government forces, or property, regardless of who initiated the violence. Unlike peaceful protests, riots are illegal and inherently violent. Mob violence, in particular, poses a clear threat to public safety and can have severe consequences for communities. There are grounds to suggest that individuals exposed to incidents of mob violence, as opposed to

those exposed to violent demonstrations, are more likely to have increased trust in the police. The ACLED classification establishes a clear distinction between riots, peaceful protests, protests with intervention, and excessive force against protesters. The main objective of rioters is to inflict a maximum of violence and destruction to the out-group considered threatening. Horowitz (2001) shows that in the case of ethnic riots, rioters are rational, and their targets are identified. Their worldviews include killing and destroying the threatening out-group. The threatening out-group or the group considered the enemy can be another community, civilians, or legal authorities.

The police

The riot police are responsible for handling the riots and upholding peace and calm in the neighbourhood. The nature of the police response hinges on various factors, such as the characteristics of those involved and the nature of the context (Smith, 1987). The police are trained to provide an appropriate response to the violence, looting, and destruction that takes place during riots or other types of violent protest. Unlike peaceful protests or demonstrations, riots consist of angry people engaged in acts of violence and destruction to voice their dissatisfaction or express their enmity against other groups. When confronted with deadly events, the police are trained to prioritise the preservation of civilians' lives, their own safety, and, subsequently, the lives of those initiating the deadly incident (Phillips, 2024). The police are expected to protect individuals and businesses, restore order, and arrest rioters. At times the police response to such violence is also violent. Indeed, the police sometimes see the rioters as a threatening out-group. The police are sometimes victims of killing (Jacobs & Carmichael, 2002). The police, according to the TMT perspective on social identity, will respond to a threatening out-group with force as a defence measure for self-preservation. This distal reaction is rational, although it goes against what the average individual might expect the police to do. Indeed, people expect the police to restore public order using non-lethal tactics and to be respectful of human rights. Research finds that police repression causes some non-violent protests to escalate to violence (Ives & Lewis, 2020).

In many African countries, the military is often deployed to quell riots that exceed the capacity of the police force to manage. This study extends the analysis to include the military and other security forces involved in riot control. It is expected that the findings and discussions related to the police will be applicable to these other security forces as well. Therefore, any policy interventions aimed at mitigating the negative consequences of riots should consider the actions and impact of all security forces involved in riot management.

The riot-affected residents

The neighbourhood type affects the occurrence and severity of riots, as rioters are most likely to come from economically disadvantaged, ethnically fractionalised neighbourhoods (Kawalerowicz & Biggs, 2015; Moutselos, 2020). One of the most important actors in shaping changes in police perception during riots are the citizens exposed to violence, particularly those who are directly affected and victimised. Riots affect people in the neighbourhood differently from those farther away (Gupte et al., 2014). Indeed, people in the neighbourhood of riots might experience the violent destruction of their residences and their businesses and fear for their lives. They might be targeted by the rioters and sometimes by the police forces. The latter situation happens mostly when the police fail to single out the rioters and extend their repressive tactics and use of non-lethal or sometimes lethal weapons to residents, causing collateral victims. The residents of an area affected by riots may thus be victimised by both the rioters and the police. When this happens, there are reason to expect the affected residents to defend themselves against both the rioters and the police, which are the threatening out-groups. The threat-related anxiety created by the rioters' actions and the police response may induce a defence reaction in the form of self-defence groups.

Unlike residents of riot-affected areas, individuals residing farther away from a riot location may be more concerned about the causes and consequences of the riots than about their own safety. They evaluate the severity of riots through indirect sources of information

(media). The media framing of the riots might depict the rioters as the "bad guys" and the police as the "good guys" or vice versa, with implications for people's behavioural/attitudinal response to riots (Snow et al., 2007). The dynamic of riots in neighbourhoods directly affected by the riots is different from a general view of riots from afar. Observers might not fully capture the neighbourhood victimisation that pushes residents to hold both the police and rioters accountable for their misfortune, develop self-defence and vigilance groups against rioters, and/or engage and join the riots to express their anger against the police.

Riots are a pressing issue in Africa, and addressing it requires the involvement of the police and local communities (Davis, Henderson, & Merrick, 2003; Kyed, 2009). During the July 2021 riots in South Africa, widespread looting occurred, with rioters targeting key infrastructure. Riots pose significant challenges for African nations. On average, 62% of respondents in Africa are temporally exposed to riots (see *Post riots* data in the descriptive Table A.2 in the Appendix). This issue of riots is particularly pressing in Africa, where the militarised nature of many police forces (Rauch & der Spuy, 2006; Gjelsvik, 2020) and limited resources and professionalism (Gjelsvik, 2020; Nnabuihe, Ashindorbe, & Odobo, 2023) can lead to repressive responses to riots, tragically resulting in fatalities. Christensen (2018) reinforces this concern, highlighting the frequently repressive and lethal nature of the state response, with urban areas experiencing a 30% higher prevalence of repression but rural areas being 75% more likely than cities to suffer fatalities during a repressive police response to riots.

Hypotheses

Public trust in the police or security forces following riots will depend on what is salient for individuals who reside in the vicinity of a riot. Based on the TMT perspective on the social identity theory framework and existing research on public trust in the police, I develop the following hypotheses:

Hypothesis 1(H1): Riot exposure (spatial and temporal) has a negative effect on public trust in the police.

Individuals residing closer to riot-affected areas are more likely to exhibit decreased trust in the police, especially following riots involving significant infrastructure damage, business destruction, or physical harm. This is due to the direct exposure to the negative consequences of the riots and the police response, which may lead to feelings of fear, anger, and frustration.

Individuals residing farther from riot-affected areas are more likely to exhibit increased trust in the police, particularly following riots involving significant infrastructure damage, business destruction, or physical harm. This is due to the perception of the police as essential for restoring order and protecting society, as these individuals may be less directly affected by the immediate consequences of the riots.

Hypothesis 2 (H2): Individuals exposed to mob violence are more likely to exhibit increased trust in the police compared to those exposed to violent demonstrations, particularly when the mob violence is perceived as a direct threat to personal safety and property.

This arises from the contrasting effects of mob violence and violent demonstrations on public safety and emotions. (1) Mob violence: Its chaotic nature evokes fear and vulnerability, increasing reliance on police as protectors. If the police effectively restore order, public trust may rise. (2) Violent demonstrations: Although disruptive, they often aim for specific political or social goals, leading to nuanced public reactions. Perceptions of a heavy-handed police response can reduce public trust in the police.

Research design

Data and context

The study utilises two data sets to conduct its analysis. The first data set is derived from the Afrobarometer survey, which offers survey data on respondents' political attitudes, socioeconomic characteristics, and geographical locations. The Afrobarometer data set includes the latitude and longitude of the enumeration area (town level) in which each respondent resides, as well as the time of the interview. The second data set is sourced from the Armed Conflict & Events Location Data Project (ACLED) (Raleigh et al., 2010), which provides detailed information on riots, this study's focal point of interest. The data set provides the longitude and latitude of riots at the town level in 23 African countries.

The Afrobarometer data set provides information on the dependent variable, measured as *Trust in the police*. The trust measure is based on the following question: "How much do you trust each of the following, or haven't you heard enough about them to say: The police?" The variable is a four-point Likert scale ranging from zero ("Not at all") to 3 ("A lot"). I used a continuous measure of the outcome variable.

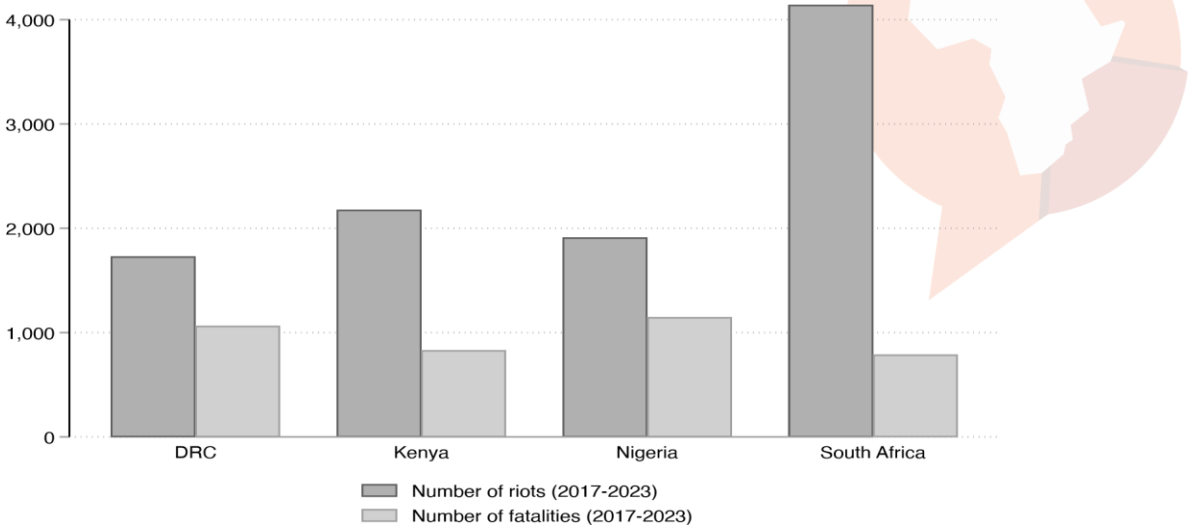
Trust is a global assessment, externally oriented, and should "never be taken for granted" (Cao, 2015). Trust in the police is an externally oriented assessment that reflects the public's perception of the police's effectiveness and commitment to public welfare. Trust in the police is essential for combating crime and maintaining public safety. When citizens believe that the police are aware of their needs and willing to take risks to protect their interests, they are more likely to cooperate and report crimes.

In the most recently completed Afrobarometer survey round (2021/2023), 28% of African citizens reported no trust in their local police, a marginal increase from 27% in the 2019/2021 survey. While still below 50%, this proportion is high compared to European countries, where only 4% of citizens reported no trust in the police in the last European Social Survey (ESS Data Portal, European Social Survey European Research Infrastructure (ESS ERIC) 2023).

I obtained data regarding conflict locations (latitude and longitude) and times in Africa from ACLED. By leveraging the spatial location data of respondents and riots, I matched each respondent to the nearest riot location, totalling about 14,400 respondents (see Figure A.1 in the Appendix for the spatial distribution of riots, and Table A.1 for the country list). To avoid potential confounding events, I matched respondents' locations in the Afrobarometer data with all violent events in the ACLED data set (riots, protests, battles, and violence against civilians). I then focused on respondents whose nearest violent event was a riot. The countries and observations reflect the number of respondents from countries where riots occurred most frequently and where respondents during the Afrobarometer fieldwork were closest to these events.

Figure 1 shows the number of deadly riots in the four most affected countries and highlights the deadly nature of riots in Africa. Between 1 January 2017 and 30 June 2023, ACLED data reveal 21,416 riots across Africa, resulting in 8,058 fatalities (37 fatalities per 100 riots). The Democratic Republic of Congo (DRC) and Nigeria stand out with even higher ratios of 62 fatalities and 60 fatalities per 100 riots, respectively.

Figure 1: Deadly riots in Africa: ACLED data, January 2017-June 2023



Empirical model

I empirically contribute to the study of riots and political attitudes by integrating the unexpected event during survey design (UESD) framework (Muñoz, Falcó-Gimeno, &and Hernández, 2020) with a spatial difference-in-difference approach to analyse multiple countries and events. The research analysed data from all 34 countries in Round 7 of the Afrobarometer survey. The survey fieldwork for the countries in Round 7 was conducted between 12 September 2016 and 27 September 2018. While individual countries had specific survey periods within this range, I considered the overall fieldwork period to account for the potential cross-border effects of riots.

To ensure that riots were temporally relevant to the survey, I restricted my analysis to those that occurred during the Afrobarometer Round 7 fieldwork. I then matched each respondent to the nearest riot location using geolocation data from the ACLED data set. This allowed me to calculate the distance between respondents and riot events, even across national borders. I also created a variable to measure the time elapsed between the respondent's interview and the occurrence of the nearest riot.

To capture a causal effect, I applied a difference-in-difference approach. If riot occurrences were random, we could compare areas with and without riots to isolate the impact of riots on public trust in the police. However, areas with and without riots may differ in other ways, such as socioeconomic factors or existing levels of crime, which could also influence public trust. Alternatively, we could compare public trust levels before and after riots in the same areas. However, this approach assumes that no other factors influencing public trust change over time, which is often unrealistic. For example, changes in policing strategies or broader societal events could also affect public trust. A difference-in-difference approach addresses these challenges by comparing the change in public trust in areas affected by riots to the change in public trust in areas that were not affected. By controlling for both spatial and temporal differences, I can isolate the causal impact of riots on public trust.

I summarise the measures as follows:

1) Temporal treatment (post-riot):
    - The treatment group, ($t_i \geq t_e$): The treatment is exposure to riot and comprises the respondents surveyed after the riot occurred in their area.
    - The control group, ($t_i < t_e$): This group comprises the respondents whose survey day was before the riot day and who are thus not affected by the riot.

where t_i is the interview day and t_e is the day of the event (riot).

2) Spatial treatment (distance within 50km):
    - The treatment group (distance ≤ 50km): The treatment is proximity to a riot incident and captures respondents residing within a 50-kilometre radius of their nearest riot location.
    - The control group, (distance > 50km): This regroups all respondents residing outside a 50-kilometer radius from the nearest riot zone.

I measure *riot exposure* as the interaction between temporal treatment X spatial treatment.

This research not only offers a causal interpretation of the results but also ensures consistent findings across diverse political and economic contexts. Existing research typically applies the UESD framework to a single event in one country, whereas this study expands the scope to encompass multiple events and countries. I employed a spatial difference-in-difference approach and constructed different concentric rings of 10 and 50 kilometers and captured the spatial exposure akin to studies on natural disasters (Chung &and Rhee, 2022), China aid(Isaksson &and Kotsadam, 2018; Knutsen, Kotsadam, Olsen, & Wig, et al. 2017), and conflict (Walther, Radil, Russell, & Trémolières, et al. 2023; Lewis &and Topal, 2023).

Given the spatial and temporal distance of the respondents to the riot's location, I constructed the spatial-temporal difference-in-difference model as follows:

$$TrustPolice_{ijt} = \beta_0 + \beta_1 Temporallytreated_{ij} + \beta_2 Spatiallytreated_{it} + \beta_3 Temporallytreated_{ij} \times Spatiallytreated_{it} + X_{ij}'\theta + \gamma_c + \delta_t + \varepsilon_{ict}$$

where (i) is individual, (j) locality, (c) country, and (t) time. The dependent variable is *Trust in the police*. The variable *Temporally treated* (or *Post* in the results tables) indicates the treatment status after the occurrence of riots. The variable *Spatially treated* measures the treatment status within different rings around the riot area, relative to the reference ring.

The coefficient β_1 measures the average difference between respondents interviewed after and before the riot date among respondents residing in the reference ring (control distance). This coefficient measures the change in trust in the police due to temporal exposure to riots among those not directly affected by riots (residing in the reference distance).

The coefficient β_2 captures the average difference between individuals residing inside each ring relative to the reference ring. However, β_2 cannot be causally interpreted as it does not consider differences in respondents' temporal exposure to the riots (some respondents are surveyed before and some after the riots).

The main coefficient of interest is the coefficient β_3 of the interaction term *Temporally treated* × *Spatially treated*. β_3 measures the causal effect of exposure to riots (spatial and temporal) on citizens' trust in the police among individuals residing closer to a riot location. It captures the causal effect of spatial proximity to riots on public trust in the police.

The ordinary least squares (OLS) estimator, consistent with a quasi-experiment model proposed (Caudill, 1988; Deke, 2014), was employed to estimate the coefficients. I utilised a cluster standard error at the town/village level to address potential spatial correlation in the error term. I conducted different robustness checks using different rings around the conflict and checking for parallel trend assumptions.

Results

Balance test

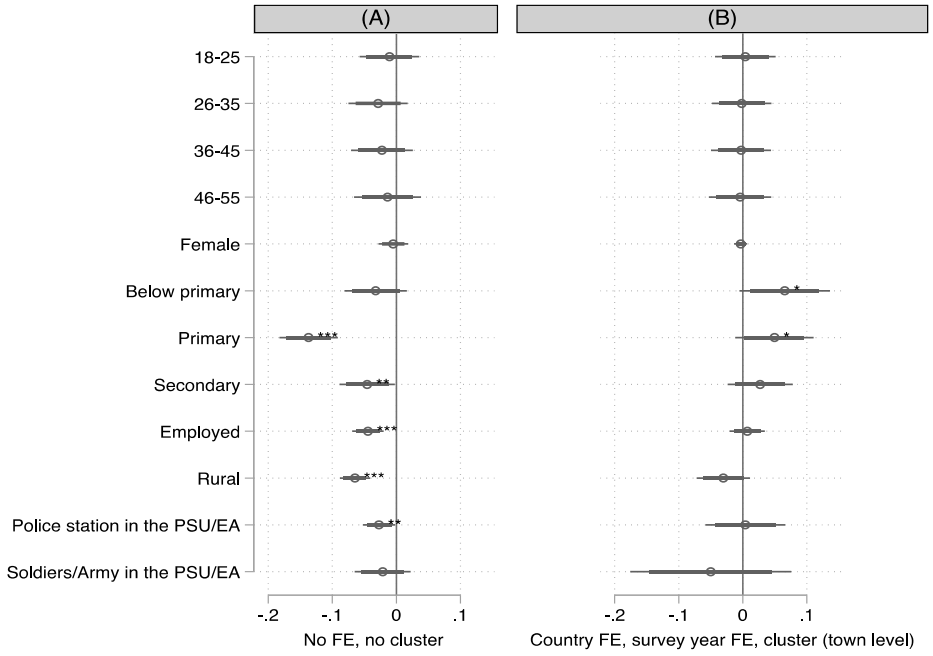
In this section, I first check whether respondents were as-if-randomly exposed to riots. To mitigate the potential for confounding variables, it is essential to ensure that respondents are randomly distributed around the date of the riot. This helps to minimise the likelihood that individual characteristics, rather than exposure to violence, are driving public trust in the

police. By assessing the random distribution of respondents, researchers can more confidently attribute any observed differences in trust to the impact of the riot itself.

The Afrobarometer survey methodology is based on a random selection of respondents. This approach suggests that the occurrence of riots during the Afrobarometer fieldwork is more likely to be as-if-random. I built the strategy from the UESD of Muñoz et al. (2020), where a random event occurred during the survey. I applied the method to multiple events occurring during the survey fieldwork. The UESD approach categorises respondents into two groups: those who were exposed to a specific event and those who were not. In the UESD approach, all respondents are either exposed or not to the same event. In contrast, my analytical framework allows for a more nuanced approach by matching each respondent to the nearest event. This enables a more granular analysis of the impact of riots on public trust, considering both pre- and post-event exposure to events that resonate with their personal, cultural, or political context. To operationalise this, I assigned a binary variable: 0 for respondents interviewed before the nearby riot and 1 for those interviewed after. This variable captures the temporal dimension of exposure. Then I utilise this temporal exposure variable as a dependent variable. The regression model includes the key individual's socio-demographic and region-specific characteristics.

Figure 2 shows that, on average, respondents were as-if-randomly distributed around the riot date. Education level, employment status, living area, and the existence of a nearby police station show significant results. After using country fixed effect and cluster at the town/village level, only below primary and primary education levels show statistical significance.

Figure 2: Balance test



Main effect of temporal exposure to riots

Next I present a basic model of temporal exposure to riots, which does not consider the specific geographic location of the respondent relative to the riot.

Table 1 shows that public trust in the police increases among individuals surveyed after the nearest riot compared to those surveyed before the same event. The findings suggest that respondents being surveyed after the occurrence of the riot, regardless of their proximity to riots, are more likely to trust the police. Results in models 1 and 2 show, respectively, increases of 4.7 and 7.3 percentage points in public trust in the police. The coefficients are not statistically significant when the country and survey year fixed effects are included (Model 3), though the coefficient is positive.

Table 1: Impact of exposure to riots on trust in the police

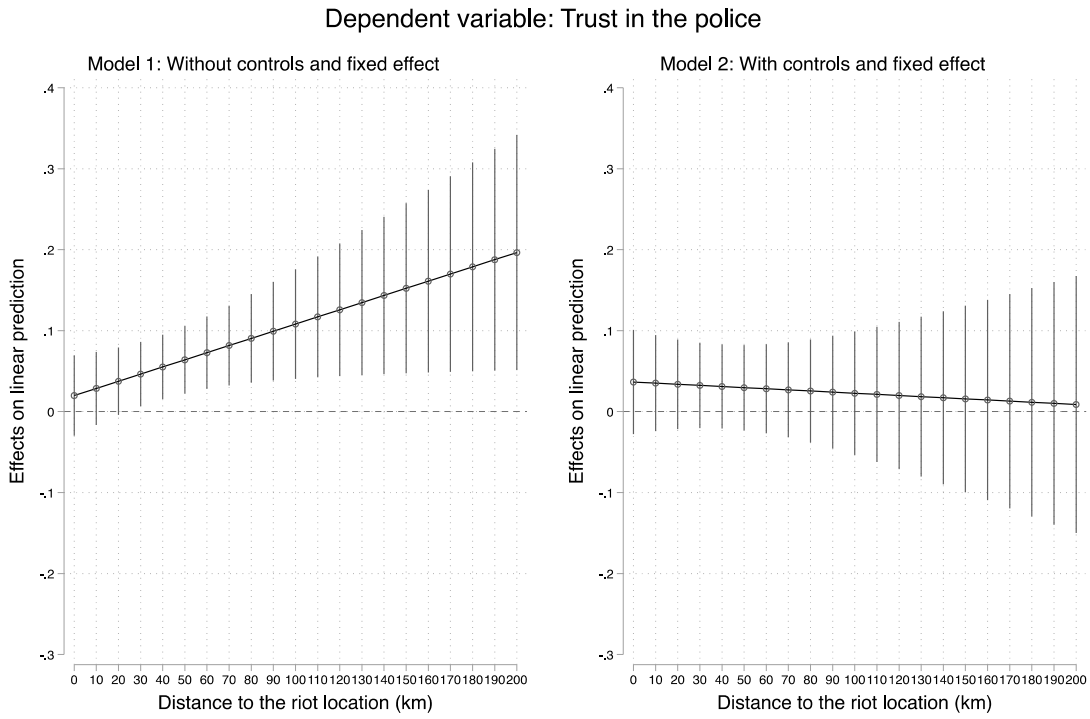
Dependent variable (DV): Trust police	(1) Model 1	(2) Model 2	(3) Model 3
Post	0.047**	0.073**	0.030
	[0.020]	[0.033]	[0.027]
Controls	No	Yes	Yes
Country FE	No	No	Yes
Survey year FE	No	No	Yes
Observations	14,138	12,902	12,902
R-squared	0.000	0.032	0.146

*Standard errors in brackets; ***p<0.01, **p<0.05, *p<0.1*
Note: I controlled for the unbalanced covariates: education level, employment status, residence area, and the existence of a police station in the PSU/EA.

Proximity to riots and trust in the police: A linear-distance analysis

Figure 3 presents two models that assume a linear relationship between distance from the riot location and public trust in the police. The results indicate that the impact of riots on public trust increases with distance. Additionally, the effect of temporal exposure to riots is stronger for respondents residing farther away from the riot location (H1). However, when we control for country and survey year fixed effects, this relationship becomes non-significant.

Figure 3: Distance from riots and change in police trust



Note: I controlled for age, gender, education level, employment status, residence area, and the existence of police stations and soldiers/army in the PSU/EA.

Table 2 presents the main findings of this paper. It assumes a non-linear relationship between distance and public trust in the police, using categorical distance (rings). Dummy variables were created for distance ranges of 0-10km, 10-20km, 20-30km, 30-40km, and 40-50km, with the 50-270km range serving as the reference category. The distance thresholds were chosen to ensure sufficient observations within each category (see Table A.2 in the Appendix).

Proximity to riots and trust in the police: A non-linear-distance analysis

Table 2 shows a positive effect of exposure to riots on public trust in the police among residents of the control distance (16-percentage-point increase) (H1). These findings align with the results presented in Table 1, suggesting that the increased trust among those exposed to riots is primarily driven by individuals residing farther away. The coefficient is not statistically significant when country and year fixed effects are included (Model 2), although the coefficient points in the increased-trust direction.

Table 2: Impact of exposure to riots on trust in the police: Rings of 10km

Dependent variable (DV): Trust police	(1) Model 1	(2) Model 2
Post	0.160*** [0.045]	0.046 [0.050]
Reference distance: 50-270km Post X distance (0-10km)	-0.141** [0.057]	0.014 [0.064]
Post X distance (10-20km)	-0.119* [0.072]	-0.062 [0.079]
Post X distance (20-30km)	-0.156* [0.087]	0.033 [0.092]
Post X distance (30-40km)	-0.363*** [0.102]	-0.244** [0.115]
Post X distance (40-50km)	-0.349*** [0.119]	-0.318** [0.139]
Controls	Yes	Yes
Country FE	No	Yes
Survey year FE	No	Yes
Observations	11,608	11,608
R-squared	0.046	0.159

Clustered standard errors in brackets (at the town/village level)
****p<0.01, **p<0.05, *p<0.1*
Note: (1) I controlled for age, gender, education level, employment status, residence area, and the existence of police stations and soldiers/army in the PSU/EA. (2) I kept the interaction results in the table.

However, when we examine the impact of proximity to riots, Model 1 reveals a statistically significant negative effect on public trust in the police. This effect persists for residents within 30-40km and 40-50km from a riot location, even when we control for country and survey year

fixed effects. Model 2 shows that respondents residing within 30-40km and 40-50km from a riot location, compared to those residing within 50-270km, are respectively 24.4 and 31.8 percentage points less likely to trust the police. These findings support H1, suggesting that proximity to riots decreases public trust in the police.

I find similar results when I utilise two rings of 50km around a riot zone (0-50km and 50-100km) against the control distance of 100-270km (see Appendix Table A.3).

In conclusion, the findings indicate that exposure to riots can enhance public trust in the police among the general population and residents who live farther from the riot location (H1). However, residents of riot-affected neighbourhoods are more likely to exhibit decreased trust in the police (H2). These results align with the theoretical perspective that proximity to a riot can elevate threat-related anxiety, leading to a negative evaluation of the police and consequently a loss of trust.

Exposure to riots, distance, and riot type

This section shows how trust in the police changes depending on the nature of the riot and spatial proximity.

Table 3 compares the effects of mob violence and violent demonstrations on public trust in the police. Individuals exposed to mob violence demonstrate a 25.5-percentage-point increase in trust in the police compared to those exposed to violent demonstrations (Model 3), consistent with (H2). This indicates that the type of riot significantly influences public attitudes toward police effectiveness.

Table 3: Effect of riot exposure, by riot type, on public trust in the police

Dependent variable (DV): Trust police	(1) Model 1	(2) Model 2	(3) Model 3
Post	0.497***	0.498***	0.144*
	[0.061]	[0.068]	[0.076]
Post X mob violence	-0.662***	-0.674***	-0.204**
	[0.084]	[0.093]	[0.103]
Post X distance (0-10km) X mob violence	0.968***	1.100***	0.255**
	[0.105]	[0.116]	[0.128]
Post X distance (10-20km) X mob violence	0.622***	0.869***	0.177
	[0.136]	[0.150]	[0.159]
Post X distance (20-30km) X mob violence	0.653***	0.909***	0.108
	[0.157]	[0.180]	[0.185]
Pos X distance (30-40km) X mob violence	0.673***	0.890***	0.067
	[0.180]	[0.204]	[0.231]
Post X distance (40-50km) X mob violence	0.909***	0.809***	-0.075
	[0.224]	[0.267]	[0.274]
Controls	No	Yes	Yes
Country FE	No	No	Yes
Survey year FE	No	No	Yes
Observations	14,138	11,608	11,608
R-squared	0.028	0.056	0.160

*Clustered standard errors in brackets (at the town/village level); ***p<0.01, **p<0.05, *p<0.1*

Mob violence, as defined by ACLED, is spontaneous and unorganised. It involves individuals acting without shared objectives and often focused on indiscriminate harm. This unpredictability and lack of cohesion create an environment of heightened fear and vulnerability. Such conditions likely drive individuals to perceive the police as essential protectors, leading to increased trust. This trust can be understood as a defensive mechanism, stemming from an immediate need for security rather than a considered evaluation of police performance.

In contrast, violent demonstrations, typically organised events tied to political or social objectives, may not evoke the same level of fear. Their structured nature often sets higher expectations for police responses, with public scrutiny focusing on fairness and efficiency. If the police are perceived as mishandling these demonstrations – either through excessive force or inadequate control – public trust may diminish. Thus, the unrest's context and perceived threat level play pivotal roles in shaping trust in the police.

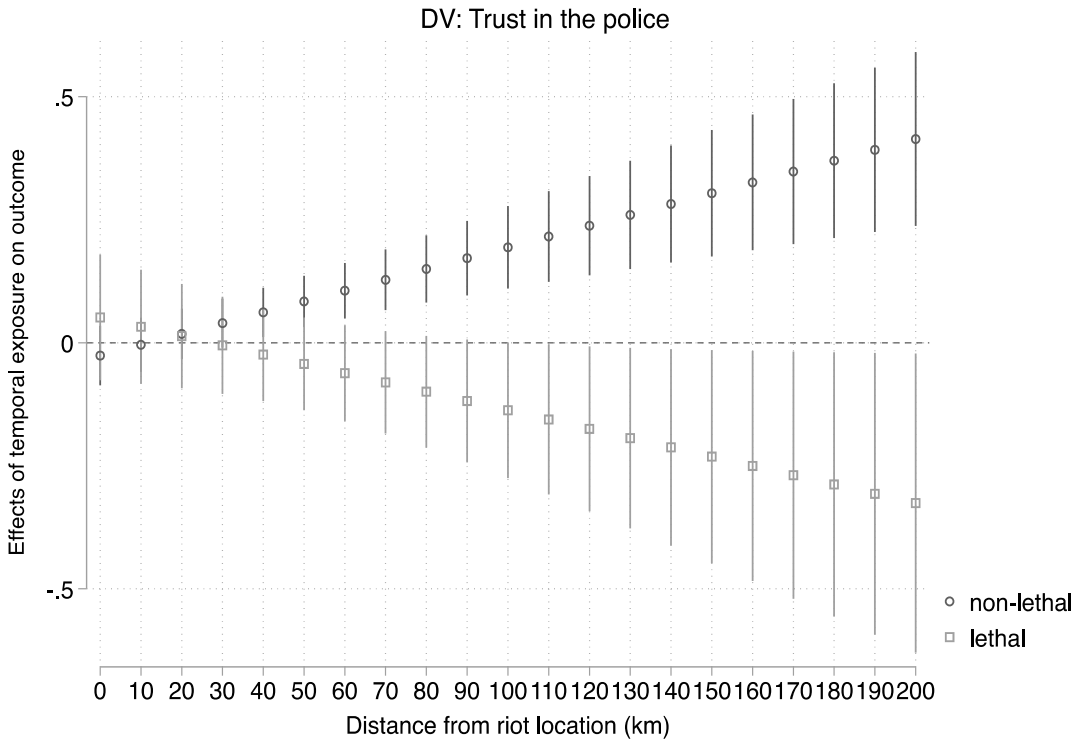
This distinction underscores the subtle relationship between public perceptions of police and the nature of violence, with mob violence fostering a reliance on police protection and violent demonstrations inviting a more evaluative and critical perspective.

Exposure to riots by the level of severity

Figure 4 illustrates the significant role that riot severity plays in shaping public trust in the police. The analysis reveals a positive association between exposure to non-lethal riots and increased trust in the police, whereas exposure to lethal riots is negatively associated with public trust. Notably, these effects are more pronounced among respondents residing farther from the riot location.

These findings suggest that the severity of riots is a critical determinant of public trust in the police. They support the argument that a loss of trust may be driven by individuals' exposure to the negative consequences of riots, particularly in the case of lethal events that involve greater violence and destruction.

Figure 4: Riot exposure by fatalities

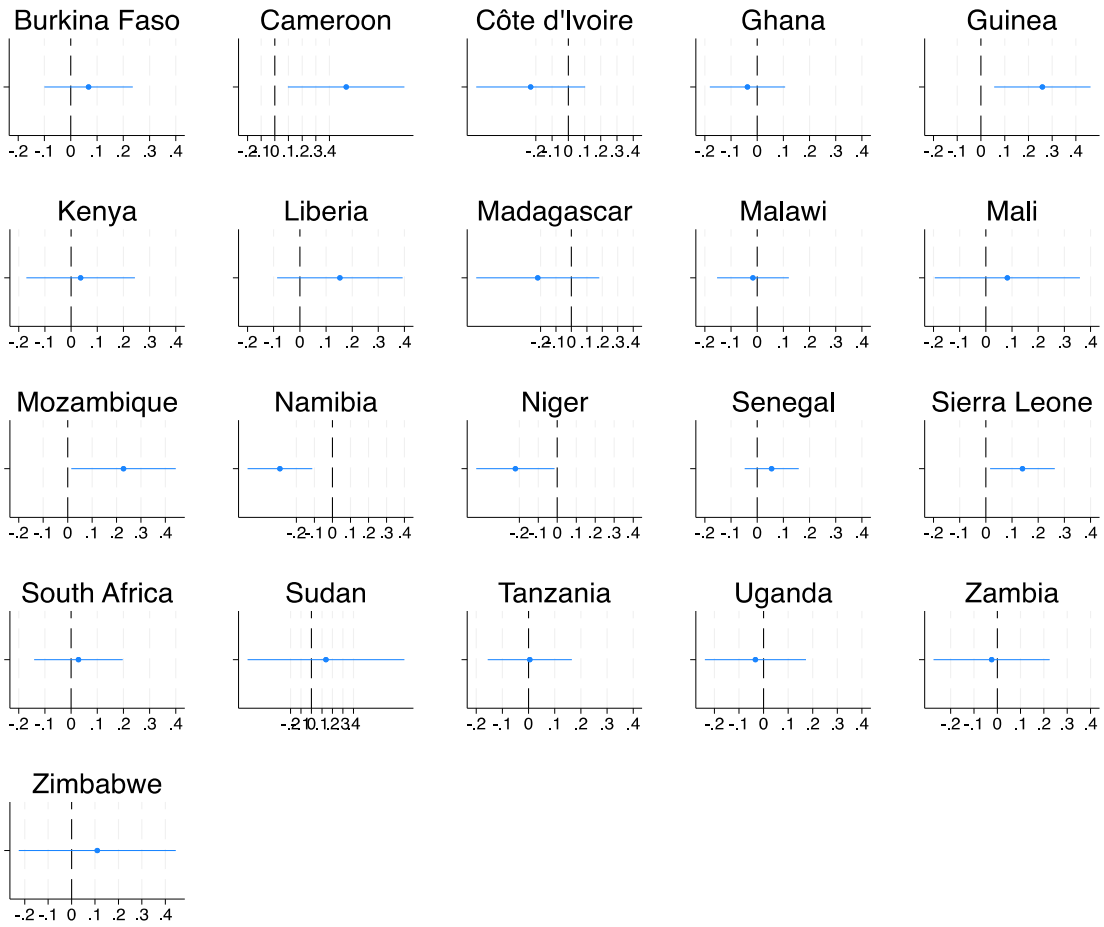


Cross-country variation in the impact of riots

Our analysis shows that when we include fixed effects, most of the findings lose statistical significance. This suggests that the effect of riots on public trust in the police varies significantly across countries. Such differences may stem from how riots are managed, the media's coverage and framing of riots, and the socio-political climate of each country. For instance, in countries with a history of police brutality, riots may intensify public distrust of the police. In contrast, in countries with stronger rule of law and more accountable police forces, riots may strengthen public support for the police.

These findings underscore the importance of considering broader contextual factors when analysing public trust in the police. Figure 5 demonstrates that the impact of riots on public trust is heterogeneous across Africa, highlighting the need for further exploration of subnational variations to understand these dynamics better. For instance, while the effect of temporal exposure to riots boosts trust in the police in Cameroon, Guinea, and Mozambique, it decreases it in Namibia and Niger and does not affect it in Burkina Faso and South Africa.

Figure 5: Cross-country variation in the impact of riots on trust in the police



Note: The figure summarises the findings for countries with sufficient data available from both before and after the riots.

Parallel counterfactual trend assumption and robustness

The spatially treated areas and the spatial control area may differ in various aspects that could potentially confound the results. For myriad reasons, the treated areas might have already been trending toward lower levels in police trust, and/or the control areas toward higher levels. To ensure that such differences between areas do not compromise my findings,

I conducted a parallel counterfactual analysis. To assess the validity of this assumption, a series of pre-event periods were analysed, using the first period before the event date as a reference point (Butts, 2021). By comparing public trust levels in these periods, I can determine whether there were significant trends in public trust before the riots occurred. If no significant trends are observed, it supports the parallel-trends assumption.

The analysis employed two pre-events periods:

- Thirty-day periods**:** Public trust levels were examined for five 30-day periods leading up to the riot event (Model 1).
- Ten-day periods: A more granular analysis was conducted using five 10-day periods (Model 2).

The results of these analyses, presented in Appendix Table A.4, indicate that there were no statistically significant changes in public trust levels before the riots. This supports the parallel-trends assumption and strengthens the causal interpretation of the findings. It is important to note that the choice of the pre-event period length is influenced by the potential for "two-wave riots," as suggested by Horowitz (2001). By using multiple time periods, we can account for potential fluctuations in public trust that may be unrelated to the riots themselves.

Trust in the army and the security forces

To further explore the impact of riots on public trust, I examined the public's trust in the army and security forces, a composite variable measuring the average trust in both the police and the army. In African countries, the army is often deployed to quell riots that exceed the capabilities of the police. Figure A.2 in the Appendix presents the results of a similar analysis using public trust in the army and a composite measure of trust in both the police and army. The findings indicate that exposure to riots induces a loss of trust in the army and a broader decline in trust in security forces.

Discussion and conclusion

This research investigates the relationship between riot exposure and public trust in the police across sub-Saharan Africa using a spatial-temporal framework. By integrating geocoded Afrobarometer and ACLED data, the study matches respondents to the nearest riot locations and measures the impact of riot exposure – both spatial and temporal – and riot type on public trust in the police. This approach addresses key gaps in the literature by offering a nuanced, multi-country analysis of public attitudes toward police during periods of social unrest. This approach departs from previous research focusing on one single-country event and temporal effects (Muñoz & Anduiza, 2019; Nägel & Lutter, 2023; Nivette, Nägel, & Gilbert, 2023; Nägel & Nivette, 2023a).

I find that riot exposure – both spatial and temporal – decreases trust in the police, particularly for individuals residing closer to riot locations. I argue that situational threats, such as those during riots, heighten anxiety among individuals exposed to potential harm, significantly shaping their behaviour and attitudes. The destructive nature of riots helps explain how proximity to violence influences evaluations of the police. Findings suggest that individuals closer to riots, experiencing direct exposure to violence and insecurity, develop greater anxiety, leading to a more negative view of the police and a decline in trust.

The type of riot moderates these dynamics. Mob violence, characterised by spontaneity and heightened fear, tends to increase reliance on the police as protectors, boosting trust among residents. Conversely, violent demonstrations, often linked to organised political or social objectives, invite greater scrutiny of police actions, with perceived inefficiencies or injustices eroding trust. These findings are further reinforced when I analyse the severity of riots. Contrasting effects emerge in lethal and non-lethal riots: Public trust in the police erodes as proximity to non-lethal riots increases, while it improves with closer proximity to lethal riots.

When we include country fixed effects, many findings lose statistical significance, highlighting significant cross-country variation in the impact of riots on public trust in the police.

Differences in how riots are managed, the media's framing of events, and each country's socio-political climate likely contribute to this variation. For instance, in countries with a history of police brutality, riots may exacerbate distrust, whereas in countries with stronger rule of law, riots may reinforce support for the police.

This study makes several contributions. Theoretically, it extends terror management theory (TMT) by integrating social identity theory to explain how existential anxiety and group dynamics influence public attitudes toward law enforcement. Empirically, this study employs a spatial difference-in-difference approach, enabling the analysis of multiple riots across various countries and testing the portability of its findings. By incorporating precise spatial and temporal analyses, this research refines existing approaches and enhances the reliability of its conclusions.

The TMT focus on threat-related anxiety approach helps address a central challenge in riot research – disentangling implicit from explicit motivations that trigger riots (Angel, 2012; Sneyd, Legwegoh, & Fraser 2013). The study argues that the importance of security and safety for residents in riot-affected areas is a key pathway through which exposure to riots shapes public attitudes, regardless of why riots occurred. This aligns with media reports of residents forming vigilance groups after riots. This shift in focus toward personal safety extends existing research on the negative effects of perceived threats or experiences of state repression on public trust in the police (Akinlabi, 2020; Nivette, Nägel, & Gilbert, 2023).

Despite these contributions, the research acknowledges limitations, including its reliance on cross-sectional data and potential biases from unobservable factors influencing riot-prone areas. Future studies could employ experimental surveys to investigate the role of threat-related anxiety in shaping public trust in the police. For example, researchers could create treatment groups exposed to riot-related scenarios (experimental group) and a control group exposed to non-threatening events, such as a food festival. By comparing the emotional responses elicited by these scenarios, researchers could examine how emotional responses to threats mediate or moderate public trust in the police.

The findings underscore critical policy implications. Effective policing strategies should balance the need for maintaining order with community-focused approaches that address residents' security concerns, particularly in riot-affected neighbourhoods. Understanding how proximity and riot type shape public attitudes can guide interventions that foster trust and resilience in communities experiencing social upheaval.

Data availability

The data underlying this article are available in Figshare, at https://figshare.com/s/283c8878944337eeb603.

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Appendix

Figure A.1: Spatial distribution of respondents

Dark dots represent respondents residing within 50km from a riot location, and gray dots represent respondents residing more than 50km from a riot location.

Table A.1: Sample countries

Country	Observations	%
Burkina Faso	504	3.5
Cameroon	338	2.35
Côte d'Ivoire	240	1.67
Gambia	680	4.72
Ghana	1,068	7.41
Guinea	743	5.16
Kenya	719	4.99
Liberia	880	6.11
Madagascar	289	2.01
Malawi	1,200	8.33
Mali	320	2.22
Mozambique	650	4.51
Namibia	944	6.55
Nigeria	192	1.33
Niger	413	2.87
Senegal	902	6.26
Sierra Leone	1,088	7.55
South Africa	1,264	8.77
Sudan	224	1.55
Tanzania	752	5.22
Uganda	448	3.11
Zambia	324	2.25
Zimbabwe	224	1.55
Total	14,406	100

Table reflects respondents in the data set matched to riots.

Table A.2: Descriptive statistics

Variable	Observations	Mean Std	Min	Max
Trust in the police	14,159	1.564 1.164	0	3
Post riots	14,385	0.620 0.485	0	1
Age group 18-25	13,718	0.301 0.459	0	1
26-35	13,718	0.298 0.458	0	1
36-45	13,718	0.202 0.401	0	1
46-55	13,718	0.120 0.325	0	1
56 and above	13,718	0.078 0.269	0	1
Gender (female)	13,663	0.498 0.500	0	1
Education level Below primary	14,326	0.210 0.408	0	1
Primary	14,326	0.279 0.448	0	1
Secondary	14,326	0.428 0.495	0	1
University	14,326	0.083 0.275	0	1
Employed	13,341	0.348 0.476	0	1
Residence area Rural	13,993	0.392 0.488	0	1
Urban	13,993	0.608 0.488	0	1
Police station in the PSU/EA	14,268	0.324 0.468	0	1
Soldiers/Army in the PSU/EA	14,398	0.0855 0.280	0	1
Distance: 10km radius	ref: 50-270km			
0-10km	14,406	0.421 0.494	0	1
10-20km	14,406	0.146 0.353	0	1
20-30km	14,406	0.092 0.289	0	1
30-40km	14,406	0.064 0.245	0	1
40-50km	14,406	0.053 0.224	0	1
Distance: 50km radius	ref: 100-270km			
0-50km	14,4060.777 0.416		0	1
50-100km	14,4060.120 0.325		0	1

Table A.3: Impact of exposure to riots on trust in the police: 50km

Dependent variable (DV): Trust in police	(1) Model 1	(2) Model 2
Post	0.177***	0.070
	[0.064]	[0.066]
Reference distance: (100-270km)		
Distance (0-50km)	0.308***	0.108*
	[0.050]	[0.065]
Distance (50-100km)	0.299***	0.120
	[0.070]	[0.073]
Post X distance (0-50km)	-0.189***	-0.068
	[0.069]	[0.073]
Post X distance (50-100km)	-0.125	-0.059
	[0.092]	[0.097]
Controls	Yes	Yes
Country FE	No	Yes
Survey year FE	No	Yes
Observations	11,608	11,608
R-squared	0.040	0.155

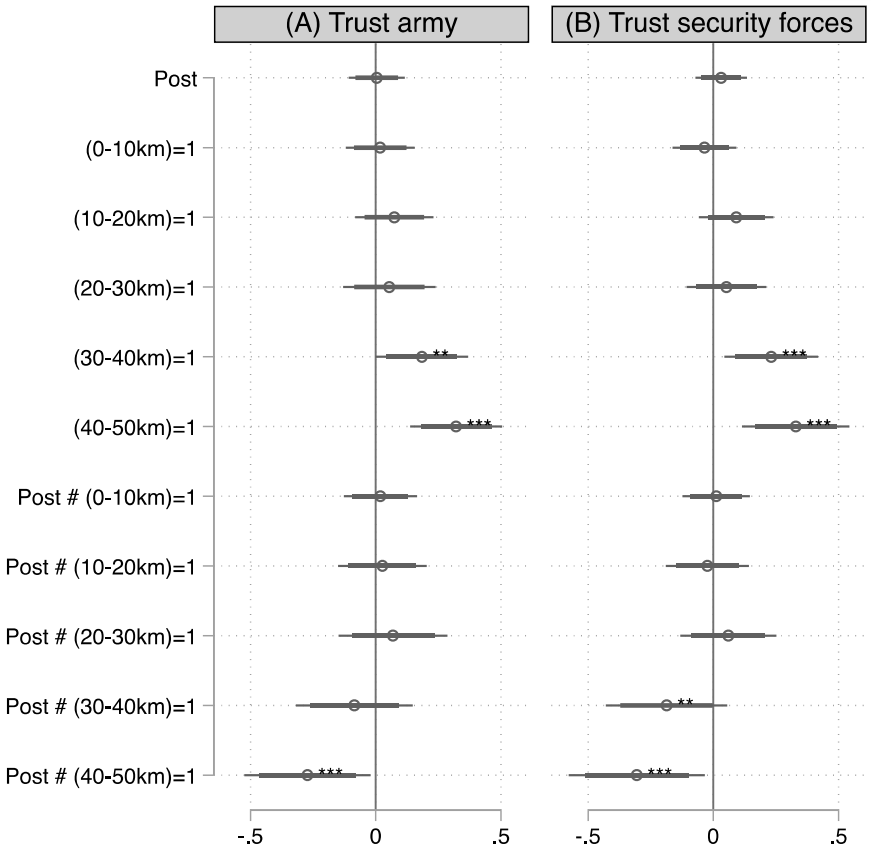
Standard errors in brackets
****p<0.01, **p<0.05, *p<0.1*
Note: I controlled for age, gender, education level, employment status, residence area, and the existence of police stations and soldiers/army in the PSU/EA.

Table A.4: Test for parallel counterfactual trend assumption

Dependent variable (DV): Trust in police	(1) Model 1	(2) Model 2
Time:	**30 days**	**10 days**
Distance X time (-2)	0.032	-0.230
	[0.125]	[0.183]
Distance X time (-3)	-0.102	-0.019
	[0.070]	[0.122]
Distance X time (-4)	0.074	-0.156
	[0.069]	[0.191]
Distance X time (-5)	-0.111	-0.316
	[0.182]	[0.206]
Controls	Yes	Yes
Country FE	Yes	Yes
Survey year FE	Yes	Yes
Observations	11,626	11,626
R-squared	0.154	0.154

Cluster standard errors in brackets (town-level)
****p<0.01, **p<0.05, *p<0.1*
Note: I utilised five periods of 30 days and 10 days each before the events. The reference period is the first period of 30 days or 10 days [Time (-1)] before the events.

Figure A.2: Robustness using alternative dependent variables: Trust in the army and security forces (row mean of police and army)



Note: (1) I controlled for age, gender, education level, employment status, residence area, and the existence of police stations and soldiers/army in the PSU/EA; including country and survey year fixed effects. (2) I clustered at the town level.

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