# An experimental study of responses to armed police in Great Britain



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# Abstract

**Objectives** This study tested whether the presence of a firearm changed the way people reacted to police among a British sample.

**Method** In an online study, participants were shown images of armed and unarmed police and rated them on a number of variables. Some participants were primed to think about terrorism, and some participants were exposed to more armed police than others. **Results** Participants had more negative responses to police when they were armed. We found no effect of the terrorism prime on people's reactions to images of armed police and no effect of exposure. Yet, unexpectedly, we found a negative effect of the terrorism prime on trust and legitimacy.

**Conclusions** In a country where police have never before been routinely armed, this research raises important questions about how armed police can retain the public's support when they may no longer be considered 'prototypical representatives' of the British people.

Keywords Armed police  $\cdot$  British policing  $\cdot$  Firearms  $\cdot$  Perceptions of police  $\cdot$  Social identity  $\cdot$  Terrorism salience

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## Introduction

Police in England, Scotland, and Wales have operated largely unarmed since the formation of the London Metropolitan Police in 1829. The ideology of British policing rests on the notion of 'policing by consent': that the police are 'citizens in uniform'; that the primary duty of the police is to the public, not the state; and that the use of force is a last resort. The fact that officers operate largely unarmed is a key tenet and manifestation of this ideology. Yet, despite the long history of unarmed policing, recent terror attacks in the UK and Europe and a putative rise in serious violent crime have led to increased deployment of firearms officers and calls for the routine arming of more police. In the two years to March 2018, there was a 14% increase in the number of officers authorised to carry firearms (from 5639 to 6459) and a 28% increase in the number of police firearm operations (14,631 to 18,746) (Home Office 2018). Although still relatively low overall, numbers of armed police seem likely to continue to rise. In November 2018, for example, the London Metropolitan Police Service (MPS) mooted the idea of using armed police for routine patrols in neighbourhoods affected by the recent increase in serious violent crime (BBC 2018).

The debate about whether to arm more police is often framed in terms of public reassurance (Waldren 2007). For example, the MPS plans for more 'routine' armed patrols in November 2018 had the partial aim of enhancing public confidence (Guardian 2018). However, despite the off-stated idea that such patrols will serve a reassurance function, there has been little examination of how people will respond to an increased armed presence. In the first in-depth study using data from a large-scale survey of Londoners,<sup>1</sup> Yesberg and Bradford (2018) found support for the routine arming of police varied significantly across different sociodemographic, psychological, and attitudinal characteristics. People's affective response to the idea *of* armed police and their general trust *in* the police were the strongest predictors of support for arming more officers. However, the cross-sectional nature of the data made it impossible to estimate causal effects. We do not know, that is, what effect the routine arming of more officers might have on public perceptions of, and relations with, police.

This paper presents findings from an online study testing whether the presence of a firearm changes the way people living in Great Britain perceive police. The study used two experimental manipulations. First, we primed some people to think about terrorism to test whether terrorism salience leads to more positive reactions of armed police. Second, we varied exposure to armed police to assess whether seeing more officers with firearms affects people's general willingness to trust police and to grant them legitimacy.

#### No longer 'citizens in uniform'?

Social identity theory provides a framework for understanding how the presence of a firearm might affect people's reactions to police. Social identity theory argues that individuals are more likely to favour members of their in-group over members of their out-group (Brewer 1999). Characteristics such as gender and ethnicity can signal in-

<sup>&</sup>lt;sup>1</sup> Data for this study were drawn from a sample of 12,821 respondents to the Mayor's Office for Policing and Crime's Public Attitudes Survey (PAS).

3

group status, along with the use of symbols and behaviours (ibid.). Research has shown that public support for police depends, to a significant degree, upon the extent to which the police act as 'prototypical representatives' of the group's shared moral values (i.e., the extent to which people view them as part of their in-group; Bradford 2014; Sunshine and Tyler 2003). The police are frequently cited as being prototypical representatives of the nation state and its communities (Loader and Mulcahy 2003; Reiner 2010). Indeed, the experience of fair process at the hands of police has been linked to stronger identification with superordinate social categories – such as 'Britishness' or 'Australianness' – and a stronger sense of belonging or inclusion (Bradford 2014; Bradford et al. 2014).

But what might diminish identification? Of course, procedural injustice at the hands of police can exclude, marginalise and/or alienate people from such categories (Blackwood et al. 2015), but other factors that make police 'less like us' may also be relevant. In Great Britain – unlike the USA and other countries where gun ownership is widespread – people do not typically own or have access to guns. British people may therefore expect the police, as 'prototypical representatives' of their social group, to present in the same way. And indeed, historically, being unarmed has been central to the notion that British police are 'citizens in uniform'. Seeing officers carrying firearms may thus attenuate a sense of social similarity with police, signalling out-group status and a distancing between police and public. In other words, people living in Great Britain may not feel armed police are prototypical representatives of the group's moral values because carrying a weapon is, here, far outside the norm.

Feeling shared group membership with police is important for a variety of reasons. Research shows that when people identify with police and the group they represent, they are more likely to view them positively - as trustworthy, legitimate authorities and are more likely to comply and cooperate with the structures and rules the institution represents (Bradford 2014; Bradford et al. 2014; Jackson et al. 2013; Turner and Reynolds 2010; Tyler and Huo 2002). Trust can be defined as a willingness to be vulnerable founded in beliefs about the current and likely future behaviours of police officers (Bradford et al. 2017; Hamm et al. 2017). Legitimacy, on the other hand, refers to the extent to which people believe police behave in an appropriate manner and feel a normatively grounded obligation to obey police (Jackson et al. 2013). If the act of police carrying a weapon encourages a sense that the police are 'not like us', people may respond less positively to police, be less likely to trust police and less likely to grant police legitimacy: judgements which have important consequences for citizen behaviour, including their willingness to cooperate with police, to grant police discretion, and even their propensities to obey the law (Sunshine and Tyler 2003; Tyler and Fagan 2008; Tyler and Huo 2002; Van Damme et al. 2015).

## Current study

The design for this study was based on Simpson's (2017) Police Officer Perception Project (POPP) methodology. Simpson presented people with a series of images of police officers, manipulated the officer's attire (uniform or civilian clothing) and patrol strategy (foot, bike, car) and asked them to record their affective response to the officers (i.e., whether they viewed them positively or negatively). We used a similar methodology by showing participants a series of images of police officers and manipulating

whether or not the officers were carrying a firearm. Drawing on social identity theory, we propose the following hypotheses:

*H1*: The presence of a firearm will signal out-group status, and, as a result, people will have a more negative affective response to police officers when they are presented with a firearm.

*H2:* People who are exposed to *more* images of armed police – i.e., more officers who are not prototypical group representatives – will express *less* trust in police and will grant police *less* legitimacy.

#### **Terrorism salience**

Along with manipulating exposure to armed police, the study also manipulated terrorism salience. In recent years, the UK has experienced a number of high-profile terrorist attacks, and armed police have proved a vital part of the response. For example, following the London Bridge attack on June 3, 2017, armed police arrived at the scene and shot dead the suspects within minutes. It is almost certain that more fatalities would have occurred if it were not for this immediate armed response. In this study, we test whether priming people to think about terrorism ('terrorism salience') affects the way people perceive armed police. It might be that people for whom a terrorist attack is more salient have more positive perceptions of armed police because they feel armed officers can provide a vital part of the response to an attack. Thus, we propose the following hypothesis:

*H3:* People who are primed to think about terrorism will have a more positive affective response to armed police than people who are not primed.

#### Data and methods

#### Participants

Participants were 509 residents of England, Scotland, and Wales,<sup>2</sup> recruited via the online platform Prolific. Prolific is similar to other crowdsourcing platforms such as Mechanical Turk but has a larger, more diverse pool of UK participants. Data were collected on July 31, 2018. Participants were representative of the UK population on age, gender, and ethnicity (ONS 2017, see Table 1 for sample characteristics). Participants were paid £1.80 for taking part in the study.

#### Method

We used the online software platform Gorilla to build and host the experiment (www.gorilla.sc). All materials used in this study are included in a supplementary appendix.<sup>3</sup> The experiment used a 3 (prime condition)  $\times$  3 (exposure condition) between-subjects design. First, participants were randomly allocated to one of three *prime conditions*. They read a short fictional news story about either (1) an attempted

<sup>&</sup>lt;sup>2</sup> Northern Ireland residents were excluded because the police there are routinely armed.

<sup>&</sup>lt;sup>3</sup> The supplementary appendix can be found on the Open Science Framework (OSF): https://osf.io/ywezg/

Sample characteristic		Percentage of sample <sup>1</sup>	Ν	
Gender	Male	49.8%	253	
	Female	50.2%	255	
Age range	18–24	10.8%	55	
	25-44	39.5%	201	
	45–64	39.3%	200	
	65+	10.4%	53	
Ethnicity	White British	86.6%	439	
	Asian	6.3%	32	
	Black	2.8%	14	
	Mixed	3.7%	19	
	Other	0.6%	3	
Country of birth	UK	88.2%	447	
	Not-UK	11.8%	60	
Length lived in UK	Less than 5 years	3.1%	16	
	5-10 years	3.5%	18	
	10-20 years	4.5%	23	
	20 years or more	88.4%	449	
Region of residency	England (excluding Greater London)	73.1%	371	
	Greater London	12.6%	64	
	Scotland	9.1%	46	
	Wales	5.1%	26	

 Table 1
 Demographic characteristics of sample

<sup>1</sup>Percentages calculated with missing values excluded

terror attack by an individual with links to the Islamist terrorist organisation Isis [Experimental condition 1]; (2) an attempted terror attack by an individual with links to right-wing extremist groups [Experimental condition 2]; or (3) a neighbourhood policing problem (fly-tipping) [Control condition].<sup>4</sup>

Participants were then presented with a set of 12 images of police officers and were randomly assigned to 1 of 3 *exposure conditions*. They saw images of either (1) mostly non-armed police (10 non-armed, 2 armed); (2) half armed and non-armed police (6 armed, 6 non-armed); or (3) mostly armed police (10 armed, 2 non-armed).<sup>5</sup> The images used were stock photographs of police officers in the UK.<sup>6</sup> A matched-pairs approach ensured that every image of armed police was matched with a similar image of non-armed police (in terms of the number of officers in the image, as well as their gender, stance, and facial expression). In all photos of armed police, the officers were armed with carbines (i.e., the gun was

<sup>&</sup>lt;sup>4</sup> Fly-tipping is a British term for the illegal dumping of waste.

<sup>&</sup>lt;sup>5</sup> An officer carrying a handgun was erroneously included in one of the 'unarmed' images. However, excluding this image from analysis did not significantly alter the results, so it was retained in the dataset.

<sup>&</sup>lt;sup>6</sup> Images used in this study can be accessed on the OSF: https://osf.io/ywezg/

highly visible). This is the form of armed policing most commonly seen in public in the UK.

Participants rated each image on five dichotomous variables (see measures section below). They were asked to rate the image as quickly as it took them to observe it in its entirety. Following each rating, the next image in the set appeared on the screen, and the procedure was repeated until participants had rated the entire set of 12 images on each variable. The images and the order by which participants rated each dichotomous variable, as well as the position of the variables on the screen, were randomised.

Once participants finished rating the 12 images, they were asked a series of questions about their willingness to trust and grant legitimacy to police. Participants were then presented with an attention check to determine whether they remembered the content of the news story (prime condition) and were given a full debrief.

# Dependent variables

# Affective response to the images

Participants rated each image on five dichotomous variables (adapted from Simpson 2017): (1) aggressive versus *not* aggressive, (2) approachable versus *not* approachable, (3) friendly versus *not* friendly, (4) respectful versus *not* respectful, and (5) trustworthy versus *not* trustworthy. These comprise the dependent variables for H1 and H3.

# Trust and legitimacy

To measure respondents' trust and legitimacy and address H2, confirmatory factor analysis (in the statistical package Mplus) was used to derive and validate the following variables: *trust in police, normative alignment (legitimacy)*, and *duty to obey (legitimacy*; see supplementary appendix for the items and factor scores).

# Analytical approach

To test H1, a series of random effects logistic regression models were estimated. Each rating of each image by each participant was treated as a separate observation, with observations nested within respondents. Separate models were estimated for each dependent variable (i.e., whether the officer was rated friendly, approachable, and so on). To test H3 (whether terrorism salience changes the way people perceive armed police), a variable representing prime condition was added to the models. Interactions were tested between the presence of a firearm in the image and prime condition. To test H2 (whether exposure to armed police affects trust and legitimacy), a series of linear regression models were estimated.

# Results

#### Presence of a firearm

Table 2 presents results for each of the five dichotomous outcomes. The independent variable was whether the officer(s) in the image were armed or not.<sup>7</sup> Findings showed that, compared to images of unarmed officers, participants were significantly *less* likely to rate images of armed officers approachable, friendly, respectful, and trustworthy and significantly *more* likely to rate them aggressive. The largest effect size was for approachableness ( $\beta = -0.62$ ) and respectfulness ( $\beta = -0.62$ ).

#### **Terrorism salience**

Next we tested whether terrorism salience influenced the ratings given to the individual images. In addition to main effects, Table 3 includes the interaction between whether or not the officer(s) in the image were armed and prime condition. No interactions were significant at the 0.05 level. There is little to suggest being primed to think about terrorism changes the way people react to armed officers. Note, though, the main effect of the prime was significant in the trustworthy model. Regardless of whether the officer was carrying a gun or not, respondents in the control condition were significantly more likely to rate them trustworthy than those in the right-wing terror-related prime. While this may simply be a Type I error, we return to this point below.

#### Exposure to armed police

Finally, we estimated a series of linear regression models to test whether exposure to *more* armed officers affected trust and legitimacy. As shown in Table 4, exposure to armed police had no effect on people's trust in police or their willingness to grant legitimacy, although in the normative alignment model the coefficient for the 'mostly armed' condition had a *p* value below 0.1. However, Table 4 reveals an interesting and unexpected finding. Controlling for exposure, respondents given the right-wing prime were significantly less likely than those in the control condition to trust police, feel normatively aligned with police, and express a duty to obey (p < 0.05 in every case). Note also that all coefficients for the two 'terror' primes were negative; and in the trust model, the ISIS prime coefficient had a *p* value of .08. There was, in other words, a relatively consistent *negative* effect from the terrorism-related primes on trust and legitimacy, particularly in relation to the right-wing terrorism condition.

#### Discussion

Using a novel methodology, this study explored whether the presence of a firearm changed the way people react to police. We used two experimental manipulations. First,

<sup>&</sup>lt;sup>7</sup> Prime and exposure condition were controlled for. Participants who failed the attention check were excluded from all analyses (n = 20).

	Approachable		Friendly		Respectful		Trustworthy		Aggressive	
	b <sup>1</sup> (SE)	OR	b (SE)	OR	b (SE)	OR	b (SE)	OR	b (SE)	OR
Presence of firearm (ref: unarmed)	: unarmed)									
Armed	$-2.40(0.10)^{***}$	0.09	$-1.85 (0.09)^{***}$	0.16	-0.67 (0.11)***	0.51	$-0.62 (0.12)^{***}$	0.54	$1.92(0.09)^{***}$	6.80
Prime condition (ref: terrorism Isis)	rorism Isis)									
Terrorism right-wing	0.12 (0.22)	1.13	0.15 (0.20)	1.16	- 0.19 (.29)	0.82	-0.11 (0.29)	06.0	0.15 (0.18)	1.16
Control (fly-tipping)	-0.09 (0.22)	0.91	0.01 (0.21)	1.01	0.29 (0.30)	1.33	0.84 (0.32)**	2.31	0.05 (0.19)	1.05
Exposure condition (ref. equal)	equal)									
Mostly armed	0.00 (0.22)	1.00	-0.24 (.21)	0.79	- 0.23 (0.30)	0.80	-0.15 (0.30)	0.86	0.22 (0.18)	1.24
Mostly unarmed	-0.20 (0.22)	0.82	-0.23 (.21)	0.79	-0.12 (0.30)	0.89	0.06 (0.31)	1.06	0.22 (0.19)	1.25
p < 0.05, *p < 0.01, **p < 0.01	** <i>p</i> < 0.001									
<sup>1</sup> Unstandardised coefficients	ients									

Note: 5868 observations clustered in 489 respondents

 Table 2
 Results from random effects models predicting responses to images

	Approachable		Friendly		Respectful		Trustworthy		Aggressive	
	b <sup>1</sup> (SE)	OR	b (SE)	OR	b (SE)	OR	b (SE)	OR	b (SE)	OR
Presence of firearm (re	ef: unarmed)			-				-		
Armed	-2.41 (0.16)**	0.09	-1.96 (0.14)**	0.14	-0.41 (0.19)*	0.66	-0.40 (0.19)*	0.67	1.71 (0.15)- **	5.50
Prime condition (ref: t	errorism Isis)									
Terrorism right-wing	-0.08 (0.25)	0.92	-0.08 (0.23)	0.92	0.01 (0.32)	1.01	0.11 (0.33)	1.12	-0.02 (0.23)	0.98
Control (fly-tipping)	0.12 (0.26)	1.13	0.06 (0.24)	1.06	0.54 (0.34)	1.72	0.99 (0.36)*- *	2.69	-0.21 (0.24)	0.81
Exposure condition (re	ef: equal)									
Mostly armed	0 (0.31)	1.00	-0.23 (0.21)	0.79	-0.23 (0.30)	0.79	-0.16 (.31)	0.85	0.22 (0.18)	1.25
Mostly unarmed	- 0.20 (0.22)	0.82	-0.23 (0.21)	0.79	-0.12 (0.30)	0.89	0.06 (0.31)	1.06	0.22 (0.19)	1.25
Image*prime										
Armed*terrorism right-wing	0.33 (0.21)	1.39	0.39 (.020)+	1.47	-0.36 (0.26)	0.70	-0.39 (0.26)	0.68	0.25 (0.21)	1.29
Armed*control (fly-tipping)	-0.34 (0.23)	0.71	-0.08 (0.21)	0.93	-0.44 (0.28)	0.65	-0.26 (0.30)	0.77	0.41 (0.22)+	1.50
ICC	0.48		0.45		0.57		0.58		0.37	

Table 3 Results from random effects models predicting responses to images

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

<sup>1</sup> Unstandardised coefficients

Note: 5868 observations clustered in 489 respondents

we primed some people to think about terrorism to see whether terrorism salience led to more positive perceptions of armed police. Second, we varied the number of armed police people saw to assess whether exposure to more armed officers affected people's willingness to trust police and to grant them legitimacy.

Table 4 Linear regression models predicting trust and legitimacy

	Trust in police b <sup>1</sup> (SE)	Normative Alignment b (SE)	Duty to obey b (SE)
	U (BL)	0 (01)	0 (0E)
Prime condition (ref: terror	rism Isis)		
Terrorism ISIS	-0.16 (0.09)+	-0.08 (0.08)	-0.11 (0.10)
Terrorism right-wing	-0.22 (0.09)*	-0.18 (0.08)*	-0.24 (0.10)*
Exposure condition (ref: e	qual)		
Mostly armed	0.14 (0.09)	0.14 (0.08)+	0.13 (0.10)
Mostly unarmed	0.08 (0.09)	0.04 (0.08)	0.01 (0.09)
Constant	0.05 (0.08)	0.02 (0.07)	0.05 (0.09)

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

<sup>1</sup> Unstandardised coefficients

Our primary hypothesis was that people would respond less favourably to police when they were armed (H1). We found across all outcomes measured that this was indeed the case. Respondents had a more negative affective response when viewing images of police carrying firearms. This finding is striking and suggests that providing officers with firearms could significantly alter the way people view the police. Social identity theory is a plausible explanation for these results. People in the UK do not typically own or have access to guns. The presence of a firearm may thus attenuate a sense of social similarity with the officer concerned, and people may be less inclined to view them as prototypical representatives of their group (Sunshine and Tyler 2003). Research has shown that the experience of fairness at the hands of police promotes allegiance to group values and norms and a stronger sense of belonging or inclusion (Bradford 2014, Bradford et al. 2014). By contrast, experience of unfairness undermines a sense of inclusion to the superordinate group the police represent. The implication of this research in the current context is that enhancing aspects of procedural justice might be particularly important for armed police, who people may otherwise find it more difficult to relate to.

Feeling connected to the social group the police (and other authority figures) represent has shown to have positive effects on trust, legitimacy, and people's compliance-related behaviours (Bradford et al. 2014, Blader and Tyler 2009). However, despite having more negative affective responses to armed police, being exposed to *more* of these officers did not seem to change people's general views of police (H2). On the one hand, we might conclude that simply seeing armed officers is not enough to undermine allegiance to the social group the police represent, which could suggest police could increase the level of armed patrols without having a significant effect on public opinion.

On the other hand, one of the main arguments for increasing the presence of armed police is to provide reassurance to the public and to show people that the police have the means to deal effectively with armed crime and terrorism (Waldren 2007). Our results do not seem to support this argument. People did not respond more positively to armed police when primed to think about terrorism. Yet, we identified an unexpected effect from the terror-related primes. Compared with the control condition, those primed to think about terrorism were less willing to trust police and less willing to grant them legitimacy. Recall also that respondents in the terror-related primes were less likely to rate individual officers trustworthy. We did not design the primes with these effects in mind, but they may be telling nonetheless. While it is impossible to be sure, the key sentence in the terrorrelated primes may have been "There were no reports of fatalities but the suspect (Sayed Ali/David Johnson) was being treated for a gun-shot wound in hospital after being shot by police." It may be that reading about police actually shooting someone triggered a negative response among respondents and served to undermine trust and legitimacy. Another not necessarily contradictory possibility is that the terror-related primes indicate a failure of policing, since the bomb was successfully detonated even if no-one was hurt, and the police still shot the suspect.<sup>8</sup>

<sup>&</sup>lt;sup>8</sup> It is also notable that this effect was much stronger for the right-wing than for the ISIS prime, suggesting (but only that) that respondents were more 'forgiving' of police when action was taken against an ISIS suspect.

If this conjecture is correct, it has two interesting implications, one substantive and one methodological. Substantively, it may be that British police risk undermining public trust and legitimacy not by carrying (more) firearms but by using them. Respondents did not react to being exposed to more armed officers, but they did react to hearing about a police shooting. One way to interpret this finding is that while a firearm plainly communicates the threat of lethal force, it is the actualisation of that threat that concerns people. Methodolog-ically, it is interesting that the images of armed police did not trigger a response but the text-based vignette did. Recalling that those in the 'mostly armed' condition saw 60 images of armed police, while those in the 'mostly unarmed' condition saw just 10, it might be supposed the visual prompt would be a stronger treatment. This does not seem to have been the case. More research is needed to unpick these issues.

Of course, this study was not without its limitations. In addition to the normal concerns about the artificiality of experimental methods, the relative weakness of text-based treatments, and possible selection bias through the use of crowdsourcing platforms, we would highlight that we were forced to use images of *different* police officers in the armed vs. unarmed photos. This may have introduced error or bias into our results. In our defence, images were carefully pair-matched to make them as similar to each other as possible, and we reasoned that the gun was so prominent that people's attention would be strongly drawn to it. The magnitude of the effects from the armed/non-armed analysis would seem to support this view: it is hard to imagine what caused them if not the presence of the firearm.

### Conclusion

In this study we have shown that people living in Great Britain respond less positively to armed police. Given the history of British policing, this hardly seems surprising. Most people are unused to seeing armed officers, and they have been socialised in a context where the social distance between police officers and citizens is relatively small. In a country where most people will never own or even fire a gun, arming (more) police would seem likely to encourage a sense that police are 'less like us'. At the very least, we can say that armed police seem to evoke some concern and discomfort. We have also shown, however, that simple exposure to more armed officers does not seem to affect people's general trust in police or their willingness to grant them legitimacy. It would seem therefore that extra deployments of armed police will do little to shift public opinion in one direction or another. The sight of armed officers may be unsettling for many, but this does not fundamentally alter the way they think about police.

The policy implications of all this seem, at this stage, fairly clear. Decisions to deploy armed officers should be made on operational grounds, and not with the aim of enhancing trust and legitimacy. At the very least, it seems unlikely this would be a widespread outcome, and it is of course possible that the negative affective responses we have identified experimentally might spread into something more substantive, particularly if people are increasingly exposed to armed police (in other words the effects of our 'weak treatment' might be multiplied in real life). On the other hand, it seems unlikely extra deployments of armed police will actively *undermine* police-

public relations, further underlining that such deployments can be an operational decision related to the crime-related need for armed officers, rather than any putative confidence building function.

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