Pre-Analysis Plan

Social Media Images and Police Reputation. The Effect of Visual Primes on Perceived Effectiveness and Procedural Fairness of the Police.

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Description

Traditionally, public relations work of the police has been dependent on press releases and newspaper reports. Social media like Twitter, Facebook and Instagram enables the police to engage in personalized communication, citizen dialogue, and to use pictures and videos as a means of visual self-representation (Denef et al. 2013, Feltes 2002, Wood 2020). Previous research suggests that police social media communication can be an effective tool to enhance citizens' perceived police legitimacy (e.g. Grimmelikhuijsen & Meijer 2015 for review). Visual representation of police officers, however, can also have negative effects on citizens' evaluation of police reputation (e.g. Mummolo 2018, Grimmelikhuijsen & Meijer 2015). This study investigates how the visual representation of German police officers affects citizens' evaluation on the effectiveness and procedural fairness of the police. Specifically, we argue that there are at least two broad stereotypical representations of policy officers; police officers as servants to the community (SC) and police officers as crime fighters (CF). We expect that representing police officers as crime fighter excerpts a positive effect on the police's perceived effectiveness, while representing police officers as servants to the community increases the police's perceived procedural fairness. We test these theoretical expectations by conducting an online survey experiment exposing participants to different visual primes taken from an official police social media account before asking the respondents to evaluate the effectiveness and procedural fairness of the police.

Design Plan

In the survey experiment, respondents are exposed to different visual cues, representing different stereotypes of police officers and their work before being asked to evaluate the effectiveness and procedural fairness of the police. In the control group, respondents receive no visual cue before being asked to evaluate the effectiveness and procedural fairness of the police.

<u>Evaluation Study to Select Visual Cues</u>

Each of the two stereotypical representations of policy officers – servants to the community (SC) & crime fighters (CF) – includes two sub-categories. SC includes the following: (SC1) *Friend and helper,* in which police officers are portrayed as "citizens in uniform" - as reliable, and helpful. (SC2) *Police officers as public servants* which portrays police officers as a trained, educated, and collegial community. CF includes the following: (CF1) *Everyday police work and crime fighting* in which police officers are shown solving crimes and ensuring compliance with laws and rules in everyday life. (CF2) *Public safety and security* which pictures police officers in full gear /

armor to protect public safety and avert danger. For SC1, SC2, CF1, and CF2, we identified four pictures each. All pictures are taken from an existing social media account of the police Brandenburg. Brandenburg is a state in the northeast of Germany with 2,5 million residents.

To identify and validate pictures that properly represent the stereotypical representations of policy officers as SC and CF, we ran the following procedure. First, we scraped all pictures that were posted on the Instagram account of the police Brandenburg from its first pot on 1st July 2018 until the 7th December 2020. This search resulted in a full set of 290 pictures. From this sample of pictures, two educated coders (the PIs) pre-coded the sample of pictures independently from each other. The pictures were presented in random order to both coders. Selection criteria were defined in advance and described in the written coding guideline according to the description above. Pictures that did not show at least one person (e.g. pictures showing only vehicles or only animals) were excluded from categorization. Only pictures that were clearly identified as representing one of the described categories by both coders were used for the subsequent evaluation study. For this evaluation study, the top ten pictures in each of the four categories were selected. Signatures indicating the heritage of the pictures (#polizeibrandenburg) were removed from the pictures. Otherwise, pictures were not altered. The evaluation study was run on 108 subjects. The subjects were recruited from the panel provider respondi. The sample was balanced regarding sex and age categories (see Table 1), with a slight overrepresentation of males and individuals older than 59 years.

Table 1. Sociodemographic composition of the evaluation study-sample

	Sample		**Microcensus data for Brandenburg (Germany)**	
	N	%	%	**Δ**
Female	49	45,4	50,0	-1,0
Male	59	54,6	50,0	9,0
18-29 years	20	18,5	21,0	-1,0
30-39 years	20	18,5	18,0	2,0
40-49 years	20	18,5	21,0	-1,0
50-59 years	23	21,3	23,0	0,0
> 59 years	25	23,2	17,0	8,0

In the evaluation study, respondents were randomly exposed to the 40 pictures (10 pictures x four categories) and asked to assign each picture to one of the four categories; SC1, SC2, CF1 or CF2. The pictures are ranked according to the number of respondents assigning the same category to a picture. Based on these results we selected the top four pictures for each category. The evaluation study showed robust consistency. The number of respondents who assigned the same category to a picture varies between 77 (min.) and 102 (max.). The full set of images from the social media account, the sample of images for the evaluation study, the wording of the evaluation study, the collected data, and the syntax of the analysis have been attached to this pre-registration.

Experimental Design

The 4 x 4 pictures identified in the evaluation study will be used in the survey experiment as follows: Respondents are randomly exposed to one out of four treatment conditions and one control condition (in total five conditions). All participants receive an introduction to the topic of the survey, which is the social media presence of the police Brandenburg. After this introduction, respondents in the treatment conditions are exposed to four pictures representing SC1, SC2, CF1 or CF2. The pictures are presented as examples of the social media accounts of the police of Brandenburg. The pictures are presented on two screens, each showing two pictures. Within each category (SC1, SC2, CF1, CF2), the order of the pictures is fully randomized.

Respondents in the control condition are not exposed to any pictures. Instead, these respondents immediately receive the questions regarding their personal opinion about the police Brandenburg, which is presented to all respondents. On a single screen subjects are asked to state their perception of the effectiveness, procedural fairness, and legitimacy of the police Brandenburg. The order of these three questions on this screen is also fully randomized. The wording of the survey is attached to this pre-registration.

Hypotheses

Compared to the control condition (CC) we expect the following effects.

	Perceived	
Visual Prime	Effectiveness (EF)	Procedural Fairness (PF)
Friend and helper (SC1)		+
Public servants / police from the inside (SC2)		+
Everyday police work and crime fighting (CF1)	+	
Public safety and security (CF2)	+	

Sampling Plan

Existing Data

Registration prior to creation of data.

Explanation of existing data

There is no pre-existing data on how visual representations of police officers affect perceived effectiveness and procedural fairness of the police. Therefore, we have no sufficient information to conduct a reasonable power analysis. The design, sample, and results of the evaluation study

performed to identify visuals representation of police officers has been attached to this pre-registration.

Data collection procedures

The survey experiment will be conducted on a sample of citizens living in Brandenburg. The sample access will be provided by the ISO26362 certified online access panel provider *respondi*. Participants will be compensated according the regular *respondi*-conditions regardless of their performance.

Sample size

A sample of N=1,000 respondents will be recruited. The sample will be collected using a soft quota (5% margin) on sex (male 49.3, female 50.7, census Brandenburg, 2019). Brandenburg is home to 2.5 million residents, which provides us with a relatively small population to draw a sample from. It is therefore unfeasible to aim for a larger sample size or compel fixed quotas on other sociodemographic characteristics. We accept this potential shortcoming of the sample quality to redeem this study's research by matching the observed police force with the appropriate respondent group. The German police forces are administered on the state level, why we consequently need to address Brandenburger residents to meet this study's internal rationale.

Variables

Manipulated variables

Independent Variables (visual primes): Friend and helper (SC1), Public servants / police from the inside (SC2), Everyday police work and crime fighting (CF1), Public safety and security (CF2) and Control Treatment (CT).

Measured variables

Dependent Variables: Perceived effectiveness (EF) of the police; measured with the following question: "How would you rate the performance and assertiveness of police officers in Brandenburg? 1 (very low) - 10 (very high). Perceived procedural fairness (PF) of the police is measured as follows: "Can you count on always being treated fairly and without prejudice by police officers in Brandenburg? 1 (always unfair) - 10 (always fair).

Based on prior research (Grimmelikhuijsen & Meijer 2015), which suggests that perceived policy legitimacy is a function of perceived effectiveness and procedural fairness of police officers, we also measure respondents' perceived legitimacy of the police. Perceived legitimacy (LE) is measured as follows: "How do you feel about the following statement: It is an absolute civic duty to obey the requests of police officers, even if you disagree. 1 (do not agree at all) - 10 (fully agree)".

Analysis Plan

Statistical models

All dependent variables will be treated as interval (although tests for nonlinearity will be incorporated) with the follow regressions (using CC as the reference category):

$EF = \beta 1SC1 + \beta 2SC2 + \beta 3CF1 + \beta 4CF2$ [1]

$PF = \beta 5SC1 + \beta 6SC2 + \beta 7CF1 + \beta 8CF2$ [2]

All other things being equal.

Hypothesis 1: $\beta 3$ & $\beta 4 > 0$

Hypothesis 2: $\beta 5$ & $\beta 6 > 0$

Heterogeneous Effects

To cover potential subgroup-specific variation in the dependent variables, we will include three measurements. Literature suggests that individual attitudes towards authoritarianism and victimization/fear of crime as well as the respondents' migration background might reflect in differences in perceived effectiveness and procedural fairness of the police, since heterogeneity in these attitudes is likely to entail different expectations and needs towards the police force.

The following items are used to measure the three items: Authoritarianism is measured by the following three items: "How much do you agree with each of the following statements? 1 (agree very much) – 6 (do not agree)" "It is important to also protect the rights of criminals." (Aggression, reversed), "Our country needs people who oppose traditions and try out new ideas." (Conventionalism, reversed), "We should be grateful for leaders who can tell us exactly what we shall do and how." (Deference to authority, reversed)

Victimization and fear of crime is measures with the following item battery: "How safe do you feel when walking alone in your neighborhood after dark? 1 (very safe) – 4 (not safe), 9 (does not apply)", "Thinking back over the last 12 months, how worried were you that something would be stolen from you - whether at home or elsewhere - without violence being threatened or used against your person? Were you... 1 (very worried) – 4 (not worried)", "How likely do you think it is that something will be stolen from you in the next 12 months - whether at home or elsewhere - without violence being threatened or used against your person? Do you think this is... 1 (very likely) – 4 (not likely)" "How likely do you think it is that you will be a victim of assault in the next 12 months? 1 (very likely) – 4 (not likely)"

Migration background is measures as follows: "Do you have a migration background? A migration background exists if you yourself or at least one of your parents was not born with German citizenship. (Yes/No)" If Yes: "What nationality were/have you or at least one of your parents: Poland, Russian Federation, Syria, Kazakhstan, Turkey, Other)"

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