Perceptions of Police Technology Use and Attitudes Towards the Police - A Representative Survey of the German Population

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ABSTRACT

Many Germans perceive a brutalization of society, and state officials also report feeling under attack. At the same time, policing is criticised for becoming increasingly militarised and for having extended surveillance in the course of fighting terrorism. Advancements in HCI are used in the context of many of the issues that policing is facing. In this study, we conduct a representative survey of the German population to investigate personal experiences with and attitudes towards the police and information and communication technologies (ICT) used for policing. We find an overall positive image of the police and uncritical attitudes towards ICT used for general surveillance (body-worn cameras, video surveillance, face recognition) and slightly more critical attitudes towards personal surveillance (e.g. through communication data retention). The study indicates that perceptions differ according to experience of unfair treatment by the police, while other factors such as age and education have similar effects.

CCS CONCEPTS

• **Human-centered computing → Empirical studies in HCI**.

KEYWORDS

technology acceptance, police, group differences, police experience

1 INTRODUCTION

Policing constitutes the means for the state to execute its policies and laws. While constrained by the balance of power between executive, legislative and judiciary, the police is responsible for the internal security of a state and possesses the power to restrain and use force against the population. This is in contrast to the military and the secret service, which can use force against outside parties or gather intelligence about outside actors, respectively. Advancements in Human Computer Interactions (HCI) are helping with many of the issues that policing is facing: Body-worn cameras are already established in the United States of America (USA) and are being introduced in Germany in the hope of increasing accountability and reducing aggression against officers. Facial recognition is being tested to identify people who are wanted by the police. Data integration and "predictive policing" are used to identify areas that might profit from increased police presence. Tools are developed to support on-the-ground policing and the transfer of knowledge between work shifts.

While trust in the police is high in Germany with over 80% rather trusting the police [38], some aspects of policing fare less well: deescalation strategies used at demonstrations are criticised by a third [37] and more than 20% see a problem each in police racism and police violence [22]. The cases of Hong Kong and Myanmar also show the potential of police intervention for stifling protest and dissent upon regime changes [26, 45]. China is also criticised for using technology against parts of the population, particularly to suppress Muslim minorities [44]. The negative side of policing has also particularly come to light in the context of the "BlackLives-Matter" movement in the USA which has shown that People of Color (PoC) are particularly targeted by policing activities. In a similar vain, European states and the European Union have been grappling with communication data retention laws for years [35], weighing law enforcement advantages against privacy concerns. Despite these concerns, video surveillance has increased in many countries, including Germany, and facial recognition software has been used in a trial at a German underground station to detect people who are wanted by police [16]. While the use of unmanned aerial vehicles is commonplace in the USA, their use for police enforcement is also piloted in Germany [33] and was used to a very limited degree to disperse groups in the context of COVID-19 measures [43].

Therefore, investigating the acceptance of technological developments, particularly in the safety-critical area of policing, is an important aspect of HCI research and can contribute to understanding which aspects are regarded more critically, what influences these attitudes and how technology should be designed to foster police-citizen relations and reduce escalation of tensions in police-citizens encounters. While research suggests that the context of police encounters matters [14] and that the experiences of some groups, such as PoC and irregular migrants, with the police differ from those of the general population, this study is a first attempt to understand some of the relationships between the acceptance of police technologies and personal experiences with the police on the level of the general German population.

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2 RELATED WORK ON POLICE TRUST AND POLICE TECHNOLOGY USE

Germany is consistently showing high levels of trust in the police, with over 80% rather trusting it [38]. A recent study also shows that police perceptions are influenced by political attitudes as measured by preference for particular political parties, with the left party ("Linke") least trusting (28% no or little trust), followed by the right-wing party AfD (23%), the center-left party SPD (21%) and the conservative party most trusting [22]. At the same time, Germany has a history of dictatorship and abuse of state power during the NS regime and pervasive surveillance of citizens in the formerly SED regime in the eastern part of Germany, the Deutsche Demokratische Republik (German Democratic Republic, GDR) [17]. An analysis shows that trust in the police is lower in Eastern European countries (and France and the Netherlands) than in Western Europe [39]. This suggests that similar differences may prevail in Germany.

At the same time, a reform in federal police laws has recently lead to the extension of measures for preventative purposes [27, 36]. In addition, a militarised wing of the police, the SEK was founded to intervene in hostage situations in the 1970s in the course of left-wing terrorism. Again in reaction to terrorism, this time the terror attacks in Paris in 2015, assault rifles were introduced for the use by police in many federal states and the BFE+ was founded. It, too, is more highly militarised and its tactics and equipment are similar to that used in urban warfare [3]. Apart from the specialised police forces that are employed nationally, policing is one of the core areas of federal legislation [15].

Trust in the police depends on the perception of whether police actions are considered to be fair. In particular, people who feel that they have been treated unfairly by the police because of their membership in an ethnic group lose trust in the police [30]. In Germany, PoC experience police violence in contexts of random searches rather than at large events, where most white Germans experience police violence [1]. Encounters in the context of irregular migration and asylum seeking can also lead to tension and confrontation between police and (ethnic) groups. Broeders [5] shows the power of labour market surveillance but also of police surveillance to control irregular migration through identification and the abolition of anonymity.

Another arena of confrontation are demonstrations and political events, either when the protest is forbidden per se (e.g. under the new security law in Hong Kong, but also regarding protests that did not adhere to health regulations during COVID-19) or when buildings for infrastructures are blocked in acts of civil disobedience, e.g. castor transports or coal mining activities. A survey finds that in Germany, victims report instances of police use of force mainly in the context of demonstrations (42%), other political activities such as civil disobedience (13%), at football events (25%) and other large events (3%) [1]. The study reports very quick escalation processes of under two minutes in half of the cases [1]. During large political events, such as the Group of Twenty (G20) summits, policing has to weight security and order against human rights, including the freedom of expression and the right to peaceful assembly [2]. The case of G20 policing in Australia indicated that "dialogue and minimization of coercive public order strategies" [2] contributed to a peaceful event. Another study of the G20 summit in Brisbane shows that group identification with the protesters as a whole predicted perceived police threat, which again predicted moral justification of violence [14], showing the relevance of social psychological factors to escalation of violence in police encounters. In contrast to classical theory that sees crowds as erratic, unpredictable and dangerous [40], the Elaborated Social Identity Model (ESIM) holds that protesters assert "their legitimate right to protest and understand police presence as a neutral guarantor of social order" [14], and that when "authorities take a facilitating role towards lawful peaceful protest, escalation of protests into conflict and violence is less likely to occur" [14]. However, the police may approach protesters as threats to order and safety and use substantial or subtle techniques that "symbolically delegitimise lawful protest"[14].

Research in HCI typically concerns investigating policing practices for successful technology design and usability criteria [7, 31], technology acceptance [23] and efforts to involve citizens and enable "community policing" [10]. In safety-critical contexts such as during large events and under pressure of an emergency, ICT have specific requirements that have to be met on the side of crisis managers, including the police [32, 34].

Several studies have analysed the use of social media by the police, particularly in crises [20]. Denef et al. [12] show that the use of Twitter varied starkly between different forces during the 2011 UK riots, showing that the communication style (instrumental vs. expressive) can be very different and only emerged during the crisis. They call for HCI research to take "policy designs, culture and the interaction and desired relation with the public" [12] into account. While interactive social media communication can contribute to positive citizen-police relationships and mutual understanding [13], studies mainly find only small effects of current social media use on increasing legitimacy, with social media's main contribution being to increase transparency [19]. In addition, cultural and organisational aspects of policing often conflict with social media practices [6, 29]. Criminological research typically investigates the effect of different technologies on policing practice, policing outcomes and police-citizen relationships. A method which is commonly used by the police is video surveillance through installed surveillance cameras as well as recently drones. Another technology that has come to the fore are body-worn cameras, which are already wide-spread in the USA. Unlike video cameras, which are mainly intended to provide an overview of public places or demonstrations, body-worn cameras are intended to protect officers by preventing physical attacks [42]. Nevertheless, surveys show that a part of police officers oppose the use of body-worn cameras because of a potential disruption of trust between officers and their supervisors [18]. In addition, civilians criticise officers for turning off their "body cams" before committing abuses [8]. As a reaction, civilians use counter-surveillance of police activity through private camera footage [47].

Due to the high amount of video surveillance data, other technologies have evolved. This includes facial recognition, which is already used at US airports, stadiums and police stations [11]. Also, other areas of inquiry are directed towards the effects of big data and predictive policing [28] and data-driven policing [46], which involves analysing previous criminal records to predict the future occurrence of similar crimes.

However, to the best of our knowledge, studies that take a broader look at how the used technologies influence the relationship and interaction between citizens and the police, particularly in situations of conflict such as protests, are missing. The present study is a first attempt to start to understand citizens' perceptions of the police in relation to previously made experiences and technologies used by the police and their personal data practices. Due to the local differences in the federal system, this study also looks at differences between federal states.

3 METHOD: REPRESENTATIVE SURVEY

We conducted a quantitative survey in November 2019. We used the panel provider Respondi which ensured random selection of participants in their network and representativeness regarding gender, age, education and income of German adults (18 to 74 years). After excluding participants who did not meet the quality checks for attentiveness, the survey resulted in N=1031 responses. In addition to socio-demographic items (age, gender, education, federal state that respondents live in, federal state that respondents grew up in, political party preference), the questions included aspects of

- positive or negative personal experiences with the police (see Figure 1) and attitudes towards the police and its contestation through civil disobedience (see Figure 2);
- police technology perceptions, asking about the perceived degree of use of different technologies (see Figure 3), their evaluation of being used too little or too much (see Figure 4) and attitudes about policing and personal data (see Figure 5);
- aspects of threat perception through the perceived need to increase measures against particular threats (see Figure 6).

The full set of the original questions can be found in the Appendix (Appendix Table 1). The answer options were on a 5-point (when judging whether technologies should be used more or less on a 3-point) Likert scale (typically ranging from "totally agree" to "totally disagree"). Due to the sample size an approximation of normal distribution of the data can be assumed [25], except for the federal states, where small subgroups can occur, especially in the smaller states and city states. We used robust and conservative statistical tests, interpreting the Likert scale data as ordinal rather than interval scale data, thereby increasing the reliability of the statistical tests.

Depending on the scale of the dependent and independent variables, we used Mann-Whitney-U test and Spearmans's rho for our analysis. We judge effect sizes of Spearman's rho of |0,10| as a small, of |0,30| as a moderate, and of |0,50| as a strong correlation and Cohen's d for the Welsh test for unpaired samples we interpret |0,20| as a small, of |0,50| as a moderate, and of |0,80| as a strong correlation [9].

As policing is directed by the federal states, we test whether any differences in trust and attitudes exist between inhabitants of the different federal states. Due to persistent political, socio-economic and historical differences between the former West Germany and East Germany, we also test whether living or having grown up in East Germany has an effect on police trust and police technology perceptions. Due to Berlin having been split, it was excluded from the analysis of variance between East and West Germany. We sort party affinity on an ordinal scale from liberal (1) to conservative (6) (Left, Green, SPD, FDP, CDU/CSU, AfD). For these ordinal and nominal variables we use the Mann-Whitney-U test for two independent samples to determine whether significant differences exist. For two ordinal variables, we use the bi-variate correlation measure Spearman's rho. For each analysis we chose the test that is most robust and allows for the most fine-grained scale. An exception is made when testing for non-linear correlations, for which data are recoded into categories to test group effects for a group of people with and without experiences of having been treated unfairly (coding rather correct and absolutely correct as 1 and not correct at all and rather not correct as 0, while omitting the "neutral" group, leaving a group of N=942 respondents). We further delineate age into four similarly large age groups (under 30, 31-45, 45-60, over 61) to test for possible non-linear group differences. For the statistical analysis we use IBM SPSS Statistics 27.

4 RESULTS

In the following we present the results of the study. We start by presenting the personal experiences with the police, then show Germans' police technology perceptions and finally their threat perceptions. We test whether personal experiences of being treated unfairly by with the police influence the perceptions. We further investigate the effect of age, education and political party affinity and federal differences.

4.1 Personal Experience and Attitudes Towards the Police

Personal Experience. Because first-hand or second-hand experiences of unfair treatment by the police may impact perception of a wider range of policing issues, including policing technology acceptance, we asked about personal experiences in police encounters. Figure 1 shows that 15% of respondents have had negative personal experiences with the police, while over 2/3 emphatically disagree. This is similar to experiences that friends and family have made and the two factors correlate strongly (rho=0,73, p<0,001). Men reported more personal unfair treatment (M=1,9, SD=1,3) than women (M=1,7, SD=1,2), with a very small effect size for Cohen's d of 0,16. There are no differences when it comes to the negative experiences of others (M=1,8, SD=1,2). Testing for the influence of age on personal experiences of unfair treatment with Spearman's rho, we find a significant but small negative effect (rho=-0,15, p<0,001), meaning that younger people are more likely to report unfair treatment. Education has no effect. Looking at the federal states, some differences are visible when we regard the extremes: while on average 65% reported to never have been treated unfairly and only 7% said that they had been treated very unfairly, the city-state Hamburg is an outlier in the negative: Here, 27% report very unfair treatment and only 30% no unfair treatment at all. The other city states, Berlin and Bremen, are closer to the average. Therefore, this suggests a special role for Hamburg not because of urbanisation or the number of political protests, which would also be expected in Berlin. Instead, a possible explanation might be the experience of strong policing and clashes during the G20 meeting in Hamburg in 2017. The policing of the event was described as an "escalation of the staging of state power that has not been seen for many years"

[21]. While some smaller differences exist between the people with particular political party preferences and their experiences with police encounters, these are not statistically significant for first-hand or second-hand experience. Interestingly, compared to the other groups of which on average 15% agree that they have been treated unfairly, 20% of people who lean towards the AfD report unfair treatment. And against an average of 77% who have not been treated unfairly, 82% of people leaning towards the CDU/CSU or Green Party say they have rather not or not at all been treated unfairly.

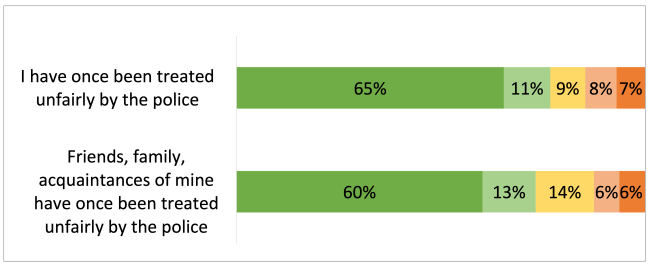

Figure 1: Experience of unfair treatment by police (not correct at all, rather not correct, neutral, rather correct, absolutely correct)

Attitudes Towards the Police. When it comes to general attitudes (see Figure 2), trust towards local police is high (51%). Almost 40% also trust in federal agencies, while distrust is at about 20%. One fourth of respondents has reservations about sharing information with police (24%), while 41% are very open and trusting in civil servants. 51% of participants feel safer when seeing an increased police presence at events (such as Christmas markets) and the same amount believes that the population should trust police officers more to exercise discretionary powers. When it comes to actions of civil disobedience which challenge the rule of law and police authority, respondents are very evenly split between regarding it neutrally, positively and negatively.

A connection exists between the experience of unfair treatment and the trust in police: People with negative first-hand (and second-hand experience) not only are less trusting of local police, state police and civil servants (rho=-0,32, rho=-0,28, rho=-0,33), they also disagree with police presence as a securing factor (rho=-0,17) and are less trusting with regard to police discretionary powers (rho=-0,23). Only the opinion on civil disobedience is independent of police experience of unfair treatment. Only trust in local police is slightly influenced by age in a positive direction (rho=0,17, p<0,001), whereas the effect on the other trust items is only marginal.

We analyse whether living in formerly East or West Germany affects trust in the police. While the Man-Whitney-U test is significant for trust in local and state police (p=0,025 and p= 0,026), the effect size is very small (r=0,07 for both), with people living in the East being slightly less trusting. Looking at local differences, we can see that people in Sachsen, Hamburg and Bremen are somewhat less enthusiastic about their local police (ca. 37% and less positive answers compared to 51% general average), while Hessians are more positive (62%). When it comes to federal police, Berliners are the more reserved ones (ca. 25% positive answers compared

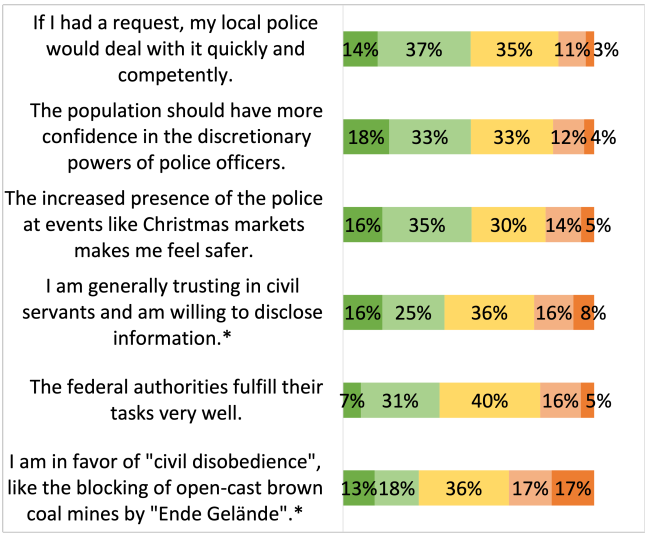

Figure 2: Attitudes towards the police (strongly agree, agree, neutral, disagree, strongly disagree); *Categories inverted, see Appendix for original question.

to 39% average), while the people in Sachsen and Hamburg are more negative (ca. 35% negative answers compared to the average 20%). Civil servants are regarded positively in Schleswig-Holstein (50% say they are not sceptical, compared to the average of 41%), while less than 25% are not sceptical in Hamburg and Brandenburg. Particularly high scepticism prevails in Bremen (43% scepticism vs. 24% average). When it comes to civil disobedience, people in Berlin, Thüringen and Brandenburg disagree with the practice (51% and ca. 47% vs. 34% who on average agree that they are opposed to it). Here, an influence of the East-West divide becomes visible: While in the formerly Western federal states only 31% agree that they oppose civil disobedience, in the formerly Eastern states this number is 43%. At the same time, eastern respondents are more sceptical about the state police with 30% who rather do not trust, compared to 20% in the Western states.

We are also interested in whether party affiliation is relevant for the general attitude towards the police and state functionaries. Sorting the political parties as ordinal from liberal to conservative, there is no significant correlation. Here, too, people associated with the AfD more frequently say that they rather distrust the local police (26% compared to the average of 14% and only 9% of those favouring the Left). In the same vein, only 41% say that they rather trust or trust the police, compared to the average of 51% and 62% among people favouring the CDU/CSU and FDP. Similarly, the AFD is most sceptical about the state police, with 43% distrusting it against an average of 21% and against only 11% among CDU/CSU voters. While 39% on average trust the state police, only 24% of the AfD do, compared to 57% of the CDU/CSU. A similar pattern exists for state officials in general. More variation is found when we regard attitudes towards civil disobedience. Against an average of 34% who agree that they oppose civil disobedience, outliers are the AfD with 50%, and the Green party and left party respondents of whom only ca. 20% agree to the statement. As might be expected, 47% leaning

to the left disagree that they are opposed to civil disobedience, whereas on average only 31% disagree. Since neither conservative party affiliation, nor age, nor education have noticeable significant effects of rho>0,1, the correlations found between unfair treatment and police trust are likely not influenced by socio-demographic covariation, but due to the particular encounter.

4.2 Perception of Police Technology Use

Perceived Status Quo of Policing Technology. When it comes to technologies being used by the police (see Figure 3), a large share of respondents answered with "Don't know". The percentage that did not answer ranges from 26% for video surveillance to 60% for so-called predictive policing, showing the insecurity about this matter. The items most often thought of as not being used by the police were drones and face recognition, with 25% and 22%, respectively. In contrast, only 3% and 5% thought that telecommunications data retention and video surveillance were not being used. Interestingly, the experience of unfair treatment did not affect these evaluations, suggesting that negative experience does not to a large extent influence the perceived pervasiveness of technologies used by the police. With the exception of a very small correlation between education and the judgement about predictive policing (rho=-01, p=0,04), education, age or political party affinity do not influence how the status quo of technology use is perceived.

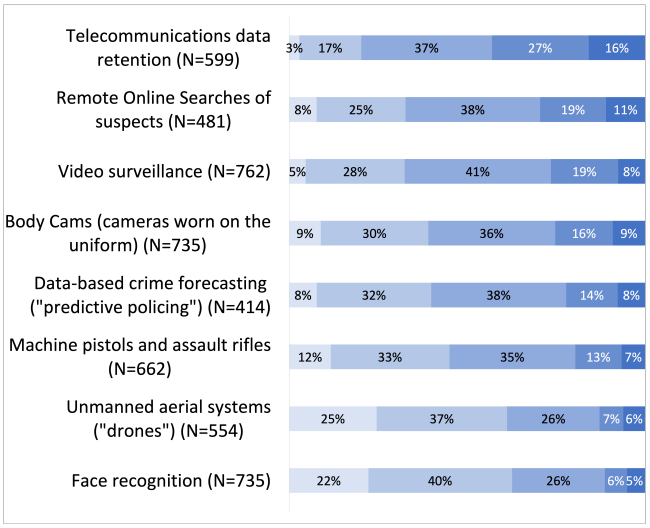

Figure 3: Estimation of extent of use of technologies by police (Not used, Rarely used, Sometimes used, Rather used a lot, Used a lot)

Policing Technology Acceptance. The question about whether the aforementioned technologies should be used more or less in the context of policing was answered only by around half of the respondents, again suggesting that such judgements are difficult to make for many citizens. Asked whether different technologies should be used more or less, in all cases except machine guns and rifles, a majority thinks that the technologies should be used more (see Figure 4). More than half of respondents demand more body-worn cameras (76%), video surveillance (65%), and face recognition (64%). But also increasing predictive policing and the use of drones are welcomed by more than half. Only 6% oppose the use of more body-worn cameras. There are also large majorities for an extended use of video surveillance (65% vs. 9%), face recognition (64% vs. 16%) and predictive policing (60% vs. 15%). While data-based crime forecasting is opposed by only 15%, telecommunications data retention is opposed by 26%. This may be due to the longstanding debate around the issue and frequent court cases surrounding the practice.

All the items positively and significantly correlate with all others (p<0,001 each), indicating that a wish for an increased use of one technology is associated with an increased wish for others. Video surveillance and facial recognition are particularly connected (rho=0,7), followed by data retention and remote online searches of suspects (rho=0,63). Smaller correlations exist between the items and weapons, with the greatest connection (rho=0,33) existing to data retention. Connections are also smaller between body cams and the other technologies, with the strongest correlation with facial recognition (rho=0,42) and predictive policing (rho=0,41) and the smallest one with data retention (rho=0,29). Testing whether the experience of unfair treatment affects whether different policing technologies should be used more or less, we find significant negative effects for all aspects except the use of weapons. Particularly remote online searches of suspects and data retention should be used less (rho=-0,23), followed by predictive policing (rho=-0,2), face recognition (rho=-0,15), drones (rho=-0,13) and body-worn cameras (rho=-0,12, p=0,001 for each). Very similar effects are visible for the second-hand experience of unfair treatment. Political party affinities have a small influence on these judgement, except for body-worn cameras, online searches and predictive policing: The strongest correlation is between more conservative views and more use of weapons (rho=0,33, p<0,001). More moderate effects are found for facial recognition software (rho=0,12, p=0,004) and data retention (rho=0,12, p=0,003). For video surveillance and drones the effect is smaller at around rho=0,1.

Having found that Hamburg differed from other federal states in that experiences of unfair treatment were more prevalent, we compared it with the other large and politically active city-state Berlin. Because these groups are small (Hamburg: 22 respondents, Berlin: 43 respondents), the results may not be fully reliable. Yet, we do find that respondents from Hamburg typically wished for less technology implementation than respondents from Berlin and than the combined average of the respondents from the other federal states. No such difference can be found for Berlin, suggesting that Hamburg is indeed an outlier when it comes to citizen-police relations. A typical example is data retention: Here, 50% wish for less date retention (as opposed to 25% on the other federal states and 28% in Berlin) and only 28% for more, compared to 38% in the rest of Germany and 47% in Berlin.

Policing and Personal Data. Looking at police perceptions and personal data (see Figure 5), we can see that more than two thirds of respondents think that the police should use all possibilities to better predict crime probabilities, while only 7% disagree with this statement. Similarly, only 23% feel insecure about current police data collection and roughly half of the people feel the opposite. Respondents were undecided regarding video surveillance: 52% think that video surveillance and face recognition should be installed beyond test sites. Furthermore, only 15% disagree with the statement

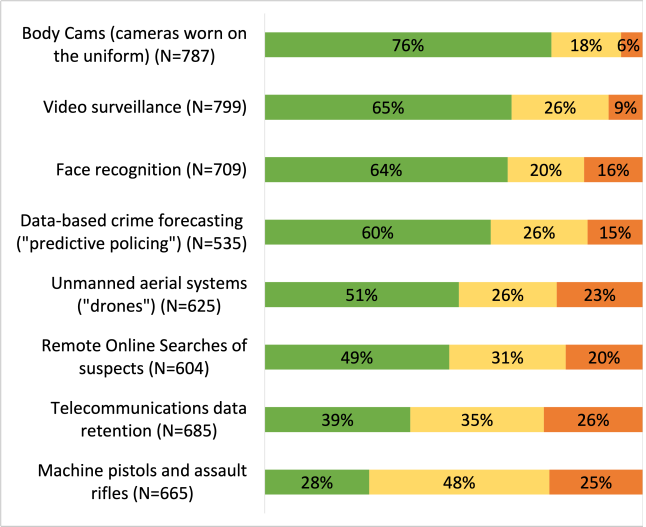

Figure 4: Preferences for the extent of use of technology by police (Should be used more, Is sufficiently used, Should be used less)

that if you have nothing to hide, you should help the police with your information. This is accepted by 60%. However, these numbers are countered with 60% being unsure how their data will be used in the future, compared to only 15% having no such worries. Moreover, 43% are concerned that data is being used to prosecute uncomfortable opinions, whereas only one fifth has no such concerns. Fewer people (31%) are concerned that data collection disproportionately affects minorities. Looking at experiences of unfair treatment with Spearman's rho correlations, we find significant (p<0,001 each) effects for all statements. People who have been treated unfairly are less open about sharing personal data to prevent crime and agree less with the use of face recognition (rho=-0,27). In contrast, people who have been treated unfairly worry significantly more that data is used against "uncomfortable opinions" (rho=-0,18), minorities (rho=-0,14), about data collection by the police in general (r=0,27) and privacy (rho=-0,23 for nothing to hide). These effects are similar or a little more pronounced for people witnessing unfair treatment second-hand. Again, we analyse whether living in East or West Germany influences perceptions about the use of personal data by the police. Again, we find significant results for some of the aspects: People living in the "new", that is in the formerly communist federal states that belonged to the GDR, agreed less with some of the statements: They felt less secure through police presence, agreed less with data retention and felt less sure about how their data would be used in the future (p=0,033, p=0,014, p=0,036). However, again the effect sizes are very small, using the Man-Whitney-U test for group differences (r=0,06, r=0,08, r=0,07). Analysing bi-variate correlations between these police data practices and age with Spearman's rho, we find that age significantly influences some but not all of these aspects. It has the largest effect on a positive attitude towards the introduction of facial recognition software (rho=0,23) the attitude that those who have nothing to hide should be generous with their data (rho= 0,2, p<0,001 each). Age also moderately positively affects general openness towards measure to predict crime and current data retention (each rho=0,18). At the same time, older people feel less insecure through current data collection practices (rho=-0,11). The other aspects have an influence below rho=0,05. Worries about the data use in the future, against minorities or opposition opinions are not influenced by age at all. Sorting the political parties on an ordinal scale between liberal to conservative, we find that significant correlations exist for some items: More conservative party affiliation positively correlate with an openness towards predictive policing (rho=0,13, p<0,001), video surveillance and facial recognition (rho=0,13, p<0.001) and a nothing-to-hide attitude (rho=0,17, p<0,001). Liberals, on the other hand, worry more about data affecting minorities (rho=-0,11, p=0,002).

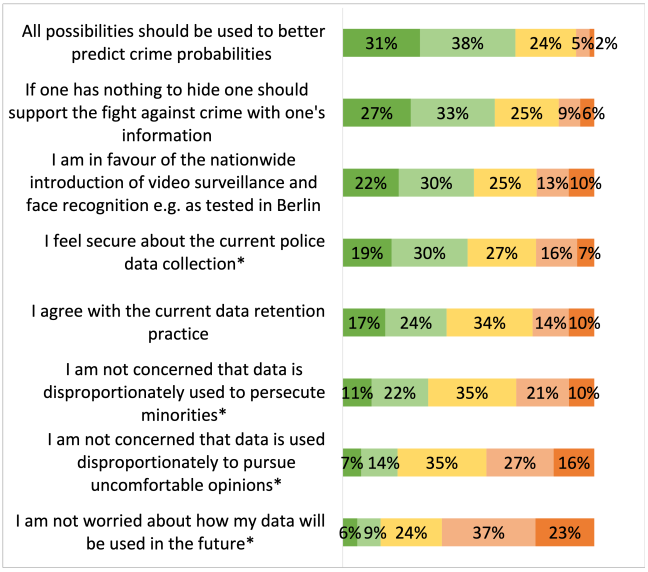

Figure 5: Police perceptions and personal data (strongly agree, agree, neutral, disagree, strongly disagree); *Categories inverted, see Appendix for original question.

The items all correlate significantly with each other, meaning that feeling more strongly about one aspect means that people also feel more strongly about the others (p<=0,001 for all). Clusters can be identified. One group may be called the "Nothing to Hides" (see Appendix Figure 7). These are people who do not worry about privacy, and who are open to predictive policing (rho=0,49), fine with current data retention (rho=0,55) and data collection (rho=-0,42), and the introduction of facial recognition (rho=0,62). They also feel more secure through police presence (rho=0,3) and find that police can be trusted with more discretionary powers (rho=0,53). They do not worry about future data use or its abuse (both at around rho=0,3). The "nothing to hide" attitude is the one most influenced by an absence of experiencing unfair treatment by the police (rho=-0,23). Along with positivity towards facial recognition (rho=-0,11) and predictive policing (rho=-16), it is the only aspect that has a negative correlation with education above rho=-0,1 (rho=-0,16). This groups tends to be older (rho=0,2). This group also has specific

attitudes towards some policing technologies. On the one hand, the "nothing to hide" attitude significantly affects the judgements about current technology use: People in this groups significantly think that video surveillance (rho=-0,19), data retention (rho=-0,16) and remote online searches of suspects (rho=-0,13, p<0,005 each) are used less. On the other hand, people with this attitude generally find that all technologies should be used more (p<0,001), most strongly data retention (rho=0,54), video surveillance (rho=0,47), facial recognition (rho=0,44) and remote online searches of suspects (rho=0,42). When it comes to threat perception, this groups also significantly (p<0,001) feels that not enough is being done against terrorism (rho=0,29), about illegal immigration (rho=0,28) and about left-wing violence (rho=0,25), not however against right-wing violence (rho=0,06, p=0,06). People with the nothing-to-hide attitude are markedly more trusting of the police (local police: rho=0,29; state police: rho=0,28; civil servants: rho=0,28), they oppose civil disobedience (rho=0,27) and feel more secure through police presence (rho=0,3, p<0,001 for all). They very strongly trust in police discretionary powers (rho=0,53).

Another group that shows strong associations to other items are the "data insecure". They are particularly sceptical of data retention (rho=-0,52), of how data will be used in the future (rho=0,46), against minorities (rho=0,45) and people with "uncomfortable" opinions (rho=0,48). This group strongly disagrees that data collection is only problematic for people who have something to hide (rho=-0,43). They are opposed to facial recognition (rho=-0,38), but less so towards predictive policing (rho=-0,17). The "data insecure" have more negative experience with the police (rho=0,27) and while the connection is very small, the group tends to be younger (rho=-0,1). Education does not correlate. People who feel insecure about the police's data use also show patterns when it comes to policing technologies: They significantly (p<0,001) judge that technologies are currently used more, particularly data retention (rho=0,24), followed by video surveillance (rho=0,19) and remote online searches of suspects (rho=0,18). This groups, however, is in favour of less technology use, although they express more moderate wishes: Strongest effects can be found for remote online searches and data retention (rho=-0,4), followed by facial recognition, video surveillance (rho=-0,3) and predictive policing (rho=0,28). In contrast to the nothing-to-hide group, this group has no particular opinion on the use of weapons and it does not have particular opinions about which threats should be addressed more. In contrast to the other group, people in this group are significantly less trusting of the police, particularly of discretionary powers (rho=-0,41) and civil servants generally (rho=-0,37), but also of state police (rho=-0,31) and of local police (rho=-0,27). Increased police presence is not reassuring to people in this group (rho=-0,19). This groups is also significantly more positive towards civil disobedience (rho=0,1, p<0,001 for all).

It may be assumed that there is a group that specifically worries about how data is used, worrying about its use in the future, against people with "uncomfortable" opinions and minorities. Indeed, there worries correlate strongly (p<0.001), particularly the use against minorities and uncomfortable opinions (rho=0,61), but also data use in the future and against uncomfortable opinions (rho=0,55) and future use and data use affecting minorities (rho=0,41). However, when we look at them separately and at the judgements of which threats should be confronted, we find that the general worry about the future has no effect. Interestingly, though, those people worried about the disproportionate use of data against *minority opinions*, feel that not enough is being done against terrorism (rho=0,16, p<0,001), about illegal immigration (rho=0,14, p<0,001) and marginally also against left-wing violence (rho=0,08, p=0,02), *not* however against right-wing violence (rho=0,02, p=0,49). In contrast, those worried about *minority groups* only significantly think that *right-wing violence* should be confronted more (rho= 0,14, p<0,001).

Looking at the differences between Hamburg and the rest of Germany, as well as compared to Berlin, again we find that between around 10% to around 20% of Hamburg respondents feel more insecure, more worried or less supportive of police data practices (while Berlin responses do not differ widely from the national average). One example could be the worry about the disproportionate effect of data use against opposition opinions, where 55% say they feel worried, as opposed to a national average of 33%. Again, this supports the theory that personal police experience influences the attitude on policing data practices.

Threat Perceptions. Because perceptions of a need for more or less policing technologies may be influenced by threat perception, we asked respondents whether more needs to be done against left-wing or right-wing violence, against illegal immigration or against radical Islamic terrorism. We can see that around 70% think that too little is done each against illegal immigration, Islamic terrorism, and right-wing violence (see Figure 6). Left-wing violence is the most controversial aspect with 50% feeling too little is done, but also 17% stating that too much is done. Opposition concerning other measures is a little lower, at around 10%, for the other items.

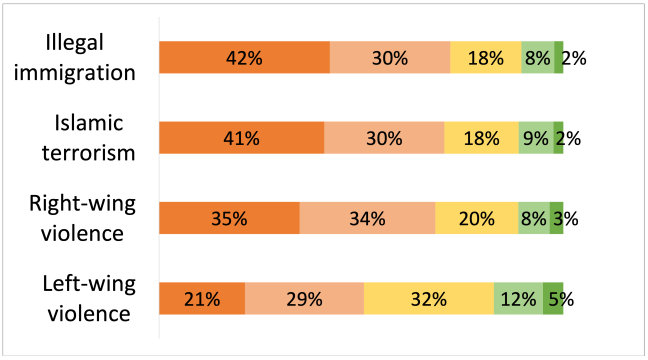

Figure 6: Too little is done against... (strongly agree, agree, neutral, disagree, strongly disagree)

Left-wing violence, Islamic terrorism and illegal immigration correlate strongly among each other, particularly the latter (rho=0,69), followed by left-wing violence and migration (rho=0,43) and left-wing violence and terrorism (rho=0,42). In contrast, judgements about right-wing violence are more independent of the other threat perceptions. This may be due to the influence of political party affinity: While more conservative respondents felt that more should be done against violence from the left (rho=0,33), against illegal immigration (rho=0,39) and against radical Islamic terrorism (rho=0,3), they significantly did not see a need to intervene with right-wing violence (rho=-0,38, p<0,001 each). These judgements are also somewhat positively influenced by age (rho=1,4 for left-wing and rho=1,8

for right-wing violence, rho=0,11 for migration and rho=0,19 for Islamic terrorism, p<0,001 each). Higher education has a noticeable significant effect only on the threat perception of illegal immigration and terrorism (rho=-0.16 and p<0,001 each). Testing the effect of first-hand and second-hand unfair treatment on these perceptions, we find no connection, except for a significant but only marginal negative connection of first-hand unfair experience with the judgement that too little is done against left-wing violence (rho=-0,08, p=0,007). This is difficult to explain by theory, since people leaning to more liberal parties did not particularly have experienced unfair treatment. Instead, it may be due to covariation of negative experiences and younger age.

Some connection between the threat perception can be explained by conservative attitudes, with people who perceive higher threats from immigrants, the left and terrorism also feeling generally more positive about the police and more secure about data practices. An interesting outlier is that people who particularly perceive that more should be done against illegal immigration are also worried about data being used against minority opinions (rho=0,14, p<0.001). This is also true for those worried about radical Islamic terrorism (rho=0,16, p<0,001). This may be due to the higher percentage of the worry about uncomfortable opinions being targeted among respondents leaning towards the right-wing AfD.

5 DISCUSSION AND CONCLUSION

The present study adds to the existing knowledge about perceptions of the police more generally and of victimisation [4] a perspective of whether personal experiences influence the acceptance of technologies used by the police.

To summarise, the key results of this study are, that:

- Germans predominantly have few reservations towards the police.
- They are for the most part open to the introduction of new technologies for policing, including body-worn cameras, face recognition, unmanned aerial vehicles and predictive policing.
- Differences can to a small and medium degree be attributed to the experiences of unfair treatment by the police, making people more sceptical of policing and policing technologies.
- While technology perception is influenced by the experience of unfair treatment, the perception of the pervasiveness of currently used technologies is *not*.
- Age, education and political party affinity influence most aspects of technology acceptance, some aspects of data attitudes but not the perception of currently used technologies. Feeling insecure about data use by the police or having a nothing-to-hide attitude correlate with the presence or absence of the experience of unfair treatment. These attitudes, in turn, correlate with aspects of technology acceptance and technology perception. The nothing-to-hide attitude is also influenced by age and conservative political attitudes.
- Hamburg is consistently found to be an outlier with particularly high experiences of unfair treatment and more cautious attitudes towards the police as an organisation and the technologies used by it.

The findings suggest that different experiences with the police influence not only the attitude towards the police as an organisation, but also the attitude towards the technologies used in the course of policing. Another finding is that second-hand experience of unfair treatment has similar effects as first-hand experience (although the two also strongly correlate, with rho=0,73). Although the sample of the subgroup of people living in Hamburg is small (22 respondents, 2,1% of all respondents), the study indicates that people living in Hamburg not only have made more negative experiences, but – possibly as a consequence – also feel less positively about police data practices and also wish less for the implementation of more new technologies. Since the comparison with Berlin indicates that this is not due to urbanisation effects, the difference may be due to the G20 summit, which may have influenced the police-citizens relationship. A larger study in Hamburg should test these findings. At the same time, Hamburg appears to be a good location to investigate whether not only policing tactics, but also the technologies used in their course shape the encounters and the experience of unfair treatment. While we identified personal experiences of unfair treatment as the only factor that correlates with trust in the police, we assume that the effect cannot be explained by co-varying factors such as age, education or conservatism. However, since age and personal negative experiences correlate slightly in a negative direction (rho=-0,15), and since both age and personal experience correlate with wishes for policing technology implementation (see Figure 4), it is not clear whether the effect results from covariation or can be fully attributed to personal experiences.

Research indicates that the level of trust in a regime mainly influences acceptance of surveillance, while privacy concerns work on an emotional level, influencing how one feels about surveillance [41]. Future research should investigate whether technology acceptance and feelings in the context of the use of certain technologies differ. In another step, it should be investigated how acceptance and feelings interact and impact police-citizen encounters.

The study shows the attitudes in November of 2019, a few months before the occurrence of the global COVID-19 pandemic which resulted in many infringements on rights in order to reduce the spread of the virus. While previously demonstrations and actions of civil disobedience were mainly performed by left-leaning groups, for example in Germany at the "Hambacher Forst" to block deforestation, at "Ende Gelände" to stop coal mining or at the G20 summit in Hamburg in 2017, new groups have emerged during the COVID-19 pandemic. Protesting the measures against the pandemic, the group "Querdenker" (which roughly translates to "lateral thinkers", "mavericks", or people who think out of the box) was formed, with many of its members belonging to right-wing groups. These groups may or may not understand themselves as performing acts of civil disobedience against a perceived overblown crisis by not wearing masks and demonstrating and may perceive their protest as being illegitimately repressed by the state and the police. In a different contest, an autoethnographic study from Australia presents an account of suppression of protest that adhered to health regulations with COVID-19 justifications [24].

The present study is a good starting point for conducting a follow-up study with a similar design that allows for comparisons in order to test whether the experiences made during the pandemic may have affected the perception of the police in general or of

particular groups. In addition, while this study shows first lines of differentiation of police technology acceptance in the general public, future studies should look at insights from crowd and protest studies and particularly at actions of civil disobedience, which are a focal point of police-citizen encounters that are fraught with tensions. Particularly in instances of confrontation and tension, the perceptions of protester and police officers (also of different police forces or with different police tactics for the event) should be investigated with a view to which technologies aggravate tensions and lead to grievances. Whether the portrayal or use of specific police technologies in such encounters of tension may lead to an escalation rather than the maintenance of order is an open question that should be investigated further.

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A APPENDIX

Table 1: Questionnaire

ID	Question	Original Question (German)
Q01	Please indicate your gender. (Female / Male / Other / Not specified)	Bitte geben Sie Ihr Geschlecht an. (Weiblich / Männlich / Anderes / Keine Angabe)
Q02	Please indicate your highest educational qualification. (Still a student / School finished without graduation / German "Hauptschulabschluss", "Volksschulabschluss" / German "Realschulabschluss", "Mittlere Reife" / Higher technical college entrance qualification / Higher education entrance qualification, A-levels / University Degree / Not specified)	Bitte geben Sie Ihren höchsten Schulabschluss an (Bin noch Schüler*in / Schule beendet ohne Abschluss / Hauptschulabschluss, Volksschulabschluss / Realschulabschluss, Mittlere Reife / Fachhochschulreife / Hochschulreife, Abitur / Hochschulabschluss / Keine Angabe).
Q03	Which federal state do you currently live in? (Baden-Wuerttemberg / Bavaria / Berlin / Brandenburg / Bremen / Hamburg / Hesse / Mecklenburg-Western Pomerania / Lower Saxony / North Rhine-Westphalia / Rhineland-Palatinate / Saarland / Saxony / Saxony-Anhalt / Schleswig-Holstein / Thuringia)	In welchem Bundesland leben Sie aktuell? (Baden-Württemberg / Bayern / Berlin / Brandenburg / Bremen / Hamburg / Hessen / Mecklenburg-Vorpommern / Niedersachsen / Nordrhein-Westfalen / Rheinland-Pfalz / Saarland / Sachsen / Sachsen-Anhalt / Schleswig-Holstein / Thüringen)
Q04	Please list the zip code of the town where you have lived the longest in the last 5 years.	Bitte nennen Sie die Postleitzahl des Ortes, in dem Sie in den letzten 5 Jahren am längsten gewohnt haben.
Q05	Which federal state did you grow up in? (Baden-Wuerttemberg / Bavaria / Berlin / Brandenburg / Bremen / Hamburg / Hesse / Mecklenburg-Western Pomerania / Lower Saxony / North Rhine-Westphalia / Rhineland-Palatinate / Saarland / Saxony / Saxony-Anhalt / Schleswig-Holstein / Thuringia)	In welchem Bundesland sind Sie aufgewachsen? (Baden-Württemberg / Bayern / Berlin / Brandenburg / Bremen / Hamburg / Hessen / Mecklenburg-Vorpommern / Niedersachsen / Nordrhein-Westfalen / Rheinland-Pfalz / Saarland / Sachsen / Sachsen-Anhalt / Schleswig-Holstein / Thüringen)
Q06	Which party would you vote for if there were a federal election tomorrow? (Left Party (Die Linke) / Green Party (Bündnis 90/Die Grünen) / Social Democratic Party (SPD) / Liberal Party (FDP) / Christian Democratic Party (CDU/CSU) / AfD / Others)	Welche Partei würden Sie wählen, wenn morgen Bundestagswahl wäre? (Die Linke / Bündnis 90/Die Grünen (Gruene) / SPD / FDP / CDU/CSU / AfD / Andere)
Q07	How often do you use the following social media? (Axis 1: Facebook / Twitter / Instagram; Axis 2: Never / Not at all or less than 1x a month / At least 1x a month / At least 1x a week / At least 1x a day)	Wie häufig benutzen Sie die folgenden sozialen Medien? (Achse 1: Facebook / Twitter / Instagram; Achse 2: Noch nie / Gar nicht oder seltener als 1x im Monat / Mind. 1x im Monat / Mind. 1x in der Woche / Mind. 1x am Tag)
Q08	Too little is done against ... (Axis 1: left-wing violence / right-wing violence / illegal immigration / islamic terror; Axis 2: Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Es wird zu wenig getan gegen ... (Achse 1: linke Gewalt / rechte Gewalt / illegale Einwanderung / islamistischen Terrorismus; Achse 2: Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q09	All possibilities should be used to better predict crime probabilities. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Es sollten alle Möglichkeiten genutzt werden, um Verbrechenswahrscheinlichkeiten besser vorherzusagen. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q10	I feel insecure about the current police data collection. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Ich fühle mich durch die aktuelle Datensammlung der Polizei verunsichert. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q11	The increased presence of the police at events like Christmas markets makes me feel safer. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Durch die verstärkte Präsenz der Polizei bei Veranstaltungen wie Weihnachtsmärkten fühle ich mich sicherer. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q12	I agree with the current data retention practice. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Ich bin mit der aktuellen Vorratsspeicherung einverstanden. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q13	I am in favour of the nationwide introduction of video surveillance and face recognition, e.g. as tested in Berlin. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Ich bin für die bundesweite Einführung von Videoüberwachung und Gesichtserkennung z. B. wie sie in Berlin getestet wird. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)

ID	Question	Original Question (German)
Q14	The population should have more confidence in the discretionary powers of police officers. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Die Bevölkerung sollte mehr Vertrauen in den Ermessensspielraum von PolizeibeamtInnen haben. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q15	I am unsure how my data will be used in the future. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Ich bin mir unsicher, wie meine Daten in der Zukunft verwendet werden. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q16	If one has nothing to hide one should support the fight against crime with one's information. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Wer nichts zu verbergen hat, sollte durch seine Informationen die Kriminalitätsbekämpfung unterstützen. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q17	I am concerned that data is used disproportionately to pursue uncomfortable opinions. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Ich sorge mich, dass Daten überproportional genutzt werden, um unbequeme Meinungen zu verfolgen. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q18	I am concerned that data is disproportionately used to persecute minorities. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Ich sorge mich, dass Daten überproportional genutzt werden, um Minderheiten zu verfolgen. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q19	I have once been treated unfairly by the police. (Not correct at all / Rather not correct / Neutral / Rather correct / Absolutely correct)	Ich bin schon einmal unfair von der Polizei behandelt worden. (Trifft gar nicht zu / Trifft eher nicht zu / Neutral / Trifft eher zu / Trifft voll zu)
Q20	Friends, family, acquaintances of mine have once been treated unfairly by the police. (Not correct at all / Rather not correct / Neutral / Rather correct / Absolutely correct)	Freunde, Familie, Bekannte von mir sind schon einmal unfair von der Polizei behandelt worden. (Trifft gar nicht zu / Trifft eher nicht zu / Neutral / Trifft eher zu / Trifft voll zu)
Q21	If I had a request, my local police would deal with it quickly and competently. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Wenn ich ein Anliegen hätte, würde sich meine lokale Polizei schnell und kompetent darum kümmern. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q22	The federal authorities fulfill their tasks very well. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Die Bundesbehörden erfüllen ihre Aufgaben sehr gut. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q23	I am against "civil disobedience", like the blocking of open-cast brown coal mines by "Ende Gelände". (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Ich bin gegen „Zivilen Ungehorsam", wie das Blockieren von Braunkohle-Tagebaus durch „Ende Gelände". (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q24	I am generally sceptical about civil servants and do not like giving out unnecessary information. (Strongly disagree / Disagree / Neutral / Agree / Strongly agree) (Strongly disagree / Disagree / Neutral / Agree / Strongly agree)	Ich bin BeamtInnen im Allgemeinen gegenüber eher skeptisch und gebe nicht gerne unnötige Informationen preis. (Stimme gar nicht zu / Stimme eher nicht zu / Neutral / Stimme eher zu / Stimme voll zu)
Q25	In which situations do you tend not to trust the police or tend to behave uncooperatively? (Text)	In welchen Situationen vertrauen Sie der Polizei eher nicht oder verhalten sich eher unkooperativ? (Freitext)
Q26	Why do you tend not to trust the police or tend to behave uncooperatively? (Text)	Warum vertrauen Sie der Polizei eher nicht oder verhalten sich eher unkooperativ? (Freitext)
Q27	In which situations do you particularly trust the police or feel it is your duty to be particularly cooperative? (Text)	In welchen Situationen vertrauen Sie der Polizei besonders oder empfinden es als Ihre Pflicht, besonders kooperativ zu sein? (Freitext)
Q28	Why do you particularly trust the police or feel it is your duty to be particularly cooperative? (Text)	Warum vertrauen Sie der Polizei besonders oder empfinden es als Ihre Pflicht, besonders kooperativ zu sein? (Freitext)
Q29	To what extent do you think these technologies are being used? How do you evaluate the degree of use of ...? (Axis 1: Video surveillance / Face recognition / Telecommunications data retention / Body-Cams (cameras worn on the uniform) / Unmanned aerial systems ("drones") / Remote Online Searches of suspects / Data-based crime forecasting ("predictive policing") / Machine pistols and assault rifles; Axis 2: Scale 1: Not used / Rarely used / Sometimes used / Rather used a lot / Used a lot / Don't know; Scale 2: Should be used less / Is sufficiently used / Should be used more / Don't know)	Zu welchem Grad werden diese Technologien Ihrer Meinung nach eingesetzt? Wie beurteilen Sie den Einsatzgrad von ...? (Achse 1: Videoüberwachung / Gesichterserkennung / Vorratsdatenspeicherung von Telekommunikation / Body-Cams (an der Uniform getragene Kameras) / Unbemannte Luftfahrtsysteme („Drohnen") / Online-Durchsuchung / Datenbasierte Kriminalitätsvorhersage ("Predictive Policing") / Maschinenpistolen und Sturmgewehren; Achse 2: Skala 1: Wird nicht genutzt / Wird wenig genutzt / Wird etwas genutzt / Wird eher viel genutzt / Wird sehr viel genutzt / Weiß nicht; Skala 2: Sollte weniger genutzt werden / Wird ausreichend genutzt/ Sollte mehr genutzt werden / Weiß nicht)

	Group „Nothing to hide“: “If one has nothing to hide one should support the fight against crime with one's information”	Group „Data Insecure“: „I feel insecure about the current police data collection“
Nothing to hide		rho= -0,43
Data insecure	rho= -0,43	
Age	rho= 0,2	rho= -0,1
Unfair experience	**rho= -0,23**	**rho= 0,27**
Education	rho= -0,01	x
Police trust	discretionary powers (rho= 0,53), police presence (rho= 0,3)	discretionary powers (rho= -0,41), civil servants (rho=-0,37), state police (rho=-0,31) local police (rho=-0,27), police presence (rho=-0,19); civil disobedience (rho= 0,1)
Worries about data use	future data use (rho= -0,33), minorities (rho= -0,3), uncomfortable opinions (rho= -0,3)	**future data use (rho= 0,46), minorities (rho= 0,45), uncomfortable opinions (rho= 0,48)**
data practice attitudes	predictive policing (rho=0,49), data retention (rho=0,55), data collection (rho=-0,42), facial recognition (rho=0,62)	facial recognition (rho= 0,38), predictive policing (rho= -0,17)
Status quo technology use	video surveillance (rho=-0,19), data retention (rho=-0,16), remote online searches (rho= -0,13)	data retention (rho= 0,24), video surveillance (rho= 0,19), remote online searches (rho= 0,18)
Technology acceptance (used less to used more)	all, particularly data retention (rho= 0,54), video surveillance (rho= 0,47), facial recognition (rho= 0,44), remote online searches of suspects (rho= 0,42)	remote online searches (rho= -0,4), data retention (rho= -0,4), facial recognition (rho= -0,3), video surveillance (rho= -0,3), predictive policing (rho= 0,28)
Threat perception	terrorism (rho= 0,29), illegal immigration (rho= 0,28), left-wing violence (rho= 0,25)	x

Figure 7: Significant correlation between groups "Nothing to Hide" and "Data Insecure"