Sam Polman
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Influences on Citizens' Support Towards the Usage of Augmented Reality Glasses by the Police

University of Twente
Department of Conflict, Risk & Safety
Dr. Oostinga
Dr. Ir. P. W. de Vries

Abstract

This research explored several factors that could influence citizens' support towards the usage of augmented reality glasses by the police. These factors consisted of different types of information (navigation, updates on crime and facial recognition) provided to the police by the glasses, police legitimacy, perceived public safety and perceived privacy violation. Participants (*N*=45) filled out an online questionnaire and watched a video of an officer explaining one of the three types of information his glasses provide him with. The participants were randomly assigned to one of the three conditions. The findings indicate that there is in fact no relationship between the type of information and the citizens' support. Police legitimacy did not appear to moderate between the type of information and support and privacy and public safety perception did not appear to mediate between the two. However, facial recognition was found to increase feelings of privacy violation and this appeared to have a negative effect on support. Furthermore, a perceived increase of public safety was found to increase support. Future research involving the decrease of feelings of privacy violation and increase of the perceived public safety in order to improve support could prove valuable. Thus, even though the original hypotheses concerning the type of information and support were rejected, several interesting indirect effects were obtained that could play a helpful role in gaining citizens' support towards the integration of new technology in the police force.

Introduction

General Introduction

In many popular futuristic movies, the police are portrayed as a collective capable of using the most high-tech tools in order to catch the bad guys. In RoboCop for example, the main character is murdered and then revived as a superhuman that can use all sorts of technology. Or Iron Man, a superhero film where the main character is capable of producing suits which can fly, shoot, and even use facial recognition inside the masks which can be used by the military. These ideas might seem far-fetched at first glance, but who is to say that features like this are not to be incorporated in the police force any time in the future?

During the past thirty years, the American police force experienced incredible advancement in the field of technology (Sierra-Arévalo, 2019). For example, during the last couple of years, the American police have been interested in equipping their officers with body-worn cameras (Goetschel & Peha, 2017). The Dutch police have also taken on body-worn cameras. Many organizations feel the increasing need to improve their business through implementing innovative technologies (Kohli & Melville, 2019). The police in the Netherlands are currently working on new technologies involving Augmented Reality (AR) glasses to potentially implement into their resources. Even though the usage of innovative technologies has a strong capability of improving police work, research on this topic has not yet been thoroughly developed and therefore still raises questions considering the impact these technologies can have (Koper, Lum & Willis, 2014). When new technologies are being developed, the public is a regularly overlooked factor (Leydesdorff, 2012). It is however extremely important to include the consultation and support of citizens and citizen groups, considering the fact that they are the ones who will eventually have to live with the new technologies (Zoonen, 2016). Moreover, it is very important to note the concerns citizens may have, for example regarding their privacy, when developing new technologies that affect the city so that citizens' support can be upheld (Townsend, 2014).

So far, not much research has been conducted considering the potential influencing factors on public support of the police introducing new technologies to their field of work (Heen et al., 2018). Thus it is important that now the Dutch police are considering using AR glasses, it is researched how the public feels about this development. This study aims to shed a light on whether or not the Dutch public is supportive of the usage of AR glasses by the Dutch police force. Several potentially influencing factors will be taken into account, namely perceived police legitimacy, privacy concerns, public safety perceptions and the type of info

that is shared with the people by the AR glasses. These factors were chosen to be researched because they could prove to be of valuable significance when researching people's support for new technologies being implemented into their lives. The factors that will be researched all involve the feelings that the glasses may awaken in citizens and therefore could be extremely interesting in understanding why people are (not) supportive towards the usage of AR glasses by the police. More information considering the importance of investigating these factors will be given in the following paragraphs. In the following paragraph, the focus will be on augmented reality as a technology. Some prior research that has been done on the influence of different types of technology used by the police on citizens will also be looked into before the current research is explained more thoroughly.

Augmented reality potential in the police force

Augmented reality is a technique used to add images into the visual field through calculating the angle and position of real time visuals. The images are then implemented onto the screen in order to enable an interaction between the real world and the visual imagery (Zhang, 2018). Of course, this enables for many interesting innovative usages. Because augmented reality glasses can be worn rather than held, it enables the user to be provided with information without having to use their hands. This means that if necessary, the user can jump right into action without having to put anything away. Therefore, these glasses could prove to be a valuable tool to be used by police officers. For example, the glasses could provide the officers with navigation in order to make it easier for them to move quickly around the city. Furthermore, officers could be provided with live updates of criminal activity going on in the neighborhood on their glasses so that they are immediately up to date and can take off to the crime scene. Or maybe the glasses could even include a facial recognition program that allows the officers to recognize criminals as soon as they see them, so that they can arrest people more easily. These three types of usage (navigation, updates on crime, facial recognition) will be researched in this study.

Purpose of augmented reality in relation to support

The police are already working with several kinds of technology. In some places of the world, the police are already using body-worn cameras and the public appears to be mainly supportive of these technologies (Sousa, Miethe, & Sakiyama, 2015, 2017). Next to that, the police have been experimenting with the implementation of several types of new technologies. An example of this exists with the usage of drones. It has been researched how the public reacts to the usage of drones by the police. It was found that the public reacts differently depending on how (in what way, why and by whom) drones are used by the police.

(Miethe et al., 2014; Sakiyama, Miethe, Lieberman, Heen, & Tuttle, 2016). The people of the United States for example are more supportive of the usage of drones in reactive situations, for instance when they are used for immediate responses to service calls. The public is less supportive of this new technology when it is used for proactive policing. This includes for example monitoring or crowd surveillance in order to prevent violence from happening (Sakiyama et al., 2016). Monmouth University (2013) showed that most Americans are supportive of the usage of drones when it comes to rescue situations, the tracking of criminals and immigration control in comparison to when drones are used for issuing speeding tickets for example.

In this research, navigational purposes and live updates on crime are more reactive and facial recognition is more of an example of proactive policing. Since people appear to be more supportive in the case of reactive situations in comparison to the case of proactive policing (Sakiyama et al., 2016), it is hypothesized that people will be more supportive when the augmented reality glasses are used for live updates on crime and for navigation purposes in comparison to when the glasses are used for facial recognition.

Perceived police legitimacy in relation to support

Furthermore, it has been found that people are generally more supportive of the usage of new technology, in this case drones, by the police when the people have positive feelings toward the police force, for example when they respect the police and feel a form of obedience towards them (Heen et al., 2018). Heen et al. (2018) also found that when the perception of police legitimacy was higher, the people were more supportive of the new technology in both reactive and proactive situations. Therefore, this study will measure whether there is a connection between the perceived police legitimacy (e.g. feelings of respect and obedience) and the citizens' support towards the usage of AR glasses by the police. Because it has been found that people are generally more supportive of the usage of new technology when they perceive the police as more legitimate, it is expected that people who perceive the police force as more legitimate, will generally be more supportive of the usage of AR glasses by the police in comparison to people that do not feel like the police force is as legitimate in all purposes of the glasses. Thus, it is hypothesized that police legitimacy moderates the relationship between the type of information provided by the glasses and the citizens' support towards the glasses.

Perceived privacy issues in relation to support

Research shows that people estimate what purpose their data can offer and count the contributions that sharing their personal data may hold. Most people are prepared to distribute

their data with the organizations requesting the data as long as the benefits are of actual personal interest (Acquisti, John & Loewenstein, 2013). However, a significant source of opposition of the public to the usage of drones by the police are concerned with the privacy issues new technologies may awaken (Lieberman, Miethe, Troshynski, & Heen, 2014; Miethe et al., 2014). Noteworthy threats exist with respect to privacy concerns. For example, at the moment, facial recognition can be used on CCTV camera footage. This is an instance of very personal data which citizens generally consider to be eminently sensitive (Samatas, 2008). Research has shown that citizens' concerns about privacy diminish their support towards a new technology being used by the police (Sakiyama et al, 2016). Thus, it is highly important to measure privacy concerns in more than one scenario and involving several types of data in order to find out if in this case, more personal data (facial recognition) evokes more feelings of privacy violation than less personal data (navigation and updates on crime).

It is expected then that the citizens believe their privacy is more strongly violated when the police have access to more personal data (in the case of facial recognition) in comparison to when the officers are provided with more direct or general data (in the case of navigation and live updates on crime) and they will be more supportive of the usage of AR glasses when they feel like their privacy is respected in comparison to when they feel like their privacy is violated. Due to the fact that it has been found that people are more supportive when they feel like their privacy is respected, it is hypothesized that citizens' privacy concerns mediate the relationship between type of information shared with the police by the AR glasses and citizens' support of AR glasses so that more personal information (as is the case with facial recognition) creates more privacy concerns and in turn decreases the support in comparison to more general information (like navigation and live updates on criminal activity).

Perceived public safety in relation to support

In addition, it has been found that the public appears to be more supportive of new technology being used by the police when the people believe that this technology will help increase the public safety (Heen et al., 2018). Moreover, Lieberman et al. (2014) showed in their research that the usage of new technology for monitoring purposes in public were deemed relatively ineffective to improve the public safety by citizens. Therefore, it is important to investigate whether the different usages of AR glasses by the police have an effect on the perception of public safety by the citizens and how this may affect their support towards the new technology. As facial recognition can be considered a form of monitoring because the glasses would always be scanning faces, and citizens were found to deem

innovative technology relatively ineffective on improving public safety in the case of monitoring, it is possible that in this case, citizens will feel like their public safety is improved less in the case of facial recognition than in the case of the other purposes of the glasses (navigation and updates on crime). It is hypothesized then, that perceived public safety mediates the relationship between type of information and support, so that monitoring purposes (as is the case with facial recognition) create less feelings of improved public safety and in turn decrease the support in comparison to more reactive police work (like in the cases of navigation and live updates on crime).

Methods

Participants

Participants were recruited through the SONA program of the University of Twente and through distributing the questionnaires on Facebook. The networks of family and friends were also used to recruit participants. After data collection, 188 responses were obtained. There were a total of 9 videos with corresponding questionnaires. Three videos involved a police officer using no technology and three videos showed an officer using his mobile phone. This research focuses solely on the three videos in which the officer uses AR glasses. Therefore, only 45 complete responses were usable for this particular research as only the people who were assigned to one of the three AR categories (AR navigation, AR updates on crime, AR facial recognition) and who actually answered the final questions regarding support, privacy and public safety could be used in the analyses.[1] 73.3% was female (*N*=33), 26.7% was male (*N*=12). 93.3% was Dutch (*N*=42), 6.7% was German (*N*=3). The ages of the participants ranged from 17 to 75. The mean was 31.8. 46.7% were students (*N*=21), 40% were working (*N*=18) and 13.3% (*N*=6) responded with 'other'.

Materials

Qualtrics was used to distribute a survey to the SONA system of the University of Twente and to Facebook. Participants who were recruited through the SONA program of the university were also redirected to Qualtrics.

Procedure

The videos used in this research were recorded with the help of a police officer from the police academy and placed into the Qualtrics questionnaires. The police officer in the videos signed an informed consent concerning the distributions of the videos. The BMS faculty of the University of Twente ethically approved this research. The participants were informed that the study aims to research citizens' perception of police officers. They were not yet informed about the true nature of the research, which concerns the perceptions of citizens concerning technology used by the police. The participants then gave their informed consent and were told they are free to quit at any desired moment. After the participants filled out the questionnaire, they were debriefed and enlightened with the true purpose of the research. All

[1] A Mahalanobis distance test, Cook's distance test and a leverage test were performed. Two people scored too high on both the Cook and the leverage test and one person scored too high on all 3 tests. However, because excluding them from the data does not significantly alter the data and the sample size is not large to begin with, they were not removed from the analyses.

participants whose data was researched in this particular report were shown one of three videos and then filled out the rest of the respective questionnaires and filled out their age, gender, nationality, occupation and place of living.

Manipulation

The participants were randomly assigned to one of three questionnaires. The three videos used in this particular study consisted of one video in which the officer explains that he uses his AR glasses for navigational purposes. For example, he says 'Because my AR glasses showed exactly which shortcuts we could take, we were at the scene in no time.' In the second video, the officer says he uses his AR glasses to receive updates on criminal activities going on in the neighborhood. He states for example 'Because my AR glasses showed me at which store theft is common, we were at the scene in no time'. The last video shows the officer saying his AR glasses have a facial recognition function. In this video, the officer says for example 'Because I could scan the faces of the people in the street with my AR glasses, and they were immediately run through the facial recognition program, we caught the shoplifter in no time.' The full scripts that were used in the videos are shown in Appendix I.

Measures

Support of the Usage of AR Glasses by the Police. In order to measure the support participants feel towards the usage of AR glasses by the police they were presented with 1 question based on the measure used by Heen et al. (2018) on a 5-point Likert scale (1= not supportive at all, 5= very supportive). The question was 'In general, how supportive are you of the usage of augmented reality glasses by the police?' A high score on this scale means that participants are supportive of the usage of AR glasses by the police.

Police Legitimacy. In order to measure police legitimacy, items retrieved from the study of Tyler and Fagan (2008) were used. The participants were requested to state whether or not they agreed with several statements. Three parts of police legitimacy needed to be measured. Obligation, trust and confidence. In order to measure 'obligation', a part of the police legitimacy scale, participants were shown ten statements about which they could provide information considering their attitudes using a 5-point Likert scale (1= completely disagree, 5= completely agree). These questions consisted of for example: 'In general, the police is a legitimate authority and people should obey the choices of the police.' All questions used to measure police legitimacy can be found in Appendix II.

In order to measure 'trust', the participants were provided with five statements, and were again asked to respond using a 5-point Likert scale (1= completely disagree, 5=

completely agree). One of the statements presented to the participants was 'I trust that the police perform her tasks well.'

Lastly, in order to measure 'confidence', nine statements were presented to the participants, again to be responded to using a 5-point Likert scale (1= completely disagree, 5= completely agree). An example of these statements is 'If I were to speak with the officers working in my neighbourhood, I believe they would share my point of view on many matters.'

Scale reliability and factor analysis. Firstly, a reliability analysis was conducted and showed that the police legitimacy scale appeared to have a sufficient internal consistency (α = .91). The initial eigenvalues showed that there are three factors which respectively account for 36%, 17% and 10% of the variance. One more factor was found with an eigenvalues of barely more than one. A principal components factor analysis using varimax rotations was performed, which showed that three factors explained for 61% of the variance. Appendix III provides an overview of each item's communalities. The subscale labels by Tyler and Fagan (2008) seemed fitting for the found factors, as after rotation most questions of each subscale did indeed group together. Thus, the analysis suggests that the three factors obligation, trust and confidence did indeed underlie the police legitimacy scale. These different parts are all part of one scale to measure police legitimacy and were made into one average scale in the end which included all three parts. A high score on this scale means that participants consider the police as legitimate.

Privacy. In order to measure the participants' views on the possible invasion of privacy they were presented with a single statement based on the measure used by Heen et al. (2018) and a 5-point Likert scale (1= completely disagree, 5= completely agree). The statement was 'The usage of augmented reality glasses by the police violates personal privacy.' A high score on this scale means that participants feel like their privacy is violated because of the usage of AR glasses by the police.

Public Safety. In order to measure the participants' views on the possible increase in public safety due to the usage of AR glasses by the police they were presented with a question based on the measure used by Heen et al. (2018) and a 5-point Likert scale (1= completely disagree, 5= completely agree). The question sounds 'Do you feel like the public safety will improve due to the usage of augmented reality glasses by the police?' A high score on this scale means that participants feel like the public safety will improve because of the usage of AR glasses by the police.

Results

Table 1 shows the means, the standard deviations and the correlations between the study measures. As expected, perceived privacy violation significantly correlates negatively with support and perceived public safety significantly correlates positively with support. Interestingly, no significant correlation was found between legitimacy and support.

Table 1
Descriptive Statistics and Correlations

	M	SD	1	2	3	4	5
1. Age	31.82	16.04					
2. Gender[2]	1.73	.50	-.35*				
3. Legitimacy	3.76	.50	-.27	.27			
4. Support	3.51	.97	-.15	-.15	-.01		
5. Public safety	3.36	.86	-.39*	.08	-.01	.54*	
6. Privacy	2.91	1.10	.13	.04	-.21	-.30*	-.06

N=45.
*$p < .05$

Hypothesis testing

Hypothesis 1 and 2. It was hypothesized that citizens are more supportive of the usage of AR glasses by the police when the glasses are used for live updates on crime and for navigation purposes in comparison to when the glasses are used for facial recognition. Furthermore, it was hypothesized that perceived police legitimacy moderates the relation between type of information and support. To investigate whether this is the case, an

[2] 1=male, 2=female

UNIANOVA was conducted to compare the effect of the type of information on the citizens' support of the glasses in the conditions navigation, updates on crime and facial recognition and to check the potential moderating effect of police legitimacy. The dependent variable was support and the independent variables were the type of information and police legitimacy. There was no significant effect of the type of information on support, $F(2, 39)=2.92$, $p=.07$. However, a trend in the direction of hypothesis 1 was found, as the mean score for support is higher for navigation ($M=3.56$, $SD=.73$) and for updates on crime ($M=3.67$, $SD=.90$) than for facial recognition ($M=3.29$, $SD=1.27$). Moreover, the effect of legitimacy on support was not significant, $F(1,39)=.10$, $p=.76$. The interaction effect between type of information and legitimacy was also not significant, $F(2,39)=2.62.$, $p=.09$, indicating that in this case, legitimacy did not serve as a moderator.

Hypothesis 3. The hypothesis states that perceived privacy violation mediates the relation between type of information and support. Because the ANOVA performed in hypothesis 1 showed that there is no significant direct effect between type of info and support, additional analyses were conducted to find out if there are any significant indirect effects worth mentioning. Firstly, a one-way between subjects ANOVA was conducted to compare the effect of the type of information on the perceived privacy violation for the navigation, updates and facial recognition conditions. There was a significant effect of the type of information on perceived privacy violation at the $p<.05$ level for the three conditions [$F(2, 42) = 8.73$, $p< .01$]. Post hoc comparisons using the Tukey HSD test indicated that the mean privacy violation score for facial recognition ($M=3.79$, $SD=.98$) was significantly higher than for navigation ($p=.001$, $M=2.44$, $SD=.96$) and for updates on crime ($p=.005$, $M=2.60$, $SD=.91$). There was no significant difference in perceived privacy violation between navigation and updates on crime ($p=.88$). Thus, these results suggest that facial recognition has an effect on the perceived privacy violation. Specifically, citizens who are confronted with an officer using AR glasses for facial recognition, feel like their privacy is more violated.

Moreover, a simple linear regression was calculated to predict support based on privacy violation, $b=-.30$, $t(43)=10.75$, $p<.01$. A significant regression equation was found [$F(1,43)=4.150$, $p=.05$], with an $R2$ of .088. This indicates that as perceived privacy violation increases, the support decreases. Thus, even though mediation did not occur, facial recognition did have a significant effect on privacy violation and privacy violation was found to have a significant effect on support.

Hypothesis 4. The hypothesis states that perceived public safety mediates the relationship between type of information and support. Again, because the ANOVA performed

in hypothesis 1 showed that there is no significant direct effect between type of info and support, additional analyses were conducted to find out if there are any notable significant indirect effects. Firstly, a one-way between subjects ANOVA was conducted to compare the effect of the type of information on the perceived public safety increase for the navigation, updates and facial recognition conditions. There was no significant effect of the type of information on the perceived public safety increase for the three conditions [$F(2,42)=0.01$, $p=.99$], indicating that the type of information has no significant effect on the citizens' feelings of public safety.

Furthermore, a simple linear regression was calculated to predict support based on the perceived public safety, $b=.54$, $t(43)=2.90$, $p<.01$. A significant regression equation was found [$F(1,43)=17.979$, $p<.01$], with an $R2$ of .295. This indicates that as perceived public safety increases, the citizens' support of the glasses increases. In conclusion, mediation did not occur, but public safety was found to have a significant effect on support.

Discussion

Outcomes

The aim of this study was to shed a light on the potential influencing factors on citizens' support of the usage of AR glasses by the police. Three different scenarios were used to measure whether there was a difference in support between different types of information. Moreover, the effects of police legitimacy, public safety and perceived privacy violation on support were taken into account. It was found that there is no significant effect of the type of information on support. Therefore, in this research there was no significant difference in support between the different types of information provided to the officers by the AR glasses. Naturally, this is not what was expected as all four hypotheses expected a significant relation between the two variables. However, a trend in the direction of the first hypothesis was found, as the support is higher for navigation and for updates on crime than for facial recognition. The hypothesis concerning type of data and support was mainly based on the fact that people appear to be more supportive in case of reactive situations in comparison to the case of proactive policing (Sakiyama et al, 2016). Perhaps because the officer in this research merely explained the purpose of his glasses, rather than showing it in action, it was difficult for the participants to assign the purpose of the glasses to either attribute to proactive or reactive policing. This is something to keep in mind should this research be replicated. Perhaps a sort of pilot test of the videos in order to measure people's views on the proactive and reactive scenarios would prove to be effective.

Privacy and public safety were not found to be significant mediators and legitimacy was not found to be a significant moderator between type of information and support. This was mainly the case because the relationship between type of information and support was found to be insignificant in this report. However, it was found that facial recognition did indeed lead to significantly more feelings of privacy violation than the other two categories. This finding is in line with the findings of Samatas (2008) who stated that facial recognition is considered sensitive data that citizens are weary of. It was also found that feelings of privacy violation significantly lower the citizens' support. This was then in line with the findings of Sakiyama et al (2016), who claimed that feelings of privacy violation decrease the support of citizens to new technologies.

Furthermore, it was found that when the citizens believe the AR glasses increase the public safety, their support significantly increases as well. This aligns with the statement of Heen et al. (2018) who said support increases as the perceived public safety increases. Thus,

even though all initial hypotheses were rejected, mainly due to the non-existent relationship between type of information and support, several significant indirect effects were found that were to some extent in line with the initial hypotheses.

Limitations and Suggestions for Future Research

Several factors could potentially have influenced the outcomes of the research and therefore might have had something to do with the fact that all initial hypotheses were rejected. First of all, only 45 participants fully filled out the questionnaires which were used for this particular research. More participants were desired as a representative sample of the population was aimed for, but despite many efforts to gain participants, not as many people as originally desired filled out the questionnaires.

Moreover, it was originally planned to find participants in real life rather than through an online questionnaire. That way, it might have been easier to find participants and it might have been more manageable to make sure that the participants stayed as focused as possible throughout the entire video and the corresponding questionnaires. However, this proved to be impossible due to the COVID-19 pandemic which arose during the time of the research. An online questionnaire was the only option able to be performed within the desired timeframe. Due to the fact that the participants did it online, by themselves, there is no way to make absolutely sure that the participants listened closely to the police officer in the video. Naturally, their full attention is necessary in order to obtain valid results which actually measured the desired factors. Should this research be replicated in the future, it could prove extremely helpful to stay by the participants' side in order to make sure they pay close attention to what is being explained.

Furthermore, the manipulations in the videos were relatively small. This can be risky when the analyses aim to measure the difference between the scenarios portrayed in the videos. All videos were created to be as similar as possible in order to avoid creating any biases. However, because the manipulations were so small, and the manipulated parts might have been hard to notice had one not fully paid attention, it is difficult to say whether all participants have actually paid close enough attention while the function of the AR glasses was being explained. Therefore, there is no way to certainly state that most participants have actually heard what was desired. Something that might have been able to improve this matter, could be making the manipulation slightly more obvious. For example, having the officer using facial recognition go into a bit more depth of the way the glasses work, or having the officer using navigation explain exactly how he receives his instructions.

Another idea that may have made the videos more interactive and the manipulations more obvious would be to let the participants 'have a look' through the glasses rather than only hearing its functions explained in order to show them how the glasses scan faces or receive updates on criminal activity going on in the neighborhood. This way the participants might be more able to distinguish between proactive and reactive policing. For example, the participants would have seen that the facial recognition is always in operation, not merely sometimes and they would have seen that the navigation and updates on crime features are only in operation if necessary. This might have made the manipulations more notable and might have produced more valid, interesting findings. These are matters to keep in mind, should the research be replicated.

Conclusion

In conclusion, the conducted analyses were not able to prove any of the predicted hypotheses. However, several significant indirect effects were found that might prove useful when aiming to increase citizens' support towards the usage of AR glasses by the police. Therefore, even though the hypotheses were rejected, there are some interesting lessons to be learned regarding the influence of privacy concerns and perceived public safety increases on the support of citizens towards the glasses. As facial recognition was found to have an effect on privacy concerns, it might prove helpful to inform citizens about the positive effects facial recognition could have on the improvement of solving crimes and arresting wanted criminals so that the positive effects could outweigh their concerns. Moreover, it was found that perceived public safety and feelings of privacy violation affect citizens' support toward the glasses. Therefore, before implementing the AR glasses definitively, it could prove wise to inform the citizens of the fact that these glasses could improve their public safety and that as long as they are not wanted by the police, facial recognition is nothing they should fear because it could greatly improve the capturing of criminals. Because these glasses are a brand-new technology to be potentially implemented into the police force, more research concerning different factors (including the factors researched in this paper) influencing the citizens' feelings towards the glasses could prove to be extremely helpful and interesting.

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Appendix I - Video Scripts

Navigation - Ik gebruik mijn augmented reality bril om te zien waar ik moet zijn. Omdat mijn AR bril mij precies laat zien waar ik naartoe moet, is het eenvoudig voor mij om snel te gaan naar waar ik moet zijn. Ik heb laatst nog een situatie meegemaakt, waarin mijn collega en ik werden opgeroepen om zo snel mogelijk naar de hoofdstraat te komen voor een winkeldiefstal. Doordat mijn AR-bril precies aangaf welke sluiproutes we konden nemen, waren we er binnen no time.

Updates on crime - Ik gebruik mijn augmented reality bril om op de hoogte te zijn van criminele activiteiten die in de buurt plaatsvinden door middel van notificaties op de glazen van mijn bril. Omdat mijn AR-bril mij onmiddellijk op de hoogte stelt van waar veel criminaliteit plaatsvindt, weet ik waar ik moet beginnen met kijken wanneer er iets gaande is. Ik heb laatst nog een situatie meegemaakt, waarin mijn collega en ik werden opgeroepen om zo snel mogelijk naar de hoofdstraat te komen voor een winkeldiefstal. Aangezien mijn AR-bril aangaf bij welke winkel vaker wordt gestolen, waren we er binnen no time.

Facial recognition - Ik gebruik mijn augmented reality bril om het gezicht te scannen van de mensen die ik zie, zodat ik bekende criminelen eenvoudig kan herkennen. Omdat mijn AR-bril een gezichtsherkenning functie heeft, worden bepaalde zaken eenvoudiger voor mij. Ik heb laatst nog een situatie meegemaakt, waarin mijn collega en ik werden opgeroepen om zo snel mogelijk naar de hoofdstraat te komen voor een winkeldiefstal. Aangezien ik de gezichten van de mensen in de winkelstraat kon scannen met mijn AR bril en direct door het gezichtsherkenning programma kon halen, hadden we de winkeldief binnen no time.

Appendix II – full questionnaires police legitimacy

(1) **Legitimacy - obligation**

Over het algemeen is de politie een legitieme autoriteit en men moet de keuzes van de politie gehoorzamen. (2) U zou de keuzes van de politie moeten accepteren, ook al vindt u deze niet juist. (3) U moet doen wat de politie zegt, zelfs wanneer u de reden voor deze keuze niet begrijpt. (4) U moet doen wat de politie zegt, zelfs wanneer u het niet eens bent met deze keuze. (5) U moet doen wat de politie zegt, zelfs wanneer u het niet fijn vindt hoe de politie u behandelt.

(2) **Legitimacy – trust**

(1) 'Ik heb er vertrouwen in dat de politie haar taken goed uitvoert'. (2) Ik vertrouw erop dat de leiders binnen de politie keuzes maken die goed zijn voor iedereen in de stad. (3) De basisrechten van de mens worden goed beschermd door de politie. (4) De politie geeft om het welzijn van iedereen waarmee zij te maken hebben. (5) De politie is vaak oneerlijk (reverse scored). (6) Sommige dingen die de politie doet, brengen onze stad in verlegenheid (reverse scored). (7) Er zijn veel dingen die veranderd moeten worden aan de politie en haar beleid (reverse scored).

(3) **Legitimacy - confidence**

(1) Wanneer ik met de politieagenten die werken in mijn buurt zou praten, denk ik dat zij dezelfde standpunten hebben over veel zaken. (2) Mijn achtergrond lijkt op de achtergrond van de meeste agenten in mijn buurt. (3) Meestal kan ik begrijpen waarom de politie in mijn buurt op deze wijze haar taken uitvoert in een bepaalde situatie. (4) Over het algemeen vind ik de agenten in mijn buurt aardig. (5) Als de agenten uit mijn buurt mij zouden kennen, zouden de meesten mijn normen en waarden respecteren. (6) De meeste agenten in mijn buurt zouden waarderen wat ik toevoeg aan mijn buurt. (7) De meeste agenten in mijn buurt zouden mijn levensstijl goedkeuren. (8) Ik ben trots op het werk van de politie. (9) Ik ben het eens met veel waarden die bepalen waar de politie voor staat.

Appendix III – communalities table

Communalities		
	Initial	Extraction
Obligation1	1,000	,643
Obligation2	1,000	,745
Obligation3	1,000	,914
Obligation4	1,000	,882
Obligation5	1,000	,695
Trust1	1,000	,759
Trust2	1,000	,700
Trust3	1,000	,638
Trust4	1,000	,566
Trust5	1,000	,756
Trust6	1,000	,590
Trust7	1,000	,762
Confidence1	1,000	,537
Confidence2	1,000	,504
Confidence3	1,000	,801

Confidence4	1,000	,694
Confidence5	1,000	,608
Confidence6	1,000	,560
Confidence7	1,000	,609
Confidence8	1,000	,737
Confidence9	1,000	,758