

The Relationship Between Antisocial Stereotypes and Public CCTV Systems: Exploring Fear of Crime in the Modern Surveillance Society

Dr David Williams and Ms Jobuda Ahmed

School of Psychology

University of Hertfordshire

Comments and queries should be addressed to:

Dr David Williams

Senior Lecturer in Social Psychology

School of Psychology

University of Hertfordshire

College Lane

Hatfield

Herts.

England AL10 9AB

Tel 01707 285250 e-mail D.A.Williams@herts.ac.uk

ABSTRACT

Situational crime deterrence measures like CCTV are not always associated with reductions in fear of crime. This study explores this **unexpected** finding by investigating the interaction between target type and the presence of a CCTV camera, in order to test the effect this has on impressions of the target and corresponding fear of the location the target was shown in. **Participants (n=120) were shown either a** picture of a male ‘skinhead’, a ‘studious’ female, or no one within an urban setting in which an obvious CCTV camera was either present or absent. Participants then rated the scene using scales estimating crime frequency, worry and target activity. Estimates of location safety fell for the male ‘skinhead’ target and activity impressions were more negative, but only when a CCTV camera was also present. Ironically, in some circumstances, public crime deterrence measures may prime pre-existing negative stereotypes about others and so foster suspicion, undermine trust in others, and increase fear of crime.

Key Words: CCTV; Surveillance; Fear of Crime; Gender Stereotypes; Trust
(Institutional ethical approval application PSY/12/06/JA)

Open street public CCTV systems are an ever-present feature of the modern urban landscape. It has been estimated that there are some 4.2 million cameras which are either within, or visible from public space in the UK (McCahill & Norris, 2003; Norris, McCahill & Wood, 2004). CCTV systems are designed to serve a number of goals (Gill & Spriggs, 2005; Williams, 2008), with reductions in fear of crime (FOC) being a stated objective since the early days of their introduction (Honest & Charman, 1992 p2). More recently, Gill & Spriggs (2005 p44) describe reducing fear of crime as one of CCTV's 'main objectives'. However, the findings in relation to CCTV and public reassurance are complex and mixed. For example, Ditton (2000) found that respondents prospectively estimated a reduction in FOC (safety) after the introduction of CCTV to Glasgow city centre. Despite this, when the system was installed no significant difference emerged in FOC, a pattern that paralleled results in two control locations. In fact, somewhat strikingly, Ditton also found that respondent claims that they would 'avoid' the city centre (where cameras had been installed) rose consistently from 50 to 59 and 65 per cent in the years 1994, 1995 and 1996 respectively. Yet, over the same period respondents showed the reverse trend in control locations without cameras (43, 39, and 37 per cent). These

sorts of findings are not confined to a single measure of FOC within the Ditton (2000) study, nor are they confined to this study alone. More recently Gill & Spriggs (2005) sought to test whether people's worry about being a victim of crime, or their felt safety, altered after the introduction of CCTV systems in 12 different locations. They found a reduction in victimisation worry in all locations after the installation of CCTV, but only in two of these locations was the effect significantly different from control locations. A further comparison between individuals within two areas was undertaken to test if those who were more aware of the cameras showed less worry about crime. The results showed the opposite effect, as: *"those respondents who were aware of the cameras actually worried more often about crime than those who were not"* (p48). Gill & Spriggs (2005) claim this may be due to the way in which the assumed need for CCTV in an area makes the location seem more problematic than was previously thought. Some studies do attribute reductions in FOC to CCTV, but often this main finding is restricted by further analysis. For example, Sarno, Hough, & Bulos, (1999) found that 66% of their sample agreed, *"CCTV makes the public feel safer"*, however, reported feelings of 'safety' remained the same whether or not a person was actually aware of the presence of the cameras (p23). In summary, the relationship between the presence and installation of visible

public CCTV systems seems complex, and somewhat ironically, the presence of CCTV may increase FOC in some locations.

FOC is a well-researched area by both psychologists and criminologists alike. Explanations have variously focused on economic vulnerability (Pantazis, 2000); physical vulnerability (Killias, 1990); media consumption (Gerbner, Gross, Morgan, & Signorielli, 1994); differential processing of crime messages (Ditton, Chadee, Farrall, Gilchrist & Bannister, 2004; Shrum, 2001); social demographic factors (Farrall, Bannister, Ditton & Gilchrist, 2000); phobias (Clark, 2004). For a methodological review of FOC see Ferraro & LaGrange (1987), Farrall, Bannister, Ditton & Gilchrist (1997) and Gabriel & Greve, (2003); for a literature review see Hale (1996). In the case of CCTV, the Van der Wurff, Staalduin & Stringer (1989) 'social psychological' FOC model is relevant because it predicts FOC by including psychological factors within the individual and aspects of others within the situation, but also includes aspects of the built environment in which CCTV may be found.

The Van der Wurff et al., model predicts FOC will increase when potential victims see themselves or their possessions as an attractive target and they

estimate that others with whom they share public spaces have evil intentions (i.e., they cannot be trusted because they are likely to be a danger to the self). The model also predicts that a person's vulnerability in the face of the power of others affects FOC. Finally, the model predicts that the location that a person inhabits may seem dangerous because such things as exit routes may be blocked, or it appears littered with potential weapons.

According to the van der Wurff et al., (1989) model, the presence of CCTV within a location may have quite contradictory effects upon FOC dependent upon whether a person feels in immediate need of protection. For example, when in no special need of reassurance, on spotting a camera, the user of a public space might reason that others have 'evil intent' or that the danger presented by powerful others is such that cameras are called for. Further, CCTV cameras and related signage may suggest an area especially prone to crime, or frequented by criminals. Mistrust of others in residential settings, and a low 'sense of community' are both associated with FOC (Sampson & Raudenbush, 1999; Schweitzer, Woo Kim, & Mackin, 1999) and could be enhanced with the addition of salient deterrent measures in a given location. It may be that crime deterrence measures like CCTV, as well as offering reassurance, may act as a situational cue that indicates the extent to which

others within a location pose a danger to the self and ought not be trusted (see Wood, 2006 for a discussion on this point in terms of surveillance in general). In the long term such impressions may translate into more enduring estimates of location safety as given in surveys via some form of affect tagging of recollections of the area (e.g., Slovic, Finucane, Peters, & MacGregor, 2002, p.400).

FOC associated with a given location may be a construal governed not just by an immediate tally of deterrence measures, escape routes and defensible spaces (Newman & Franck, 1980), but may also include consideration of current goals, and a complex interpretation of the goals and characteristics, including primed stereotypical perceptions of others in a given location. The meaning given to a CCTV camera may differ dependent upon whether it stands over a school playground (protection for) or a group of youths in a shopping precinct (protection from). In the former case CCTV may act as a cue that primes notions of vulnerability and in the latter suggest a threat.

Interpreting the function of the CCTV camera within a given location and the intentions of those (targets) beneath it may also depend on pre-existing stereotypes associated with these targets. For example, attributions towards

an approaching person are, of course, likely to be different had this person approached from the porch of a Church rather than the door of a pub. It is also possible that the gender or age of the target may interact with a cue like CCTV such that stereotypes such as ‘vulnerable’ versus ‘threatening’ are primed for females and males respectively, and that this in turn may affect people’s general impressions of a given situation and whether it is threatening or not. Finally, despite pre-existing stereotypes and aspects of the location that may prime concern or offer reassurance, certain targets are in fact more or less vulnerable within a particular location or appear so dependent upon their actual behaviour. The lone individual is less of a physical threat to the self than a large group, and some individuals may appear more intimidating than others simply because their behaviour tests acceptable conduct in a public space (for example appearing drunk in public, Dixon, Levine & McAuley, 2006). For clarity, the foregoing relationships between stereotypes, targets and a location in terms of FOC are illustrated in figure 1 below.

Figure 1 about here

When out and about people may not always attend to crime deterrence measures like CCTV in a given location. It is possible that some only attend to such devices after they have felt threatened by a situation and then find the notion that they may be being overseen reassuring. The model outlined in figure 1 assumes that even in the absence of any ongoing emergency, at least some people notice CCTV (and other deterrent measures) some of the time. This may not be an unreasonable assumption, if made with caution. Three months after the installation of cameras in Glasgow city centre 33% of those sampled within the location knew of their operation (Ditton, 2000). Gill & Spriggs (2005) found levels of awareness to be between 61% and 97%, although the positive correlation they found between camera density and awareness was not significant.

In essence, the model predicts a dynamic relationship between salient crime deterrent measures like CCTV, observer preconceptions and characteristics of a target to arrive at an overall assessment of a situation as threatening. It is dynamic in the sense that deterrence cues in a location may prime notions of 'Evil Intent' when there is a correspondence between it and a readily accessible negative social stereotype for a given target, yet prime positive reassurance in other circumstances. Context has often been shown to affect

people's interpretation of a range of stimuli, such as the meaning of letters (Selfridge, 1955), attitudes (Schwarz & Strack, 1991), and social stereotypes (Bodenhausen, Schwarz, Bless & Wanke, 1995) including both gender (Plant, Kling & Smith, 2004) and race (Graham & Lowery, 2004). Wittenbrink, Judd & Park (2001, study 2) measured people's implicit attitudes towards either a Black or White target that was shown in either the context of a 'street corner' or a 'church'. A strong interaction was found such that for Black targets only, negative stereotypic responses were affected by the nature of the context in the predicted direction. In the present case, CCTV may enhance perceptions of the 'dangerous' other if this accords with pre-existing negative beliefs about the threats which others, especially drawn from certain social groups, may pose. For the purposes of this study, it is expected that a male 'skinhead' may attract more criminal or antisocial stereotypes, than a 'studious' looking female. Stereotypical perceptions may vary by both gender (Box, 1983; Eagly, 1994; Goodey, 1997; HO Criminal Statistics, 2005, p45) and lifestyle appearance (skinhead/studious), but these are combined here in order to enhance the differences between the targets in a predictably antisocial/pro-social direction.

Finally, although the focus has fallen upon CCTV within this introduction, there are of course many other modern target hardening and situational crime deterrence measures present in the urban landscape that might also act as stereotype primes or guide impressions of a location more directly (Clarke, 1995). There is no theoretical reason why such things as covers to protect other people seeing the entry of pin numbers for card payments, remote entry systems to flats, swipe card keys, barbed fencing, toughened barriers in shops, and even the armed officer within an airport, could not all play the same role. In essence, in respect of FOC for a given location and trust in the ‘other’, noticeable situational deterrence measures may be a double-edged sword.

AIMS OF THE STUDY

The present study employs a simple method for assessing the impact of CCTV on people’s impressions of others and their reported FOC for a given location. Participants will be shown one background photograph of an urban scene into which different targets and a CCTV camera can be placed. **The placing of a CCTV camera within the setting is designed to test** whether this affects participant ratings of the location in terms of crime frequency and

FOC, but also whether ratings of targets vary in accordance with stereotypes that might be activated in line with the function of a CCTV camera. Following this, a male 'skinhead', and a 'studious' female target will be individually edited into the scene to test whether the former activates more negative criminal stereotypes in presence of a CCTV camera than in its absence, whereas no such difference is predicted for the female 'studious' target. More specifically, it is predicted that a male 'skinhead' target shown in the presence of a CCTV camera will be associated with significantly higher FOC ratings and more negative impressions than a female target or when either target is shown without a CCTV camera present.

METHOD

Participants

There were 120 participants who took part in this study. These were drawn from the central public shopping area of Hatfield, which is a medium sized (university) town in Hertfordshire. All participants were recruited between 9.00 am and 5.00pm over a two week period with recruitment sessions taking place both in the morning and afternoon in equal measure. Potential participants were approached on the basis of being the next available person passing the researcher once she was ready having finished with the last

person. Participant ages ranged from 18 to 70 years, with the modal age group being 18-21 years. 52% were female, while 41% were students, 27% skilled workers, 22% professional employed, 3% homemakers, 3% unemployed and 4% others. Comparisons that can be made with the 2001 census data for this area suggests students are overrepresented by 30% in this sample (Office for National Statistics, 2008). This may reflect the greater willingness of students to assist in a university related exercise compared with other groups and that future work in a similar location might employ quota sampling for this group. All participants who agreed to take part gave informed consent, and described themselves as being without any significant visual impairment.

DESIGN

The experiment has a 2(CCTV: present or absent)*3(target: type, none, female, and male) between subjects factorial design. The dependent variables were a picture location specific crime frequency estimate, a number of 'walk alone' FOC estimates and a 'day in the life of' the target person perception estimate. The experimental prediction was that a male 'skinhead' target shown in the presence of a CCTV camera will be associated with significantly higher FOC ratings and more negative

impressions than female targets or when either target is shown without a CCTV camera present.

MATERIALS

In all there were six different urban scenes shown to participants on an A4 sheet of paper. The pictures were in colour and measured 13 by 22 cms. These pictures appear in figure 2, below. The top row of three pictures shows the scene where CCTV is never present, while the columns show from left to right, target absent, female target and male target. In this way CCTV presence/absence is crossed with all target conditions.

Figure 2 about here

MEASURES

There were four main dependent measures that were directly related to the contents of the above pictures. Firstly, location-specific crime frequency estimates were made using the total score of six items adapted from Honess & Charman (1992) which appeared after the statement: *“Looking at this particular photograph, how often do you think each of the following crimes are likely to happen in the next 30 days?”* The six items that followed were:

1. A violent attack on somebody
2. An act of vandalism
3. Drunk and disorderliness
4. Theft from a person
5. A sexual assault
6. A shop break in

These items were anchored to the following descriptors, “very often”, fairly often”, “occasionally”, “rarely”, “not at all” with a don’t know option. The standardized reliability alpha for these items was 0.73 ($M = 3.35$, $SD = 0.51$, high score = higher estimated frequency).

Secondly, FOC related to the pictured location was measured using a number of variations of the ‘walking alone’ question. “*Looking at this photo*” (very safe, safe, unsafe, very unsafe, high score=unsafe), “*Think about the possible trouble that could take place, how safe would you feel walking through this street alone at night?*”, “*How about during the day?*”, “*How worried would you be to let a close friend walk alone through this street?*”, “*How about during the day?*”. An overall scale score was

calculated using the total of these questions and dividing by four. This ‘Fear of walking in the location’ scale had a standardized reliability alpha value of .76 ($M = 1.91$, $SD = 0.57$) with a high score indicating greater fear. Thirdly, a 14-item anxiety checklist was also used to tap a range of feelings in respect of walking in the location shown. This additional measure was used in order to avoid mono-operational bias, a common problem in FOC research (see Ferraro & LaGrange 1987, p76 for a discussion of common problems encountered with this measure).

The statement, “*Imagine that you had to walk alone in this area, would this street scene make you feel?*” was followed by 14 adjectives that could be freely circled. These were as follows:

Worried, Fearful, Scared, Afraid, Frightened, Threatened, Anxious

Secure, Relaxed, Fearless, At Ease, Reassured, Safe, Comfortable

A total score for this measure was calculated by subtracting the number of secure items that were checked from the number of fearful items and then adding seven to maintain a positive scale with a possible range between zero

and 14, where higher values indicate greater fear associated with the location ($M=3.97$, $SD=2.85$).

Finally, perceptions of the target (where present) were measured by asking participants: *“looking at the person in this photograph, could you please write a brief paragraph of a ‘day in the life’ of this person. Just use your imagination to describe some of the things this person might do in a day...”*.

This was followed by eight line spaces. This method has been used in previous research on stereotype perception (e.g., Macrae, Bodenhausen, Milne, & Jetten, 1994), where the content of what was written about the target is coded into preset categories in order to obtain a quantifiable metric. Two independent raters who were blind to the experimental conditions coded the passages into the following four categories: anti-social, leisure, work related or other activities. For example, the statements *“goes to the gym, looks active”* and *“outstays his welcome in the café”* were related to leisure and anti-social respectively. A passage could contain statements that were neutral, or countered the prevailing impression. If such content gave rise to disagreement as to the overall classification of the passage, this was resolved via discussion.

MANIPULATION CHECKS

In order to establish whether variations in the presence of a CCTV camera were correctly reported within conditions, an item was placed at the end of the questionnaire asking if this had been noticed (yes, no, don't know). The results of this are shown in table 1 below. The CCTV camera was noticed in accord with the experimental manipulation ($\chi^2 = 59.21$, $df = 2$, $p < 0.001$) Despite this, nine failed to correctly identify its presence. This may reflect the ease, hindsight apart, with which even an obvious CCTV camera may blend into a street scene, and so may be difficult to recall.

Table 1. The reported detection of CCTV camera in the picture by condition

CCTV Camera	Noticed CCTV			Total
	Yes	No	Don't Know	
Present	39	9	12	60
Absent	2	47	11	60
Totals	41	56	23	120

PROCEDURE

Potential participants were approached by a female researcher in the main public shopping area of a medium sized town in Hertfordshire. The main purpose of the study was described as involving “*people’s impressions of others and the environment*”. After being given further information, and receiving informed consent, participants were shown one of the six photos presented in figure 2 above according to the condition they were in (which ran through the photos in a sequential order of six). With the photo still in view participants were asked to complete the ‘day in the life of’ question before they were asked to go onto the crime frequency and FOC measures which made up most of the rest of the questionnaire. This was in order to avoid priming participants with crime related thoughts prior to them giving impressions of the targets. Where no target was present in the photo, participants were not given the ‘day in the life’ section prior to completing the questionnaire. In all cases the photo was removed from sight before participants completed the final part of the questionnaire that contained the demographic questions and manipulation checks. Finally, all participants were thanked and debriefed at the end of this procedure.

RESULTS

In order to test the hypothesis a 2(CCTV present or absent)*3(target status, none, female, and male) between subjects MANOVA using the full sample of 120 (20 per cell) participants was undertaken. Preliminary analysis found that participant gender was significantly correlated with one dependent measure (the anxiety checklist, $Rho = 0.24$, $n=119$, $p<0.01$) so this variable was entered as a covariate in the MANOVA, other assumption checks for this analysis were conducted and no serious violations noted. The multivariate results revealed no main effects for the presence of CCTV when location crime frequency estimate, fear of walking alone measure, and the anxiety checklist scores were entered together as dependent measures: $F(3,110) = 0.34$, n.s., Wilks' Lambda =.99. There was also no significant main effect for the other IV, target status: $F(6, 220) = 0.74$, n.s., Wilks' Lambda =.96. However, the interaction between both these variables was significant: $F(6, 220) = 2.23$, $p < 0.05$, Wilks' Lambda =0.89, $\eta^2 = 0.06$.

In order to examine the interaction between CCTV and target status in more detail a further univariate analysis was undertaken. This revealed that of the three dependent measures entered, only the 'fear of walking alone' measure differed significantly by CCTV and target status: $F(2,112) = 5.65$, $p < 0.05$, η^2

=0.10 (the alpha for this test is adjusted using the Bonferroni method). The descriptive statistics for ‘Fear of walking alone’ composite measure appear in table 2 below.

Table 2. Fear of walking alone in the location by CCTV and target type

CCTV	Target Status			Total
	Absent	Female	Male	
Absent	2.07 (.59)	1.89 (.53)	1.66 (.54)	1.87 (.57)
Present	1.71 (.45)	1.93 (.54)	2.16 (.61)	1.93 (.56)
Total	1.89 (.55)	1.91 (.53)	1.91 (.62)	1.91 (.57)

Total N=119, cell Ns 20-19, (SD), high score=greater worry

An inspection of the means presented in table 2 show that this interaction effect is such that when CCTV and a male target are present, the ‘fear of walking’ ratings are highest. A post hoc Scheffe test showed there was no significant difference between any of the levels of the target status IV, however, a t-test did locate a significant difference ($t(38) = 2.77, p = 0.01$) between CCTV present and males ($M = 2.16, SD = .61$), versus CCTV absent and males ($M = 1.66, SD = .54$). No other comparison was significant.

Manipulation checks reveal that participants did not always correctly report having seen or not seen the CCTV in accordance with its presence in the photo (table 1 above). Of the 60 participants that were in the CCTV present condition only 39 later correctly report having seen it, with nine saying there were none and 12 who were unsure. The MANOVA test above was repeated¹ using reported awareness of the CCTV camera (yes, no, or unsure) as an independent variable to replace the experimental manipulation of its actual presence. The results found no main effect for CCTV $F(4,216) = 1.80$, n.s., Wilks' Lambda = 0.94; or target status $F(4,216) = 0.46$, n.s., Wilks' Lambda = 0.98; or the interaction between these $F(8,216) = 0.49$, n.s., Wilks' Lambda = 0.96. This test was also conducted excluding the 'unsure' group and the results were unchanged. This is an interesting finding because it may be that judgments concerning fear of walking in the location are made online while participants are still viewing the scene and have no knowledge of which aspects of the scene they may be asked about later, rather than offline and at the time of judgment where the effect of contextual factors like salient CCTV would need to be recalled to influence participants' impressions of the location or those within it. (e.g., Bargh, 1997) This follows because the negative impression of the location scene appears to be formed without later

explicit recall of specific components of the scene that are related to the judgment.

In order to explore whether the impression the target has upon the observer varies by its apparent threat, a further analysis was undertaken to see if those who saw the 'skinhead' were more likely to recall a CCTV camera when there was none compared with those who saw either the female or no target¹. It is possible that later recall is affected by how threatening the target appears within the scene, such that a CCTV camera is presumed present in these cases when it is in fact absent. The results of a count by recall error type and target status are shown in table 3 below. The frequencies suggest that there is no association between the presence of a threatening target and later incorrectly recalling a CCTV camera when one was not present ($\chi^2 = 0.25$, $df = 2$, n.s). However, this result is based on a modest sample, which is only present because of the higher than expected recall error rate. It would be interesting to investigate this more thoroughly in future work, perhaps by ensuring crime deterrence measures are always absent, while manipulating target threat using a range of target features.

Table 3. CCTV Recall Errors by CCTV Presence and Target Status

CCTV Condition		CCTV Present	CCTV Absent	
Recall		Absent or Unsure	Present or Unsure	Totals
Target	Male	8	6	14
Status	Female	8	4	12
	Absent	5	3	8
Totals		21	13	8

Finally, the association between male target gender and the presence of CCTV was also examined using the target classification categories obtained using the ‘day in the life’ passage (anti-social, leisure, work related or other activity). The descriptive results for target classification by CCTV and target status are shown in table 4 below.

Table 4. Person perception categories by CCTV and target type

Categories	CCTV	No CCTV	CCTV	No CCTV	Totals
	Male	Male	Female	Female	
Anti-social	4				4
Leisure	15	14	7	7	43
Work related		4	13	11	28
Other	1	2		2	5

Totals	20	20	20	20	80
--------	----	----	----	----	----

A chi-square test of the data in table 4 revealed that there was a significant association between CCTV presence and target gender in terms of person perception ($\chi^2=35.19$, $df = 9$, $p<0.001$; a separate analysis on both target status and CCTV presence independent of each other was also carried out, both tables were significant but are not reported here). Although there is a substantial gender by work-related/leisure effect, probably due to basic differences in the appearance and demeanor of the male and female targets, it is still the case that an anti-social classification only occurs for male targets, and more importantly, only when in the presence of the CCTV camera.

Summary of Results

As expected, when CCTV is placed in the visual context of targets capable of inducing differing social stereotypes, people's impressions of the scene and those within it can change. Self reported concern regarding walking in the photographed location was highest only when both a male target and CCTV camera were present. This effect is not associated with later recall of the camera within the street scene, and target type does not appear to affect

later inferences about whether a camera was or was not likely to be present. Further, descriptions of a “day in the life” of the target were only anti social when the target was a male ‘skinhead’ and in the presence of a CCTV camera. Moreover, no main effects in terms of any dependent measure were found for target status or CCTV presence, but it is when both these variables interact, as predicted, that reported FOC and anti-social impressions are highest.

DISCUSSION

As predicted, when a male ‘skinhead’ target is shown in the presence of a CCTV camera, participants give significantly higher FOC ratings and report more negative impressions of this person than when a female or target shown or CCTV is absent. This interaction involves both the presence of a situational crime deterrence device such as CCTV and the presence of a target more or less likely to prime negative or an antisocial social stereotypes. The absence of an association between post-experimental CCTV recall and error type and the FOC measures suggests that the differential effects found for CCTV are realized via an ‘online’ judgment process that takes place at the time the scene is viewed. However, the

evidence here does not disentangle a process order. A street context that includes a CCTV camera may prime accessible antisocial stereotypes, such as an intimidating ‘skinhead’ that would otherwise not be brought to mind, or an accessible antisocial stereotype may simply add to the impression that a location is unsafe when viewed with certain other contextual features. What does seem clear is that there is an interaction between a salient CCTV camera within a street context and other environmental factors, such as the presence of others who may or may not easily attract notions of ‘evil intent’ such that an impression of the scene depends upon consideration of both of these factors together at the time they are seen. In essence, people appear to actively interpret crime related cues such as formal surveillance in line with their own pre-existing expectations of others and the risks they face.

Much of the intuition and discourse that underscores the presence of situational crime deterrence measures generally, and CCTV specifically, is that they are inherently reassuring because of their function. Yet for some time now researchers have begun to question whether this is so. Defending the modern urban landscape from a sense of undulating moral crisis and corresponding crime with visible technological crime deterrence measures may not always reduce FOC (e.g., Ditton, 2000; Gill & Spriggs, 2005;

Graham, 1998; South, 1987). This study found no main effect for either CCTV or target type, which calls into question the basic link between a camera within a street context and reassurance. The interaction found here suggests that the relationship between these two things is more complex than first appears. Where pre-existing anti-social stereotypes may be primed, or no pre-existing sense of threat and immediate need of security are evident, the presence of formal deterrence measures like CCTV, when noticed, may in fact come to represent a proxy symbol of the threat that others pose. Interestingly, Schweitzer et al., (1999) also found that the density of ‘neighborhood watch’ signs increased FOC within American urban locations, so this process may not be specific to CCTV, but part of a general response to environmental features that can indicate the ‘trustworthiness’ of others when making FOC related appraisals.

There is a rich literature linking environmental cues to FOC and trust in others. For example, the ‘broken window’ effect (Kelling & Coles 1996; Wilson & Kelling, 1982), environmental physical disorder and ‘incivilities’ (Skogan, 1990; Taylor, Shumaker & Gottfredson, 1985), environmental design and layout (Perkins & Taylor, 1996), the normative behaviour and cohesion of local communities (Sampson & Raudenbush, 1999), the ‘fortress

like' appearance or isolation of residential settings (Blakely & Snyder, 1997). What is of interest here is that the environmental cue in question is partly designed to reduce FOC, and this study demonstrates that in certain contexts it can have the opposite effect.

Clearly at some point it may be possible to establish an effect in respect of both CCTV devices and antisocial targets independently of each other given the almost infinite range of visual images that could be employed to represent each. For example, one is hardly likely to report a willingness to walk in locations occupied by a group of armed and extremely threatening others, or where there seems to be oppressive military surveillance hardware! What is of interest here is the demonstration of an interaction effect between two visual images insufficiently remarkable to affect location FOC independently of each other. However, together, the ordinary urban CCTV camera and male 'skinhead' may influence impressions of the overall scene, and actors within it, in a negative fashion.

It would be reassuring to have concurrent evidence that participants had attended to those aspects of the image that are implicated. According to the manipulation checks, most participants correctly recall CCTV presence by

condition, but more detailed evidence of gaze location within the scene would help support this conclusion, and could be obtained with the use of eye-tracking methods (Yarbus, 1967). Further, pre-testing participants for target stereotype content would help strengthen the findings here. It is important to establish that the two specific target types differ from each other in terms of anti-social stereotype content, and that this is unrelated to FOC measures before the introduction of CCTV cues.

Any methodology that employs visual images may be criticized on the basis of stimuli equivalence. It could be argued that the control condition for CCTV present, is not it's absence, but rather the presence of an equally detailed example of street technology that does not have the same function as a CCTV camera, such as a pollution monitor. This could help rule out such things as novelty, interest and distraction as competing explanations for the effect (Pickel, 1998; Pickel, 1999) or general arousal in the presence of a threat cue (Easterbrook, 1959). However, as noted above, given the almost infinite variety of differences present in visual images, perhaps again, a better way forward now would be to undertake a conceptually similar test using video clips, or real settings with a sophisticated means of coding settings for the presence of cue variables.

Two of the three location FOC measures failed to confirm the predicted interaction. Recall that a significant interaction was not found using either the ‘location crime frequency’ or the ‘location anxiety checklist’ measures. The former measure deals with the risk that a particular event may occur in the given location. This construct is conceptually distinct from personal fear of crime or victimisation (Ferraro & LaGrange, 1987; Hale, 1996). The latter measure is asking for a current emotional state related to a picture. With hindsight, it seems unreasonable to expect distinct current emotional responses to variations in the content of a picture that are relatively modest. Naturally, ethical constraints limit the extent to which anxiety states can be experimentally induced, nevertheless, further work might extend the ecological validity of the methods used here by employing video clips of an area, or asking participants about their impressions of others or current emotional states in real situations that differ in terms of crime deterrence cues and user demographics (a sophisticated example of such ‘systematic observational procedures’ using video of urban neighborhoods is provided by Sampson & Raudenbush, 1999). The reason the ‘worry and safety walking through this street measure’ does respond to pictorial cues may be because it is a judgment that is highly relevant to the self, as it concerns a

proposed encounter with the situation and those within it. In essence, the relationship between potential threat cues within the picture begins to matter, when you or a loved one are going to have to walk through it at some point.

CCTV may fall into a unique category of situational crime deterrence measures because of its supposed general capacity to reassure through observation, while at the same time also having the capacity to act as a reminder that others may not be trusted. Investigating other types of deterrence measures may provide useful and general insights into the relationship between context, targets, crime cues and FOC. However, because CCTV is now such a ubiquitous feature of the modern urban landscape it deserves closer empirical attention on the part of criminal and social psychologists alike given its potential effect on mutual suspicion, trust and social cohesion in public spaces. A good deal of research has focussed on CCTV effectiveness in terms of crime reduction and FOC (Ditton, 2000; Gill & Spriggs, 2005; Welsh & Farrington, 2002). The work presented here suggests it may also negatively interact with people's impressions of others under certain circumstances, which in turn could mediate FOC. A recent report for the Information Commissioner, edited by David Wood (2006) describe surveillance as the: *“purposeful, routine, systematic and focused*

attention paid to personal details, for the sake of control, entitlement, management, influence or protection” (p4) and that for good or ill this is a current feature of the modern Western state, which includes the general and routine use of CCTV systems. This report also points out that such surveillance speaks of *“a world in which we know we are not really trusted”* (p3), yet such trust is essential for social cohesion and solidarity. Somewhat ironically, these are the very ingredients often cited as necessary to achieve community based informal regulation and order (Sampson & Ruadenbush, 1999). The evidence presented here, albeit confined to a lab based demonstration, reminds us that modern formal surveillance may have a range of benefits, but may also have unexpected consequences in terms of our impressions of others and the spaces they occupy, which in turn may have quite far reaching implications for society as a whole.

1. The authors are grateful to an anonymous reviewer who suggested undertaking this additional analysis.

REFERENCES

Bargh, J., A. (1997) The automaticity of everyday life, in R. S. Wyer (ed.) *The Automaticity of Everyday Life, Advances in Social Cognition, Vol. X*, New Jersey, LEA.

Blakely, E. J., & Snyder, M. G. (1997) *Gated communities in the united states*, Washington D.C.: Brookings Institute and Lincoln Institute for Land Policy.

Bodenhausen, G. V., Schwarz, N., Bless, H., & Wanke, M. (1995) Effects of atypical exemplars on racial beliefs: enlightened racism or generalised appraisals? *Journal of Experimental Social Psychology* **31** pp. 48-63.

Box, S. (1983) *Power, Crime and Mystification*, London, Tavistock Publications Ltd.

Clark, J. (2004) Crime fear and phobias *Psychiatry, Psychology and Law* **11**(1) pp. 87-95.

Clarke, R. V. (1995) Situational crime prevention, in M. Tonry and D. P. Farrington eds., *Building a Safer Society: Strategic Approaches to Crime Prevention: Vol. 19. Crime and Justice: A Review of Research* pp. 91-150. Chicago, Illinois: University of Chicago Press.

Ditton, J. (2000) Crime and the city: Public attitudes towards open-street CCTV in Glasgow, *British Journal of Criminology* **40** pp. 692-709.

Ditton, J., Chadee, D., Farrall, S., Gilchrist, E. & Bannister (2004) From imitation to intimidation: A note on the curious and changing relationship between the media, crime and fear of crime', *British Journal of Criminology*, **44** pp. 595-610.

Dixon, J., Levine, M., & McAuley (2006) Locating impropriety: Street drinking, moral order and the ideological dilemma of public space, *Political Psychology*, **27**(2) pp. 187-206.

Eagly, A. H. (1994) On comparing women and men, *Feminism and Psychology*, **4** pp. 513-522.

Easterbrook, J. A. (1959) The effect of emotion on cue utilization and the organization of behavior, *Psychology Review* **66** pp. 183-201.

Farrall, S., Bannister, J., Ditton, J., & Gilchrist, E. (1997) Questioning the measurement of the 'Fear of Crime': Findings from a major methodological study', *British Journal of Criminology* **37**(4) pp. 657-678.

Farrall, S., Bannister, J., Ditton, J., & Gilchrist, E. (2000) Social psychology and fear of crime: Re-examining a speculative model, *British Journal of Criminology* **40** pp. 399-413.

Ferraro, K., F., & LaGrange R. (1987) The measurement of fear of crime, *Sociological Inquiry* **57** pp. 70 -101.

Gabriel, U., & Greve, W. (2003) The psychology of fear of crime, conceptual and methodological perspectives, *British Journal of Criminology* **43** pp. 600-614.

Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1994) Growing up with television: The cultivation perspective. In J. Bryant & D. Zillmann (eds.) *Media Effects: Advances in Theory and Research* (pp. 17-41). Hillsdale, NJ: Erlbaum.

Gill, M., & Spriggs, A. (2005) Assessing the impact of CCTV, *Home Office Research Study 292*, Home Office Research, Development and Statistics Directorate.

Goodey, J. (1997) Boys Don't Cry: Masculinities, Fear of Crime and Fearlessness, *British Journal of Criminology* **37** pp. 401-18.

Graham, S. (1998) Towards the fifth utility? On the extension and normalization of public CCTV, In C. Norris & Armstrong (eds.), *Surveillance, CCTV and Social Control*, Ashgate Publishing, Aldershot, pp.89-112.

Graham, S., & Lowery, B. S. (2004) Priming unconscious racial stereotypes about adolescent offenders, *Law & Human Behaviour*, **28** pp. 483-504.

Hale, C. (1996) Fear of crime: A review of the literature, *International Review of Victimology* **4** pp. 79-150.

Home Office (2005) *Home Office Statistical Bulletin, Criminal Statistics for England and Wales 19/05*, RDS Office for Justice Reform, London

Honess, T. & Charman, E. (1992) Closed circuit television in public places, *Police Research Group Crime Prevention Unit Series*, 35: London: Home Office.

Kelling, G., & Coles C. (1996) *Fixing broken windows: Restoring order and reducing crime in our communities*, New York: Free Press.

Killias, M. (1990) Vulnerability: Towards a better understanding of a key variable in the genesis of crime, *Violence and Victim* 5 pp. 97-108.

Macrae, C. N., Bodenhausen, G. V., Milne, A. B., & Jetten, J. (1994) Out of mind but back in sight: Stereotypes on the rebound. *Journal of Personality and Social Psychology* 67 pp. 808-816.

McCahill, M., & Norris, C. (2003) Estimating the extent, sophistication and legality of CCTV in London, in M. Gill (ed.) *CCTV*, Perpetuity Press.

Newman, O., & Franck, (1980) *Factors Influencing Crime and Instability in Urban Housing Developments*, Washington USA, Government Printing Office

Norris, C., McCahill, M., & Wood, D. (2004) The growth of CCTV: a global perspective on the international diffusion of video surveillance in publicly accessible space, *Surveillance & Society* 2(2/3) pp. 110-135.

Office for National Statistics, Neighbourhood Statistics: Welwyn and Hatfield (Local Authority) Retrieved June 2008 from: <http://www.neighbourhood.statistics.gov.uk/dissemination/LeadDatasetList.do?a=3&b=276999&c=Hatfield&d=13&g=456628&i=1001x1003&m=0&r=1&s=1215172951281&enc=1&domainId=15>

Pantazis, C. (2000) Fear of crime, vulnerability and poverty, evidence from the British Crime Survey, *British Journal of Criminology* 40 pp. 414-436.

Perkins, D., & Taylor R. B. (1996) Ecological assessments of community disorder: Their relationship to fear of crime and theoretical implications, *American Journal of Community Psychology* 24 pp. 63–107.

Pickel, K., L (1998) Unusualness and threat as possible sources of weapon focus, *Memory* 6(3) pp. 277-295.

Pickel, K. L. (1999) The influence of context on the “Weapon Focus” effect, *Law and Human Behavior*, **23**(3) pp. 299-311,

Plant, E. A., Kling, K. C., & Smith, G. L. (2004) The influence of gender and social role on the interpretation of facial expressions, *Sex Roles*, **51** pp. 187-196.

Sampson, R. J., & Raudenbush, S. W. (1999) Systematic social observation of public spaces: A new look at disorder in urban neighbourhoods, *American Journal of Sociology* **105**(3) pp. 603-51.

Sarno, C., Hough, M., & Bulos, M. (1999) *Developing a picture of CCTV in Southwark Town Centres: Final Report*, Crime Policy Research Unit, South Bank University. Retrieved July 2007 at:

<http://www.kcl.ac.uk/depsta/law/research/icpr/publications/cctv.shtml#fears>

Schweitzer, J. H., Woo Kim, J., & Mackin, J. R. (1999) The impact of the built environment on crime and fear of crime in urban neighborhoods’, *Journal of Urban Technology* **6**(3) pp. 59-73.

Schwarz, N., & Strack, F. (1991) Context effects in attitude surveys: Applying cognitive theory to social research, In W. Stroebe & M. Hewstone (eds.), *European Review of Social Psychology* (2 pp.31-49) London: Wiley.

Selfridge, O. G. (1955) Pattern recognition and modern computers: Proceedings of the 1955 Western Joint Computer Conference: Published by the Institute of Radio Engineers. (91-93). Los Angeles: Institute of Radio Engineers.

Shrum, L., J. (2001) [Processing strategy moderates the cultivation effect](#), *Human Communication Research* **27**(1) pp. 94-120.

Skogan, W. (1990) *Disorder and Decline: Crime and the Spiral of Decay in American Cities*. Berkeley: University of California Press.

Slovic, P., Finucane, M., Peters, E. & MacGregor D. (2002) The affect heuristic, In T. Gilovich, D. Griffin and D. Kahneman (Eds.) *Heuristics and*

Biases: The Psychology of Intuitive Judgment, England, Cambridge University Press.

South, N. (1987) The security and surveillance environment, In J. Lowman, R. Menzies & T. Pays (eds), *Transcarceration: Essays in the Sociology of Social Control*, Gower, Aldershot.

Taylor R., Shumaker S., & Gottfredson S. (1985) Neighborhood-level links between physical features and local sentiments: Deterioration, fear of crime, and confidence, *Journal of Architectural Planning and Research* **21** pp. 261–75.

Van der Wurff, A. Van Staaldunen, L., & Stringer, P. (1989) ‘Fear of crime in residential environments: Testing a social psychological model, *The Journal of Social Psychology* **129**(2) pp. 141-160.

Welsh, B. & Farrington, D. P. (2002) Crime prevention effects of closed circuit television: A systematic review, *Home Office Research Study* 252. Home Office Research, Development and Statistics Directorate.

Wilson, J. Q., & Kelling, G. L. (1982) Broken Windows, *Atlantic Monthly*, **294**(3) pp. 29-38.

Williams, D. (2008) Effective CCTV and the challenge of constructing legitimate suspicion using remote visual images, *Journal of Investigative Psychology and Offender Profiling* **4** pp. 97-107.

Wittenbrink, B., Judd, C. M., & Park, B. (2001) Spontaneous prejudice in context: Variability in automatically activated attitudes, *Journal of Personality and Social Psychology* **81**(5) pp. 815-827.

Wood, D. M. (ed. 2006) *A Report on the Surveillance Society for the Information Commissioner by the Surveillance Society Network*, Published by the UK Information Commissioner’s Office (Sept).

Yarbus, A. L. (1967) *Eye Movements and Vision*, New York: Plenum.

Figures

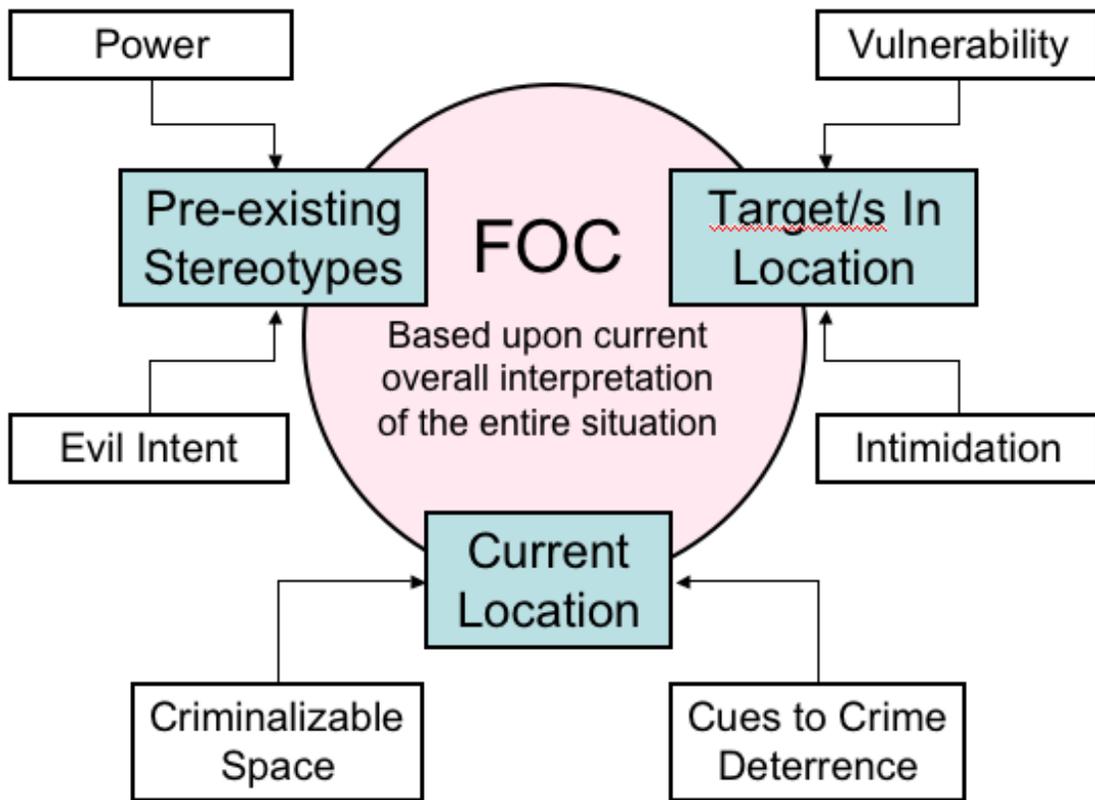


Figure 1. FOC for a specific situation affected by pre-existing stereotypes, target type and the characteristics of the current location.



Figure 2. The stimulus pictures, top row without CCTV, left column, absent target, middle column, female target, and the male target is on the right