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1 **Disorder affects judgements about a neighbourhood: Police presence does not**

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9  
10 **Abstract**

11 Many police forces operate a policy of high visibility in disordered neighbourhoods with high  
12 crime. However, little is known about whether increased police presence influences people's  
13 beliefs about a neighbourhood's social environment or their fear of crime. Three experimental  
14 studies compared people's perceptions of social capital and fear of crime in disordered and  
15 ordered neighbourhoods, either with a police presence or no police presence. In all studies,  
16 neighbourhood disorder lowered perceptions of social capital, resulting in a higher fear of  
17 crime. Police presence or absence had no significant effect. The pervasive effects of disorder  
18 above other environmental cues are discussed.

19 *Keywords:* disorder, police visibility, social capital, fear of crime

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26 **Disorder affects judgements about a neighbourhood: Police presence does not**

27 Neighbourhoods within a single city can vary greatly in nature, from the state of  
28 buildings and the upkeep of public spaces to the frequency of police patrols (Nettle, Colléony,  
29 & Cockerill, 2011). When we encounter an unfamiliar neighbourhood using cues from the  
30 physical environment helps us make judgements about strangers we may encounter there.  
31 Being able to read signals indicating a potentially unsafe environment and therefore the need  
32 to exercise vigilance would be adaptive. The aim of the studies presented in this paper was to  
33 examine whether cues from the physical environment influence people when forming  
34 judgements about the social environment and consequently determine how fearful for their  
35 safety they should be. Specifically, would naïve observers' perceptions of a community be  
36 affected differently by disorder as opposed to order in a neighbourhood, and by the presence  
37 or absence of the police? With the adoption by many police forces of high visibility hot-spot  
38 policing (Boyd, Geoghegan, & Gibbs, 2011), investigating whether this tactic may affect  
39 perceptions of the social environment is clearly pertinent.

40 Humans evolved to read environments quickly, unconsciously and to store  
41 environmental information in order to distinguish between survival enhancing and survival  
42 threatening landscapes (Kaplan, 1992). Naïve observers consistently form accurate  
43 impressions of occupants from their personal environments (Gosling, Ko, Mannarelli, &  
44 Morris, 2002). Harris and Brown (1996) found naïve observers were able to use information  
45 about the appearance of houses to accurately judge residents' commitment to an area. At a  
46 neighbourhood level O'Brien and Wilson (2011) found naïve observers were able to  
47 accurately judge the social quality of a neighbourhood from aspects of its physical  
48 appearance, a concept they label 'community perception'. When making judgements about  
49 residents, participants responded to generalised cues of effort invested in a neighbourhood's  
50 appearance, such as upkeep of lawns and prevalence of litter. More physically disordered

51 neighbourhoods were correctly believed to have poorer social quality, with participants  
52 deeming residents less trustworthy partners in an economic game.

53 That neglected neighbourhoods are judged by residents and passers-by alike to be of  
54 inferior social quality corresponds with much work in the sociological and criminological  
55 fields. Various theories recognise the reciprocal relationships between neighbourhood  
56 disorder, a poor social environment, high crime rates and fear of crime (e.g. *disorder theory*:  
57 Wilson & Kelling, 1982; *incivilities thesis*: Hinkle & Weisburd, 2008; *social disorganization*  
58 *theory*: Sampson & Groves, 1989). Disorder in a neighbourhood indicates that social norms  
59 are not being followed. The contagious nature of disorder has been demonstrated (Keizer,  
60 Lindenberg, & Steg, 2008). Thus a disordered neighbourhood indicates to observers a  
61 community which does not behave appropriately. In contrast, neighbourhoods where  
62 community networks are strong and norms are adhered to, have lower crime rates and  
63 residents who fear crime less (Sampson, Raudenbush, & Earls, 1997). Greater feelings of  
64 personal safety are fostered in a cohesive and stable community (Taylor & Covington, 1993),  
65 where social ties are stronger.

66 Community social ties contribute to social capital (Putnam, 2000). Residents in  
67 neighbourhoods high in social capital experience less fear of crime and feel safer, as residents  
68 trust their neighbours and believe them willing to implement social control (Gibson, Zhao,  
69 Lovrich, & Gaffney, 2002). Aspects of the physical environment which indicate low social  
70 capital would thus signal that caution may be required when interacting with residents, as this  
71 is a community of low trust where social norms are not always followed. In the current studies  
72 we therefore predicted that participants would perceive social capital within a community to  
73 be lower, and be more fearful of crime, when presented with a disordered than an ordered  
74 neighbourhood. Furthermore, we predicted that perceived social capital would mediate the  
75 relationship between neighbourhood disorder and fear of crime.

76           Whilst the negative effects of disorder on people's perceptions have been widely  
77 researched, other aspects of the environment typical of disordered neighbourhoods, such as  
78 high police presence, have not been so extensively examined. Several studies have looked at  
79 whether increasing police presence within a neighbourhood affects residents' perceptions.  
80 Some reported a positive effect of police presence on community cohesion and trust (e.g.  
81 Bennett, 1991; Ferguson & Mindel, 2006; Scott, 2002), as well as a reduction in fear of crime  
82 (e.g. Zhao, Scheider, & Thurman, 2002). High police visibility has also been linked to an  
83 increase in confidence in the police (Sindall & Sturgis, 2013). However, Weisburd and  
84 colleagues (Weisburd, Hinkle, Famega, & Ready, 2011) found increased police presence in  
85 crime 'hot spots' did not have any effect on the collective efficacy or fear of crime of  
86 residents. They concluded that people did not really notice the police in their daily lives.  
87 Similarly, Mason (2009) reported that introducing neighbourhood policing had no positive  
88 effects on residents' confidence in the police, again possibly due to a lack of awareness of  
89 police presence (Brunton-Smith, Sutherland, & Jackson, 2013). In an experimental study  
90 carried out in the Netherlands, Van de Veer and colleagues (van de Veer, de Lange, van der  
91 Haar, & Karremans, 2012) found an interaction effect between police presence and  
92 background environment, with participants' fear of crime increasing when police were present  
93 in a 'safe' environment, and decreasing when police were present in an 'unsafe' environment.  
94 In contrast, Kochel (2011) discusses how the presence of police in crime hot-spots can have a  
95 negative effect. Police patrol cars, as opposed to foot patrols, have been shown to increase  
96 fear of crime (Salmi, Grönroos, & Keskinen, 2004). Police presence, particularly when  
97 'buffered' from residents in a vehicle, may signal to passers-by a community which does not  
98 follow social norms, is not trustworthy, and therefore needs policing. This indication of low  
99 social capital would thus lead to greater fear of crime in 'unsafe' areas with a highly visible  
100 police presence.

101 Due to the contradictory findings of the previous research outlined we present three  
102 competing predictions for the effect of police presence on perceptions of a neighbourhood and  
103 its community. Based on Weisburd et al. (2011) and Mason's (2009) findings we might  
104 predict that the presence of the police would not signal anything over and above other cues  
105 from the physical environment, and therefore not affect perceptions of social capital or fear of  
106 crime. Alternatively, our prediction based on Van de Veer et al.'s findings would be that  
107 people would fear crime less in a disordered neighbourhood when police were present, but  
108 more in an ordered neighbourhood when police were present. On the other hand, if the  
109 presence of police is perceived as an indication of lower social capital within the  
110 neighbourhood, and social capital acts as a mediator on fear of crime, we predict their  
111 presence would lead to an increase in fear of crime across neighbourhoods (see Table 1).

112 We carried out a series of three studies comparing disordered with ordered  
113 neighbourhood environments, either with or without the presence of police, in order to test  
114 our predictions regarding the effect of neighbourhood order, as well the three competing  
115 predictions regarding police presence. The first study used written descriptions of  
116 neighbourhoods; the second and third relied on visual cues. In all studies participants'  
117 perceptions of the social capital of residents, as well as their perceived fear of crime were  
118 measured.

### 119 **Study 1**

120 Study 1, an internet study with participants resident in the USA, used written  
121 descriptions of neighbourhoods, one disordered and one ordered, which included either  
122 sentences describing the presence of police patrol cars, or no references to the police.  
123 Measures of perceived social capital of residents (adapted from Sampson et al., 1997;  
124 Sampson & Raudenbush, 1999) and fear of crime, operationalized as feelings of safety, were  
125 utilized.

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## Method

### Participants

Participants were recruited via the crowd sourcing website, Crowdfunder. In total 251 participants resident in the USA completed the survey. They each received \$0.20 for participating. Of these 103 participants were excluded from the analyses due to spending less than 15 seconds or more than two minutes reading the description of neighbourhood. Ten participants were excluded due to not completing all the dependent measures. Of the remaining 138 participants 51% were female. The majority (38%) were aged between 20-29 years.

### Procedure

**Materials.** Participants read a short vignette describing either a disordered or an ordered neighbourhood. Half of the vignettes presented in each neighbourhood description included three references to police presence. The same police references were used for the disordered and ordered neighbourhoods (See Appendix 1).

**Measures.** After reading one of the four possible vignettes, participants rated aspects of the social environment of the neighbourhood. One item measured how much participants felt residents could be trusted, responding on a slider scale of 0-100; two items measured residents' perceived ability to govern their neighbourhood (informal social control); and three items measured the perceived strength of ties between residents (social cohesion). Social control and cohesion were measured using a 5 point Likert scale (1 = strongly disagree, 5 = strongly agree). Fear of crime was measured by asking how safe participants would feel walking alone through the neighbourhood. Responses were on a 5 point Likert scale (1= not at all safe, 5= very safe).

The study was approved by the Faculty of Medical Sciences ethics committee, Newcastle University.

## Results

152 The six measures of trust, social control (2 measures) and social cohesion (3  
153 measures) were all significantly positively correlated with one another ( $r_s$  .17 to .66; all  
154  $p < .05$ ). They were standardised and summed to provide an overall measure of social capital  
155 ( $SD = 4.3$ ), with high reliability (*Cronbach's*  $\alpha = .81$ ).

156 Neighbourhood order had a significant effect on participants' perceptions of social  
157 capital, with lower social capital reported by participants in the disordered neighbourhood  
158 conditions ( $M = -.58$ ,  $SD = .68$ ), than by those in the ordered neighbourhood conditions ( $M =$   
159  $.65$ ,  $SD = .6$ ),  $F(3,134) = 128.51$ ,  $p < .001$ ,  $\eta^2 = .49$ . Police presence had no significant effect  
160 on participants' perceptions of social capital (police  $M = -.02$ ,  $SD = .86$ , no police  $M = .02$ ,  $SD$   
161  $= .92$ ;  $F[3,134] = 0.06$ ,  $p = .8$ ,  $\eta^2 < .001$ ). There was no significant interaction between  
162 neighbourhood order and police presence on perceptions of social capital ( $F[3,134] = 0.8$ ,  $p =$   
163  $.3$ ,  $\eta^2 = .006$ ) (see Figure 1).

164 Neighbourhood order had a significant effect on participants' feelings of safety, with  
165 those in the disordered neighbourhood conditions feeling less safe ( $M = -.67$ ,  $SD = .79$ ), than  
166 those in the ordered neighbourhood conditions ( $M = .75$ ,  $SD = .59$ ),  $F(3,134) = 139.09$ ,  $p <$   
167  $.001$ ,  $\eta^2 = .51$ . Police presence had no significant effect on participants' feelings of safety  
168 (police  $M = -.01$ ,  $SD = 1.03$ , no police  $M = .01$ ,  $SD = .96$ ;  $F[3,134] = 0.25$ ,  $p = .6$ ,  $\eta^2 = .002$ ).  
169 There was no significant interaction between neighbourhood order and police presence on  
170 feelings of safety ( $F[3,134] = 0.007$ ,  $p = .9$ ,  $\eta^2 < .001$ ) (see Figure 1).

171 Mediation analysis was carried out to test whether perceived social capital statistically  
172 mediated the effect of neighbourhood order on participants' feelings of safety.  
173 Neighbourhood order significantly affected feelings of safety and perceptions of social capital  
174 (see above). The direct effect of perceptions of social capital on feelings of safety whilst  
175 keeping constant neighbourhood order was significant,  $B = 0.99$ ,  $t(135) = 10.64$ ,  $p < .001$ ,  $\eta^2 =$   
176  $.47$ . A Sobel test indicated mediation was significant, Sobel = 7.77,  $p < .001$ . The direct effect



177 of neighbourhood disorder on feelings of safety whilst keeping constant perceptions of social  
178 capital remained significant, although weakened ( $B = 0.67$ ,  $t[135] = 4.09$ ,  $p < .001$ ,  $\eta^2 = .18$ ),  
179 and so mediation was partial.

## 180 Discussion

181 Participants who read a vignette describing a disordered neighbourhood perceived  
182 residents' social capital to be lower and felt less safe, i.e. had higher fear of crime, than  
183 participants who read a vignette describing an ordered neighbourhood. Perceived social  
184 capital partially mediated the relationship between neighbourhood and feelings of safety.  
185 Whether there was a reference to the presence of police in the vignette or not had no  
186 significant effect on perceptions of social capital or feelings of safety, for participants reading  
187 either the disordered or the ordered neighbourhood description. These results indicate that  
188 disorder within a neighbourhood signals to naïve observers a social environment of poor  
189 quality, and that this is therefore an unsafe place where crime is to be feared. However, when  
190 making judgements about residents of an unfamiliar neighbourhood people do not appear to  
191 be using police presence as a cue to the nature of the social environment.

192 One limitation of this study was the use of written descriptions. As we usually assess  
193 neighbourhoods visually these lack ecological validity. We therefore conducted another study  
194 using visual stimuli.

## 195 Study 2

196 Study 2 used a series of photographs as stimulus material. The photographs used were  
197 of two neighbourhoods in the city of Newcastle-upon-Tyne, UK. These neighbourhoods have  
198 been extensively studied for comparing outcomes and behaviour in a socioeconomically  
199 deprived and an affluent neighbourhood (Nettle et al., 2011; Nettle, Coyne, & Colléony,  
200 2012; Nettle, 2011, 2012). The physical environments in these neighbourhoods, in terms of

201 maintenance of public spaces, businesses and housing upkeep, are highly contrasting (see  
202 Figure 2). The same outcome measures were employed as in Study 1.

## 203 **Method**

### 204 **Participants**

205 In total 60 participants (77% female) resident in the UK completed the study in a  
206 laboratory setting. Participants' ages ranged from 19 to 63 years ( $M = 33.3$ ,  $SD = 12.6$ ).  
207 Participants were recruited from the university participant pool and were all familiar with  
208 psychological laboratory experiments. Participants received £5 for participation. No  
209 participants were resident in the neighbourhoods featured in the slideshows; the majority were  
210 resident in the metropolitan area of Tyne and Wear.

### 211 **Procedure**

212 **Materials.** Four different slideshows were presented on a computer screen; two  
213 showing 40 photographs of a disordered neighbourhood, two showing 40 photographs of an  
214 ordered neighbourhood. In the police present conditions slideshows included 10 photographs  
215 of police cars patrolling the neighbourhood. The police absent conditions slideshows included  
216 photographs of the same scenes photographed once the police cars had moved on. Each  
217 photograph was displayed for ten seconds, creating slideshows of 6 minutes 40 seconds.

218 **Measures.** After viewing a slideshow, participants rated aspects of the social  
219 environment of the neighbourhood they had just seen. The six items from Study 1 were used  
220 to measure perceived social capital of residents. Fear of crime was also measured as in Study  
221 1 by asking participants how safe they would feel in the neighbourhood.

222 **Procedure.** A mixed study design was employed, with neighbourhood order a within-  
223 subjects factor and police presence a between-subjects factor. Once consent had been given  
224 participants watched the first slideshow. As they watched they were asked to count the  
225 number of cars with visible number plates, a check to ensure focus on the photographs. They

226 then responded to the perceived social capital and fear of crime measures for the  
227 neighbourhood just viewed. This was followed by a second slideshow, with the same counting  
228 task, and the perceived social capital and fear of crime measures for this neighbourhood. Half  
229 the participants viewed a disordered neighbourhood slideshow first, half an ordered.  
230 Demographic information was collected after viewing the slideshows. Finally, participants  
231 were fully debriefed, thanked for their participation and received payment.

232 The study was approved by the Faculty of Medical Sciences ethics committee, Newcastle  
233 University.

## 234 Results

235 The six measures of trust, social control (two measures) and social cohesion (three  
236 measures) were summed to provide a measure of social capital (disordered conditions  $M =$   
237  $291.3$ ,  $SD = 70.7$ , ordered conditions  $M = 387.2$ ,  $SD = 71.1$ ). Reliability was moderately high  
238 in the disordered conditions (*Cronbach's*  $\alpha = .7$ ) and ordered conditions (*Cronbach's*  $\alpha = .7$ ).

239 Repeated measures ANOVAs were carried out with neighbourhood order as within-  
240 subjects factor and police presence as between-subjects factor. Neighbourhood order had a  
241 significant effect on participants' perceptions of social capital, with lower social capital  
242 reported by participants in the disordered neighbourhood conditions ( $M = 48.1$ ,  $SD = 12.02$ ),  
243 than by those in the ordered neighbourhood conditions ( $M = 65.1$ ,  $SD = 11.82$ ),  $F(1,46) =$   
244  $14.16$ ,  $p < .001$ ,  $\eta^2 = .24$ . Police presence had no significant main effect on participants'  
245 perceptions of social capital ( $F[1,46] = 0.74$ ,  $p = .4$ ,  $\eta^2 = .02$ ). There was no significant  
246 interaction between neighbourhood order and police presence on perceptions of social capital  
247 ( $F[1,46] = 0.005$ ,  $p = .9$ ,  $\eta^2 < .001$ ) (see Figure 3). Participant gender had no significant effect  
248 on perceptions of social capital ( $F[1,46] = 0.87$ ,  $p = .4$ ,  $\eta^2 = .018$ ). There was a significant  
249 interaction between participant gender and neighbourhood order on perceptions of social  
250 capital  $F(1,46) = 7.78$ ,  $p < .008$ ,  $\eta^2 = .15$ . In the ordered neighbourhood conditions females  
251 perceived social capital as higher ( $M = 66.7$ ,  $SD = 12.4$ ) than males ( $M = 60$ ,  $SD = 8.2$ ); in the

252 disordered neighbourhood females perceived social capital as lower ( $M = 45.5, SD = 12.2$ )  
253 than males ( $M = 56.3, SD = 6.8$ ). There was no significant interaction between participants  
254 gender and police presence on perceptions of social capital ( $p = .6$ ).

255 Neighbourhood order had a significant effect on participants' feelings of safety, with  
256 those in the disordered neighbourhood conditions feeling less safe ( $M = 34.52, SD = 22.17$ ),  
257 than those in the ordered neighbourhood conditions ( $M = 80.38, SD = 13.27$ ),  $F(1,46) = 87.84$ ,  
258  $p < .001, \eta^2 = .66$ . Police presence had no significant main effect on participants' feelings of  
259 safety ( $F[1,46] = 0.46, p = .5, \eta^2 = .001$ ). There was no significant interaction between  
260 neighbourhood order and police presence on feelings of safety ( $F[1,46] = 0.1, p = .9, \eta^2 =$   
261  $.001$ ) (see Figure 3). Participant gender had a significant effect on feelings of safety, with  
262 females feeling less safe than males,  $F(1,46) = 9.41, p = .004, \eta^2 = .17$ . Participant gender did  
263 not significantly interact with either neighbourhood order or police presence on feelings of  
264 safety ( $p > .2$ ).

265 Mediation analysis, following the method outlined for within-subject designs by Judd  
266 and colleagues (Judd & Kenny, David A. McClelland, 2001), was carried out to test whether  
267 perceived social capital mediated the effect of neighbourhood order on participants' feelings  
268 of safety. Perceived social capital can be said to mediate feelings of safety if two conditions  
269 are met. First, the difference between neighbourhoods in perceived social capital must be in  
270 the same direction as feelings of safety. Perceived social capital was significantly related to  
271 feelings of safety for disordered neighbourhood,  $B = 0.96, t(53) = 4.05, p < .001, \eta^2 = .49$ , and  
272 the ordered neighbourhood,  $B = 0.73, t(53) = 5.58, p < .001, \eta^2 = .61$ , with higher social  
273 capital indicating higher feelings of safety and vice versa. Second, the difference in perceived  
274 social capital must significantly predict difference in feelings of safety. This it does,  $B = 0.95$ ,  
275  $t(53) = 6.09, p < .001, \eta^2 = .65$ . Mediation was partial, as the residual difference in feelings of

276 safety between neighbourhoods remained significant over and above neighbourhood  
277 difference in perceived social capital ( $B = 44.35, t[53] = 11.33, p < .001$ ).

## 278 **Discussion**

279 The results of Study 2 mirrored those of Study 1, with participants perceiving residents  
280 of the disordered neighbourhood as having less social capital than residents of the ordered  
281 neighbourhood. Participants reported feeling less safe, i.e. a higher fear of crime, when  
282 viewing the disordered rather than the ordered neighbourhood. This effect was partially  
283 mediated by perceptions of social capital. Police presence had no effect on participants'  
284 perceptions of social capital or feelings of safety for either the disordered or the ordered  
285 neighbourhood. The results of this study again indicate that whilst naïve observers use aspects  
286 of the physical environment to inform their judgements about the social environment of a  
287 neighbourhood, consequently affecting their fear of crime, police presence is not a cue that  
288 affects these judgements.

289 Gender had a significant effect on fear of crime, with females feeling less safe across  
290 all conditions. That females have higher fear of crime is unsurprising (Jackson, 2009).  
291 Interestingly though, there was a significant interaction between gender and neighbourhood  
292 order on participants' perceptions of social capital. However, due to the small number of male  
293 participants in the study (14) caution when interpreting these results is required. Further  
294 investigation of gender effects using a larger male sample would therefore be beneficial.  
295 Furthermore, the study by Van de Veer and colleagues (2012) found that the presence of  
296 police had a stronger effect on male feelings of safety than female, possibly, they concluded,  
297 because men are the cause of police presence more frequently than women, either as  
298 perpetrator or victim.

299 Another relevant individual difference variable, which may influence people's  
300 perceptions of police presence, is childhood environment. A child who has grown up in a safe

301 environment having little contact with crime or experience of disorder, might, as an adult,  
302 react differently to the presence of police than a person who grew up in an unsafe  
303 environment, where disorder and crime were more common. We carried out a further study to  
304 address these two issues.

### 305 **Study 3**

306 Study 3 was conducted online, using British participants. Procedurally this study was  
307 similar to Study 2, but the key differences were that participants viewed only one slideshow,  
308 the slideshows were shorter in length, and survey measures of childhood SES were taken.  
309 Childhood SES was collected as a means of determining childhood environment, with the  
310 assumption that a higher childhood SES reflected a safer childhood environment and vice  
311 versa. In addition a larger sample was collected to ensure more male participants.

### 312 **Method**

#### 313 **Participants**

314 Participants were recruited via the crowd sourcing website, Crowdfunder. In total 169  
315 participants resident in the UK responded to the survey. They each received \$0.50 for  
316 participating. Fifty participants were excluded from the analyses due to unsatisfactory  
317 completion of the measures. Of the remaining 119 participants 79% were male. They ranged  
318 in age from 17 to 55 years old ( $M = 32.2$ ,  $SD = 11.9$ ).

#### 319 **Procedure**

320 After providing consent participants viewed a slideshow. The photos from Study 2  
321 were reused, with each displayed for 5 rather than 10 seconds, resulting in slideshows of 3  
322 minutes 20 seconds. A counting cars task was used to ensure focus on the photographs. Social  
323 capital and fear of crime were measured as in Studies 1 and 2. Childhood SES was measured  
324 by asking participants to respond on a Likert scale of 1-7 the extent to which they agreed with  
325 the following three statements: My family usually had enough money for things when I was

326 growing up; I grew up in a relatively wealthy neighbourhood; I felt relatively wealthy  
327 compared to other kids in my school (Griskevicius, Tybur, Delton, & Robertson, 2011). Once  
328 demographic details had been collected participants were fully debriefed, thanked for their  
329 participation, given space to comment on the task, and provided with researcher contact  
330 details should they desire further information.

331 The study was approved by the Faculty of Medical Sciences ethics committee, Newcastle  
332 University.

### 333 Results

334 The six measures of trust, social control (two measures) and social cohesion (three  
335 measures) were all significantly positively correlated with one another ( $r_s$  0.24- 0.57; all  
336  $p < .05$ ). They were summed to provide an overall measure of social capital ( $M = 330.8$ ,  $SD =$   
337  $83.2$ ), with moderately high reliability (*Cronbach's*  $\alpha = .65$ ). The three measures of childhood  
338 SES were all significantly positively correlated with one another ( $r_s$  0.6- 0.75). They were  
339 summed to provide an overall measure of childhood SES ( $M = 11.9$ ,  $SD = 4.5$ ), with high  
340 reliability (*Cronbach's*  $\alpha = .82$ ).

341 Neighbourhood order had a significant effect on participants' perceptions of social  
342 capital, with lower perceived social capital reported by participants in the disordered  
343 neighbourhood conditions ( $M = 49.3$ ,  $SD = 12.8$ ), than by those in the ordered neighbourhood  
344 conditions ( $M = 62$ ,  $SD = 12.1$ ),  $F(5,111) = 29.68$ ,  $p < .001$ ,  $\eta^2 = .21$ . Police presence had no  
345 significant effect on participants' perceptions of social capital (police  $M = 54$ ,  $SD = 14.1$ , no  
346 police  $M = 55.8$ ,  $SD = 13.9$ ;  $F[5,111] = 0.66$ ,  $p = .4$ ,  $\eta^2 = .006$ ). There was no significant  
347 interaction between neighbourhood order and police presence on perceptions of social capital  
348 ( $F[5,111] = 0.001$ ,  $p = .97$ ,  $\eta^2 < .001$ ) (see Figure 4).

349 Participant gender had no significant effect on perceptions of social capital (male  $M =$   
350  $55.7$ ,  $SD = 13.4$ , female  $M = 51.9$ ,  $SD = 15.9$ ;  $F[7,109] = 0.41$ ,  $p = .5$ ,  $\eta^2 = .004$ ). There was a  
351 significant interaction between gender and neighbourhood order on perceptions of social

352 capital,  $F(7,109) = 12.6, p < .001, \eta^2 = .19$ . Social capital was perceived similarly by females  
353 ( $M = 61.7, SD = 9.2$ ) and males ( $M = 62.1, SD = 12.8$ ) in the ordered neighbourhood  
354 conditions. In the disordered neighbourhood conditions, females perceived social capital to be  
355 lower ( $M = 45, SD = 16.1$ ) than males perceived social capital to be ( $M = 50.6, SD = 11.6$ ).  
356 There was no significant interaction between gender and police presence on perceptions of  
357 social capital ( $F[7,109] = 0.24, p = .8, \eta^2 = .004$ ). There was no significant interaction between  
358 gender, neighbourhood order and police presence ( $F[7,109] = 0.88, p = .4, \eta^2 = .016$ ).

359 Childhood SES had no significant effect on perceptions of social capital ( $F[4,112] =$   
360  $1.62, p = .2, \eta^2 = .014$ ). There was a no significant interaction between childhood SES and  
361 neighbourhood order on perceptions of social capital ( $F[4,112] = 0.03, p = .9, \eta^2 < .001$ ).  
362 There was no significant interaction between childhood SES and police presence on  
363 perceptions of social capital ( $F[4,112] = 0.1, p = .9, \eta^2 < .001$ ). There was no significant  
364 interaction between childhood SES, neighbourhood order and police presence on perceptions  
365 of social capital ( $F[4,112] = 0.54, p = .5, \eta^2 = .005$ ).

366 Neighbourhood order had a significant effect on participants' feelings of safety, with  
367 those in the disordered neighbourhood condition feeling less safe ( $M = 38.9, SD = 25.3$ ), than  
368 those in the ordered neighbourhood condition ( $M = 73, SD = 20.5$ ),  $F(5,111) = 63.08, p <$   
369  $.001, \eta^2 = .36$ . Police presence had no significant effect on participants' feelings of safety  
370 (police  $M = 49.9, SD = 29.4$ , no police  $M = 57.6, SD = 28.1$ ;  $F[5,111] = 2.74, p = .1, \eta^2 = .02$ ).  
371 There was no significant interaction between neighbourhood order and police presence on  
372 feelings of safety ( $F[5,111] = 0.34, p = .6, \eta^2 = .003$ ) (see Figure 4).

373 Participant gender had no significant effect on feelings of safety (male  $M = 56.6, SD =$   
374  $27.8$ , female  $M = 44.2, SD = 31.1$ ;  $F[7,109] = 1.56, p = .2, \eta^2 = .015$ ). There was a significant  
375 interaction between gender and neighbourhood order on participants' feelings of safety,  
376  $F(7,109) = 27.43, p < .001, \eta^2 = .34$ . Females ( $M = 70.8, SD = 17.1$ ) and males ( $M = 73.6, SD$



377 = 21.4) reported similar feelings of safety in the ordered neighbourhood conditions. In the  
 378 disordered neighbourhood conditions, females feelings of safety were lower ( $M = 25.2$ ,  $SD =$   
 379  $23.9$ ) than males feelings of safety ( $M = 42.6$ ,  $SD = 24.6$ ). There was no significant  
 380 interaction between gender and police presence on feelings of safety ( $F[7,109] = 1.23$ ,  $p = .3$ ,  
 381  $\eta^2 = .022$ ). There was no significant interaction between gender, neighbourhood order and  
 382 police presence on feelings of safety ( $F[7,109] = 1.41$ ,  $p = .3$ ,  $\eta^2 = .025$ ).

383 Childhood SES had no significant effect on participants' feelings of safety ( $F[4,112] =$   
 384  $0.12$ ,  $p = .7$ ,  $\eta^2 = .001$ ). There was a no significant interaction between childhood SES and  
 385 neighbourhood order on participants' feelings of safety ( $F[4,112] = 0.23$ ,  $p = .6$ ,  $\eta^2 = .002$ ).  
 386 There was no significant interaction between gender and police presence on participants'  
 387 feelings of safety ( $F[4,112] = 1.66$ ,  $p = .2$ ,  $\eta^2 = .015$ ). There was no significant interaction  
 388 between gender, neighbourhood order and police presence participants' feelings of safety  
 389 ( $F[4,112] = 1.34$ ,  $p = .3$ ,  $\eta^2 = .012$ ).

390 Mediation analysis was carried out to test whether perceived social capital mediated  
 391 the effect of neighbourhood order on participants' feelings of safety. Neighbourhood order  
 392 significantly affected feelings of safety and perceived social capital (see above). The direct  
 393 effect of perceived social capital on feelings of safety whilst keeping constant neighbourhood  
 394 order was significant,  $B = 1.11$ ,  $t(114) = 785$ ,  $p < .001$ ,  $\eta^2 = .48$ . A Sobel test revealed  
 395 mediation was significant, Sobel = 4.48,  $p < .001$ . The direct effect of neighbourhood disorder  
 396 on feelings of safety whilst keeping constant social capital remained significant, although  
 397 weakened ( $B = 20.19$ ,  $t[114] = 5.13$ ,  $p < .001$ ,  $\eta^2 = .31$ ), indicating that mediation was partial.

### 398 Discussion

399 The results of Study 3 show that whilst disorder had an effect on peoples' perceptions  
 400 of the social environment in a neighbourhood, and consequently their feelings of safety i.e.  
 401 fear of crime, the presence of police had no effect on these, either in disordered or ordered

402 neighbourhoods. Participant gender and neighbourhood order had a significant interaction  
403 effect on both perceptions of social capital and feelings of safety, with females in the  
404 disordered neighbourhood conditions perceiving social capital to be lower and reporting  
405 feeling less safe than males in the disordered conditions. However the presence of the police  
406 did not affect male or female participants' perceptions of the social environment or their  
407 feelings of safety differently. Childhood SES did not have any significant effect on  
408 participants' perceptions of social capital or their feelings of safety.

### 409 **General Discussion**

410 The findings of all three studies demonstrate that when people were presented with a  
411 disorderly neighbourhood they judged the social environment to be of poorer quality, and  
412 were consequently more fearful for their safety, than when they were presented with an  
413 ordered neighbourhood. This effect of the disorder on judgements was stronger for females  
414 than males. The main effects of neighbourhood disorder come as no surprise considering the  
415 wealth of theory and research on the negative influence disorder can have on a community  
416 and on outsiders' perceptions of a community, as outlined in the introduction. The aim of the  
417 current studies was not to test the accuracy of people's judgements, and whether, as O'Brien  
418 and Wilson (2011) found, 'community perception' as an adaptive mechanism was at work.  
419 Nevertheless, previous research carried out in the neighbourhoods in Newcastle-upon-Tyne,  
420 photographs of which were used as stimulus material in Studies 2 and 3, suggests participants  
421 were making accurate judgements about the social environment (Nettle, Colleony &  
422 Cockerill, 2011). Nettle and colleagues found residents of the disordered neighbourhood  
423 reported lower social capital than residents of the ordered neighbourhood. The conclusion that  
424 community perception was demonstrated, that people used cues from the physical  
425 environment to accurately interpret the quality of the social environment, can thus be  
426 cautiously drawn.

427 In the introduction we presented three competing predictions for the effect of police  
428 presence. All three studies clearly demonstrated that the presence of the police had no  
429 significant, measurable effect on people's perceptions of the social environment or their fear  
430 of crime. This held true across both neighbourhoods, for men and women, regardless of  
431 whether they had a poor or affluent childhood. Our finding that police presence had no  
432 significant effect on naïve observers' perceptions over and above the effect of disorder or  
433 order within a neighbourhood is consistent with findings from Mason's (2009) report on  
434 neighbourhood policing, as well as Weisburd and colleagues (2011), who found residents'  
435 social capital, and fear of crime, remained unchanged when police presence was increased.  
436 They concluded that unless people are directly impacted by the police, their presence goes  
437 unnoticed and that, at least in the short term, an increase in police numbers on the streets does  
438 not affect a community, either positively or negatively. In our case, it is possible that disorder  
439 in a neighbourhood was sending a strong signal to passers-by that an area is of poor social  
440 quality, and vice versa for neighbourhoods with visible signs of affluence. Such that if  
441 disorder triggers preconceived ideas about the nature of a community, 'extra' information  
442 from the environment may then be overlooked. Sampson and Raudenbush (2004) found that  
443 the social structure of a neighbourhood, in their study predominantly determined by race, was  
444 a better predictor of people's perceptions of disorder than actual observed disorder. Franzini  
445 and colleagues (Franzini, Caughy, Nettles, & O'Campo, 2008) similarly found that  
446 neighbourhood poverty affected people's perceptions of disorder, but also that perceived  
447 disorder was to an extent in the eye of the beholder: The higher educated and more  
448 residentially mobile perceived less disorder. These studies indicate that cultural stereotypes  
449 influence perceptions about a neighbourhood. If robust, but unconscious, heuristics are  
450 employed, such as 'disorder in a neighbourhood means people cannot be trusted', whether the  
451 police are present or not would therefore have little sway on judgements one way or the other.

452 It is however important to note that the studies carried out here investigated the effects  
453 of police in patrol cars. Previous studies where positive effects of police presence have been  
454 found generally examined police foot patrols (e.g. Salmi et al., 2004; Sindall & Sturgis,  
455 2013). By patrolling on foot police become more approachable, removing a barrier between  
456 themselves and residents. This may consequently have an effect on observers' impressions of  
457 a community. Future research is therefore required in order to determine whether the  
458 impressions naïve observers form of a community are influenced by police foot patrols.

459 The role of the police is, not just to fight crime, but to reduce fear of crime (Boyd,  
460 2012). Police often face calls from politicians and the media, as well as from the public  
461 (Allen, 2004), to increase their visibility on the streets, in the belief that this will reduce crime  
462 and consequently fear of crime. Our research indicates however that police on the streets, at  
463 least in patrol cars, do not have an impact people's fear of crime when in an unfamiliar area.  
464 What undoubtedly does influence people's fear of crime for the worse is disorder, in part  
465 because people perceive residents of disordered neighbourhoods to have lower social capital.  
466 Tackling disorder, as argued Jackson and colleagues (2009) could be a more effective means  
467 to reducing fear of crime. In an era where public service budgets are becoming more limited,  
468 using empirical evidence to inform how we tackle societal problems such as fear of crime  
469 surely makes sense. If the police are using policies of high visibility to paint a picture of a safe  
470 neighbourhood to the outside world it seems they could be putting their resources to better  
471 use.

472

473

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571 Table 1.

572 *Competing predictions of the effects of police presence in disordered and ordered*573 *neighbourhoods on fear of crime*

	Disordered		Ordered	
	Police absent	Police present	Police absent	Police present
Prediction 1	High fear of crime	No change	Low fear of crime	No change
Prediction 2	High fear of crime	Decrease in fear of crime	Low fear of crime	Increase in fear of crime
Prediction 3	High fear of crime	Increase in fear of crime	Low fear of crime	Increase in fear of crime

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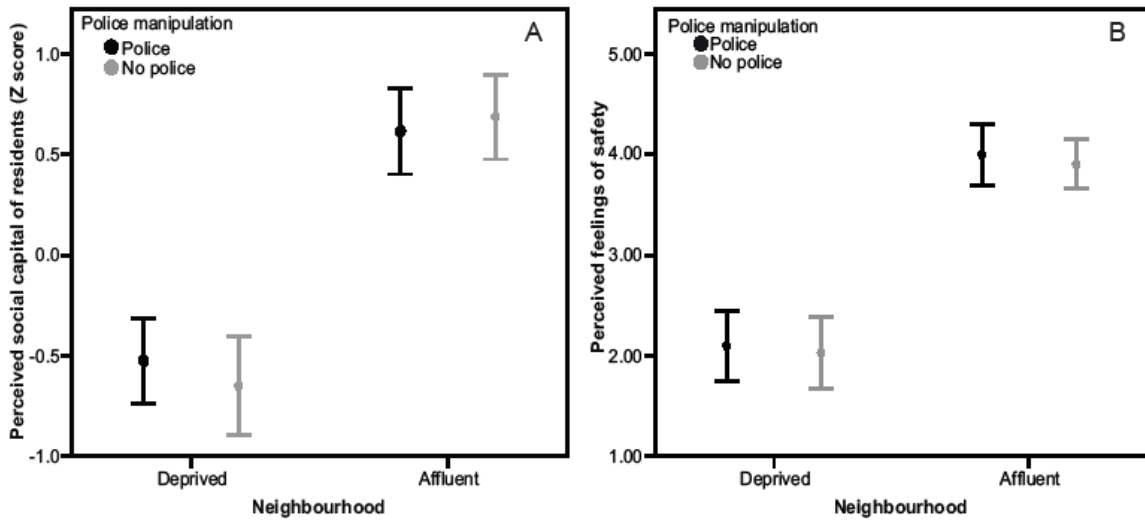
575 **Figure Captions**

576 *Figure 1.* (a) Mean perceptions of social capital by neighbourhood order and police presence,  
577 Study 1. Error bars represent 95% CI. (b) Mean fear of crime by neighbourhood order and  
578 police presence, Study 1. Error bars represent 95% CI.

579 *Figure 2.* Example photos: (a) Disordered neighbourhood without police presence; (b)  
580 Ordered neighbourhood without police presence; (c) Disordered neighbourhood with police  
581 presence; (d) Ordered neighbourhood with police presence.

582 *Figure 3.* (a) Mean perceptions of social capital by neighbourhood order and police presence,  
583 Study 2. Error bars represent 95% CI. (b) Mean fear of crime by neighbourhood order and  
584 police presence, Study 2. Error bars represent 95% CI.

585 *Figure 4.* (a) Mean perceptions of social capital by neighbourhood order and police presence,  
586 Study 3. Error bars represent 95% CI. (b) Mean fear of crime by neighbourhood order and  
587 police presence, Study 3. Error bars represent 95% CI.



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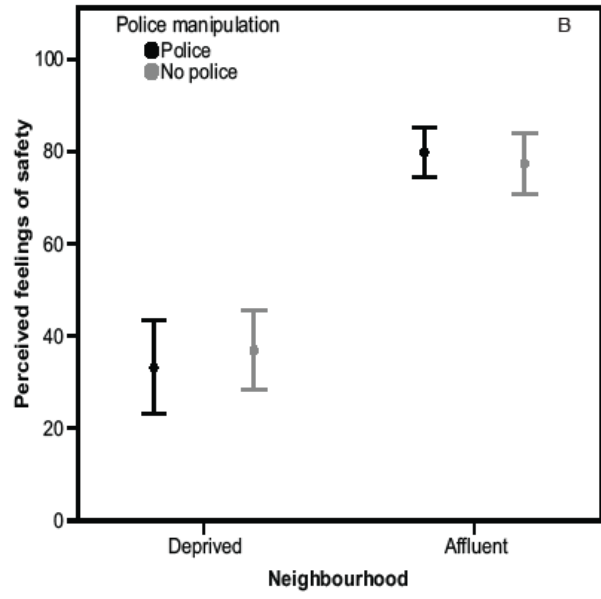
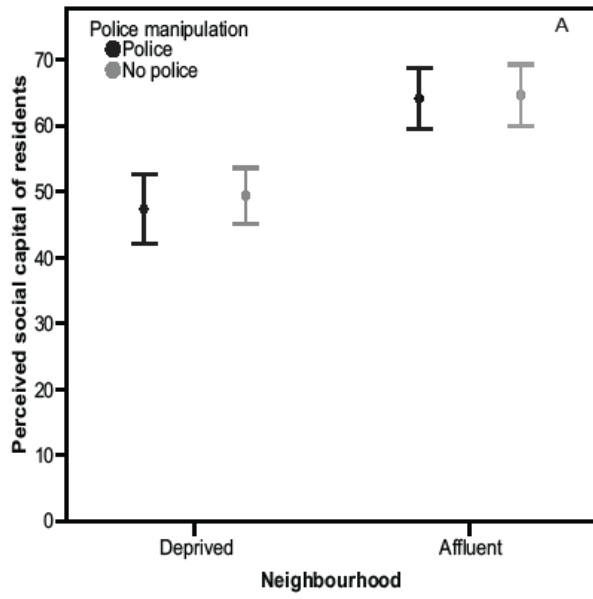


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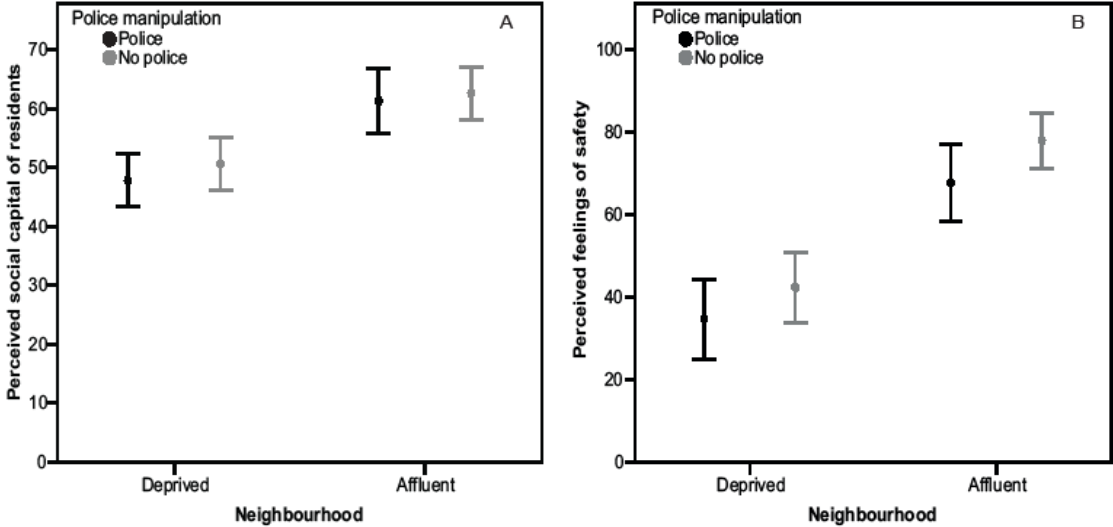
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600 **Appendix 1**

601 Vignette of the deprived neighbourhood with police presence in italics:

602 You will now read a short description of a city neighbourhood.

603 Please read the description carefully.

604 Imagine you are walking through this neighbourhood.

605 Walking along the high street you pass a church and some stores. The stores include a  
606 supermarket called 'Save-a-lot', a liquor store with the shutters down, and a car parts store.  
607 You also pass a business advertising check cashing, a barber's shop, a tattoo parlour, a  
608 Laudromat, a cheap diner and several boarded up store fronts. The sidewalk is broken up and  
609 there are no trees along the street.

610 *As you walk along the high street a police patrol car drives past. A little later you pass two*  
611 *police officers on foot patrol.*

612 You turn down a side street. You walk along a street of two storey row houses. Some of the  
613 houses are boarded up. The first floor windows have bars on them. There is trash on the  
614 ground, particularly as you turn the corner and look down the back alley between the two  
615 streets. Walking down the alley you notice barbed wire along the back walls of the houses.  
616 Further along there is a garage with a broken window.

617 *As you exit the street you see a police car drive into the next street along.*

618 Vignette of affluent neighbourhood with no police presence:

619 You will now read a short description of a city neighbourhood.

620 Please read the description carefully.

621 Imagine you are walking through this neighbourhood.

622 Walking along the high street you pass a church and some stores. The stores include a  
623 delicatessen, an ice-cream parlour, and a ladies clothing store. You also pass a market stall  
624 selling fruit and vegetables, a bank, a wellness center, a dry cleaner's, a restaurant and a hotel.  
625 There are trees lining the sidewalk and trash cans along the street.

626 You turn down a side street. You walk along a street of large townhouses. Most of the houses  
627 have planters on their front porches. There are trees lining the street. The cars are parked  
628 alongside the kerb.