

Institution: Newcastle University		
Unit of Assessment: UoA4		
Title of case study: Watching eyes: a cost-effective method of deterring undesirable behaviour		
Period when the underpinning research was undertaken: 2006-2015		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Prof Melissa Bateson	Professor of Ethology	1/10/98 to present
Prof Daniel Nettle	Professor of Behavioural Science	19/4/04 to present
Dr Gilbert Roberts	Senior Lecturer	1/7/97 to 27/7/18
Mr Kenneth Nott	Estate Security Service	
Mr Moe Fathi	MRes student	2013 to 2014
Mr Max Ernest-Jones	Undergraduate student	1/1/12 to 30/4/13
Miss Abby O'Connor	Undergraduate student	1/7/15 to 31/1/17
Miss Zoe Harper	Undergraduate student	2010 to 2013
Mr Adam Kidson	Undergraduate student	2010 to 2013
Miss Rosie Stone	Undergraduate student	2010 to 2013
Miss Rebecca Robinson	Undergraduate student	2012 to 2015
Mr Tim Abayomi-Cole	Undergraduate student	2012 to 2015
Mr Josh Greenlees	Undergraduate student	2012 to 2015
Period when the claimed impact occurred: 2013-present		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact		
<p>Newcastle University conducted the first field experiments showing that eye imagery sub-consciously affects behaviour, promoting pro-social behaviour. Posters displaying “watching eyes” were used to reduce cycle thefts at 3 cycle racks on the university campus over a 12 month period by 63% compared to the same period the year before. Newcastle University academics worked with Police forces across the UK to implement “watching eyes” posters as cheap, simple and effective cycle theft interventions. A German police force has also tested “watching eyes” posters as a cycle theft deterrent in their region. Other impacts include other UK universities introducing “watching eyes” posters to combat cycle theft and personal protective equipment companies also independently introducing lines of eye imagery posters after learning of Newcastle research.</p>		
2. Underpinning research		
<u>Unmet need for simple and effective crime interventions</u>		
<p>Crime prevention requires cheap and simple interventions to support ongoing activities as well as quantitative evaluation to inform evidence-based policy decisions. Bicycle theft in particular is a common problem with nearly 400,000 bikes stolen in the UK per year¹. Approaches to tackle these crimes have included CCTV and improved street lighting but these interventions are expensive and require additionally monitoring and upkeep. Therefore a cheap, simple method of deterring potential thieves is required.</p>		
<u>Visual cues to influence behaviour</u>		
<p>Newcastle conducted simple experiments investigating the use of watching eye imagery to influence behaviour. First, images of a pair of eyes were displayed in a coffee room next to instructions for contributing to an honesty coffee fund, with contribution to fund used as a metric for honesty. The images of eyes alternated with images of flowers across 10 weeks of investigation. Results showed that in the weeks where “watching eyes” were displayed, contributions to the honesty box increased by three times (R1). This provided the first field evidence of watching being an important cue for influencing behaviour. Further investigation of this phenomena showed that the image of eyes displayed in a university cafeteria, halved the probability of littering and that this effect was strongest when fewer people were present in the cafeteria (R2). The presence of eye imagery on the litter itself was also shown to reduce littering</p>		

¹ <http://www.cyclist.co.uk/news/412/bicycle-crime-statistics>

(R3). This confirmed that the effects of subtle cues of observation on co-operative behaviour can be significant in certain real-world contexts.

“Watching eyes” as a deterrent for cycle theft

Newcastle recognised that images of “Watching eyes” could be a relatively cheap and effective method for deterring thieves. Therefore, in collaboration with Newcastle Security Services, a sign was designed displaying a pair of eyes and text saying “Cycle Thieves We Are Watching You” (Figure 1) and displayed alongside cycle racks for 6 months in 2011. The locations were monitored for 12 months before and after the implementation with other cycle racks on campus used as controls. Results showed a significant decrease in thefts of 63% where the signs were displayed (R4).



Figure 1 – the “Watching eyes” poster displayed around the Newcastle University Campus

Further research into the effects of “Watching eyes” posters suggests that the presence of the posters promotes a positive social change in behaviour, rather than enforcing local behavioural expectations. For example, experiments into charitable giving, showed that the probability of participants giving charitable donations significantly increased in the presence of “Watching eyes”, but had no effect on the mean amounts that people donated (R5, R6).

The presence of “Watching eyes” posters therefore encourages positive behavioural changes which can be implemented as a simple and cheap method of crime prevention.

3. References to the research

SciVal field-weighted citation impact (FWCI) as of December 2020. Newcastle researchers in **bold**.

- R1. **Bateson M, Nettle D**, Roberts G. (2006) Cues of being watched enhance cooperation in a real-world setting. *Biology Letters*. 2:412–414. DOI: 10.1098/rsbl.2006.0509. FWCI: 7.32.
- R2. **Ernest-Jones M, Nettle D, Bateson M**. (2011) Effects of eye images on everyday cooperative behavior: a field experiment. *Evolution and Human Behavior*. 32:172–178. DOI: 10.1016/j.evolhumbehav.2010.10.006. FWCI: 6.07.
- R3. **Bateson M, Robinson R, Abayomi-Cole T, Greenlees J, O'Connor A, Nettle D**. (2015) Watching eyes on potential litter can reduce littering: evidence from two field experiments. *Peer J*. 3:e1443. DOI: 10.7717/peerj.1443. FWCI: 0.57.
- R4. **Nettle D, Nott K, Bateson M**. (2012) ‘Cycle Thieves, We Are Watching You’: Impact of a Simple Signage Intervention against Bicycle Theft. *PLoS ONE*. 7(12):e51738. DOI: 10.1371/journal.pone.0051738. FWCI: 1.38.
- R5. **Nettle D, Harper Z, Kidson A, Stone R**, Penton-Voak IS, **Bateson M**. (2013) The watching eyes effect in the Dictator Game. *Evolution and Human Behavior*. 34(1):35–40. DOI: 10.1016/j.evolhumbehav.2012.08.004. FWCI: 7.9.
- R6. **Fathi M, Bateson M, Nettle D**. (2014) Effects of Watching Eyes and Norm Cues on Charitable Giving in a Surreptitious Behavioral Experiment. *Evolutionary Psychology*. 12(5):878–887. DOI: 10.1177/147470491401200502. FWCI: 1.57.

Note - This research was not supported by external funding

4. Details of the impact

National Impacts on security

The “Watching eyes” signs have been used by several police forces in the UK to combat cycle theft, including North East London, the West Midlands and Leicestershire Police. In December 2013, as part of the OPERATION OWL neighbourhood watch scheme, the Waltham Forest Borough police force collaborated with Newcastle University to install posters at the top 6 cycle theft locations in the borough. In 2013 police in Waltham Forest Borough (as of 2018, part of the North East Command Unit in London), needed cheap and simple strategies for combating cycle crime which did not distract from their other duties, such as implementing traffic safety initiatives. As such the “Watching eyes” posters were recognised as offering *“the perfect solution to both tackle cycle theft yet still allow police to commit their time to other life saving deployments”* (EV1). The posters were supplemented with home visits to known cycle thieves but the officer in charge of the project at the time commented that *“the posters were able to police the problem, even when we were committed elsewhere”* (EV1). Between December 2013 and June 2014, there was a 25% decrease in cycle theft at the 6 cycle racks, compared to the same time frame the year before. Notably, one cycle rack saw a decrease of 75%. The drop in cycle theft extended to the rest of the borough which experienced a 14% drop in cycle theft incidents across the borough and an 81% drop around the area of Central Walthamstow between December 2013 and June 2014.

The success of the project led to the use of the posters in other London boroughs and for the posters to be adapted into small flyers to be displayed in front windows to tackle burglary (EV1). The officer in charge of the project noted that *“The staring eyes posters did not do the investigative work for us, but they assisted in creating a brand, which was recognisable to members of the public and criminals alike. This no doubt increased the flow of intelligence we received and elevated the profile of cycle theft as a crime type”* (EV1).

Furthermore, 20 posters were put up at cycle theft hotspots at the University of East Anglia between 2013 and 2019 (EV2). The University reports that there were 40% fewer cycle thefts reported on campus than in 2013 and that there was *“a rise in awareness from users of cycle racks. More sightings were reported of suspicious behaviour and a sense of ‘community spirit’ was felt in tackling cycle theft”* (EV2).

International impacts on security

In August 2014, the police force of Delmenhorst/Oldenburg-Land/Wesermarsch in Germany became aware of the Newcastle research through press coverage and carried out their own investigation of the effectiveness of the “Watching eyes” posters. After consultation with Newcastle University the police force installed 10 “Watching eyes” posters in 3 cycle locations around the city on 1st August 2014. Signs adapted to include an equivalent “Cycle thieves. We are watching you” phrase in German and were placed in locations which were identified to be difficult or impossible to monitor. Reported cycle thefts were recorded both before (2012-2013, 2013-2014) and after installation (2014-2015) and showed a 40-65% drop in cycle theft numbers after the posters were introduced depending on the location (Table 1, EV3).

Table 1 – Cycle theft numbers from 3 locations in Delmenhorst.

Timeframe	City centre bicycle rack (Fa. Lehnacker)	School bicycle rack (Max-Planck-Gymnasium)	Sports hall bicycle rack (Sporthalle am Stadtbad)
1st August 2012 – 31st July 2013	14	19	11
1st August 2013 – 31st July 2014 (posters were installed after this period)	17	24	9

Timeframe	City centre bicycle rack (Fa. Lehnacker)	School bicycle rack (Max-Planck-Gymnasium)	Sports hall bicycle rack (Sporthalle am Stadtbad)
1st August 2014 – 31st July 2015	9	13	3

Impacts on public spaces

The 'Keep Britain Tidy' campaign used the "Watching eyes" posters in an anti-dog-fouling measure. The posters, based on Newcastle original design, were piloted in 2014 at 120 testing sites across 17 local authorities. The pilot recorded an average decrease in dog fouling of 46% which encouraged further implementation of the posters in 152 local authorities, parish councils and community groups across England. In some of these locations, dog-fouling has been reduced by as much as 90% (EV4). Furthermore, the 'Keep Britain Tidy' campaign has won numerous awards including the 2015 Nudge Award, the Guardian Best Ads of 2015, the 2015 Local Government Chronicle Award – High Commendation and the 2016 Charity Award in the Environment and Conservation Category. These have helped to further increase the awareness of the work of the 'Keep Britain Tidy' campaign (EV4).

The "Watching eyes" posters have also been used by Boston Borough Council to directly combat fly-tipping and littering. Boston Town Centre was recognised as a significant hotspot for fly-tipping, and littering which negatively impacted local businesses and residents. The area was not protected by CCTV and regular patrols had been unsuccessful in deterring fly-tipping. The incidence of fly-tipping was reduced by 50% for the 3 months that posters were in place at the start of 2014, compared to the same time the year before (EV5).

Economic impacts

Following these implementations and success, the use of "Watching eyes" has become mainstream with the eyes seen extensively within stores and companies producing safety and security signage incorporating watching eyes imagery independent of involvement from Newcastle University. For example, the UK company [Company X] developed a range of signage after seeing reports of the Newcastle University research. They provide this signage through their distributors to construction, safety and security, fire and PPE supplies sectors across the UK [redacted for publication] (EV6).

In summary

Newcastle research found that the presence of Watching eye imagery prompts positive behavioural changes. This simple and effective intervention has been used in the UK to tackle littering and fly tipping and in the UK and Germany to reduce bicycle thefts. The concept of "Watching eye" imagery has now extended into the public space, most obviously by companies developing effective safety and security signage with these designs.

5. Sources to corroborate the impact

- EV1. Letter of support from Schools and Youth Engagement Sergeant and project coordinator of Operation Owl. PDF
- EV2. Letter of support from the Security Duty Manager of University of East Anglia. PDF
- EV3. Letter of support from the Head of Commissioner's Officer, Central Criminal Service, Delmenhorst/Oldenburg-Land/Wesermarsch Police, Watching Eyes Project. PDF
- EV4. Letter of support from the Director of Centre for Social Innovation and Keep Britain Tidy campaign. PDF
- EV5. Letter of support from the Community Safety Manager for Boston City Council. PDF
- EV6. [Company X evidence. Redacted for publication]