Supporting Online Material for

The Spreading of Disorder

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The Spreading of Disorder

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Materials and Method

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We conducted six different studies, each as a field experiment with people who did not know that they were observed. In the following, we repeat the description of each study given in the *Science* article and add aspects of relevance that were not covered in the article.

Study1 .The setting was an alley in Groningen located in a shopping area and commonly used to park bicycles (Fig. 1). A standard prohibition sign (a round red sign with a round white center) with the text “Graffiti”, pointed out the disapproved behavior (see Fig. 1A and 1B). The sign was highly noticeable and every subject entering the setting at least glanced at it. Subjects (N=77 in each condition) were all people who came to collect their parked bicycle. In their absence a flyer with an elastic band had been attached to the handlebar of their bicycle. The flyer was white and thus very noticeable. It read: “We wish everybody happy holidays”, signed with the name of a non-existing sportswear shop. The flyer had to be removed by the subjects to easily use the handlebar. As there were no trashcans in the alley, ‘not littering’ meant taking the flyer with them. We counted throwing the flyer on the ground or hanging it on another bicycle as littering.

Additional information: for the order condition, we painted the wall during the night so that the next day (when the order condition was conducted) there would be no graffiti. For the disorder condition, we applied graffiti to the wall during the night for the disorder condition the following day. The graffiti consisted out of simple tags as the more elaborated ‘pieces’ might be perceived as art instead of norm violations. In the order and disorder conditions, we also attached a large symbolic sign prohibiting graffiti. We attached it in such a way that it was clearly visible for people who came to pick up their bicycle (within 3 meters of the sign). Although only the bicycles parked within 3 meters were used in the experiment, all the bicycles in the alley were ‘flyered’ after they were parked this to avoid that that the subjects felt frustrated because they received a flyer whereas others did not. When people littered, it was inconspicuously picked up right away because we wanted to avoid simple norm violation effects (descriptive norm effect a la Cialdini) and concentrate on the cross-norm inhibition

effect. For both experimental conditions, the same weather conditions applied: cloudy skies. During rain showers the experiment was stopped. After a rain shower every flyer was replaced with a dry one, as taking a wet flyer would possibly be seen as more of burden. We also conducted the experiments during the same period of the day: from 1 pm until 5 pm.

*Study 2.*We used a police ordinance as a contextual norm and "no trespassing" (as ordered by the police) as target norm in the setting of a car park. Thus, both contextual and target norms were not general social norms but rules set up by the local police for a particular local situation. A temporary fence (set up by us) closed off the main entrance for people who came to pick up their car, but a gap of about 50 cm was left open in the fence (Fig. 2). We attached two signs to the temporary fence just 60 cm apart and directly next to the gap. The right sign (our contextual norm) indicated that it was prohibited to lock bicycles to the fence. The left sign (our target norm) made clear that it was prohibited to use this entrance and that people had to use an alternative entrance to the car park which required walking a 200m detour. In the order condition, four bicycles standing 1 meter before the fence were ostensibly not locked to the fence.
In the disorder condition, four bicycles were locked to the fence for everyone to see. The dependent variable was whether pedestrians conformed to the "no throughway" sign (the target norm) and walked the 200m detour to the temporary entrance that was pointed out by the sign. Violating the "no throughway" ordinance meant stepping through the gap in the fence. Subjects (N=44 in the order condition, N=49 in the disorder condition) were all people who came to collect their car from the car park. A group of people approaching the fence was counted as 1 subject.

Additional information. We placed the provisional fences to block the main entrance. The gap we left was small enough to give the impression that the entrance was really closed off, but it was also big enough (ca. 50cm) for people to get through if they so decided. The signs we attached to the fence were very noticeable and clear in their content. For the disorder condition, we clearly showed a violation of the contextual norm by using large conspicuous chain locks. with which the bikes were tied to the fence. The purpose of the chain lock was clearly to lock the bicycle to an object as each bike had another smaller lock not suited for that purpose. In the order condition, the same locks were used but now the chain lock (other than it was indented for), was only locked to the front wheel and not to the fence. To make this more conspicuous the bicycles were parked 1 meter before the fence.. Again the same weather conditions applied throughout (cloudy skies), and the two experimental conditions were conducted during the same period of the day from 3 pm to 5.30 pm. During time frame the blocked pathway was almost solely used as an entrance.

Study 3. Would this also hold for a rule set by a private company that is not enforced with sanctions? A parking garage adjacent to a supermarket and health club was used in which the contextual norm established by the private company is to return shopping carts to the supermarket after loading groceries into one's car. A very visible sticker with the text: "please return your shopping carts" attached to the entrance doors of the parking garage focused attention on this normative "request" (Fig. 3). In the order condition, the garage was clear of shopping carts that were not returned. In the disorder condition, there were four unreturned shopping carts standing around in disarray. The (unreturned) carts used in the disorder condition had no coin deposit system, so people were not financially encouraged to return them. To discourage people who just arrived from using the shopping carts and thus removing the disorder, we smeared the handle bars of the carts with Vaseline. Subjects (N=60 in each condition) were visitors of the supermarket and health club who came to collect their car from

the multilevel parking garage. Only people *not* using a shopping cart were included. The target norm was the anti-litter norm, already used in Study 1. The dependent variable was whether or not subjects who returned to their car littered a flyer (the same flyer as used in Study 1) that was placed under the driver's side windshield wiper of their parked car.

Additional information:. In order to prevent arriving people from taking the disarrayed carts with them, we smeared Vaseline on the handle bars which without exception made people leave the carts alone. When people came with shopping carts to collect their car, they were not counted in the either experimental condition. When people littered, it was again inconspicuously picked up right away (see Study 1). The experiments were conducted during the same period of the day: 1 pm until 4.30 pm. Since it was indoors, weather conditions might not pay a role. However, for the odd chance that people act differently when they come into the garage from sunny or cloudy skies (or even rain), we again took pains to keep weather conditions constant (cloudy skies).

Study 4. Is disorder only linked to visual cues of norm violation? Would the cross-norm inhibition effect be of any influence when the contextual norm was merely audible? In our fourth study, we focused on a national law as a contextual norm. In the Netherlands it is prohibited by law (with a €60 fine) to set off fireworks in the weeks before New Year's Eve. We wanted to find out, 2weeks before New Year's Day, whether an offence against this national law would induce people to litter. In contrast to Studies 1-3, the contextual norm was not made conspicuous (say by a sign stating the law). The law about fireworks is well-known and its violation itself would immediately make the law salient in people's mind. The setting we used was a bicycle shed located near a busy train station. The subjects (N=50 in the order condition, N=46 in the disorder condition) were all people who came to collect their parked bicycle. In the order condition, there was no sound of fireworks. In the disorder condition, we set off fire crackers (well within hearing distance of the subjects, but out of sight to prevent any visual cues). We observed whether subjects littered a flyer (the same flyer as used in Studies 1 and 3) attached to the handlebar of their bicycle.

Additional information: The firecrackers we used were clearly audible but not deafening. The impression we wanted to give is that people just around the corner were having fun doing something against the law. We wanted the subjects to have the idea that several people were lighting firecrackers. So the firecrackers were thrown in several directions, to make the noise come from all sides. When people littered, it was again inconspicuously picked up right away (see Study 1). Again, weather conditions (cloudy skies) and period of the day were kept constant in both experimental conditions: 12.30 PM until 15.30 PM.

Studies 5 and 6. Here, the target norm was stealing and we examined whether an envelope, visibly containing a €5 note and hanging out of a mailbox, would be stolen more often if a contextual norm was violated. The white (addressed) window envelope sticking out of a mailbox (situated in Groningen) was very noticeable for everyone approaching the mailbox and it was clearly visible that the envelope contained a €5 note (Fig. 4). The subjects were all people who singly passed the mailbox on foot (and the few who actually posted a letter). We conducted a baseline order condition (N=71) in which the mailbox was not covered with graffiti and the ground around the mailbox was clean. We then conducted two disorder conditions: one in which the mailbox was covered with graffiti without litter on the ground (N=60, Study 5) and one in which there was no graffiti on the mailbox, but where the space around the mailbox was littered (N=72, Study 6). The circumstances of all three conditions in term of period of the day and weather were held constant. The dependent variable was

whether or not people would steal the envelope. Leaving the envelope or pushing it into the mailbox was considered not stealing. Opening the envelope or taking it was considered stealing. Thus we compared two disorder conditions to the baseline condition.

Additional information: The €5 note that could be seen peeking through the window of the envelop. We took pains to make sure that the envelope and its window with the €5 note was clearly visible not just for the few people who came to post a letter, but to the people who walked by. This could be achieved by using fairly large envelopes and a mailbox at a narrow sidewalk. Again, weather conditions (cloudy skies) and period of the day (early afternoon) were kept constant in all experimental conditions. A pilot observation of this mailbox showed us that in the early afternoon, the chances are highest that people walk by singly and without people directly behind them. During this period (1 PM till 4 PM) very few people came to post a letter. In experiment 6, the disorder conditions consisted of trash that did not just contain paper but also orange peels, cigarette butts, and empty cans.