Silence and Table Manners: When Environments Activate Norms

Janneke F. Joly
University of Groningen

Diederik A. Stapel
Tilburg University

Siegwart M. Lindenberg
University of Groningen

Two studies tested the conditions under which an environment (e.g., library, restaurant) raises the relevance of environment-specific social norms (e.g., being quiet, using table manners). As hypothesized, the relevance of such norms is raised when environments are goal relevant ("I am going there later") and when they are humanized with people or the remnants of their presence (e.g., a glass of wine on a table). Two studies show that goal-relevant environments and humanized environments raise the perceived importance of norms (Study 1) and the intention to conform to norms (Study 2). Interestingly, in both studies, these effects reach beyond norms related to the environments used in the studies.

Keywords: *norms; situationist perspective; social influence; priming; environment*

Environments influence who we are and what we do. At least that is the premise of the situationist perspective in social psychology (e.g., Ross & Nisbett, 1991). In the present article, we test the boundaries of such a situationist view and investigate the extent to which an environment can increase the salience of social norms: Can environments activate normative beliefs all by themselves? Do table manners become more important in a fancy restaurant than at home? Can a picture of a whole-food store make people act in a environment-friendly manner? And if environments can activate norms, under which conditions are they most likely to do so?

Social norms such as table manners are rules and standards imposed by members of a social group. It is important that people conform to norms to accomplish group goals, such as building and maintaining relationships (Sherif, 1965), and individual goals, such as managing one's self-concept (Cialdini & Trost, 1998). To date, most research on social norms has asked whether norms predict behavior and, if so, under what conditions (e.g., Aarts & Dijksterhuis, 2003; Cialdini, Reno, & Kallgren, 1990; Latane & Darley, 1970; Pepitone, 1976). Previous research has shown that norms can predict behavior when they are salient and relevant for immediate behavior (Aarts & Dijksterhuis, 2003; Cialdini et al., 1990). For example, the norm to be silent in the library predicts voice intensity when people see a picture of a library and intend to visit one (Aarts & Dijksterhuis, 2003). The objective of the present studies was to explore what, besides intention to visit, determines

Authors' Note: Janneke F. Joly, Department of Behavioural and Social Sciences, Interuniversity Center for Social Science Theory and Methodology, University of Groningen; Diederik A. Stapel, Department of Cognitive Social Psychology; Siegwart Lindenberg, Department of Behavioural and Social Sciences, Interuniversity Center for Social Science Theory and Methodology, University of Groningen. Diederik A. Stapel is now at Tilburg Institute for Behavioral Economics Research, Tilburg University. This research and writing was supported by a Pionier grant from the Dutch Science Foundation (Nederlandse Organisatie voor Wetenschappelijk Onderzoek) awarded to the second author and a Breedtestrategie II grant of the University of Groningen awarded to the second and third authors. We thank Tom Snijders and Mark Huisman for their statistical advice. We also thank Paula Niedenthal, Robert Cialdini, and two anonymous reviewers for their helpful suggestions and comments. Address correspondence to D. A. Stapel, Tilburg Institute for Behavioral Economics Research, Tilburg University, PO Box 90153, 5000 LE Tilburg, Netherlands; e-mail: d.a.stapel@uvt.nl.

PSPB, Vol. 34 No. 8, August 2008 1047-1056
DOI: 10.1177/0146167208318401

whether an environment raises the relevance of environment-specific norms.

We posit that for an environment to raise the relevance of its related norms, it has to be perceived as being relevant because of its social nature and for its impact on immediate behavior, as shown by Aarts and Dijksterhuis (2003). In our view, environments that are inherently social are environments that are humanized; that is, they are environments with social stimuli, such as other people or signs that people were present. The suggestion that people are or appear to be present in an environment changes the perception of a neutral setting into a social setting. Social norms are by definition relevant in social settings because they apply to people and social interactions. In other words, we expect that humanized environments raise the relevance of social norms that apply to the humanized context, whereas nonhumanized environments, such as empty streets, abandoned villages, and building sites, are less likely to do so. On this point, we deviate from a pure situationist perspective, which implies that an environment in itself can activate norms (see Ross & Nisbett, 1991). We argue that an environment activates norms only when it is humanized or when it is perceived as being relevant for its impact on immediate behavior.

Furthermore, we posit that an environment is humanized when people are physically present in the environment or when remnants indicate their presence, such as a burning cigarette in an ashtray or footprints on a beach. Even though remnants do not show people how to behave in a socially accepted manner, given that there is no behavior to be seen or taken as an example, we argue that such remnants raise the relevance of norms that apply to the environment, simply by humanizing the environment. Previous research has shown that remnants such as briefcases and boardroom tables can change the perception of an environment into a competitive one and can so increase the number of competitive decisions in game situations (Kay, Wheeler, Bargh, & Ross, 2004). However, whether the remnants raise the salience of the norm that prescribes competitive behavior ("Be competitive") remains untested (Kay et al., 2004).

There are several reasons why we argue that humanized environments raise the salience of norms that apply to an environment. First, environments become associated with norms—especially when norms apply to one environment in particular, also called *situational norms* (Aarts & Dijksterhuis, 2003). For example, a mosque may be related to the situational norm of taking off one's shoes. In the present research, we focused mainly on such situational norms. Second, because social norms are about people and are essential to regulating social interactions, we expected such norms and people to be associatively linked and that it is the combination of an environment with people or with the remnants of their behavior (i.e., a humanized environment) that consciously or unconsciously raises the relevance of these norms. According to our conception of humanized environments, a nonhumanized or empty environment is not explicitly social and so does not raise the relevance of norms.

Having the intention to visit an environment in the near future is yet another way to raise norm relevance. Intending to visit an environment means that one will be behaviorally involved in that environment, which immediately makes situational norms behavior relevant, even if the environment is nonhumanized or empty. The results of Aarts and Dijksterhuis's (2003) "silence in the library" study support this assumption. Aarts and Dijksterhuis argued that situational norms are learned by associating the environment (e.g., library) with the norm (e.g., being silent in libraries) and normative behavior (softening one's voice). Aarts and Dijksterhuis thus predicted that people would speak with less voice intensity upon seeing a picture of an empty library and intending to visit one. To test their hypothesis, participants' voice intensity was measured after exposure to a picture of an empty library (or a train station, in the control condition). In addition, half the participants were instructed to visit the environment in the picture upon finishing the experiment (henceforth, the library goal). The results are in line with our expectations. The picture of the empty library did not influence participants' voice intensity by itself. Participants softened their voices only after being exposed to the picture of the empty library and intending to visit the library. Aarts and Dijksterhuis reasoned that the library goal made the norm to be silent in the library immediately behavior relevant. We aim to replicate and conceptually extend Aarts and Dijksterhuis's goal effect by measuring perceived norm relevance, rather than behavior, and by humanizing the environment.

In the present article, we present two studies in which we tested our hypothesis that an environment raises the perceived relevance of norms when it is humanized or behavior relevant, whereas an environment that is not humanized or behavior relevant does not raise the perceived relevance of norms. Specifically, we expected that norms become more relevant when people or remnants of people's presence are in the pictured environment, irrespective of having a goal to visit the environment, whereas a picture of an empty environment does so only when one has the goal to visit the environment.

STUDY 1

In Study 1, we tested the hypothesis that a humanized or behavior-relevant environment raises the relevance of

norms that apply to the environment but that a nonhumanized or non-behavior-relevant environment does not. Specifically, we expected that the perceived importance of the library silence norm rises after exposure to a picture of a humanized library, even when it is not goal relevant (i.e., absent any intention to visit the library in the near future). However, we did not expect a nonhumanized library to raise the perceived importance of the silence in the library norm unless it is goal relevant. Because we expected humanized and goal-relevant environments to raise the relevance of environment-specific norms, we included other library norms (e.g., returning one's library books on time).

In addition, we explored whether the hypothesized effects generalize to norms that do not directly apply to the pictured environment. From a situationist point of view, it seems unlikely to assume that a library environment should activate norms that do not apply to libraries, such as the norm of bringing a shopping bag to the supermarket. However, if norms are associatively linked just as other cognitive constructs are, then generalizations of effects should, in theory, occur (Collins & Loftus, 1975; Harvey & Enzle, 1981). To our knowledge, there is no comprehensive theory that explains the associative links between norms and predicts the norms to which effects might generalize.

We think it is intuitive and logical that salience spreads more easily between strongly associated norms than between weaker associated norms and that norms are more strongly associated when they share cognitive content. Norms that share cognitive content are, for example, norms that prescribe similar behaviors and serve a comparable goal. The norms "Be silent in a library" and "Do not talk during a movie in a cinema" both prescribe silence (target behavior–related norms) and serve the goal "Do not disturb other people." But do effects generalize to norms that share less cognitive content, prescribe dissimilar behavior, and serve different goals (target behavior–unrelated norms)? Empirical evidence suggests that norms are indeed related and that norm salience can spread.

Cialdini et al. (1990, Study 5) primed participants with normative messages that differed in what the researches called *conceptual closeness* to the target norm "Do not litter" and then measured the effect on littering behavior. As the norms in the messages became conceptually closer to the target norm, participants littered less and less. Cialdini et al. primed participants with what we would call *target behavior–related* norms and observed the effects on behavior. We, however, primed the target norm, measured the perceived relevance of the target norm, and observed whether effects generalized to the target behavior–related norms. This enabled us to explore the scope of possible generalization effects, which would have been difficult to do with a behavior-dependent measure (one would have to observe different kinds of normative behavior of each participant at the same time and in the same experimental setup). As far as we know, this has not been done before.

Method

Participants and design. Ninety-nine psychology students of the University of Groningen participated in this study for a partial course requirement. Participants were randomly assigned to the conditions of a 2 × 3 between-subjects design—Instruction (library goal vs. no goal) × Picture (empty vs. remnants vs. person)—or to a control condition in which they saw the picture of a train station but did not receive the library goal instruction.

Procedure and materials. Participants were instructed to study the picture for a half minute. In the library goal conditions, participants were instructed to hand in the questionnaire in the nearest library after filling it in. In the control condition, participants studied a picture of a train station with an empty platform. In the library conditions, participants were given a picture of the social sciences library of the University of Groningen: In the empty library condition, the library was deserted. In the remnants condition, a chair stood askew at a desk, and some books and pencils were lying on the desk (but there were no people present). In the person condition, a male was sitting behind the same desk, holding a pen and looking at a book, studying, being quiet.

Norm importance. Besides selecting the norm of being silent in the library, we selected 11 norms that were comparable in perceived normativeness and cognitively similarity (for similar reasoning, see Cialdini et al., 1990). In a pilot study, 81 students rated 37 norms on their importance (1 = *very unimportant*, 2 = *reasonably important*, 3 = *very important*). Given the results of this study, we selected 12 norms that were rated by at least 30% and by at most 70% of the participants as *reasonably important* (see Table 1).

We selected two extra library norms (henceforth, other library norms): "Return your library books in time" (library book) and "Do not eat or drink in the library" (library eating). Like the library silence norm, three norms were selected that prescribe silence behavior, or not distracting people (henceforth, target behavior–related norms): "Switch off your cell phone during lectures" (cell phone), "Do not talk during a movie in a cinema" (talking), and "Do not keep people from doing their work" (distract). Six norms were selected that we

TABLE 1: Respondents' Perceptions of Social Norms (in Percentages)

Social Norm	*Very Unimportant*	*Reasonably Important*	*Very Important*
Restaurant silence[a]	8.6	69.1	22.2
Distract	9.9	67.9	22.2
Library eating[b]	32.1	66.7	1.2
Library book	11.1	66.7	22.2
Restaurant wait[a]	11.1	65.4	23.5
Nose	17.3	64.2	18.5
Two words[a]	32.1	58.0	9.9
Silverware[a]	37.0	56.8	6.2
Cell phone	8.6	50.6	40.7
Talking	4.9	49.4	45.7
Library silence[b]	1.2	48.1	50.6
Sidewalk	50.6	44.4	2.5
Wash[b]	3.7	44.4	51.9
Bio	53.1	43.2	3.7
Litter	0.0	35.8	64.2
Bag[b]	53.1	34.6	11.1
Time[a]	0.0	32.1	67.9

NOTE: Social norms without notations were utilized in Study 1.
a. Study 2.
b. Study 1 and Study 2.

expected to be less related to the library silence norm because they prescribe nonsilence behavior and apply to different environments than that of a library (henceforth, target behavior–unrelated norms): "Blow your nose instead of snorting" (nose), "Wash your hands after a visit to the toilet" (wash), "Bring a shopping bag to the supermarket so you do not need a plastic bag from the supermarket" (bag), "Use biologically produced products, such as meat, milk, eggs, and vegetables" (bio), "Throw litter in the trash can instead of on the street" (litter), and "Sweep the sidewalk clean when there are leaves or snow on it" (sidewalk).[1] The norms were assessed in the following order: litter, library silence, nose, talking, bag, cell phone, bio, library book, sidewalk, distract, wash, and library eating. The order was such that different types of norms were dispersed to avoid order effects. To assess the perceived importance of norms, participants were asked to indicate how important a specified norm is (1 = *very unimportant*, 7 = *very important*), whether they comply with the norm (1 = *never*, 7 = *always*), and what their opinion is about people who transgress the norm (1 = *very negative*, 7 = *very positive*). The answers on the last question were reverse coded.

The idea that our target behavior–related norms are perceived as being more related than the target behavior–unrelated norms to the library silence norm is empirically supported by the results of another pilot study. Participants (n = 182) rated three target behavior–related norms (cell phone, talking, and distract) as being most related to the library silence norm (by 30.3%, 29.2%, and 23.2% of the participants, respectively) and three target behavior–unrelated norms (bio, wash, and bag) as being least related (by 34.6%, 21.1%, and 15.1% of the participants, respectively).

Debriefing. On completion of the questionnaire, the participants were debriefed, thanked, and dismissed. None of the participants indicated suspicion about the actual goal of the study, and none of them thought that the pictures influenced their perceived norm importance.

Results

First, for each norm, we averaged the three questions that measured perceived norm importance (Cronbach's alphas > .70, except for the bio and sidewalk norms: .32 and .43, respectively). To restrict the amount of analyses and to simplify the presentation of the results, the norms were aggregated in four scales: Library Silence (Cronbach's alpha = .80), Other Library (Cronbach's alpha = .87), Target Behavior–Related (Cronbach's alpha = .70), and Target Behavior–Unrelated (Cronbach's alpha = .45). In all the analysis reported here, the pattern of effects on each norm was similar to the pattern of effects on its respective scale. Table 2 presents the means of the scales for each condition.

We conducted analyses in two steps. First, we conducted a one-way analysis of variance (ANOVA) on the seven conditions. Then, Dunnett's t tests were performed to compare all means in the factorial conditions against the control condition (see also Maxwell & Delaney, 1989). With this procedure, we tested whether the perceived norm importance is indeed higher after exposure to a humanized or a behavior-relevant library, when compared to the control condition. The analysis revealed a pattern of effects that is consistent with our expectations. Below, we present the results for each norm scale.

Library silence. The ANOVA revealed a significant effect of condition on the library silence norm, $F(6, 92) = 19.56$, $p < .01$. As can be seen in Table 2, the Dunnett's t tests revealed the expected pattern of effects. Compared to that of the control condition, the perceived importance of the library silence norm was raised after exposure to a humanized library and a nonhumanized library with a library goal but not after exposure to a nonhumanized library without a library goal. In both person conditions, norm importance was significantly higher when participants had a library goal and even when they did not. Also in the remnants conditions, norm importance was significantly higher with a library goal and without a library goal. In the empty conditions, norm importance was significantly higher only when participants had a library goal but not without a

TABLE 2: Means (and Standard Deviations) Regarding Perceived Importance of the Social Norms as a Function of Picture and Instruction

		Picture			
Social Norm	*Instruction*	*Control*	*Empty*	*Remnants*	*Person*
Library silence	Goal		5.95** (0.43)	6.07** (0.51)	6.75** (0.25)
	No goal	5.17 (0.79)	4.94 (0.69)	6.18** (0.38)	6.12** (0.51)
Other library	Goal		4.24** (0.75)	4.21** (0.57)	5.94** (0.40)
	No goal	2.85 (0.86)	2.69 (0.55)	4.51** (1.39)	4.57** (0.94)
Target behavior–related	Goal		5.25 (0.33)	5.17 (0.48)	6.38** (0.25)
	No goal	5.27 (0.51)	5.21 (0.50)	5.11 (0.71)	6.44** (0.22)
Target behavior–unrelated	Goal		4.44 (0.25)	4.42 (0.34)	5.34** (0.36)
	No goal	4.45 (0.41)	4.33 (0.25)	4.56 (0.51)	4.63 (0.44)

NOTE: Scale range = 1–7 (low to high perceived norm importance). Asterisks denote means that differ from the control condition by at least $p < .01$ in a Dunnett's t test.

library goal. This is in line with our expectations and the finding of Aarts and Dijksterhuis (2003) that exposure to a picture of an empty or nonhumanized library raises the perceived importance of the library silence norm when people intend to visit one.

Other library norms. As expected, the results on the other library norms replicated those of the library silence norm. An ANOVA revealed significant effects of condition, $F(6, 92) = 26.57$, $p < .01$. Dunnett's t test showed that in both person conditions, norm importance was significantly higher with a library goal and without a library goal than it was in the control condition. In the remnants conditions, norm importance was also significantly higher with a library goal and without a library goal. In the empty condition, norm importance was significantly higher when participants had a library goal but not without it ($p = .99$).

Target behavior–related norms. Interestingly, the ANOVA revealed a significant effect of condition on the perceived norm importance of target behavior–related norms, $F(6, 92) = 25.8$, $p < .01$. Dunnett's t test revealed that the effect of the person conditions did generalize to the target behavior–related norms but that the effects of the remnants and empty conditions did not ($p > .87$). In the person conditions, norm importance was significantly higher when participants had a library goal and when they did not, when compared to the control condition.

Target behavior–unrelated norms. An ANOVA showed a significant effect of condition on the perceived norm importance of the target behavior–unrelated norms, $F(6, 92) = 12.65$, $p < .01$, indicating generalization of effects. Dunnett's t tests showed that generalization of effects occurred in only the person condition with a library goal, in which case importance was significantly higher than it was in the control condition but not in the remnants and empty conditions ($p > .65$).

Discussion

In this study, we had two aims: Our first and most important aim was to test our expectation that exposure to a humanized environment raises the perceived importance of norms that apply to the environment, even when the environment is not immediately relevant for behavior, whereas exposure to a nonhumanized environment has this effect only when the environment is goal relevant. The results support this hypothesis. Specifically, the perceived importance of the library silence norm and other library norms was higher after exposure to a picture of a humanized library (showing someone studying or the remnants of someone studying) than it was in the control condition, even when participants had no library goal. However, exposure to a picture of an empty library does so only when people have a library goal. Thus, unlike what a strict situationist may expect, the environment by itself is not enough to raise the perceived importance of norms that are relevant in that environment. A replication with a different environment, a different set of norms, and a different but related dependent variable is desirable for increased confidence regarding the reliability and generality of these novel effects.

The second aim of our study was to explore whether the hypothesized effects of humanized and behavior-relevant environments generalize to norms that do not apply to the environment, thus raising their perceived importance as well. This exploration revealed fascinating results because the hypothesized effects indeed went beyond the targeted library norms. The humanized library raised the perceived importance of norms that do not apply to libraries at all, such as the norms "Clean your sidewalk" and "Bring a shopping bag to the supermarket," whereas the nonhumanized library did not have this effect. Specifically, the effects of the person condition generalized to target behavior–related norms, irrespective of the library goal, and even to target behavior–unrelated

norms, when participants had the goal to visit the library. These results support the idea that social norms are cognitively related and that the salience of one norm may spread to other norms. The results also suggest that the salience of norms may spread more easily as norms are more related. To increase confidence regarding the validity of these interesting and new generalizations, we further explored whether such generalizations occur but this time using a different environment, other social norms, and another dependent variable.

STUDY 2

We had two aims in Study 2: First, we aimed to replicate the effects of Study 1 using a different environment, a different set of norms, and a different but related dependent variable—namely, the intention to conform to norms. Again, we hypothesized that exposure to a humanized environment raises the intention to conform to norms that apply to the environment, irrespective of having the intention to visit the environment, whereas a nonhumanized environment does not have this effect unless participants intend to visit the environment. Specifically, we expected that exposure to a humanized restaurant would raise the intention to conform to table manners, irrespective of a restaurant goal ("I will go there later"), whereas exposure to a nonhumanized restaurant would raise the intention to conform to table manners only when participants have a restaurant goal. We used pictures of a fancy restaurant because we expected fancy restaurants to be especially associated with well-established table manners, such as the norm to not play with your silverware. Second, we aimed to find out whether the hypothesized effects would generalize again to norms that do not apply to the environment, even though we used a different environment, another dependent variable, and other social norms. If, despite these differences, the effects of the manipulations again generalize to other norms, it would increase our confidence that social norms may be cognitively related and that the salience of one norm may spread.

Method

Participants and design. Psychology students ($n = 130$) of the University of Groningen participated as a course requirement. Participants were randomly assigned to the conditions of a 2 × 3 between-subjects design—Instruction (restaurant goal vs. no goal) × Picture (empty vs. remnants vs. person)—or to the control condition, in which participants were exposed to a picture of an empty train station.

Procedure and materials. Participants were instructed to study the picture for a half minute. In the restaurant goal conditions, participants were instructed to go to the environment in the picture after completing the questionnaire. The picture of the train station that was used in Study 1 was used in the control condition of Study 2. The restaurant picture showed the interior of a fancy restaurant. In the empty condition, the restaurant was deserted. In the remnants condition, the picture showed the same restaurant but with a table that was set for two and with dinner served. In the person condition, the picture showed a couple enjoying their dinner.

Intention to conform to norms. After participants had seen the picture, their intention to conform to norms was assessed. Inspired by research of Ajzen and Fishbein (1980), we asked participants to indicate to what extent they agreed or disagreed with three statements about a given norm (e.g., "Always lower your voice in a restaurant"). The statements assessed the participants' intention to conform to a norm (e.g., "I intend to always lower my voice in a restaurant"), their attitude toward normative behavior (e.g., "I feel that it is important to always lower my voice in a restaurant"), and the subjective norm (e.g., "Most people who are important to me feel that I should always lower my voice in a restaurant") on 7-point Likert-type scales ranging from 1 (*I do not agree at all*) to 7 (*I agree completely*). The mean of these three questions was used as a measure of intention to conform to a specific norm.

For this study, we selected nine norms that were well established in a pilot study (see Table 1). The norms on table manners (henceforth, table manners) were as follows: "Always lower your voice in a restaurant" (restaurant silence), "Never play with your silverware in a restaurant" (silverware), and "Always wait patiently for your food and drinks in a restaurant" (restaurant wait). The norms "Never eat or drink in a library" (library eating) and "Always wash your hands after a visit to the toilet" (wash) were assumed to be target behavior–related for several reasons. Like table manners, the library eating norm is about eating but in this case, about where not to eat. The wash norm may be related to table manners because it serves the goal of keeping one's food clean and hygienic, similar to the table manner of washing up for dinner. The target behavior–unrelated norms can be logically assumed to be less related to table manners because they describe normative behavior that is not related to eating or restaurants. These norms were as follows: "Always bring a shopping bag to the supermarket so you do not need a plastic bag from the supermarket" (bag), "Always be silent in a library" (library silence), "Always speak with two words" (two words),[2] and "Always be in time for appointments" (time).

TABLE 3: Means (and Standard Deviations) Regarding Intention to Conform to the Social Norms as a Function of Picture and Instruction

		Picture			
Social Norm	*Instruction*	*Control*	*Empty*	*Remnants*	*Person*
Table manners	Goal		4.49** (0.28)	4.63** (0.55)	5.54** (0.37)
	No goal	3.78 (0.93)	3.41 (0.50)	4.59** (0.31)	4.48** (0.29)
Target behavior–related	Goal		4.47** (0.76)	4.34** (0.71)	5.33** (0.64)
	No goal	3.63 (0.69)	3.30 (0.57)	4.37** (0.27)	4.28* (0.64)
Target behavior–unrelated	Goal		4.16 (0.50)	4.04 (0.58)	4.49 (0.45)
	No goal	4.57 (0.77)	4.08 (0.72)	4.31 (0.31)	4.20 (0.58)

NOTE: Scale range = 1–7 (low to high intention to conform to norms). Asterisks denote means that differ from the control condition in a Dunnett's *t* test: one asterisk, $p < .02$; two asterisks, $p < .01$.

The results of a pilot study showed that our categorization of norms corresponds with people's perception of the relatedness of the norms used in this study. Participants ($n = 81$) rated three table manners (silverware, restaurant silence, and restaurant wait) as being most strongly related to table manners (by 49.4%, 18.5%, and 16.0% of the participants, respectively) and three target behavior– unrelated norms (bag, library silence, and time norms) as being least related to table manners (by 64.2%, 25.9%, and 6.2% of the participants, respectively).

Finally, to explore whether recent experience with fancy restaurants influenced their answers, we asked participants to indicate how many times they had visited a fancy restaurant in the past month. The norms were assessed in five orders. In each order, the different types of norms were dispersed to avoid order effects.

Debriefing. On completion of the questionnaire, the participants were debriefed, thanked, and dismissed. None of the participants indicated suspicion about the actual goal of the study, and none of them thought that their intention to conform to norms was influenced by the pictures or the goal.

Results

First, the mean intention to conform to a norm was computed. The intention to conform to the norms formed reliable scales for each norm (Cronbach's alphas > .60) except wash, two words, bag, and time (respectively, Cronbach's alphas' = .55, .34, .48, .43). As we did in Study 1, we aggregated the norms into three norm scales for purpose of presentation. A table manners scale was constructed with the restaurant silence, silverware, and restaurant wait norms (Cronbach's alpha = .79); a target behavior–related norms scale with the library eating and wash norms (Cronbach's alpha = .55); and a target behavior–unrelated norms scale with the bag, time, library silence, and two words norms (Cronbach's alpha = .50). Table 3 presents the means.

The analytical steps are similar to those in the previous study. First, we conducted an ANOVA on the seven conditions, with the number of restaurant visits in the past month as a covariate. Recent restaurant experience did not influence the intention to conform to table manners, the target behavior–related norms (Fs < 1), and the target behavior–unrelated norms, $F(1, 83) = 3.65$, $p = .06$; thus, it will not be discussed any further. Then, we performed Dunnett's *t* tests to test our hypotheses that when compared to the scores of the control condition, the mean intention to conform to norms is higher after exposure to a humanized restaurant and a behavior-relevant restaurant. The analysis revealed the expected pattern of effects and thus replicates those of Study 1.

Table manners. The ANOVA on table manners revealed a significant effect of condition on the intention to conform to table manners, $F(6, 103) = 23.78$, $p < .01$. As expected, Dunnett's *t* tests revealed that the intention to conform to table manners was significantly higher after exposure to a humanized restaurant and after exposure to the empty restaurant but only when participants had a restaurant goal, not without a restaurant goal. Compared to that of the control condition, intention was significantly higher in both person conditions, with a restaurant goal and without a restaurant goal. In the remnants conditions, intention was significantly higher with a restaurant goal and even without it. In the empty conditions, intention was significantly higher only when participants had a restaurant goal.

Target behavior–related norms. An ANOVA revealed a significant effect of condition indicating that the effects of the humanized and behavior-relevant restaurant generalized to the target behavior–related norms, $F(6, 103) = 16.5$, $p < .01$. Dunnett's *t* tests showed that the pattern of effects resembles the pattern of effects on table manners. Compared to that of the control condition, intention was significantly higher in both person conditions, thus with a restaurant goal and without a

restaurant goal. Also, in both remnants conditions, intention was significantly higher with a restaurant goal and without it. In the empty conditions, intention was significantly higher only when participants had a restaurant goal.

Target behavior–unrelated norms. Finally, an ANOVA showed that the effects of our manipulations did not generalize to target behavior–unrelated norms in this study, $F(6, 103) = 2.03$, $p = .07$.

Discussion

We expected and found again that humanized environments raise the intention to conform to norms that apply to the environment, even when participants have no goal to visit the environment, whereas a nonhumanized environment does so only when it is behavior relevant. Specifically, a picture of a humanized restaurant heightened the intention to conform to table manners, irrespective of having a restaurant goal, whereas a picture of an empty restaurant raised the intention to conform to table manners only when participants had a restaurant goal. The fact that we replicated the results of Study 1—despite using a different environment, a different but related dependent variable, and different norms—increased our confidence that pictured environments cannot increase norm relevance all by themselves but that humanized and behavior-relevant environments can.

We once again explored whether the effects of a humanized or behavior-relevant environment would generalize to norms that do not apply to the pictured environment. Just as in Study 1 and despite the differences between the studies, the effects of our manipulations went beyond the target norm again. This increased our confidence that these generalizations are reliable effects, that social norms are cognitively linked, and that the salience of one social norm can spread to other social norms. To understand and predict what determines these generalizations, further research is necessary. It seems worthwhile to investigate whether the width of these generalizations depends on the relatedness of norms, because we observed more generalizations to the target behavior–related norms than to the target behavior–unrelated norms.

Interestingly, even though the general pattern of generalizations is quite similar across the studies, there are some differences. Unlike in Study 1, there were no generalizations to the target behavior–unrelated norms in Study 2. Instead, we observed more generalizations to target behavior–related norms. Furthermore, in Study 1, generalizations to target behavior–related norms were observed in only one humanized restaurant condition—namely, the persons conditions—and in Study 2 generalizations were observed in all the humanized conditions and the goal-relevant condition. The differences between both studies probably caused the different generalization patterns. The normativeness of the one environment may be stronger than that of the other; the associative links between each environment and the norms may be weaker; and the varied interrelatedness of the norms used in both studies may also be responsible for the different generalization patterns.

GENERAL DISCUSSION

The results confirm our expectations that behavior-relevant environments ("I am going there later") and humanized environments (where people or remnants of their presence are portrayed) raise the perceived relevance of environment-specific norms (Study 1) and the intention to conform to them (Study 2), whereas empty and nonhumanized environments do not. The situationist perspective that environments by themselves influence the way that people think and act does not seem to apply to the way that people think about social norms. To raise the relevance of norms that apply to an environment, the environment needs to be humanized or behavior relevant. Humanized environments do so even when people have no intention whatsoever to visit them. We are confident about the validity and reliability of these effects because they were replicated in two studies using different environments, different dependent variables, and different sets of norms.

As far as we know, we are the first to empirically replicate and conceptually extend Aarts and Dijksterhuis's studies (2003). Aarts and Dijksterhuis argued that the intention to visit an environment raises the relevance of a norm that applies to this environment. We show that this is indeed the case. Not only does a picture of an empty environment (such as a library) that one intends to visit influence behavior (Aarts & Dijksterhuis, 2003), but it also raises the perceived relevance of norms that apply to this environment (present research).

The exploratory investigation revealed fascinating results regarding whether the effects of humanized and behavior-relevant environments go beyond the norms that apply to the environment. The effects of behavior-relevant and humanized environments generalize to target behavior–related norms (Study 1 and 2) and even to target behavior–unrelated norms (Study 1). Specifically, a picture of a library with a student behind a desk raised the perceived relevance of such norms as "Do not litter" and "Blow your nose"! The pattern of generalizations was not identical for both studies, however. Whether these patterns differ owing to the differences between

the two studies is not clear. Nevertheless, based on these generalizations and previously found results (Cialdini et al., 1990, Study 5), it seems safe to conclude that social norms are semantically related, that salience can spread between norms, and that humanized and behavior-relevant environments can raise the salience of norms that do not apply to the environment at hand. Further research should clarify to what degree these generalization effects occur and what exactly influences these effects.

We expect that the relatedness of norms influences the degree to which these generalization effects occur, and our results indicate this. We observed more generalizations to target behavior–related norms than to target behavior–unrelated norms, and we assumed the latter to be less strongly related to the situational norm. Unfortunately, we know of no theory that predicts or explains the relatedness of norms. We think it is logical to expect that norms with similar cognitive content (e.g., norms prescribing similar behaviors or serving similar goals) are more related than norms that do not share similar content. Results from goal-setting studies indirectly support our assumption that norms that serve similar goals may be more closely related than others. Ludwig and Geller (1997) found that the intention to come to a full stop at intersections influences not only the targeted behavior but also nontargeted behaviors, such as using turn signals and safety belts. According to the authors, the effect of the intention generalizes to behaviors that are functionally related to achieving the same traffic safety–related goal.

But possibly other factors—such as individual associations, the abstraction level of norms, or yet something else—may predict the relatedness of norms. If the relatedness of norms indeed depends on individual and situational characteristics, one could measure the relatedness of norms afterward but not predict it beforehand. It was not our goal to explore the determinants of norm relatedness in the present research. We were mainly interested in the effects of humanized and behavior-relevant environments on norm relevance, and we were curious whether these effects could generalize to norms that do not apply to the environment. The question of what exactly determines the relatedness of norms awaits further research.

We think that these studies can be seen as a valuable contribution to the existing literature on norm research (e.g., Brauer & Chekroun, 2005; Cialdini et al., 1990; Deutsch & Gerard, 1955; Marques & Paez, 1994). The results suggest that there are other ways to raise norm salience in addition to the well-established ways that we know from previous research: normative social influence, informational social influence (Deutsch & Gerard, 1955), and the relatively new way to make environments behavior relevant (Aarts & Dijksterhuis, 2003). Normative social influence is based on one's beliefs of what others expect one to do, also known as *subjective norms* (Ajzen, 1991) or *injunctive norms* (Cialdini et al., 1990). Informational social influence is based on the belief that it is wise to behave as other people do, because they must have a good reason for doing so, also known as *descriptive normative influence* (Cialdini et al., 1990). However, to our knowledge, previous studies have not yet addressed the possibility that humanized environments raise the salience of environment-specific norms. The effect of the remnants of people's behavior on norm salience is especially novel and so opens new perspectives for research on social norms. When it comes to the presence of people in an environment, one could argue that this resembles informational social (or descriptive normative) influence. However, in the case of remnants of people's presence, this cannot be the case. Remnants, unlike descriptive norms, do not show what the appropriate behavior is in an environment; they merely signal people's presence and change the otherwise-empty environment into a social setting where social norms are relevant.

The results presented here raise new questions, such as What exactly humanizes environments? Do people or remnants of their behavior have to be present in the environment? Or is the cognitive presence of people sufficient to change the perception of an empty environment into a humanized environment where norms are relevant? And if having people on our minds (or having a people focus) can humanize environments, does it matter whether they are people in general or our loved ones? Besides norm relevance, do humanized environments trigger conformism or the awareness of how one is perceived by others? In our opinion, these questions are important and deserve extra and detailed attention that goes beyond the scope of the present article (i.e., about how and when, rather than why, humanized versus nonhumanized environments influence norm judgments). Thus, in a different set of studies (Joly, Stapel, & Lindenberg, 2007), we set out to answer these questions, and we found that subtly priming "people in general" and "significant others" leads to norm effects that are similar to the effects reported here. Thus, a people focus may change the perception of an empty nonhumanized environment and raise the perceived relevance of the norm that applies to the pictured environment, just as the humanized environments did in the present work. This supports the present hypothesis that when we humanize environments, it changes the way that people perceive and respond to environments.

Scientists are interested in norms because they are products of a social group and because they exert their influence on people without the force of law. The focus on humanized and behavior-relevant environments in

these studies stresses the importance of the concerted action among norms, environments, and the social cues within environments. A strict situationist perspective on social life suggests that an empty or nonhumanized environment that one does not intend to visit influences how people think and behave in general and how people think about norms. However, our results show that an environment by itself is not enough. Only when an environment is relevant for immediate behavior or when it is humanized can it raise norm salience. Therefore, for future studies on social norms, we propose that goals and the social presence of people should be taken into account, even if people are not physically present but the remnants of their behavior are. After all, many social norms are tied to an environment, and all social norms are eventually about people.

NOTES

1. In our view, the norms in the target behavior–unrelated scale do not share cognitive content, are unlikely to measure one underlying construct, and can be expected to have low Cronbach's alphas. The norms in the target behavior–related scales and the other library norms scale are expected to share cognitive content and therefore have higher Cronbach's alphas. This is indeed the case. It may be unconventional to compute a scale of items that are not expected to measure one underlying construct, as is the case with the target behavior–unrelated norms. We decided to do it anyway because it simplifies the presentation and discussion of the results and emphasizes the difference with the target behavior–related norms.

2. The norm "to speak with two words"—originally referring to replies of "Yes, madam" and "Yes, sir" and "No, madam" or "No, sir"—means that one is supposed to reply to questions or orders in an obedient manner, to not talk back, and to basically not be a smart aleck.

REFERENCES

Aarts, H., & Dijksterhuis, A. (2003). The silence of the library: Environment, situational norm, and social behavior. *Journal of Personality and Social Psychology, 84,* 18-28.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50,* 179-211.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs: Prentice Hall.

Brauer, M., & Chekroun, P. (2005). The relationship between perceived violation of social norms and social control: Situational factors influencing the reaction to deviance. *Journal of Applied Social Psychology, 35*, 1519-1539.

Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct—Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology, 58,* 1015-1026.

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity, and compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (pp. 151-192). Boston: McGraw-Hill.

Collins, A. M., & Loftus, E. F. (1975). A spreading-activation theory of semantic processing. *Psychological Review, 82,* 407-428.

Deutsch, M., & Gerard, H. B. (1955). A study of normative and informational social influences upon individual judgment. *Journal of Abnormal and Social Psychology, 51,* 629-636.

Harvey, M. D., & Enzle, M. E. (1981). A cognitive model of social norms for understanding the transgression-helping effect. *Journal of Personality and Social Psychology, 41,* 866-875.

Joly, J. F., Stapel, D. A., & Lindenberg, S. (2007). *Being there: The normative effects of people and environments on perceived norm relevance*. Manuscript in preparation.

Kay, A. C., Wheeler, S. C., Bargh, J. A., & Ross, L. (2004). Material priming: The influence of mundane physical objects on situational construal and competitive behavioral choice. *Organizational Behavior and Human Decision Processes, 95,* 83-96.

Latane, B., & Darley, J. M. (1970). Norms and behavior. In *The unresponsive bystander: Why doesn't he help?* (pp. 19-28). New York: Appleton-Century-Crofts.

Ludwig, T. D., & Geller, E. S. (1997). Assigned versus participative goal setting and response generalization: Managing injury control among professional pizza deliverers. *Journal of Applied Psychology, 82,* 253-261.

Marques, J. M., & Paez, D. (1994). The "black sheep effect": Social categorization, rejection of ingroup deviates, and perception of group variability. *European Review of Social Psychology, 5*, 37-68.

Maxwell, S. E., & Delaney, H. D. (1989). *Designing experiments and analyzing data: A model comparison perspective*. Belmont, CA: Wadsworth.

Pepitone, A. (1976). Toward a normative and comparative biocultural social-psychology. *Journal of Personality and Social Psychology, 34,* 641-653.

Ross, L., & Nisbett, R. E. (1991). *The person and the situation: Perspectives of social psychology*. New York: McGraw-Hill.

Sherif, M. (1965). *The psychology of social norms*. New York: Octagon Books.

Received May 1, 2006
Revision accepted January 9, 2008