

# A Room with a Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels

NOAH J. GOLDSTEIN  
ROBERT B. CIALDINI  
VLADAS GRISKEVICIUS\*

Two field experiments examined the effectiveness of signs requesting hotel guests' participation in an environmental conservation program. Appeals employing descriptive norms (e.g., "the majority of guests reuse their towels") proved superior to a traditional appeal widely used by hotels that focused solely on environmental protection. Moreover, normative appeals were most effective when describing group behavior that occurred in the setting that most closely matched individuals' immediate situational circumstances (e.g., "the majority of guests in this room reuse their towels"), which we refer to as provincial norms. Theoretical and practical implications for managing proenvironmental efforts are discussed.

Until recently, the greatest towel-related dilemma travelers faced was reflected in the old joke told by the nightclub comic, Henny Youngman, about the hotel where he had stayed the previous night: "What a hotel: the towels were so big and fluffy that I could hardly close my suitcase." In recent years, however, the question of whether or not to remove hotel towels has been supplanted by the question of whether or not to reuse hotel towels during the course of one's stay. With the adoption of environmental programs by hotels, more and more travelers are finding themselves urged to reuse their towels to help conserve environmental resources by saving energy and reducing the amount of detergent-related pollutants released into the environment.

---

\*Noah J. Goldstein is assistant professor of behavioral sciences at the University of Chicago Graduate School of Business (noah.goldstein@chicagoGSB.edu). Robert B. Cialdini is Regents' Professor of Marketing and Psychology at Arizona State University (Robert.Cialdini@asu.edu). Vladas Griskevicius is assistant professor of marketing, Carlson School of Management, University of Minnesota (grisk001@umn.edu). Funding for these studies was provided by a grant from the Hewlett Foundation (2001-7396). Correspondence should be addressed to Noah Goldstein. The authors gratefully acknowledge very helpful suggestions on earlier versions of the article from Jenessa Shapiro, Wes Schultz, the editor, the associate editor, and the reviewers. And finally, our appreciation goes to Tom Kreitler and his management staff, and to all of the hotel room attendants who helped us collect the data; their cooperation and generosity were pivotal to the completion of this research.

*John Deighton served as editor and Mary Frances Luce served as associate editor for this article.*

*Electronically published March 3, 2008*

In most cases, the appeal comes in the form of a strategically placed card in the hotels' washrooms. In addition to the inherent benefit to the environment and to society, such programs are used by an increasing number of hotel chains because of the considerable economic benefits of enacting them. Besides the direct savings on costs such as labor, water, energy, and detergent, there is a burgeoning segment of consumers who reward businesses that address environmental concerns through their business practices (Carlson, Grove, and Kangun 1993; Menon and Menon 1997).

With a nearly limitless array of angles to play and motivational strings to pull, how have marketing practitioners chosen to encourage hotel guests to participate in these environmentally and economically beneficial programs? Considering the finding that over three-quarters of Americans think of themselves as environmentalists (Mackoy, Calantone, and Droge 1995), it is not surprising that tacticians overwhelmingly have tended to focus on the importance of such programs for the protection of the environment. Guests are almost invariably informed that reusing one's towels will conserve natural resources and help save the environment from further depletion, disruption, and corruption. Notable in its complete absence from these surveyed persuasive appeals was one based on a potentially powerful motivator of prosocial behavior: social norms.

When consumers learn that seven out of 10 people choose one brand of automobile over another, that teeth-whitening toothpaste has become more popular than its less functional counterpart, and that nearly everyone at the local cafeteria steers clear of the "spamburger surprise" entrée, they are

getting information about social norms. Specifically, they are getting information about descriptive norms, which refer to how most people behave in a situation. Descriptive norms motivate both private and public actions by informing individuals of what is likely to be effective or adaptive behavior in that situation (Cialdini, Kallgren, and Reno 1991). A wide variety of research shows that the behavior of others in the social environment shapes individuals' interpretations of, and responses to, the situation (Bearden and Etzel 1982), especially in novel, ambiguous, or uncertain situations (Griskevicius et al. 2006; Hochbaum 1954; Park and Lessig 1977; Shapiro and Neuberg, forthcoming).

## RESEARCH OVERVIEW

The complete absence of a descriptive normative approach to hotel conservation programs is especially remarkable considering that studies conducted by the largest manufacturer of hotel towel reuse signs indicate that approximately 75% of guests who have the opportunity to participate in such programs do reuse their towels at least once during their stay. From a practical perspective, then, one purpose of this research was to investigate whether using an appeal that conveys the descriptive norm for participation in such programs would be more effective at encouraging towel reuse than the current industry standard appeal. We tested this hypothesis in experiment 1 by creating our own towel reuse cards and recording the extent to which each of the two appeals spurred guests to participate in a hotel's conservation program.

The central theoretical purpose of the present investigation was to examine how hotel guests' conformity to a descriptive norm varies as a function of the type of reference group tied to that norm. In experiment 2, we examine whether the norm of hotel guests' immediate surroundings, which we refer to as the provincial norm, motivates conformity to the norm to a greater extent than the norm of guests' less immediate surroundings, which we refer to as the global norm. Specifically, we investigate whether guests who learn the descriptive norm for their particular room are more likely to participate in the program than guests who learn the same descriptive norm for the whole hotel, even though the provincial norm in this context is rationally no better an indicator of correct or proper behavior than the global norm. We also explore the counterintuitive notion that individuals might be more likely to follow the norms of a personally unimportant reference group than those of a more important one when the personally unimportant reference group is provincial in nature.

More broadly, we felt it was important to venture outside the laboratory and into the field to study how social norms operate on actual consumption—or conservation—choices. Although much research has been conducted on normative influences, the vast majority of the literature on social norms comes from highly controlled experiments in which the variables of interest are made especially salient to participants. This stands in stark contrast to how norms operate in the real world—that is, in a mix of influences that may over-

power, dilute, or distract from the factors under examination. Thus, it is possible that the impact of social norms has been exaggerated in experimental settings, which typically manage and prioritize norm salience (Cialdini and Goldstein 2004). It is conceivable, then, that marketing practitioners and consumers alike might be justifiably skeptical about whether social norms will prove to be potent or salient enough in the course of naturally occurring conduct to influence real-world, socially important behavioral choices. Therefore, empirical examinations of social normative influence in real-world contexts would be especially informative.

Finally, these experiments are aimed at better understanding the factors that motivate consumers to engage in actions for the benefit of the environment. This important topic, along with prosocial behavior, in general, is a severely understudied area of consumer research (Menon and Menon 1997; Mick 2006; Robin and Reidenbach 1987; see also Bendapudi, Singh, and Bendapudi 1996). The consumer research literature has also tended to focus on the factors that incline individuals toward consumption rather than toward conservation, an imbalance that the current research aims to help rectify.

## EXPERIMENT 1: SOCIAL NORMS VERSUS INDUSTRY STANDARD

For experiment 1, we created two signs soliciting participation in the towel reuse program of a hotel that was part of a well-known national hotel chain. One message, which was designed to reflect the industry standard approach, focused on the importance of environment protection but provided no explicit descriptive norm. A second message conveyed the descriptive norm, informing guests that the majority of other guests do, in fact, participate in the program at least once during their stays. Based on the foregoing analysis, we hypothesized that the message conveying the descriptive norm would result in greater towel reuse than the industry standard message.

### Method

*Participants.* Over an 80-day span, we collected data on 1,058 instances of potential towel reuse in 190 rooms in a midsized, midpriced hotel in the Southwest that was part of a national hotel chain. The guests were not aware that they were participants in the study.

*Materials.* Two different messages urging guests' participation in the towel reuse program were printed on signs positioned on washroom towel racks:

- The standard environmental message focused guests' attention on the importance of environmental protection but did not provide any descriptive normative information: "HELP SAVE THE ENVIRONMENT. You can show your respect for nature and help save the environment by reusing your towels during your stay."
- The descriptive norm message informed guests that a majority of other guests participate in the towel reuse

program: "JOIN YOUR FELLOW GUESTS IN HELPING TO SAVE THE ENVIRONMENT. Almost 75% of guests who are asked to participate in our new resource savings program do help by using their towels more than once. You can join your fellow guests in this program to help save the environment by reusing your towels during your stay."

Below each of the respective messages were instructions informing the guests how to indicate their willingness to participate in the program. The instructions stated, "If you choose to participate in the program, please drape used towels over the curtain rod or the towel rack. If you choose not to participate in the program, please place the towels on the floor." Below the instructions, additional text informed the guests, "See the back of this card for more information on the impact of participating in this program."

On the back of each towel reuse sign, information about the benefits of participating in the program was provided with the following text: "DID YOU KNOW that if most of this hotel's guests participate in our resource savings program, it would save the environment 72,000 gallons of water and 39 barrels of oil, and would prevent nearly 480 gallons of detergent from being released into the environment this year alone?"

The signs were printed on a high-resolution color laser printer and were professionally coated with 7-millimeter-thick laminate on each side. They were then sent to a professional die-cut company, where they were cut into the towel rack hanger shape (see fig. 1).

*Training.* The hotel's room attendants were responsible for collecting the participation data; the form they had already been using was modified for data reporting. Because the hotel already had a conservation program in place before this study began, and the participation criteria for the hotel's existing program and the criteria used in our research differed slightly, we were careful to ensure that the room attendants completely understood and adopted the new criteria in terms of both towel replacement and data collection. For experiments 1 and 2, instructions were given to the room attendants a number of times in multiple languages, and they were shown pictures detailing what was and was not considered to be participation in the program. A great deal of time was spent ensuring that the room attendants understood the protocol. Several room attendants who did not understand our directions during training due to the language barrier or who did not follow our instructions throughout the study were excluded from the analyses.

*Intervention.* Each of the 190 hotel rooms was randomly assigned to one of the two different messages. One week prior to data collection, the hotel room attendant supervisor placed one sign on the towel rack in each hotel room's washroom. The room attendants recorded the participation data on the appropriate forms.

FIGURE 1

EXAMPLE OF TOWEL REUSE SIGN (EXPERIMENT 1)

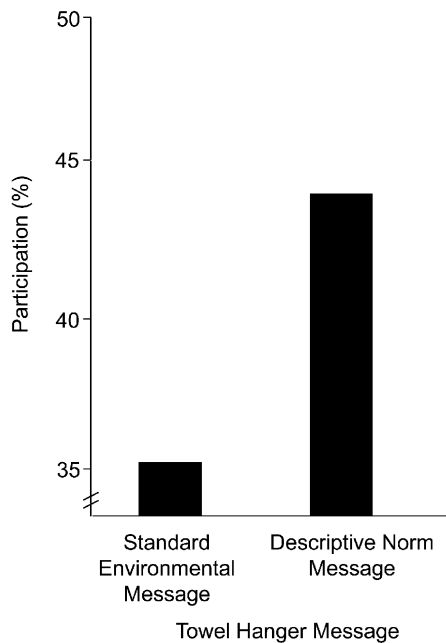


## Results and Discussion

Because the towel reuse program was not applicable to those staying only one night, the data were recorded only for guests who stayed a minimum of two nights. In addition, throughout these studies, we analyzed only the towel reuse data from guests' first eligible day of participation so that no guest would participate in the study more than once. The dependent variable was dichotomous; room attendants simply recorded whether guests reused at least one towel.

Consistent with our hypothesis, a chi-square test revealed that the descriptive norm condition yielded a significantly higher towel reuse rate (44.1%) than the environmental protection condition (35.1%;  $\chi^2(1, N = 433) = 3.72, p = .05, \Phi = .09$ ; see fig. 2). The results of experiment 1 showed that the normative sign, which we have never observed employed by any hotel, yielded a towel reuse rate that was significantly higher than the industry standard. We should note, however, that at first glance there appears to be an important shortcoming to the descriptive normative approach. Specifically,

FIGURE 2

TOWEL REUSE RATES AS A FUNCTION OF SIGN IN ROOM  
(EXPERIMENT 1)

we informed participants that a large majority (75%) of the hotel's guests participated in the towel reuse program—a number provided by the company that supplies such cards to hoteliers—yet the best-performing message yielded only a 44.1% towel reuse rate. There are two reasons for this discrepancy that render this a less worrisome problem. First, in keeping with the data reported by the towel hanger suppliers, the signs in our study informed the guests that the majority of individuals recycled at least one towel sometime during their stay. Because we only examined towel reuse data for participants' first eligible day, the compliance rate we observed is likely an underestimation of the number of individuals who recycle their towels at least once during their stay. Second, we used the most conservative standards for counting compliance; that is, we did not count as a reuse effort a towel that was hung on a door hook or doorknob—a very common practice for towel recyclers who misunderstand or do not thoroughly read the instructions—as we wanted to eliminate the likelihood of guests complying unintentionally with the request. Thus, the overall percentage of towel reuse was artificially suppressed.

## EXPERIMENT 2: WHOSE NORMS DO WE FOLLOW?

Experiment 1 demonstrated how hotel guests were especially motivated to reuse their towels when they learned that most others have chosen to participate in the environmental conservation program. In experiment 2, we sought to investigate how hotel guests' conformity to such a de-

scriptive norm varies as a function of the type of reference group attached to that norm.

Several factors are known to influence the extent to which individuals will adhere to the descriptive norms of a given reference group (Cialdini and Goldstein 2004; Goldstein and Cialdini, forthcoming). One important variable affecting the likelihood of norm adherence is the level of perceived similarity among others and a given individual (Burnkrant and Cousineau 1975; Moschis 1976). According to Festinger's (1954) social comparison theory, people often evaluate themselves by comparing themselves to others—especially to others with whom they share similar personal characteristics. In line with this supposition, people are indeed more likely to follow the behaviors of others with similar features, including age (Murray et al. 1984), personality attributes (Carli, Ganley, and Pierce-Otay 1991), gender (White, Hogg, and Terry 2002), and attitudes (Suedfeld, Bochner, and Matas 1971).

Another well-established factor affecting norm adherence is the extent to which individuals identify with the reference group. Much of the research exploring this relationship has examined the topic from a social identity perspective. Although the concept of social identity has taken on a variety of meanings in various disciplines, it is often defined broadly as an expansion of the self-concept involving a shift in the level of self-conception from the individual self to the collective self, frequently based on perceived membership in a social category (Hogg 2003; Reed 2004). An individual may hold social identities at various levels of abstraction, ranging from concrete groups of people (e.g., our department's faculty) to broader categories of people (e.g., men, women, citizen). A number of scholars have argued that one's adherence to the descriptive norms of a group of people is primarily influenced by the perceived importance of those others to one's self-concept and social identity (Bearden, Nettemeyer, and Teel 1989; Brinberg and Plimpton 1986; Kelman 1961; Terry, Hogg, and White 1999). According to this perspective, when the relevant social identity is salient (Forehand and Deshpandé 2001; Forehand, Deshpandé, and Reed 2002), individuals will adhere to the norms of that social identity to the extent that they consider the social identity to be personally important to them (Deshpandé, Hoyer, and Donthu 1986; Kleine, Kleine, and Kernan 1993; Reed 2004; Stayman and Deshpandé 1989; Terry and Hogg 1996; Terry et al. 1999).

A close inspection of the normative social identity literature and of the body of research examining the role of similarity on norm adherence reveals that both research areas have focused almost exclusively on the importance of commonalities among personal, rather than contextual, characteristics of individuals and the groups whose behaviors they observe. That is, these literatures examine how personal similarities (e.g., in attitudes, gender, ethnicity, age, values) between a target individual and a group of people influence the target's adherence to the group's social norms. However, researchers have largely failed to address the role of situational similarities in norm adherence.

Adhering to provincial norms—the norms of one’s local setting and circumstances—is typically both logical and effective. For example, what may be effective and norm-consistent behavior at one’s fraternity party is certainly not going to be adaptive in other settings and situations, especially those with powerful and well-established norms, such as how to behave in a library during finals week (Aarts and Dijksterhuis 2003). After all, the old adage tells us that we should do as the Romans do when we are in Rome—not when we are in Egypt. In contrast, much of the current social norms literature, which focuses on the importance of personal similarities, would emphasize that Romans should do what other Romans do—especially if they highly identify with other Romans—while saying little about the role of their surroundings. Thus, we argue that individuals are more likely to be influenced by the norms of their immediate surroundings than those of their less immediate surroundings.

In experiment 2, we examined whether the towel reuse norm of hotel guests’ immediate surroundings (i.e., the provincial norm for their particular room) motivates participation in the conservation program to a greater extent than the norm of guests’ less immediate surroundings (i.e., the global norm for the whole hotel), despite the fact that, in this context, the provincial norm is rationally no more diagnostic of effective or appropriate behavior than the global norm. We also sought to investigate whether individuals might be more likely to follow the norms of a personally unimportant reference group than those of a more important one when the personally unimportant reference group is provincial in nature.

We created five towel reuse signs soliciting the participation of guests at the same hotel that was used in experiment 1. One was the standard environmental sign from experiment 1, which focused on the importance of environmental protection but provided no explicit descriptive norm. All four of the other messages, which communicated the descriptive norm, informed guests that in a study conducted several years earlier, approximately 75% of the people who had been asked to participate in these programs did so. We chose the timing of this ostensible study to be several years before experiment 2 actually took place so that guests would not feel as though their behaviors were currently being recorded.

We altered the reference group identity in those four normative messages—that is, to whom the norms referred. One of the signs conveyed that these norms were characteristic of other hotel guests (global norm), whereas another conveyed that these norms were characteristic of a rationally meaningless and relatively nondiagnostic group—other hotel guests who had stayed in the guests’ particular rooms (provincial norm). The other two signs conveyed norms of reference groups that are considered to be important and personally meaningful to people’s social identities. Specifically, a third sign paired the descriptive norm with the reference group identity of citizen (see Madrigal 2001), whereas a fourth sign paired it with a meaningful social category commonly used in reference group and social iden-

tity research, that of gender (Bardach and Park 1996; Mac-coby 1988; Meyers-Levy 1988; Stitka and Maslach 1996).

Based on the premise that it is generally beneficial to follow the norms that most closely match one’s environment, situation, or circumstances, we hypothesized that the appeal conveying the descriptive norm of that particular room’s previous occupants—the identity that should be the least meaningful but most relevant to guests’ local circumstances—would result in higher towel reuse rates than the other descriptive norm appeals.

## Method

*Participants.* Over a 53-day span, we collected data on 1,595 instances of potential towel reuse at the same hotel used in experiment 1. Once again, the guests were not aware that they were participants in a study.

*Materials.* Five different messages urging guests’ participation in the towel reuse program were printed on signs positioned on washroom towel racks:

- The standard environmental message focused guests on the importance of environmental protection but did not provide any descriptive normative information: “HELP SAVE THE ENVIRONMENT. You can show your respect for nature and help save the environment by reusing your towels during your stay.”
- The guest identity descriptive norm message stated “JOIN YOUR FELLOW GUESTS IN HELPING TO SAVE THE ENVIRONMENT. In a study conducted in Fall 2003, 75% of the guests participated in our new resource savings program by using their towels more than once. You can join your fellow guests in this program to help save the environment by reusing your towels during your stay.”
- The message for the same room identity descriptive norm message stated “JOIN YOUR FELLOW GUESTS IN HELPING TO SAVE THE ENVIRONMENT. In a study conducted in Fall 2003, 75% of the guests who stayed in this room (#xxx) participated in our new resource savings program by using their towels more than once. You can join your fellow guests in this program to help save the environment by reusing your towels during your stay.” Note that “(#xxx)” would be replaced with “(#313)” for room 313, for example.
- The citizen identity descriptive norm message stated “JOIN YOUR FELLOW CITIZENS IN HELPING TO SAVE THE ENVIRONMENT. In a study conducted in Fall 2003, 75% of the guests participated in our new resource savings program by using their towels more than once. You can join your fellow citizens in this program to help save the environment by reusing your towels during your stay.”
- The message for the gender identity descriptive norm condition stated “JOIN THE MEN AND WOMEN WHO ARE HELPING TO SAVE THE ENVIRONMENT. In a study conducted in Fall 2003, 76% of the women and 74% of the men participated in our new

resource savings program by using their towels more than once. You can join the other men and women in this program to help save the environment by reusing your towels during your stay.”

*Test of Manipulations.* Because we could not ask the actual participants additional questions about our specific manipulations, we asked a separate group of participants questions regarding two key aspects of the social categories that we used for the appeals in experiment 2. First, we wanted to examine the extent to which each of our appeals activated the intended social identities. Second, we wished to investigate the degree to which participants felt that each of these social identities was personally meaningful to them. To achieve these goals, 53 participants were asked to consider that they were staying at a hotel and saw one of five signs (which we presented to them in random order) hanging on the towel rack in the washroom. After reading the message on each sign, participants were asked about the extent to which reading that particular message made them think of the corresponding social identity. Specifically, they were asked, “To what extent would reading the sign make you think of your identity as . . .” one of the following: “an environmentally concerned individual, a hotel guest, a citizen, a male or female, or a guest in the particular room in which you are staying”? The response choices ranged from “not at all” (1) to “a great deal” (5). When finished with this exercise, participants were asked, one at a time and in random order, “How important to your identity is being . . .” followed by one of the five aforementioned social identities. The response choices ranged from “not at all” (1) to “very much” (7).

We expected participants to rate each of the signs as equally effective at making them think about the relevant social identity or identities that the messages highlighted, which would suggest that our operationalizations of the conditions were successful. Where we did expect to see a noticeable difference, however, was in the participants’ ratings of the importance of the various social categories to their social identity. Specifically, we anticipated that participants would consider their identities as a citizen, as a male or female, and as an environmentally concerned individual to be more important than as a hotel guest and, especially, as a hotel guest in a particular room.

The results of this test of the manipulations supported our expectations. A within-subjects analysis of variance revealed that there were no significant differences in the extent to which each of the messages made participants think of their social identity as it related to the relevant social category ( $F(5, 53) = 1.21$ , NS; overall  $M = 3.02$ ;  $SD = 0.14$ ). This finding supports the assertion that our operationalizations of each of the conditions were equally effective at making salient the intended social identities.

To examine the extent to which participants viewed the various social categories as important to their own identities, we conducted several within-subjects contrasts, the outcomes of which supported our predictions. As expected, the combined categories of citizen, male or female, and envi-

ronmentally concerned individual ( $M = 5.12$ ;  $SD = 0.84$ ) were considered much more important to participants’ identities than were the combined categories of hotel guest and hotel guest in a particular room ( $M = 2.19$ ;  $SD = 0.32$ ;  $F(1, 52) = 191.56$ ,  $p < .001$ ,  $\eta_p^2 = .79$ ). Also as expected, the category of hotel guest in a particular room was less important to participants’ identities ( $M = 1.96$ ;  $SD = 1.39$ ) than was the broader category of hotel guest ( $M = 2.42$ ;  $SD = 1.62$ ;  $F(1, 52) = 6.49$ ,  $p = .01$ ,  $\eta_p^2 = .11$ ; see fig. 3).

*Intervention.* Each of the hotel rooms was randomly assigned to one of the five different messages. One week prior to data collection, the hotel room attendant supervisor placed one sign on the towel rack in each hotel room’s washroom. The room attendants recorded the participation data on the appropriate forms.

## Results

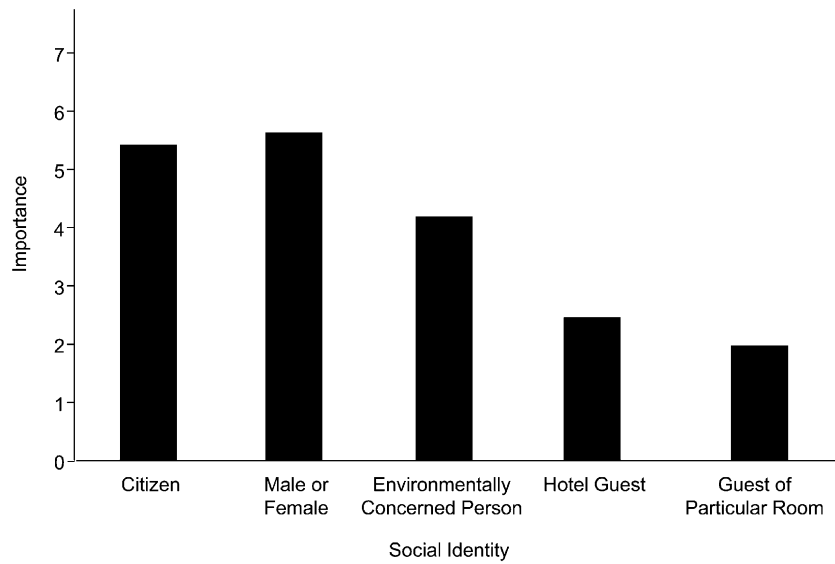
A chi-square test for overall differences among the towel reuse rates for the five conditions yielded a significant difference among the groups ( $\chi^2(4, N = 1,595) = 9.87$ ,  $p < .05$ ,  $\Phi = .08$ ; see fig. 4). In line with our predictions, a planned comparison revealed that all four descriptive norm messages combined (44.5%) fared significantly better than the standard environmental message (37.2%;  $\chi^2(1, N = 1,595) = 4.94$ ,  $p = .03$ ,  $\Phi = .06$ ). That is, merely informing hotel guests that other guests generally reused their towels significantly increased towel reuse compared to focusing guests on the importance of environmental protection.

Consistent with predictions, an additional planned comparison revealed that the same room identity descriptive norm condition yielded a significantly higher towel reuse rate (49.3%) than the other three descriptive norm conditions combined (42.8%;  $\chi^2(1, N = 1,318) = 4.18$ ,  $p < .05$ ,  $\Phi = .06$ ). That is, even though the provincial norm for the frequency of guests’ towel reuse in a particular hotel room is not any more diagnostic of effective or approved behavior than the other norms—and the same-room message references the norms of the least meaningful group in the experiment—this condition produced the highest level of towel reuse. These other three descriptive norm conditions—the citizen identity descriptive norm (43.5%), the gender identity descriptive norm (40.9%), and the guest identity descriptive norm (44.0%)—did not differ from one another, all  $p$ ’s  $> .42$ .

## Discussion

Several aspects of the findings from experiment 2 are noteworthy. First, the social identity salience data suggested that the social categories highlighted in each of the messages focused the participants on the intended social identity and that the messages did so equally. Second, the data confirmed our expectations regarding the large disparities in the extent to which the various social categories were considered by participants to be important to their own identities. Specif-

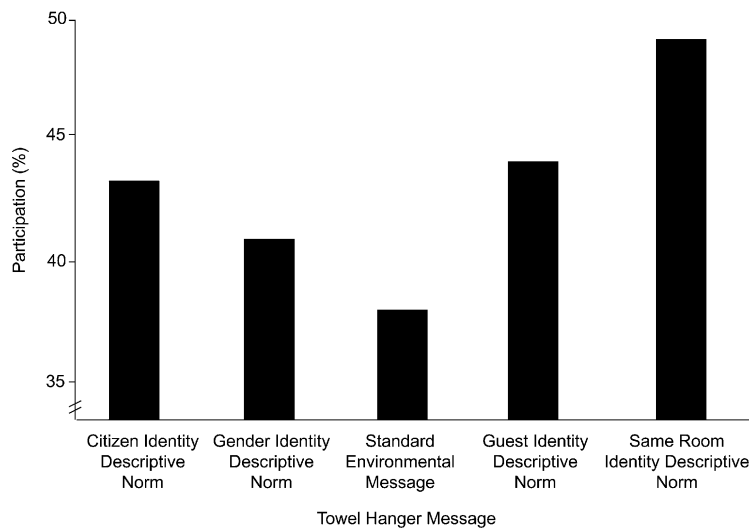
**FIGURE 3**  
IMPORTANCE OF SOCIAL IDENTITIES (EXPERIMENT 2)



ically, the categories of both hotel guest and guest in a particular room were significantly less important to participants' identities than were those associated with gender, citizenship, and environmentalism. Third, we found that the towel reuse rates of the four descriptive normative message identities did not map onto the extent to which individuals consider those identities personally meaningful and important to them. These data are particularly interesting in light of the research suggesting that the more important a social category is to an individual's social identity, the more likely

he or she will be to follow the norms of that category. That is, much of the extant literature suggests that participants' conservation behaviors should map onto the importance ratings. According to the importance ratings, participants should have been most likely to follow the norms of citizens or males/females and least likely to conform to the norms of hotel guests for the particular room in which the participants were staying. Yet, the data indicate that the appeal conveying the descriptive norm of those who had previously stayed in the guests' room yielded not the lowest compliance

**FIGURE 4**  
TOWEL REUSE RATES AS A FUNCTION OF SIGN IN ROOM (EXPERIMENT 2)



rate, as predicted by the importance ratings, but, in fact, the highest compliance rate (see figs. 3 and 4).

## GENERAL DISCUSSION

Noting how very little empirical work has been conducted in the consumer behavior literature on the factors that influence consumers' prosocial behaviors, and even less on proenvironmental behaviors, researchers have emphasized the need for more consumer research in such areas (Bendapudi et al. 1996; Menon and Menon 1997; Mick 2006; Robin and Reidenbach 1987). The present research seeks to redress this gap in the literature while also making theoretical contributions so as to better understand the types of norms and identities that are likely to motivate consumer behavior in general.

The results of two field experiments demonstrated the power of descriptive norms to motivate others to engage in the important real-world domain of environmental conservation. Furthermore, the superiority of the descriptive norm messages relative to the industry standard, which experiment 2 showed activated guests' identities as environmentally concerned individuals but provided no explicit descriptive norm, suggests that making a meaningful social identity salient without providing descriptive normative information is not an optimal approach.

The current research also examined an often-ignored aspect of social norms. Although the social identity literature and the literature on the effects of similarity have addressed the issues of "who" as they related to adherence to social norms, these literatures have by and large failed to address the issues of "where." That is, these bodies of research have focused on how personal, rather than situational, commonalities among influence targets and reference groups affect social norm adherence.

Experiment 2 confirmed that individuals are, in fact, more likely to be influenced by descriptive norms when the setting in which those norms are formed is comparable to the setting those individuals are currently occupying, an issue that no prior research of which we are aware has addressed. Those informed that the majority of people who had stayed within the confines of their immediate surroundings—their room—had participated in the towel reuse program were most likely to participate in the program themselves. This was the case even though the normative information was rationally no more informative or diagnostic of effective or appropriate behavior than information about the norms of less physically proximate surroundings. For example, there was no logical reason that the norms of people who had stayed in a guest's particular room should be any more informative for the guest's own conduct than the norms of those who stayed in a room across the hall. In fact, one might even argue that it is more rational to follow the global norms, which should be more diagnostic of effective action because they describe the actions of a greater number of people.

Another important finding of this research is that the greater motivational power of provincial group norms over global

group norms does not appear to be driven by the extent to which people consider the group identities referenced by the norms to be personally important to them. In experiment 2, participants were more likely to follow the descriptive norms of a group of individuals with whom they shared the same setting than the norms of groups sharing the social identities that we tested. In fact, consistent with predictions, but contrary to previous conceptualizations, we found that participation rates were actually highest for the reference group that participants felt was the least personally meaningful to them (but most physically proximate).

How can the data we obtained in these experiments be reconciled with previous research demonstrating that group norms are followed to the extent that the group is considered meaningful to an individual? We are certainly not arguing that the meaningfulness of a group or social identity to one's personal identity is irrelevant; in fact, in many cases, it might be one of the strongest individual predictors of adherence to such norms. Instead, we are suggesting that the meaningfulness of the group to one's social identity is but one of several central determinants of consumers' private adherence to social norms. In addition to the factors of norm salience (Cialdini et al. 1991), the level of uncertainty (Festinger 1954), and the extent of meaningfulness/identification with the reference group (Deshpandé et al. 1986), another important factor is the degree of match among one's setting, situation, and circumstances and those in which the norms were formed.

## Potential Mechanisms Underlying the Effect of Provincial Norms

There are several potential processes that might be responsible for the enhanced towel reuse among those in the provincial norm condition. However, with the limitations of field experiment data, we can only speculate at this point. One possible explanation for why provincial norms might be especially influential stems from the fact that it is typically beneficial to follow the norms that most closely match one's immediate settings, situations, and circumstances. As a natural part of the learning process, individuals are attuned to the extent to which their inferences, decisions, and behaviors have led to adaptive outcomes in the past. To make information processing and decision making more manageable in novel or uncertain circumstances, individuals often generalize the associations they learn from previous experiences (Zebrowitz 1990). Although such generalizations often lead to correct interpretations of stimuli, successful decisions, and effective behaviors, they occasionally lead to errors due to the unavailability of information or to the overgeneralization of their previous association (Zebrowitz and Collins 1997). For example, a consumer who has been satisfied with the reliability of her previous automobile purchases from several different Japanese manufacturers may overgeneralize this association, leading her to believe, even mistakenly, that all Japanese-made cars are reliable. Such an overgeneralization could affect her future purchases—and possibly lead to a mistake when pur-



chasing a Japanese brand with which she has no previous experience.

Similarly, because individuals learn through experience that the norms characteristic of their proximate settings tend to be more diagnostic of effective and appropriate behavior than those characteristic of more general or distal settings, they may overgeneralize this association, which could lead them to behave in ways that are not entirely rational. Specifically, this overgeneralized association might influence behavior even when the norms of one's local environment are clearly and rationally no more indicative of successful or proper behavior than those of more general or distal environments.

Another possible explanation for the greater motivational strength of provincial norms is suggested by Heider's (1958) work on interpersonal relations. Heider argued that, although socially meaningful similarities can engender strong feelings of association (which he referred to as the perception of a unit relationship) between a person and another entity, even minor and socially irrelevant similarities can create unit relationships of comparable or greater magnitudes. According to Heider, people perceive unit relationships with another individual when it becomes salient that they share with that other an uncommon experience or attribute not shared by others around them (see also Tajfel 1978). Moreover, in order to keep in a state of balance, individuals are often driven to change their attitudes or behavior in accordance with the standards of the individual or group with whom they share a unit relationship (Insko 1981).

Thus, if strong unit connections can be created without the existence of meaningful group identities, and individuals tend to follow the norms of others with whom they feel associated—even if the association is not based on a meaningful group identity—individuals in some circumstances might be more likely to follow the norms of a meaningless and unimportant social identity than a meaningful and important social identity. As Heider suggested, this is particularly likely to be the case when the connection is based on an uncommon characteristic (see also Goldstein and Cialdini 2007). Therefore, the rarity of the shared social identity may be another central determinant of consumers' private adherence to a reference group's social norms. In light of this supposition, consider that in experiment 2, although individuals report that the social identities of citizen and male or female are important to them, these identities are likely to be considered common. However, the social identity of a hotel guest in a particular room is considered unimportant to individuals but is also likely considered to be more uncommon. Guests in any given room have shared the same experience of staying in that room with relatively few people and thus may feel a close association with those individuals. This suggests that had we employed a descriptive norm characterizing a social identity that was considered by guests to be both important and uncommon, the unit relationship between the guests and the group might have been especially powerful, leading to a greater sense of affiliation with the reference group and to even higher towel

reuse rates. Future research that empirically tests these and other potential mechanisms will be fruitful in better understanding the processes underlying the driving force of provincial norms.

### Implications for Marketers, Managers, and Policy Makers

The results of our studies have clear implications for marketers, managers, and policy makers. It is worth noting that the normative messages, which were messages that we have never seen used by hotel chains, fared significantly better at spurring participation in the hotel's environmental conservation program than did the type of message most commonly used by hotel chains—messages that focus on the importance of environmental protection and that make salient guests' identities as environmentalists. These findings highlight the utility of employing social science research and theory rather than business communicators' hunches, lay theories, or best guesses in crafting persuasive appeals. These findings also suggest that in order to optimize social identity effects, it is wise for communicators to ensure that an important social identity is not only salient but that the norms associated with the identity are known and also salient. This, of course, assumes that the true norm is consistent with the direction in which the communicator would like to move the audience (Cialdini et al. 2006; Schultz et al. 2007).

The results from the current investigation also indicate that managers, policy makers, and communicators implementing a descriptive normative component to their persuasive appeals or information campaigns should ensure that the norms of the reference group are as situationally similar as possible to the intended audience's circumstances or environment. For example, our research indicates that if Henny Youngman had been informed that no one who had previously stayed in his particular room had ever stolen a single towel from its washroom, he probably would have had a much easier time closing his suitcase as he prepared to check out.

## REFERENCES

- Aarts, Henk and Ap Dijksterhuis (2003), "The Silence of the Library: Environment, Situational Norm, and Social Behavior," *Journal of Personality and Social Psychology*, 84 (1), 18–28.
- Bardach, Louis and Bernadette Park (1996), "The Effect of In-Group/Out-Group Status on Memory for Consistent and Inconsistent Behavior of an Individual," *Personality and Social Psychology Bulletin*, 22 (2), 169–78.
- Bearden, William O. and Michael J. Etzel (1982), "Reference Group Influence on Product and Brand Purchase Decisions," *Journal of Consumer Research*, 9 (September), 183–94.
- Bearden, William O., Richard G. Nettemeyer, and Jesse E. Teel (1989), "Measurement of Consumer Susceptibility to Interpersonal Influence," *Journal of Consumer Research*, 15 (March), 473–81.
- Bendapudi, Neeli, Surendra N. Singh, and Venkat Bendapudi

- (1996), "Enhancing Helping Behavior: An Integrative Framework for Promotion Planning," *Journal of Marketing*, 60 (July), 33-49.
- Brinberg, David and Linda Plimpton (1986), "Self-Monitoring and Product Conspicuousness on Reference Group Influence," in *Advances in Consumer Research*, Vol. 13, ed. Richard J. Lutz, Provo, UT: Association for Consumer Research, 297-300.
- Burnkrant, Robert E. and Alain Cousineau (1975), "Informational and Normative Social Influence in Buyer Behavior," *Journal of Consumer Research*, 2 (December), 206-15.
- Carli, Linda L., Roseanne Ganley, and Amy Pierce-Otay (1991), "Similarity and Satisfaction in Roommate Relationships," *Personality and Social Psychology Bulletin*, 17 (4), 419-26.
- Carlson, Les, Stephen Grove, and Norman Kangun (1993), "A Content Analysis of Environmental Advertising Claims: A Matrix Method Approach," *Journal of Advertising*, 22 (3), 27-39.
- Cialdini, Robert B., Linda J. Demaine, Brad J. Sagarin, Daniel W. Barrett, Kelton Rhoads, and Patricia L. Winter (2006), "Managing Social Norms for Persuasive Impact," *Social Influence*, 1 (1), 3-15.
- Cialdini, Robert B. and Noah J. Goldstein (2004), "Social Influence: Compliance and Conformity," *Annual Review of Psychology*, 55, 591-622.
- Cialdini, Robert B., Carl A. Kallgren, and Raymond R. Reno (1991), "A Focus Theory of Normative Conduct: A Theoretical Refinement and Reevaluation of the Role of Norms in Human Behavior," in *Advances in Experimental Social Psychology*, Vol. 24, ed. Leonard Berkowitz, San Diego: Academic Press, 201-34.
- Deshpandé, Rohit, Wayne D. Hoyer, and Naveen Donthu (1986), "The Intensity of Ethnic Affiliation: A Study of the Sociology of Hispanic Consumption," *Journal of Consumer Research*, 13 (2), 214-20.
- Festinger, Leon (1954), "A Theory of Social Comparison Processes," *Human Relations*, 7 (2), 117-40.
- Forehand, Mark R. and Rohit Deshpandé (2001), "What We See Makes Us Who We Are: Priming Ethnic Self-Awareness and Advertising Response," *Journal of Marketing Research*, 38 (3), 336-48.
- Forehand, Mark R., Rohit Deshpandé, and Americus Reed II (2002), "Identity Salience and the Influence of Activation of the Social Self-Schema on Advertising Response," *Journal of Applied Psychology*, 87 (6), 1086-99.
- Goldstein, Noah J. and Robert B. Cialdini (2007), "The Spyglass Self: A Model of Vicarious Self-Perception," *Journal of Personality and Social Psychology*, 92 (3), 402-17.
- Goldstein, Noah J. and Robert B. Cialdini (forthcoming), "Social Influences on Consumption and Conservation Behavior," in *Social Psychology of Consumer Behavior*, ed. Michaela Wänke, New York: Psychology Press.
- Griskevicius, Vladas, Noah J. Goldstein, Chad R. Mortensen, Robert B. Cialdini, and Douglas T. Kenrick (2006), "Going Along versus Going Alone: When Fundamental Motives Facilitate Strategic (Non)Conformity," *Journal of Personality and Social Psychology*, 91 (2), 281-94.
- Heider, Fritz (1958), *The Psychology of Interpersonal Relations*, New York: Wiley.
- Hochbaum, Godfrey M. (1954), "The Relation between Group Members' Self-Confidence and Their Reactions to Group Pressures to Uniformity," *American Sociological Review*, 19 (6), 678-87.
- Hogg, Michael A. (2003), "Social Identity," in *Handbook of Self and Identity*, ed. Mark R. Leary and June P. Tangney, New York: Guilford, 462-79.
- Insko, Chester A. (1981), "Balance Theory and Phenomenology," in *Cognitive Responses in Persuasion*, ed. Richard E. Petty, Thomas M. Ostrom, and Timothy C. Brock, Hillsdale, NJ: Erlbaum, 309-38.
- Kelman, Herbert C. (1961), "Processes of Opinion Change," *Public Opinion Quarterly*, 25 (Spring), 57-78.
- Kleine, Robert E., Susan S. Kleine, and Jerome B. Kernan (1993), "Mundane Consumption and the Self: A Social Identity Perspective," *Journal of Consumer Psychology*, 2 (3), 209-35.
- Maccoby, Eleanor E. (1988), "Gender as a Social Category," *Developmental Psychology*, 24 (6), 755-65.
- Mackoy, Robert D., Roger Calantone, and Cornelia Droge (1995), "Environmental Marketing: Bridging the Divide between the Consumption Culture and Environmentalism," in *Environmental Marketing*, ed. Michael J. Polonsky and Alma T. Mintu-Wimsatt, Binghamton, NY: Haworth, 37-54.
- Madrigal, Robert (2001), "Social Identity Effects in Belief Attitudes Intentions Hierarchy: Implications for Corporate Sponsorship," *Psychology and Marketing*, 18 (2), 145-65.
- Menon, Ajay and Anil Menon (1997), "Enviropreneurial Marketing Strategy: The Emergence of Corporate Environmentalism as Market Strategy," *Journal of Marketing*, 61 (January), 51-67.
- Meyers-Levy, Joan (1988), "The Influence of Sex Roles on Judgment," *Journal of Consumer Research*, 14 (March), 522-30.
- Mick, David G. (2006), "Meaning and Mattering through Transformative Consumer Research," in *Advances in Consumer Research*, Vol. 33, ed. Cornelia Pechmann and Linda L. Price, Provo, UT: Association for Consumer Research, 297-300.
- Moschis, George P. (1976), "Social Comparison and Informal Group Influence," *Journal of Marketing Research*, 13 (August), 237-44.
- Murray, David M., Russell V. Luepker, Anderson C. Johnson, and Maurice B. Mittelmark (1984), "The Prevention of Cigarette Smoking in Children: A Comparison of Four Strategies," *Journal of Applied Social Psychology*, 14 (3), 274-88.
- Park, C. Whan and Parker V. Lessig (1977), "Students and Housewives: Differences in Susceptibility to Reference Group Influence," *Journal of Consumer Research*, 4 (September), 102-10.
- Reed, Americus II (2004), "Activating the Self-Importance of Consumer Selves: Exploring Identity Salience Effects on Judgments," *Journal of Consumer Research*, 31 (September), 286-95.
- Robin, Donald P. and Eric Reidenbach (1987), "Social Responsibility, Ethics, and Marketing Strategy: Closing the Gap between Concept and Application," *Journal of Marketing*, 51 (January), 44-58.
- Schultz, P. Wesley, Jessica M. Nolan, Robert B. Cialdini, Noah J. Goldstein, and Vladas Griskevicius (2007), "The Constructive, Destructive, and Reconstructive Power of Social Norms," *Psychological Science*, 18 (5), 429-34.
- Shapiro, Jenessa R. and Steven L. Neuberg (forthcoming), "When Do the Stigmatized Stigmatize? The Ironic Effects of Being Accountable to (Perceived) Majority Group Prejudice-Expression Norms," *Journal of Personality and Social Psychology*.
- Stayman, Douglas M. and Rohit Deshpandé (1989), "Situational Ethnicity and Consumer Behavior," *Journal of Consumer Research*, 16 (December), 361-71.
- Stitka, Linda J. and Christina Maslach (1996), "Gender as Sche-

- matic Category: A Role Construct Approach," *Social Behavior and Personality*, 24 (1), 53–73.
- Suedfeld, Peter, Stephen Bochner, and Carol Matas (1971), "Petitioner's Attire and Petition Signing by Peace Demonstrators: A Field Experiment," *Journal of Applied Social Psychology*, 1 (3), 278–83.
- Tajfel, Henri (1978), *Differentiation between Social Groups: Studies in the Social Psychology of Intergroup Relations*, New York: Academic.
- Terry, Deborah J. and Michael A. Hogg (1996), "Group Norms and the Attitude-Behaviour Relationship: A Role for Group Identification," *Personality and Social Psychology Bulletin*, 22 (8), 776–93.
- Terry, Deborah J., Michael A. Hogg, and Katherine M. White (1999), "The Theory of Planned Behaviour: Self-Identity, Social Identity, and Group Norms," *British Journal of Social Psychology*, 38 (3), 225–44.
- White, Katherine M., Michael A. Hogg, and Deborah J. Terry (2002), "Improving Attitude-Behavior Correspondence through Exposure to Normative Support from a Salient In-group," *Basic and Applied Social Psychology*, 24 (2), 91–103.
- Zebrowitz, Leslie A. (1990), *Social Perception*, Pacific Grove, CA: Brooks-Cole.
- Zebrowitz, Leslie A., and Mary A. Collins (1997), "Accurate Social Perception at Zero Acquaintance: The Affordances of a Gibsonian Approach," *Personality and Social Psychology Review*, 1 (3), 203–22.