

Psychological Science

<http://pss.sagepub.com/>

Posthypnotic Responding Away from the Hypnotic Setting

Amanda J. Barnier and Kevin M. McConkey

Psychological Science 1998 9: 256

DOI: 10.1111/1467-9280.00052

The online version of this article can be found at:

<http://pss.sagepub.com/content/9/4/256>

Published by:



<http://www.sagepublications.com>

On behalf of:



[Association for Psychological Science](http://www.sagepub.com)

Additional services and information for *Psychological Science* can be found at:

Email Alerts: <http://pss.sagepub.com/cgi/alerts>

Subscriptions: <http://pss.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

>> [Version of Record](#) - Jul 1, 1998

[What is This?](#)

Research Article

POSTHYPNOTIC RESPONDING AWAY FROM THE HYPNOTIC SETTING

Amanda J. Barnier and Kevin M. McConkey

University of New South Wales, Sydney, Australia

Abstract—We examined posthypnotic suggestion away from the laboratory. In Experiment 1, high-hypnotizable subjects were given a posthypnotic suggestion (of limited or unlimited duration) or a social request (of unlimited duration) to mail one postcard every day to the experimenter. Subjects given a social request rather than a posthypnotic suggestion sent more postcards, and those given a limited-duration suggestion responded differently from those given an unlimited-duration suggestion. In Experiment 2, real, hypnotized and simulating, un hypnotized subjects were given a posthypnotic suggestion, and non-hypnotic control subjects were given a social request, to mail one postcard every day; the suggestion or request was of either limited or unlimited duration. Real, hypnotized subjects sent more postcards than simulators; control subjects sent as many postcards as real, hypnotized subjects; and subjects given a suggestion or request of limited duration sent more than those given one of unlimited duration. The findings highlight the interaction of individual differences and the social context of the suggestion or request. They underscore important aspects of experience and behavior associated with posthypnotic responding away from the hypnotic setting.

Posthypnotic suggestions involve instructing a hypnotized person to show certain behavior after hypnosis. Posthypnotic behavior is characterized by an apparent lack of awareness of the reason for the response and a reported experience of compulsion to respond (Kihlstrom, 1984; Sheehan & Orne, 1968). Understanding of this phenomenon is clouded by scientific neglect and by amazing anecdotes. Historical reports, for instance, tell of a woman seeing the suggested image of her absent husband for 24 hr, a woman seeing the tail of her cat as black (as suggested) rather than spotted for 3 days, and a man seeing a suggested portrait on a visiting card for more than 2 years (Bernheim, 1884; Moll, 1889/1892; Tuckey, 1900).

Sporadic empirical work has examined aspects of posthypnotic responding (Berrigan, Kurtz, Stabile, & Strube, 1991; Edwards, 1963; Kellogg, 1929; Patten, 1930; Trussell, Kurtz, & Strube, 1996; Weitzenhoffer, 1950). One difficulty with much of this work is that responding was tested in the same setting in which the suggestion was given, and it is unclear whether responding was due to the suggestion or to demands of the setting in which the suggestion was administered. Some work, however, has investigated posthypnotic responding away from the setting of the suggestion. Orne, Sheehan, and Evans (1968) gave real, hypnotized subjects and simulating, un hypnotized subjects (who were asked to respond as they thought excellent hypnotic subjects would; Orne, 1959, 1971) a posthypnotic suggestion to touch their forehead whenever they heard the word “experiment” in the next 48 hr. Posthypnotic responding was tested in the experimental setting and in the reception area by a secretary. Orne et al. found that some hypnotized subjects, but no simulators, responded across the two set-

tings. Notably, the majority of hypnotized subjects who responded to all the hypnotic suggestions also responded outside the experimental setting, whereas those who did not respond to all the hypnotic suggestions did not. Orne et al. argued that posthypnotic suggestion cannot be accounted for by role playing, and that some individuals experience a “quasi-automatic” (in the sense that subjects do not report initiating the response), compulsive need to carry out the response. Spanos, Menary, Brett, Cross, and Ahmed (1987) gave real, hypnotized and simulating, un hypnotized subjects a posthypnotic suggestion to cough each time they heard the word “psychology” until they received a cancellation in their next session. Responding was indexed in the hypnotic setting and outside that setting in three informal tests on a subsequent day. Spanos et al. found that neither hypnotized subjects nor simulators responded to any informal tests. They argued that posthypnotic responding is goal-directed action aimed at fulfilling social role expectations; that is, subjects respond when and if they think they have to. Although interesting, both of these experiments are limited in the degree to which posthypnotic responding was uncoupled from the social context and the interpersonal processes of the overall experimental setting; also, neither experiment attempted to differentiate response to a posthypnotic suggestion from response to a normal, social request.

We focused on posthypnotic responding away from both the experimental setting and the people associated with that setting. In addition, we compared response to a posthypnotic suggestion and a social request. We drew on two unpublished experiments that involved subjects mailing postcards to the hypnotist. Damaser (1964) gave a small group of deep- and medium-hypnotizable individuals a posthypnotic suggestion, a waking request, or both to mail one postcard every day to the experimenter; responding was indexed across 12 weeks. She found no difference in the number of postcards returned by deep-hypnotizable subjects given a posthypnotic suggestion or a waking request; medium-hypnotizable subjects given a posthypnotic suggestion returned fewer postcards than those given a waking request. Damaser concluded that deep-hypnotizable subjects were responding to the task in an experientially personal way, whereas medium-hypnotizable subjects were responding to the social demands. Hoyt (1990) gave high-hypnotizable and un hypnotized, control subjects a posthypnotic suggestion or a waking request to underline the date on a postcard they were instructed to send back every day for 21 days. Hoyt found no differences in the responding of hypnotized and control subjects, although this may have reflected a ceiling effect associated with subjects’ performance. The findings from these two studies indicated that although posthypnotic responding may endure in a setting that is temporally, contextually, and interpersonally separate from the hypnotic setting, a simple social request appears to be as effective—if not more effective—in eliciting a response.

In the present two experiments, we adapted the postcard method to examine posthypnotic responding away from the experimental setting, and to compare the effect of a posthypnotic suggestion with that of a social request; also, we used particular comparison groups. Experiment 1 focused on the behavior and experience of high-hypnotizable

Address correspondence to Kevin M. McConkey, School of Psychology, University of New South Wales, Sydney, NSW 2052, Australia; e-mail: k.mcconkey@unsw.edu.au.

individuals who were given a posthypnotic suggestion or a social request to mail one postcard every day to the experimenter. Experiment 2 was a replication and extension of Experiment 1 and used the real-simulating paradigm (Orne, 1959, 1971) to compare the behavior of real, hypnotized and simulating, un hypnotized subjects; this paradigm allows an examination of whether the demand characteristics of the experiment may have influenced the performance of hypnotized subjects. Also, we asked a group of unselected, nonhypnotic, control subjects to carry out the task.

We expected that some subjects would respond to the posthypnotic suggestion away from the experimental setting. Although we expected that it was unlikely that there would be a difference in responding to a posthypnotic suggestion and a social request at a behavioral level, we believed that there would be differences at an experiential level. Accordingly, to explore subjects' experiences away from the laboratory, in Experiment 1 we used a modification of the experiential analysis technique (EAT; Sheehan & McConkey, 1982), in which participants were shown the videotape of the experimental session and encouraged to discuss their experiences, and in Experiment 2 we used a postexperimental interview. Behaviorally, we expected that those subjects who knew when the task would end would show less of a decline in responding than those who did not know when it would end (Barnier & McConkey, 1996, in press).

EXPERIMENT 1

We gave high-hypnotizable subjects a posthypnotic suggestion or a social request to mail one postcard every day to the experimenter; the posthypnotic suggestion either did (limited duration) or did not (unlimited duration) specify how long this should continue. Subjects were given 120 prepaid postcards and were contacted 16 weeks after the session and asked to return for an interview. We expected that subjects given a social request would return as many postcards as those given a posthypnotic suggestion; also, we expected that those given a posthypnotic suggestion of limited duration would return more postcards than those given one of unlimited duration.

Method

Subjects

Sixteen (6 male and 10 female) high-hypnotizable subjects, who ranged in age from 18 to 42 years ($M = 20.79$, $SD = 4.97$) and were undergraduate psychology students at the University of New South Wales, Sydney, Australia, voluntarily participated in return for research credit. They were selected on the basis of their obtaining scores of 10 to 12 on the 12-item Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A; Shor & Orne, 1962; $M = 10.69$, $SD = 0.54$); their hypnotizability was confirmed by their scores of 8 to 10 on a 10-item tailored version of the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C; Weitzenhoffer & Hilgard, 1962; $M = 9.25$, $SD = 0.58$).

Procedure

An experimental session and an interview session were conducted by the hypnotist and the inquirer, respectively.

Experimental session. Following informed-consent procedures, the hypnotist administered a hypnotic induction procedure and eight hypnotic suggestions. Then, the hypnotist administered one of two versions

of the posthypnotic suggestion followed by the deinduction procedure, or the deinduction procedure followed by the social request. Six individuals were given the limited-duration suggestion and told they would mail one postcard every day to the hypnotist until she contacted them again; 6 were given the unlimited-duration suggestion and told they would mail one postcard every day to her; and 4 were given the unlimited-duration social request and asked (following hypnosis) to mail one postcard every day to the hypnotist. All subjects accepted an envelope containing 120 prepaid, preaddressed postcards.

Interview session. Subjects were contacted by the hypnotist approximately 16 weeks later and asked to return for an interview; 14 agreed to return. The modified EAT involved a detailed investigation into subjects' experiences of the posthypnotic suggestion or social request during the hypnosis session and their subsequent responding. Participants were shown the videotape of the experimental session to encourage discussion of their experiences. However, that discussion also explored their reported experiences during the 16 weeks of responding. The inquirer asked subjects about their reactions to the posthypnotic suggestion or social request, experiences of sending the postcards, reasons for responding, and feelings about the task and the hypnotist. The inquirer then thanked participants and took them to the hypnotist, who formally canceled the posthypnotic suggestion or social request and answered any questions.

Results and Discussion

Subjects given the social request sent 98.67% ($SD = 1.57$) of the postcards, those given the limited-duration suggestion sent 52.02% ($SD = 41.55$), and those given the unlimited-duration suggestion sent 50.28% ($SD = 54.47$). Differences between groups were significant, as indicated by a median test, $\chi^2(2, N = 16) = 6.67$, $p < .05$; the responding of participants given the social request differed from the responding of participants given the suggestion of limited or unlimited duration. Figure 1 presents the mean number of postcards returned each week in each condition. It shows consistently high responding of

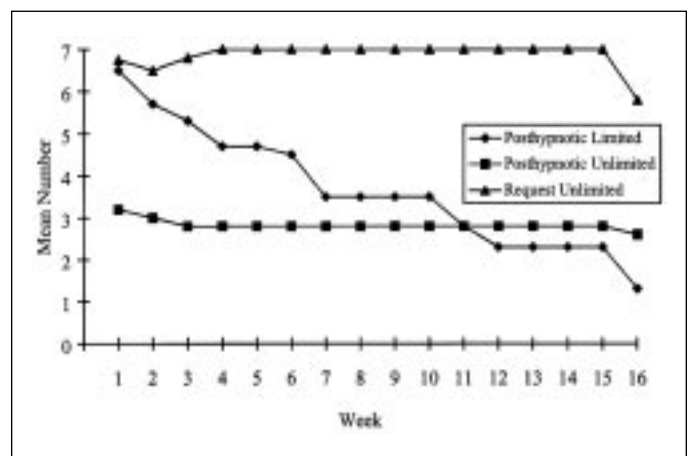


Fig. 1. Mean number of postcards returned each week in each condition: Experiment 1.

Posthypnotic Responding

subjects given the social request, consistently low responding of those given the unlimited-duration suggestion, and a gradual decline in responding of those given the limited-duration suggestion. Thus, contrary to our expectations, subjects given the social request returned a greater percentage of postcards and responded more consistently than those given either version of the posthypnotic suggestion. Further, although the mean total percentage of postcards sent by individuals given a suggestion of limited duration did not differ from the mean total percentage sent by those given a suggestion of unlimited duration, the two groups showed different patterns of responding across the 16 weeks.

We compared the EAT comments of subjects given the unlimited-duration social request ($n = 4$) with those of subjects given the unlimited-duration posthypnotic suggestion ($n = 4$; 2 did not return for the interview). When asked why they responded, 3 posthypnotic-suggestion subjects said they felt a sense of compulsion (the 4th subject did not send any postcards); in contrast, all social-request subjects said they responded simply because they had agreed to do so. When asked to describe the nature of their response, 2 posthypnotic-suggestion subjects said it seemed to be automatic (i.e., it just "popped" into their heads every day); the 3rd said it was consciously initiated and part of a daily routine. Of the social-request subjects, 3 said their response was conscious and routinized, and the 4th said it was consciously initiated, but took effort to remember. When those who responded were asked how they felt while sending the postcards, 2 posthypnotic-suggestion subjects said they felt positive when doing it, and the 3rd reported feeling nothing; of the social-request subjects, 3 said they felt relieved or negative when sending the postcards, and the 4th reportedly felt nothing. When all subjects were asked how they felt if they forgot to send the postcards, 3 of the 4 posthypnotic-suggestion subjects said they did not feel worried if they forgot, and 1 reported feeling guilty; of the social-request subjects, 2 said they felt guilty if they forgot to do it, and 2 said they did not feel concerned. Finally, when asked about hypnosis and the hypnotist, 2 subjects in each condition said that they thought their hypnotic experience was important to their response, and 2 said it was unimportant. Further, 3 subjects given the unlimited-duration suggestion and 2 given the social request said they thought about the hypnotist while they were away from the laboratory; 1 given the unlimited-duration suggestion and 2 given the social request said they did not think of her.

We also compared the comments of subjects given the limited-duration suggestion ($n = 6$) with those of subjects given the unlimited-duration suggestion ($n = 4$; 2 did not return for the interview). When asked why they responded, 3 limited-suggestion subjects said they did so because they felt a sense of compulsion, and a 4th said she did so partly because she felt a sense of compulsion and partly because she had agreed to do it (2 subjects in this condition did not send any postcards). Similarly, 3 unlimited-suggestion subjects said they sent the postcard because they felt a sense of compulsion (the 4th did not send any postcards). When asked to describe the nature of their response, 3 subjects given the limited-duration suggestion said it seemed to be an automatic response, and the 4th said that it was consciously initiated and effortful. Two subjects given the unlimited-duration suggestion described their response as automatic, and the 3rd said it was consciously initiated and part of a routine. When those who responded were asked how they felt while sending the postcards, 2 limited-suggestion subjects said they felt positive, 1 reported feeling relieved or negative, and 1 felt nothing; of the unlimited-suggestion subjects, 2 said they felt positive when sending the postcards, and the 3rd reported feeling nothing. When all subjects

were asked how they felt if they forgot to send the postcards, 4 of the limited-suggestion subjects said they felt guilty, and 2 said they felt unconcerned; of the 4 unlimited-suggestion subjects, 3 said they did not feel worried if they forgot, and 1 reported feeling guilty. Finally, when asked about hypnosis and the hypnotist, 5 limited-suggestion and 2 unlimited-suggestion subjects said that they thought their hypnotic experience was important to their response, and 1 limited-suggestion and 2 unlimited-suggestion subjects said it was unimportant. Further, 4 limited-suggestion and 3 unlimited-suggestion subjects said they thought about the hypnotist while they were away from the laboratory, and 2 limited-suggestion and 1 unlimited-suggestion subjects said they did not think of her.

Thus, consistent with our expectation, there were differences in the experiences reported by subjects given the posthypnotic suggestion and subjects given the social request. Most notably, subjects given the suggestion were more likely to report feeling a sense of compulsion and to characterize their responding as requiring little effort. For instance, some said that the suggestion had been implanted in their "subconscious," which caused them to send a postcard every day. In contrast, social-request subjects generally attributed their responding to a "contractual" arrangement between themselves and the hypnotist; also, they were more likely to characterize their responding as planned and effortful. There was very little difference in the comments made by subjects who received the limited-duration posthypnotic suggestion and those who received the unlimited-duration posthypnotic suggestion.

EXPERIMENT 2

Experiment 2 served as a replication and extension. We gave real, hypnotized subjects and simulating, un hypnotized subjects a posthypnotic suggestion to mail one postcard every day to the experimenter; also, we gave nonhypnotic, control subjects a social request to perform the same task. The posthypnotic suggestion or request was of either limited or unlimited duration. Thus, the design was more systematic than in Experiment 1, in which the social request was always of unlimited duration. Also, because some subjects in Experiment 1 commented that they thought about the hypnotist while they were away from the laboratory, we assessed the relationship of subjects with the hypnotist by using the Archaic Involvement Measure (AIM; Nash & Spinler, 1989); this measure indexes subjects' perceptions of the power of the hypnotist, positive emotional bond to the hypnotist, and fear of negative appraisal. Each subject was given 100 prepaid postcards and contacted 8 weeks after the session and asked to return for an interview. We expected that hypnotized subjects would return more postcards than simulators, that subjects given a social request would return at least as many postcards as those given a posthypnotic suggestion, and that subjects given a posthypnotic suggestion or request of limited rather than unlimited duration would return more postcards. In addition, we examined whether the relationship with the hypnotist was associated with how long subjects continued to respond.

Method

Subjects

The 19 (4 male and 15 female) real, hypnotized subjects, 20 (9 male and 11 female) simulating, un hypnotized subjects, and 19 (5 male and 14 female) control subjects ranged in age from 17 to 37 years ($M =$

20.33, $SD = 4.66$) and were undergraduate psychology students at the University of New South Wales, Sydney, Australia. They voluntarily participated in the experiment in return for research credit. Hypnotized and simulating subjects were selected on the basis of their extreme scores on the 12-item HGSHS:A; their hypnotic susceptibility was confirmed by a 10-item tailored version of the SHSS:C. Hypnotized subjects scored in the range from 9 to 12 on the HGSHS:A ($M = 9.95$, $SD = 0.91$) and 8 to 10 on the tailored SHSS:C ($M = 8.37$, $SD = 0.68$). Simulators scored in the range from 0 to 4 on the HGSHS:A ($M = 2.65$, $SD = 1.23$) and 0 to 3 on the tailored SHSS:C ($M = 1.45$, $SD = 1.15$). Control subjects were not selected for hypnotizability, and were recruited via a notice-board announcement that invited participation in cognitive and social psychology experiments.

Procedure

For hypnotized and simulating subjects, the experiment involved the administration of real-simulating instructions, a hypnosis session, and a postexperimental inquiry; 8 weeks later, there was a reinstatement of the real-simulating instructions, and a final interview and debriefing. The entire procedure involved two independent experimenters (the experimenter and the hypnotist). For control subjects, the experiment involved the administration of the request to send the postcards; 8 weeks later, there was a final interview and debriefing. This procedure involved a single experimenter.

Procedure for real, hypnotized and simulating, un hypnotized subjects. Following informed-consent procedures, the experimenter instructed subjects according to the real-simulating paradigm (Orne, 1959, 1971). Hypnotized subjects were informed they would be taken to the hypnotist, who would conduct a hypnosis session, and that they would then return to the experimenter to discuss their experiences. Simulators were told they would be taken to the hypnotist, and their task was to fool her into believing they were excellent hypnotic subjects. They were told not to let on they were simulating until they returned to the experimenter to discuss their experiences. In addition to receiving the standard simulation instructions, these subjects were told “to behave like a highly hypnotized subject on whatever task the hypnotist asks you to do”; also, rather than telling subjects they would meet again when the “experiment” was over, the experimenter said they would meet again when “that part of the experiment” was over.

During the hypnosis session, the hypnotist administered a hypnotic induction procedure and five hypnotic suggestions. She then administered one of two versions of the posthypnotic suggestion; 20 subjects (10 in each group) were given the limited-duration version and told they would mail one postcard every day to the hypnotist until she contacted them again; 19 subjects (9 hypnotized and 10 simulating) were given the unlimited-duration version and told they would mail one postcard every day to the hypnotist. Following a deinduction procedure and a short inquiry into their reactions to the other hypnotic items, subjects were given an envelope containing 100 prepaid, preaddressed postcards; 34 of the 39 subjects accepted the postcards. The hypnotist then took participants back to the experimenter.

The postexperimental inquiry session began with the experimenter administering the AIM, which consists of 20 items that assess subjects' perception of the power of the hypnotist, positive emotional bond to the hypnotist, and fear of negative appraisal. Participants are asked to rate a number of statements on a 7-point Likert scale (1 = *I did not at all feel this way*, 7 = *I felt very strongly this way*). Scores

range from 20 to 140. Statements include: “Sometimes I felt some strong bond to the hypnotist, like an affection that I usually feel only for parents, special teachers, and special friends,” and “Every word or action of the hypnotist seemed to have an effect on my feelings.” Next, the experimenter conducted a brief postexperimental inquiry into subjects' perceptions of and reactions to the posthypnotic suggestion. If subjects questioned her about the posthypnotic suggestion or the postcards, she answered in a way that did not provide an alternative interpretation of the suggestion or any indication to either send or not send the postcards.

Subjects were contacted by the hypnotist approximately 8 weeks later and asked to return for an interview; 31 agreed to return. When they returned, the experimenter gave them a description of the nature of the session and reminded simulators of their role. Following these instructions, she reintroduced subjects to the hypnotist, who was still unaware of which subjects had been hypnotized and which had been simulating. The hypnotist explored participants' experiences of the posthypnotic suggestion during the hypnosis session and their subsequent responding. She asked about subjects' reactions to the suggestion, experiences of sending the postcards, reasons for responding, and feelings about the task. Finally, she formally canceled the suggestion and took them to the experimenter, who debriefed subjects and answered any questions.

Procedure for control subjects. Following informed-consent procedures, the experimenter (who was the hypnotist for the hypnotized and simulating subjects) administered one of two versions of the social request; 10 individuals were given the limited-duration version and asked to mail one postcard every day to the experimenter until she contacted them again; 9 were given the unlimited-duration version and asked to mail one postcard every day to the experimenter. If subjects questioned her about this instruction, she answered in a way that did not provide any indication to either send or not send the postcards. Finally, each subject was given an envelope containing 100 prepaid, preaddressed postcards; 17 of the 19 subjects accepted the postcards.

Subjects were contacted by the experimenter approximately 8 weeks later and asked to return for an interview; 15 agreed to return. The interview session and debriefing followed the procedure for hypnotized and simulating subjects, with the exception that it was conducted by the experimenter who had administered the request, and did not include procedures relevant to hypnotic participants.

Results and Discussion

Figure 2 presents the mean percentage of postcards returned by hypnotized, simulating, and control subjects who were given the limited- or unlimited-duration version of the posthypnotic suggestion or request. A 3×2 analysis of variance (ANOVA) (Subject Identity \times Suggestion Version) indicated a significant main effect for subject identity, $F(2, 45) = 5.17$, $p < .01$, and for suggestion version, $F(1, 45) = 4.61$, $p < .05$. Post hoc comparisons indicated that real, hypnotized subjects ($M = 53.35$, $SD = 37.36$) and control subjects ($M = 46.74$, $SD = 41.03$) returned a higher percentage than simulators ($M = 15.64$, $SD = 27.73$); also, subjects given the limited-duration suggestion or request ($M = 48.47$, $SD = 40.28$) returned a higher percentage than those given the unlimited-duration version ($M = 25.88$, $SD = 36.22$).

Posthypnotic Responding

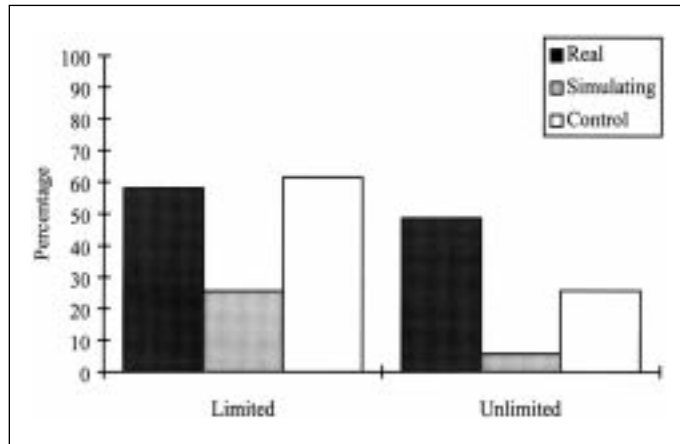


Fig. 2. Mean percentage of postcards returned by real (hypnotized), simulating, and control subjects: Experiment 2. Results are shown separately for limited- and unlimited-duration suggestions or requests.

Figure 3 presents the mean number of postcards returned each week according to subject identity and suggestion version. A $3 \times 2 \times 8$ mixed-model ANOVA (Subject Identity \times Suggestion Version \times Week) of the number of postcards returned each week indicated a significant main effect for subject identity, $F(2, 45) = 5.28, p < .01$; for suggestion version, $F(1, 45) = 4.67, p < .05$; and for week, $F(7, 315) = 18.89, p < .001$. Post hoc comparisons indicated that hypnotized subjects ($M = 3.73, SD = 2.70$) and control subjects ($M = 3.27, SD = 2.96$) returned more postcards per week than simulators ($M = 1.08, SD = 1.97$); individuals given the limited-duration suggestion or request ($M = 3.39, SD = 2.82$) returned more per week than those given the unlimited-duration version ($M = 1.80, SD = 2.53$); and the average number of postcards returned

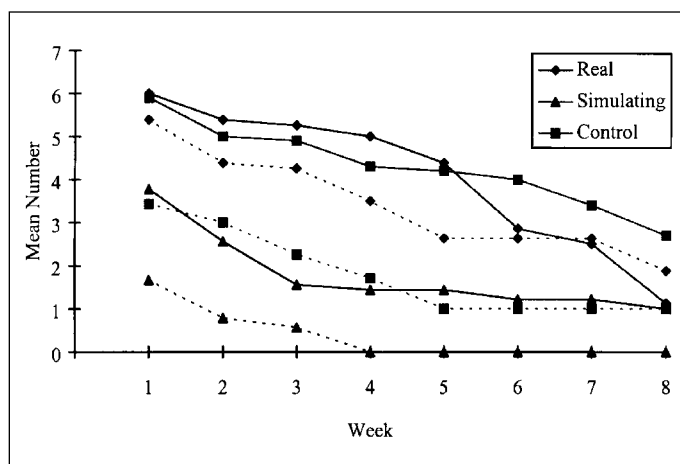


Fig. 3. Mean number of postcards returned each week by real (hypnotized), simulating, and control subjects: Experiment 2. Subjects given the limited- and unlimited-duration versions of the suggestion or request are represented by the unbroken and broken lines, respectively.

declined across the 8 weeks (Week 1: $M = 4.37, SD = 3.15$; Week 8: $M = 1.31, SD = 2.57$).

In terms of subjects' relationship with the hypnotist, a 2×2 ANOVA (Subject Identity \times Suggestion Version) of AIM scores indicated a significant main effect for subject identity, $F(1, 30) = 37.71, p < .001$. Real, hypnotized subjects gave higher ratings than simulators. Also, AIM scores correlated with hypnotizability scores as measured by the HGSHS:A ($r = .71, p < .001$) and the tailored SHSS:C ($r = .71, p < .001$). Archaic involvement scores correlated moderately with the percentage of postcards returned ($r = .40, p < .05$).

Although subjects' responding was associated with their reported relationship with the hypnotist, this result likely reflects differences in the behavioral responding of hypnotized and simulating subjects rather than differences among the former group. In fact, only half of the subjects in these two groups reported thinking about the hypnotist during the 8 weeks; of those, some reported feelings of guilt when they failed to respond, and some reported a sense of commitment or connection to the hypnotist or experimenter. Approximately half of the subjects reported that they had a routine for sending the postcards and used strategies to help them remember; half had no routine and did not use any particular strategies. For example, some participants experienced an "automatic trigger" to send the postcards, whereas others had a set daily routine and used strategies such as writing in their diary or placing the postcard in a particular spot to help them recall. For many subjects, family and friends played an important role, whether positive or negative, in their responding. Some subjects were encouraged and assisted, whereas others were ridiculed for responding or were actively discouraged from responding. Finally, although control subjects responded for as long as hypnotized subjects, the two groups reported quite different experiences. Real, hypnotized subjects were more likely to attribute their responding to a sense of compulsion, whereas control subjects said they responded because they had agreed to do so and wanted to meet that agreement. Few simulators responded; they said that they saw no reason to do so or that they simply forgot.

GENERAL DISCUSSION

Some individuals respond to a posthypnotic suggestion when they are away from the direct influence of the laboratory for up to 4 months. This finding is theoretically important, has potential clinical relevance, and adds to the view that a subset of hypnotizable individuals will maintain a hypnotically initiated behavior away from the direct influence of the hypnotist (Damaser, 1964; Orne et al., 1968; Sheehan & Orne, 1968). An important consideration, however, is whether subjects were given a suggestion that specifically asked for the response to occur outside the laboratory (as in the present research) or a suggestion that did not explicitly instruct them to respond outside the laboratory (Orne et al., 1968; Spanos et al., 1987). In other words, in the present research, information in the suggestion prepared subjects to respond outside the experimental setting, which they did for long periods of time; in other work, they were not prepared to respond outside the laboratory and generally failed to do so.

The influence of the precise information in the suggestion is highlighted also by the finding that subjects who were given the limited-duration version of the suggestion or request showed a different pattern of responding and maintained their response far longer than those given the unlimited-duration version. These findings extend previous research on the cancellation of hypnotic and posthypnotic

suggestions (Barnier & McConkey, 1996, in press; Perry, 1977), and underscore that the clearer the hypnotist is about how long responding should occur, the more likely it is that subjects will continue to respond. The findings indicate that hypnotized individuals, and experimental subjects in general, look closely to the information provided in the suggestion or tacitly conveyed by the hypnotist or experimenter to guide the occurrence, nature, and duration of their responding (Kihlstrom, 1995; McConkey, 1991).

As in previous research (Damaser, 1964; Hoyt, 1990; Kellogg, 1929; Patten, 1930), subjects given a social request after hypnosis (Experiment 1) or unrelated to hypnosis (Experiment 2) returned at least as many postcards as those given a posthypnotic suggestion. Thus, a social request is as effective behaviorally as a posthypnotic suggestion in eliciting the desired response. Nevertheless, the qualitative comments of subjects in Experiment 1 indicated that the subjective responses to posthypnotic suggestion, including the attributions that subjects made about responding, were quite different from the subjective responses to the social request. Subjects given the social request typically interpreted the task in terms of a social contract between themselves and the hypnotist-experimenter. In contrast, those given the posthypnotic suggestion interpreted the hypnotist's message in more varied and idiosyncratic ways, and they typically reported a compulsive quality to their experience. Thus, it could be said that a posthypnotic suggestion operates at the level of experience, in the sense that whereas the behavioral response to a posthypnotic suggestion may be no different from that associated with a social request, the subjective response is quite different. These findings have implications for the use of posthypnotic suggestion in the clinical context. In particular, they indicate that although a posthypnotic suggestion may not be more effective than a simple request in eliciting a desired behavioral response, it may help to manage or create an experiential readiness for change and the maintenance of that change. For instance, a posthypnotic suggestion to quit smoking may not be more effective behaviorally than simply telling a person to stop, but it may lead the individual to experience the initiation of the behavior as less effortful and the consequences as more manageable.

We did not select the nonhypnotic, control subjects in Experiment 2 for hypnotizability, and we acknowledge that, as a result, there may be some ambiguity in interpreting the results. For instance, it could be argued that if the control subjects had been highly hypnotizable (as were the subjects who received the social request in Experiment 1), then they might have responded far longer than real, hypnotized subjects given a posthypnotic suggestion (as was the case in Experiment 1). Nevertheless, the inclusion of the nonhypnotic, control group usefully indexes the willingness of experimental subjects to respond to the demands of an experimenter (Kihlstrom, 1995; Orne, 1959). Moreover, the responding of control subjects offers a contrast to that of simulating subjects. The fact that many simulators said that they saw no reason to respond could be interpreted as a failure of the real-simulating paradigm. However, there is no reason to assume that, unlike the nonhypnotic, control subjects, simulators did not want to be "good" experimental subjects. Rather, their low level of responding must reflect their understanding of the experimental situation, rather than poor motivation or laziness; in other words, simulators seem to have believed that real, hypnotized subjects do not respond to a posthypnotic suggestion outside the laboratory. This idea is consistent with previous research (Orne et al., 1968; Spanos et al., 1987), and indicates that the responding of hypnotized subjects was not based solely on demand characteristics.

Although this research focused on responding away from the direct influence of the hypnotist, it is useful to consider differences between responding inside and outside the hypnotic setting. Inside this setting, the hypnotist provides the primary context, meaning, and reinforcement for the behavior and experience of the hypnotized person (Barnier & McConkey, 1996, in press). Outside this setting, however, the cues and reinforcement that orient the hypnotized individual to respond within the laboratory are, for the most part, either not present or not operating in the same manner. We thought that the relationship or rapport between the subject and the hypnotist may influence responding in the absence of the physical presence of the hypnotist (Sheehan, 1980). However, rapport with the hypnotist was not closely associated with responding away from the laboratory. Rather, subjects who responded most to the posthypnotic suggestion outside the laboratory appeared to be those who placed meaning on the task and who found a substitute for the hypnotist, as it were, in their families, friends, or even themselves for the reinforcement that typically would come from the hypnotist. These subjects constructed a social setting and engaged in interpersonal interactions that helped them maintain their posthypnotically suggested experience and behavior. Accordingly, posthypnotic responding outside the suggestion setting might best be represented in terms of the extent to which individuals enmesh the suggested task within their own social interactions and personal commitments. In this regard, future research could focus on the place of the posthypnotic task in the lives of individuals, and could examine specifically the relevance of whether the task is conducted in private or in public and whether significant others are engaged in the task.

Whereas individuals given the social request generally attributed their responding to a social contract, there was variation in the reported experiences of those given a posthypnotic suggestion. Some reported that they felt compelled to respond to the suggestion and did so strategically; others reported that their responding had an "automatic" quality to it and that it was reasonably effortless; and others indicated that their responding was extremely effortful and they often found it difficult to remember to send the postcards. This variability highlights important questions about the cognitive and social mechanisms that initiate and maintain a posthypnotic response and participants' associated experience of responding. It is not clear at this stage whether a posthypnotic suggestion (a) leads subjects to experience a sense of compulsion that they act upon in a strategic way, (b) initiates an automatic response that is accompanied by a sense of compulsion (or about which the subject makes an attribution of compulsion), or (c) leads subjects to initiate a completely conscious and strategic act that is simply described as "automatic" and "compulsive" to meet social demands or expectations.

Further complicating an understanding of posthypnotic suggestion is the fact that the mechanism that initiates a posthypnotic response is less clear outside the laboratory than in laboratory-based experiments involving the administration of formalized posthypnotic tests (Barnier & McConkey, 1996, in press). Erickson and Erickson (1941) argued that there is a special mental state (*viz.*, a reinstatement of the experience or conditions of hypnosis) that provides a mechanism for the posthypnotic suggestion to become conscious and to be enacted at the appropriate time. Spontaneous hypnosis during posthypnotic responding was neither evident nor mentioned by subjects in the present experiments. Thus, the mechanism of responding outside the laboratory when the specific cues of the hypnotist, the posthypnotic test, and the hypnotic setting are removed requires further consideration. Such investigation should strive to disentangle various cognitive and contextual processes that contribute

Posthypnotic Responding

to subjects' behavioral and experiential responses to a posthypnotic suggestion. One possible strategy in this investigation would be to compare prospective remembering and posthypnotic suggestion tasks to isolate the mechanism that initiates responding. In work on prospective memory, individuals often report using particular strategies, such as writing a "to do" list or tying string around their finger to help them remember (Brandimonte, Einstein, & McDaniel, 1996). Similarly, in our research, some subjects reported the use of a range of strategies; however, others reported that they did not need to use any strategies or did not intentionally use them. In this sense, understanding of posthypnotic responding could be informed also by the findings and methodologies of research on the automaticity of behavior in everyday life (Bargh, 1997). Given the theoretical importance and the potential clinical applications of posthypnotic suggestion, further research needs to focus on investigating posthypnotic responding away from the hypnotic setting, despite the ethical and methodological challenges such work entails.

Acknowledgments—This research was supported in part by a grant from the Australian Research Council to Kevin M. McConkey and an Australian Postgraduate Award to Amanda J. Barnier. We are grateful to Arzu Oytam, Sandra Hejtmánek, Fiona Maccallum, Gladiss Warda, Vanessa Wende, and Heather Wilton for research assistance. Participants in this research provided informed consent, and relevant guidelines protecting the rights of subjects were followed.

REFERENCES

- Bargh, J.A. (1997). The automaticity of everyday life. In R.S. Wyer, Jr. (Ed.), *Advances in social cognition: Vol. X. The automaticity of everyday life* (pp. 1–61). Mahwah, NJ: Erlbaum.
- Barnier, A.J., & McConkey, K.M. (1996). Action and desire in posthypnotic responding. *International Journal of Clinical and Experimental Hypnosis*, 44, 120–139.
- Barnier, A.J., & McConkey, K.M. (in press). Posthypnotic suggestion: Knowing when to stop helps to keep it going. *International Journal of Clinical and Experimental Hypnosis*.
- Bernheim, H. (1884). *De la suggestion dans l'état hypnotique et dans l'état de veille*. Paris: Octave Doin.
- Berrigan, L.P., Kurtz, R.M., Stabile, J.P., & Strube, M.J. (1991). Durability of "posthypnotic suggestions" as a function of type of suggestion and trance depth. *International Journal of Clinical and Experimental Hypnosis*, 39, 24–38.
- Brandimonte, M., Einstein, G.O., & McDaniel, M.A. (Eds.). (1996). *Prospective memory: Theory and applications*. Mahwah, NJ: Erlbaum.
- Damaser, E. (1964). *An experimental study of long-term post-hypnotic suggestion*. Unpublished doctoral dissertation, Harvard University, Cambridge, MA.
- Edwards, G. (1963). Duration of post-hypnotic effect. *British Journal of Psychiatry*, 109, 259–266.
- Erickson, M.H., & Erickson, E.M. (1941). Concerning the nature and character of post-hypnotic behavior. *Journal of General Psychology*, 24, 95–133.
- Hoyt, I.P. (1990). *Posthypnotic suggestion versus ordinary instruction: Compliance and attention*. Unpublished doctoral dissertation, University of Wisconsin, Madison.
- Kellogg, E.R. (1929). Duration of the effects of post-hypnotic suggestion. *Journal of Experimental Psychology*, 12, 502–514.
- Kihlstrom, J.F. (1984). Conscious, subconscious, unconscious: A cognitive perspective. In K.S. Bowers & D. Meichenbaum (Eds.), *The unconscious reconsidered* (pp. 149–211). New York: Wiley-Interscience.
- Kihlstrom, J.F. (1995, June). *From the subject's point of view: The experiment as conversation and collaboration*. Keynote address presented at the annual meeting of the American Psychological Society, New York.
- McConkey, K.M. (1991). The construction and resolution of experience and behavior in hypnosis. In S.J. Lynn & J.W. Rhue (Eds.), *Theories of hypnosis: Current models and perspectives* (pp. 542–563). New York: Guilford Press.
- Moll, A. (1892). *Hypnotism*. New York: Scribners. (Original work published 1889)
- Nash, M.R., & Spinler, D. (1989). Hypnosis and transference: A measure of archaic involvement with the hypnotist. *International Journal of Clinical and Experimental Hypnosis*, 37, 129–144.
- Orne, M.T. (1959). The nature of hypnosis: Artifact and essence. *Journal of Abnormal and Social Psychology*, 58, 277–299.
- Orne, M.T. (1971). The simulation of hypnosis: Why, how, and what it means. *International Journal of Clinical and Experimental Hypnosis*, 19, 183–210.
- Orne, M.T., Sheehan, P.W., & Evans, F.J. (1968). Occurrence of posthypnotic behavior outside the experimental setting. *Journal of Personality and Social Psychology*, 9, 189–196.
- Patten, E.F. (1930). A note on the persistence of hypnotic suggestion. *Journal of Abnormal and Social Psychology*, 25, 319–334.
- Perry, C. (1977). Uncanceled hypnotic suggestions: The effects of hypnotic depth and hypnotic skill on their posthypnotic persistence. *Journal of Abnormal Psychology*, 86, 570–574.
- Sheehan, P.W. (1980). Factors influencing rapport in hypnosis. *Journal of Abnormal Psychology*, 89, 263–281.
- Sheehan, P.W., & McConkey, K.M. (1982). *Hypnosis and experience: The exploration of phenomena and process*. Hillsdale, NJ: Erlbaum.
- Sheehan, P.W., & Orne, M.T. (1968). Some comments on the nature of posthypnotic behavior. *Journal of Nervous and Mental Disease*, 146, 209–220.
- Shor, R.E., & Orne, E.C. (1962). *Harvard Group Scale of Hypnotic Susceptibility, Form A*. Palo Alto, CA: Consulting Psychologists Press.
- Spanos, N.P., Menary, E., Brett, P.J., Cross, W., & Ahmed, Q. (1987). Failure of post-hypnotic responding to occur outside the experimental setting. *Journal of Abnormal Psychology*, 96, 52–57.
- Trussell, J.E., Kurtz, R.M., & Strube, M.J. (1996). Durability of posthypnotic suggestions: Type of suggestion and difficulty level. *American Journal of Clinical Hypnosis*, 39, 37–47.
- Tuckey, C.L. (1900). *Treatment by hypnotism and suggestion in psychotherapeutics* (4th ed.). London: Baillière, Tindall and Cox.
- Weitzenhoffer, A.M. (1950). A note on the persistence of hypnotic suggestion. *Journal of Abnormal and Social Psychology*, 45, 160–162.
- Weitzenhoffer, A.M., & Hilgard, E.R. (1962). *The Stanford Hypnotic Susceptibility Scale, Form C*. Palo Alto, CA: Consulting Psychologists Press.

(RECEIVED 4/27/97; ACCEPTED 10/24/97)