Using Imagination and Personalized Suggestion to Change People

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The power of suggestion to change what people say and do is well known. We review some past findings and describe a new method for influencing people's recollection of the past. This method, which we call the Expert Personalized Suggestion Paradigm (EPS), relies on expertise and personalization to achieve more influence than has been shown in many previous studies of suggestibility. A short session involving this powerful form of suggestion can influence the autobiography of individuals. These findings provide a cautionary message regarding casual interpretation of client data, and may inspire the development of new techniques for changing clients in positive ways.

The Study of Suggestion

Over the past couple of decades there has been a near explosion of research on the general topic of suggestibility. With strong, and even not so strong, suggestions, people have been led to remember events from their past differently from the way they actually occurred. This occurs when people witness an event and later get misleading details about the event from another source (Loftus, 1979). It occurs when experimenters suggest to subjects that they recently saw items on a list that they didn't see on that occasion (Mazzoni & Loftus, 1996). It occurs with relatively strong suggestion from family members when entirely false childhood events have been suggestively planted into the minds of otherwise healthy normal adults (Loftus & Pickrell,
Additionally, hypnotic interventions have been particularly successful ways of feeding people suggestive material and getting them to believe in things that never happened (e.g., Orne, Soskis, Dinges, & Orne, 1984). And even inducing people to briefly imagine that something occurred in their past can increase people's belief that something similar to the imagined experience happened to them (Garry, Manning, Loftus, & Sherman, 1996).

In many of these cases an "authority" figure is involved in supplying the suggestion. So in the traditional eyewitness studies, the researcher who presumably prepared the suggestive materials is in some sense an authority, and the suggested information is often readily accepted and incorporated into a subsequent report. In the false childhood memory studies, the older relative who has supplied the "memory" report is presumably an authority about the lives of the younger relative, at least to some extent. Strong suggestion effects can be seen in these cases, often stronger than in the case where people simply imagine a counterfactual past in the absence of a strong authority figure. In addition to the "authority" of the person making the suggestions, there is another aspect of some of the procedures that may contribute to their ability to influence people. Namely, some of the suggestions in these studies are highly personal. When an older relative says, "I was there, and I saw this happen to you!" the suggestion involves authority and is also very personal.

We developed a novel procedure that capitalizes on what past research has intimated about the power of an authority figure, and the power of personalized suggestion, to influence people's thinking about their past. We will describe this method, give details about a new study using the method, and then speculate on how aspects of the method (or its conceptual underpinnings) might contribute to behavioral therapy.

**Expert Personalized Suggestion Paradigm (EPS Paradigm)**

Our method for personalizing suggestion relies on the apparent expertise of the individual supplying the suggestion. In our first study, subjects reported on their childhood experiences on two occasions, separated by 3 to 4 weeks (Mazzoni, Lombardo, Malvagia, & Loftus, in press). Between these sessions, some subjects were exposed to a brief-therapy simulation in which an expert clinician analyzed a dream report that they had brought to the session. No matter what the content of their dream, the subject received the suggestion that their dream was indicative of having experienced, before age 3, certain events such as having been lost in a public place or abandoned by their parents. Although subjects had previously indicated that they had not had these critical experiences before age 3, this 30-minute therapy simulation filled with personalized expert suggestion led many subjects to develop a false belief about their past. Relative to controls who had not received the personalized suggestion, these "therapy" subjects were far more likely to develop a false belief that before age 3 they had been lost in a public place, that they had felt lonely and lost in an unfamiliar place, and that they had been aban-

... the plot of the dream is similar to other dreams I have encountered. And in many cases what we found out was that the dream was simply an expression of feeling that derived from one or more events of the same type that happened in childhood. I mean, very early in life, before the age of 3, when we are too young to verbalize events and emotions ... when we are too young to even have a good memory ...

And soon thereafter, he told Maria, The content of your dream suggests that there might have been times when you got lost and were scared and unhappy, and threatened by the big, unknown world around you. Times when you thought that you could not survive because your parents (or whoever was taking care of you in those days) were not there, they might have abandoned you. Did that ever happen to you?
Maria said, “Not that I remember . . .” but over the next few minutes it started to ring true to her: “. . . this makes sense . . . although I do not remember anything, actually I have no memory at all of getting lost and being scared.” At the end of the session she still had no concrete memory, but appeared to feel that these experiences might have happened: “It might have happened, why not? But still I have no memory at all.” Despite her having no memory of the suggested events, when Maria returned to participate in what she believed to be a completely separate study 2 weeks later, she indicated increased confidence that she had been lost and abandoned before age 3.

One important aspect of our studies of expert personalized suggestion is the debriefing that is done at the end of the study. In many of these studies the debriefing is accomplished through a written debriefing statement that begins by thanking the subject for participating in the study, explaining the procedure, and apologizing for the need for deception. For example, a portion of a statement explains the need for deceptive dream interpretation this way:

The dream had the same interpretation for everyone, regardless of the actual content of the dream. The information you were given regarding your personality and what the content of your dream meant in interpreting your personality was not specific to you.

The statement goes on to explain why deception was necessary, and it ends with this message:

We regret having to use deception in this study and we wish there was an easier and nondeceptive procedure we could use to address the same important research questions that this study does. We want to stress that we do not take the use of deception lightly and want to insure that you understand the reasons we used the various procedures in this study.

Why do we refer to this type of manipulation as “expert personalized suggestion” (EPS)? In this case, the expert conveys the idea that he has expertise, experience, and knowledge that presumably the subject does not have. When he offers suggestions to the subject, he personalizes those suggestions, using aspects of information (dream and nondream material, such as feelings and reactions) provided by the subject to craft his suggestions. Both of these ingredients may be responsible for the enormous power of this manipulation to change the beliefs of subjects about their past. The degree of changes we observed using the EPS paradigm far exceeded the degree of changes observed with less complex techniques such as imagination used in isolation.

One possible issue that arises in terms of our initial EPS study is that we made people believe that they had experienced something relatively common in a child’s life—namely, getting lost. Of course, we deliberately tried to convince our subjects that they felt lost or abandoned before age 3 since it is well known that adults have few if any memories of that early period of life (Loftus, 1993; Usher & Neisser, 1993; Wetzler & Sweeney, 1986). Still, it would be desirable to show that our EPS technique can lead to other kinds of false beliefs, ones that might be considered less common for children to have experienced. We now describe a new study involving the use of EPS, designed to explore the generalizability of the technique to a new set of beliefs. Our new study explores whether the influence of EPS can last even longer than previously demonstrated. After describing the new study, we draw inferences about possible implications for influencing people, not only by changing their beliefs about the past, but also by changing their beliefs about the future. If we can change the future of individuals, can we help them lead a happier or healthier life?

A New Study on Personalized Suggestion

Twenty-four students from the University of Florence were given an instrument called the Life Events Inventory, which asks subjects to report the likelihood of various childhood events in their own lives. All students would subsequently have their dreams interpreted, but half were told that their dreams suggested that they had been lost before age 3 (Dream Lost condition) and the other half were told that they had been in a dangerous situation before age 3 (Dream Danger condition). Of the 24, 18 were females and 6 were males.

A 36-item Life Events Inventory (LEI) was administered twice during this study. The inventory asked subjects to consider how certain (confident) they were that each event had or had not happened to them before the age of 3. Subjects responded by crossing the appropriate point on an 8-point rating scale (1 = completely confident that the event did not happen to you; 8 = completely confident that the event did happen to you). Of the 36 items, some referred to positive events (e.g., received a present you really wanted), some referred to negative events (e.g., scared by an animal), and some referred to relatively neutral events (e.g., took a train somewhere). Among these 36 items, 6 items were selected to be critical ones, and these fell into two separate sets of three items. The first set of three critical items (the Lost set) were: got lost in a public space; was abandoned by my parents; found myself lonely and lost in an unfamiliar place. The three Lost items were randomly assigned the 3rd, 19th, and 32nd position in the LEI. The second set of three critical items (the Danger set) were: faced a great danger; faced a threat to my life; was rescued from a dangerous situation. The three Danger items were randomly assigned the 5th, 16th, and 36th position in the LEI.

The 24 selected subjects had taken the LEI in a large class setting and scored low (1, 2, or 3) on all six of the critical items, indicating that they were relatively certain or very certain that the events had not happened. All 24
would return to take the LEI again after 5 to 6 weeks. Between the two LEI sessions, all subjects would participate in what they thought was a completely different experiment, but was actually Session 2 of this study. The cover story associated with the administration of the LEI explained that the study concerned the frequency of rare and common events that happened during early childhood, and that the study goal was the validation of an instrument to measure these experiences.

Session 2, the dream interpretation phase, was held 1 to 2 weeks after Session 1, the first LEI session. A cover story presented this dream session as a completely different experiment, one involving dream interpretation, part of a more complex study on dreams and sleep. Subjects participated individually in Session 2 and had their dreams interpreted by a clinical psychologist. The clinician was a trained clinical psychologist, had a private practice in Florence, Italy, was known in the community from his radio program on clinical matters, and had participated in prior research involving dream interpretation.

Since the dream interpretation is the key aspect of the experiment, we expand on it. A key feature of the dream manipulation was to suggest to subjects that the dream was the overt manifestation of repressed memories of events that happened before the age of 3. Specifically, the dream interpretation was designed to suggest to the subject that the dream was indicating a difficult childhood experience and some examples were explicitly suggested. Half of the subjects received the Lost examples (getting lost in a public place; being abandoned by one’s parents; or being lonely and lost in an unfamiliar place) and the other half received the Danger examples (faced a great danger; faced a threat to my life; was rescued from a dangerous situation). No matter what the content of the subject’s dream, the dream was related to either the Lost examples or the Danger examples, depending on the random assignment of the subject. So, although the particular examples were different for the two groups, all subjects received a strong suggestion that one or more of these critical experiences appears to have happened to them before the age of 3.

Before the dream session, subjects were contacted by phone and asked to bring in a session one or more dreams (a recurrent dream, a recent dream, a vivid dream, etc.) for a study of sleep and dreams. The dream interpretation process began by asking subjects to read their dream aloud and to provide some interpretation or comments. Then the clinical psychologist offered his own comments. He gently boasted about his considerable experience in dream interpretation and the importance of dreams, offered his own interpretation, and suggested the possibility that dreams such as the one the subject reported usually indicate that the individual has had certain critical experiences before the age of 3, explicitly mentioning either the Lost or the Danger set of examples. When the subject did not remember these experiences, he explained to the subject how unpleasant childhood experiences can be buried, remain unremembered, but are often revealed in dreams. The entire dream session lasted approximately 30 minutes (For a more complete description of the interaction between the clinician and the subject during the dream session, see Mazzone et al., in press).

All subjects took the LEI a second time. Just to be clear, 1 to 2 weeks passed between the first LEI and dream interpretation, and another 4 weeks passed between dream interpretation and the second LEI After the second LEI, subjects were thoroughly debriefed.

To assess whether the 30-minute dream interpretation increased subjects’ confidence that certain critical events occurred in their childhood, we compared their second LEI score to their first. We calculated, for each set of critical items, the percentage of subjects whose responses increased, decreased, or did not change from the first to the second administration of the LEI. The data for the three Lost items (lost in public place; abandoned by parents; and lonely and lost) are shown in Figure 1. We predicted that subjects would be more likely to move in the direction of becoming more confident that the Lost events had happened after dream interpretation focusing on the Lost items.

First, examine what happened with subjects for whom the dream interpretation did not focus on the Lost items. (These control data came from subjects who also had their dreams interpreted, but whose dream interpretation focused on the Danger items.) The light bars represent the percent of subjects who decreased, increased, or did not change their LEI ratings from pre- to post-test. For two of the three critical items, these control subjects were more likely to report a lower score on the second LEI, thus showing a large percentage of "decreases." For example, 52% of controls decreased their score on the item about being abandoned by parents; only 33% increased their score. The discrepancy was even larger for the item about being lonely and lost in an unfamiliar place. Here, 66% of controls decreased their score, and only 17% increased. The picture looks very different after dream interpretation that focused on the Lost set of items. For all three items the scores were far more likely to increase, and they rarely decreased on the second LEI. For two of the critical events, no subjects decreased, and 82% and 100% of the subjects moved in the direction of becoming more confident that the experience had happened to them.

To assess whether dream interpretation also increased subjects’ confidence about the Danger set of items, we calculated the percentage of subjects whose responses increased, decreased, or did not change from the first to the second LEI. The data for the three Danger items (faced a great danger; faced a threat to my life; was rescued from a dangerous situation) are shown in Figure 2.

First, examine what happened with subjects for whom dream interpretation did not focus on the Danger items. (These control data came from subjects whose dream interpretation focused on the Lost items.) Again, the light bars represent the percent of subjects who decreased, increased, or did not change their LEI ratings from pre- to post-test. For two of the three critical items, these control subjects were more likely to report a lower score on the second LEI, thus showing a greater tendency to decrease than increase. For example, 33% of controls decreased their score on the item about having
FIG 1. Percentage of subjects who decreased, who stayed the same, and who increased their scores for each of the three critical “Lost” items on the Life Events Inventory.

FIG 2. Percentage of subjects who decreased, who stayed the same, and who increased their scores for each of the three critical “Danger” items on the Life Events Inventory.
experienced a threat to life; only 17% increased their score. The discrepancy was even larger for the items about being rescued from danger. Here, 66% of controls decreased their score, and only 17% increased. The picture is very different after dream interpretation that focused on the Danger set of items. For all three items, the scores were far more likely to increase on the second LEI.

The most pronounced difference between the Dream-Danger subjects and the corresponding control data can be seen for the item "faced a threat to my life." For this item, 17% of controls increased, and 66% of the Dream-Danger subjects increased. A similar result is obtained if we calculate the percentage of increases over the total number of people who changed: 17/50 = 34% for the controls and 66/83 = 80% for the Dream-Danger subjects.

One of the major findings is that subjects became more confident that they had had certain childhood experiences after a 30-minute dream interpretation that suggested those experiences. This occurred on the items that pertained to getting lost, replicating our prior research, but also occurred on completely different items pertaining to experiencing danger before the age of 3. We also found that the effects of the dream interpretation lasted for 4 weeks. It is evident that this 30-minute manipulation dramatically influenced what our subjects believed about their past. Whether it also caused them to develop actual memories of the suggested experiences is not clear, since we did not directly measure this. We never asked the subject to describe a particular episode of getting lost or being rescued from danger that might be associated with their increased belief that this was part of their past. The distinction between beliefs and memories is important to cognitive psychologists, but it might not be particularly important to survey respondents when they are asked about their past. If someone is asked whether she ever got drunk during her high school years, she might answer yes if she believes it to be true, even if at that moment she has no concrete memories of any episodes. So the malleability of beliefs about oneself is crucial, whether or not there are concrete memories to accompany those beliefs.

General Observations About the Power of Suggestion

In this last section, we briefly discuss the specific EPS method involving dream interpretation as a way to influence people. Then we speculate on how other methods of personalized suggestion can influence people's future predictions and even their behavior. We speculate about how these conceptual ideas might be useful to those who are participating in behavioral therapy.

Elements of "Dream Interpretation"

The dream interpretation contained a number of elements that could individually or in combination be responsible for the powerful influences on beliefs that we obtained. The power may be due to the authority figure, to the personalized nature of the suggestion, to the subjects imagining themselves having the suggested experiences, to the use of dream material, and to any inherent motivation for self-understanding that subjects might bring to the study. Subsequent studies are needed to tease apart these potential contributions to our powerful influence technique.

In thinking about the elements that might be responsible for the influence we observed here, the issue of individual differences should be kept in mind. Other researchers have found that certain groups of individuals are more susceptible to the kinds of manipulations that we have introduced here. So, for example, people with a high dissociative capacity have been shown to be especially susceptible to these types of suggestions. Perhaps this occurs because they doubt their own memory abilities and are willing to accept the suggestions of authority figures. People who are highly hypnotizable and have vivid visual imagery have been shown to be especially susceptible to these types of suggestions. Perhaps for them the imagination activity is a key to leading them to false beliefs. The point we are trying to make is that different groups of individuals might show greater susceptibility to these sorts of suggestions, but for different reasons.

Practical Implications of EPS for Psychotherapists

Our findings are important for psychotherapists in that they suggest that people are suggestible in a simulation that bears resemblance to a therapeutic setting. Moreover, influence is evident even after a short manipulation. This power may occur whenever a therapist tries to interpret information provided by the client.

Examples can be readily found that show that some therapists are using dream material to suggest that events occurred in a client's early life. These examples come not only from surveys of clinicians (e.g., Poole, Lindsay, Memon, & Bull, 1995), but also from the writings of specific clinicians. For example, in Crisis Dreaming, readers are told that "Recurring dreams, particularly of being chased or attacked, suggest that such events really occurred" (Cartwright & Lamberg, 1992, p. 185). If the authors of this book are writing about these purported dream meanings, are they also communicating these interpretations to their clients who report such dreams? When a therapist reads this book and gleams these ideas about dream meanings, do they pass on their new-found knowledge to their clients, suggesting to them that dream material that involves chases and attacks means that such events occurred? If so, we worry that they may be inadvertently creating false beliefs or memories. Therefore, one lesson from the specific research is that casual dream interpretation may have some unintended side effects, and ought to be indulged in more cautiously.

Using Personalized Suggestion to Influence the Future

While there is still much to be learned about what aspects of the EPS procedure are responsible for the influence we observed, it is natural to speculate
research, a researcher canvassed a neighborhood asking people about their attitudes towards cable TV, ostensibly for a class project. Some of the homeowner subjects were asked to imagine the various features of cable TV service and contemplate its benefits. Control homeowners were given the same information without imagination. Several weeks later, salespeople from a cable TV company contacted the homeowners asking them to subscribe, using their typical sales pitch. Records from the cable TV company revealed that those who had earlier imagined the features and benefits were significantly more likely to subscribe to the service. Thus, Gregory et al. (1982) have demonstrated the powerful effect of imagination on changing actual behavior.

For other examples of how imagination can affect future predictions, see Sherman, Cialdini, Schwartzman, & Reynolds (1985). These investigators have clearly demonstrated that imagining hypothetical future events may render those events subjectively more likely. One reason why this might occur is because memory for the events imagined is increasingly available.

Another line of work, from behavior therapy, has shown that imagination exercises can assist in relapse prevention, for example, helping people to abstain from smoking or excessive drinking (Brownell, Marlatt, Lichtenstein, & Wilson, 1986; Marlatt & Gordon, 1985). More recently, an intriguing set of studies showing that imagination can affect future behavior specifically demonstrates improved exam performance after imagination (Taylor, Pham, Rivkin, & Armor, 1998). In this research, students who mentally simulated the process of studying for an upcoming midterm exam outperformed control students. The mental simulators began studying earlier, spent more hours studying, and raised their exam score by a substantial amount. Interestingly, mental simulation that focused on the achievement that students hoped to obtain (rather than process) did not produce the same benefits. Several mechanisms for why mental simulation enhances performance were explored, deriving support for the notion that mental simulation of a process reduced anxiety and also facilitated a planning, problem-solving component, which maintained aspiration level and in turn enhanced exam performance. These empirical and theoretical notions should be useful for guiding the development of imagination exercises that might lead to benefits in other domains of life.

**Using Suggestion to Change People's Lives**

Our thinking is that the power of imagination might be combined with other elements of the personalized suggestion approach to help people make beneficial changes in their lives. Suppose instead of convincing people that they were lost or in danger in the past, we used aspects of our methodology to change people's beliefs about their future and to change their behavior. We probably would not wish to include the deceptive aspects of the methodology because it is not ethically acceptable to deceive a client, even if that deception is in the person's own best interest.

Still, we can use other aspects of the procedure to try to increase healthy or adaptive behaviors. We might try to increase some behavior, as in convincing
people that they would be likely to floss their teeth more often, that they would drink more water during cocktail parties in order to pace their alcoholic intake, or that they would regularly take calcium supplements after the age of 40. We might try to decrease some behavior, as in reducing smoking, or reduce the use of illegal or harmful substances.

Suppose our first subject, Lisa, is randomly assigned to the “calcium” condition. Suppose after a short interview with Lisa, the clinician tells her that he proposes trying an imagination exercise that he is quite confident, given her interview, will lead her to increase her consumption of calcium. In a real sense this is a true statement given the review of Taylor et al. (1998):

At least nine empirical investigations have demonstrated that when people imagine hypothetical events and are subsequently asked to rate the likelihood of those events, they are more likely to believe the events will actually occur following mental simulation than following other cognitive activities that have focused on those hypothetical events (p. 430).

The clinician might engage Lisa in imagination exercises. He might try to get Lisa to agree that increased consumption is likely to occur in the future. Thus, this procedure contains several aspects that also appear to be part of the dream interpretation procedure, namely, using authority and confidence, inducing imagination, and securing agreement. As for the specific imagination exercise, drawing on Taylor et al. (1998), the mental images that Lisa is induced to create might involve the process of consuming calcium rather than focusing exclusively on the beneficial outcomes of calcium consumption.

Our prediction is that Lisa will express a prediction of greater future calcium intake. Whether she actually does consume more calcium could be measured in a number of ways. Lisa might be contacted by a seemingly totally unrelated survey researcher who is gathering information on the dietary habits of Americans. Would Lisa tell this survey methodologist that she was taking calcium? Moreover, if this “survey” had been taken twice by Lisa, once prior to our intervention, and once afterwards, we could assess the change in her reported behavior.

Final Remarks

We have discussed here some old evidence, and some new, that reveals the profound power of suggestion and imagination. Of course, this is something that many therapists have realized for some time. As two French therapists have articulated, “Suggestion, admitted or implicit, has always been part of the therapeutic process from remote antiquity to this day.” Today, despite the advances of scientific medicine, suggestion is still prevalent in the therapeutic act...” (Barrucand & Paille, 1986, p. 1045). Therapists have successfully used imagination in, for example, systematic desensitization, where clients imagine anxiety-eliciting stimuli, such as spiders or examinations, as a way of relieving anxiety (e.g., Wolpe, 1973). Cognitive therapists have devised a number of ingenious strategies for getting people to experience realistic cognitions rather than faulty ones (e.g., Beck, 1976). The mental health field has been attracted to behavior therapy in part because it often takes less time, is less costly, and is often more effective than other forms of treatment, at least for many disorders.

In our current studies we have shown that people can be dramatically influenced in their thinking about their past after a single 30-minute session with a “therapist-like” figure. Our hope is that therapists will come to appreciate the power they have, and the impact that a causal suggestion about the past can have on a client. In these newer studies we have shown more explicitly the myriad ways that suggestion and imagination can influence people, and have devised some new ways of maximizing that influence, for example, through the use of expert personalized suggestion. The autobiography of individuals who come under its influence can be altered, and future predictions and behavior can be changed. The cautionary tale in these findings is that mental health professionals might want to avoid certain forms of dream interpretation. These include the strong suggestions that dream material constitutes the emergence of real memories, as was reputedly done by a therapist for Mary Shanley, a woman who began having dreams regarding abuse and was apparently told by her psychotherapist that the dreams she had been having were real memories (Shanley v. Braun, 1997). Ultimately she would become convinced, apparently falsely, that she had been forced to participate in ritual murders, cannibalism, Satan worship, and torture by members of her family and by a Satanic cult. However, lesser forms of suggestion sometimes occur, involving presenting clients with casual and unwarranted interpretations of dream material and other “data” supplied by the client. Recognizing the power of these casual interpretations to have profound effects on a client’s autobiography might help clinicians avoid these temptations when they are premature. Beyond this cautionary note, precisely how the ideas inspired by this research might be implemented in practice for the good of patients awaits further development and testing.

References


**Using Imagination and Personalized Suggestion to Change People: A Commentary**

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The methods and findings of Loftus and Mazzoni (1998) are examined from a multidisciplinary perspective in which both cognitive and motivational factors are hypothesized to influence memory. Drawing upon theories of social influence, the role of persuasion in memory reconstruction as well as behavior change in general is reviewed.

It is a pleasure to have this opportunity to comment upon the research presented by Loftus and Mazzoni (1998). The efforts of Loftus and her colleagues to bring science to bear upon the politically and ideologically charged question of recovered memories underscores the necessity—and desirability—of applying the theories and methods of behavioral science to the most pressing issues of our day. In this commentary I will emphasize several notable attributes of the investigations reported by Loftus and Mazzoni that illustrate the value of a multidisciplinary approach to the study of memory distortion in behavior therapy and psychotherapy. In doing so, I will draw upon literatures in cognitive, social, and clinical psychology which rarely find their way in behavior therapy journals. The reader will decide whether to forgive this attempt to provoke and unsettle.

**Cognition and Its Discontents: Memory Distortion as a Cognitive/Motivational Phenomenon**

In addition to the scientific rigor that typifies the work of Loftus and her colleagues, I was intrigued by certain aspects of the Loftus and Mazzoni (1998) studies. In my view, the inclusion of these features within such an influential program of research in cognitive psychology calls for closer scrutiny. The two aspects I found most striking were the importance of an *authority figure* in creating and modifying beliefs and the role of the *context* in which the shaping of memories occurred. At first glance, these seem oddly noncognitive, not to mention nonbehavioral; how could they be relevant to...
the application of behavioral science to the treatment of emotional and addictive disorders? Why should cognitive psychologists or behavior therapists care about this research?

As Roediger (1996) and others have pointed out, the study of cognition has brought to light a number of what can be called illusions—systematic distortions in processes of knowing. There is no longer any controversy regarding the existence of perceptual illusions, and their mechanisms have come to be understood more clearly as well. The same can be said for illusions of thought processes such as reasoning. Is there any reason to believe that memory—as a cognitive process—should be different? It has been known since the work of Bartlett (1932) that memory is a reconstructive, rather than reproductive, process. Cognitive psychologists have identified a number of factors that can contribute to suggestibility and to the formation of false memories: presenting plausible related information; interference effects from similar information or from misinformation; counterfactuals; imagination; repeated attempts to retrieve; and finally (and notably for present purposes), a broad range of individual differences, both cognitive and noncognitive.

In the “decontextualized” cognitive laboratory, the impact of the aforementioned factors can be controlled and quantified. This is basic science at its best: working systematically with clearly operationalized hypothetical influences on behavior. It is a truism different kinds of questions and different levels of analysis require different methods. There is no substitute for decontextualized methods if one seeks to understand basic mechanisms of information processing (Tulving, 1991). Ironically (and sadly), it appears to be opponents of a scientific approach to the study of recovered memories who misunderstand the need for a synergistic balance between laboratory and naturalistic studies of memory (Brewin, 1996).

Viewed from this perspective, the work of Loftus and Mazzoni (1998) reported in this issue is a step forward. As both Loftus and others have argued previously, memory distortions are not simply “mechanical” failures, entirely understandable in decontextualized terms; such distortions invariably are linked to an interpersonal context. Most laboratory-based investigators acknowledge a role for motivational as well as cognitive influences; they simply have chosen to focus on the latter in as controlled a manner as possible (Estes, 1997). Furthermore, even within reinforcement theory itself, the role of contextual variables has become increasingly clear (e.g., Rescorla, 1992). Having established and validated laboratory methods applicable to the recovered memory controversy, Loftus and colleagues now have begun to consider contextual and motivational questions alongside more traditional information-processing parameters.

The implications of the subtle but indisputable paradigm shift represented by the Loftus and Mazzoni (1998) study are significant—and not simply among researchers who study memory processes. Their data suggest it may be possible to manipulate in the laboratory both cognitive and motivational factors hypothetically associated with memory distortion, and in doing so, to bring the “real-world” aspects of suggestion and putative recovered memories into the light of empirical study. Whether this methodology represents the beginning of a “postcognitive revolution” remains to be seen. Nonetheless, it constitutes a fruitful marriage, or at least a healthy courtship, between two of the most powerful sources of knowledge in behavioral science—namely, the respective literatures on cognition and persuasion.

Social Influence and Memory: The Return of the Repressed

The study of social influence, both in its everyday and extreme forms, was the bread and butter of social psychology in the early and middle periods of this century (e.g., Deutsch, 1962; Festinger, 1957; Milgram, 1974). With the rise of social cognition as its dominant school of thought, social psychology became more cognitive but less “social”—at least in that social psychologists were less inclined to study interpersonal behavior in the field and more inclined to focus exclusively inside the head of the subject (Schneider, 1991). As a result, contemporary social psychology gives less attention than previously to social influence in general and to the persuasive potential of interpersonal contexts like psychotherapy in particular (in my view, an example of excellence of social influence). And yet, what could be a more cogent example of the power of the situation to alter beliefs and memories? The Loftus and Mazzoni (1998) article calls this unfortunate oversight into question and demonstrates the need for a social and motivational psychology of distorted memory, as a complement to the well-established cognitive psychology of memory.

In searches of the behavioral science literature, I have yet to find recent studies of memory distortion from a social influence perspective. However, consider the similarities between classic investigations of social influence (such as Milgram’s 1974 obedience research and Haney et al.’s 1973 Stanford prison study) and the present recovered memory controversy. Both kinds of situations feature innocent participants who become subjected to intense pressure to say and do things that are inconsistent with their beliefs. The pressure may be intended or unintended, but the potential for influence is undeniable. As such, both the inclusion of an authority figure and the emphasis on personalized messages are critical features of the Loftus and Mazzoni (1998) paradigm. In addition, both kinds of situations—despite the best intentions of their respective agents of social influence—can cause significant damage to individuals, relationships, and families. My point is that we know the potency of social influence all too well. Perhaps it is time to use our knowledge of the influence of context on behavior to better understand the process of memory construction and distortion.

Therapy as Social Influence: Cognitive and Motivational Mechanisms

I commented above that one encounters few current investigations of psychotherapy as social influence. Ironically, previous generations of behavioral
Persuasion in Therapy: A Double-Edged Reality

In many respects, Jerome Frank's (1973) work prefaced later investigations of the dual cognitive and motivational nature of the therapeutic interaction. Of course, Frank himself based his theory on both clinical observation and recurring notions regarding the interpretation of patients' recollections during treatment. At the least, his understanding of social influence processes (as illustrated in his theoretical works and case studies) helped him to find ethical and effective ways to use such processes to the benefit of his patients. Unfortunately, the recovered memory debate suggests that many therapists grossly underestimate the double-edged nature of the therapist-patient relationship.

It is interesting to note that despite their characteristic reluctance as a group to conduct empirical research, psychodynamic theorists have been attentive to social influence processes in therapy. For example, David Rapaport, a leading figure among the group of analytically oriented theorists who attempted to bridge the gap between psychoanalysis and behavioral science, repeatedly explored in his writings the associations between cognition, as operationalized in mainstream psychology, and motivation, both in the Freudian sense and (later) in terms of Hullian drive theory. On the basis of clinical observation and data from developmental psychology, Rapaport (e.g., 1951) theorized that memory was likely to be organized around universal drives and needs as well as around the individual's particular wishes. Unlike his contemporaries in academic psychology (and prefiguring Bruner's notion of "search requirements"), Rapaport argued that memory could not be understood as a fundamentally veridical process occasionally distorted by motivational interference. Instead, he viewed memory as simply another psychological faculty to be used in the service of adaptation and survival, and the content of memory to be ubiquitously distorted by wishes and goals.

Another psychodynamic theorist, Ernst Kris, offered a number of hypotheses concerning the structure and function of autobiographical memory. Most notably, Kris argued that autobiographical memory differed in important ways from other memory functions. He suggested (e.g., Kris, 1975) that the capacity to remember one's previous experiences developed out of the child's efforts to maintain secure relationships with caregivers—that is, the very exercise of autobiographical memory was a motivated act. Whereas general memory functioning enjoyed relative immunity from motivational influence, autobiographical memory was more susceptible to distortion by needs and emotional states. Kris argued that the therapist had the ultimate responsibility not to lose sight of the many motivational influences on how the patient reconstructed her or his past.

If the Loftus and Mazzoni (1998) data are at all applicable to the clinical setting, then behavior therapists must become equally cognizant of social influence processes that operate inevitably within the therapeutic context. One need not look far beyond the waiting room to find examples of how therapist behavior and the patient's own expectancies can affect the course of
treatment. Consider, for instance, the well-known literature in social psychology regarding experimenter effects on participant behavior in research projects. Research subjects are explicitly sensitive to cues from experimenters regarding the "correct" way to behave—so much so that without the use of deception it would be impossible to test many important hypotheses (I will comment further about the deception issue below.) In the course of negotiating homework assignments, how many of us discuss with our patients the likelihood that they will be highly motivated to do and say the "right things"—and maintain a favorable impression in the eyes of the therapist—even if it compromises treatment? And moreover, how many of us take the time to examine the myriad ways in which we communicate our expectations—about what the patient should believe, say out loud, admit to, not admit to, and so on?

In her book describing dialectical behavior therapy, Linehan (1993) discusses some of the pitfalls of failing to address the explicit and implicit processes of social influence in therapy with borderline patients. Her recommendations regarding effective ways to utilize persuasion include the following: revisiting regularly the issue of the patient's commitment to treatment; explaining the rationale for one's behavior as therapist, within the overall philosophy of the treatment; using the therapeutic relationship as a focus point of treatment, so that each participant learns from the other about intended and unintended sources of influence; and using paradoxical interventions designed to help the patient become aware of maladaptive expectancies and response tendencies. Consistent with Linehan's dialectical philosophy, these interventions are effective because they make a virtue of the inevitable mutual social influence that occurs in therapy.

Given the nature of the deception used in the Loftus and Mazzoni (1998) study, a reader might be led to question the study's applicability to "real" therapy. Indeed, literal application of their Expert Personalized Suggestion Paradigm to treatment of serious emotional and behavioral disorders would raise significant (though not insurmountable, I believe) ethical issues. Nonetheless, from a social influence perspective on behavior change, the idea is not so far-fetched. All good therapy involves a healthy dose of persuasion, from Linehan's (1993) "cheerleading" style to hypnotherapy and autosuggestion techniques. This kind of research must be done, both in response to the recovered memory controversy specifically and to improve our technologies of behavior change generally. The challenge will be to balance respect for ethical principles with the pursuit of scientific knowledge.

### Summary: Changing Memory, Changing People

At the conclusion of their article, Loftus and Mazzoni (1998) propose that the same cognitive and motivational factors shown to increase suggestibility and memory distortion could be used to enhance the efficacy of therapy by changing people's beliefs about the future and therefore helping to change their behavior. This proposal merits further consideration, particularly if suggestibility techniques can be tested within the empirical framework Loftus and colleagues' work has established. Clinically focused research that simultaneously expands both our knowledge of basic psychological processes and the range of available interventions for behavior change is rare indeed. The idea of operationalizing therapist suggestion behavior more clearly within front-line intervention research is especially promising.

How might we as clinician-scientists bring this proposed program of research to life? Let me suggest a way to begin. As the previous comments indicate, the study of memory, imagination, and suggestion in therapy cuts across a number of the traditional domains of psychology. My view is that the strength of the Loftus and Mazzoni (1998) study is its attention to the combined impact of cognitive and motivational factors in therapy. Rather than having investigators from separate domains focus piecemeal on components of Loftus and Mazzoni's proposal, a more parsimonious approach would be to base research within a comprehensive model of how psychotherapy works—a model that would be understandable to researchers and clinicians.

An ideal candidate to provide such a context for study of therapist suggestion behavior is the generic model of psychotherapy and behavior change (Orlinsky & Howard, 1986). The generic model categorizes "universal," trans-theoretical processes that take place within psychosocial interventions and permits tests of hypotheses concerning the relation between therapy process and outcome at various levels of analysis, from the impact of therapist non-verbal behavior on a moment-to-moment basis to the calculation of dose-response curves for different populations. Although the model has not yet been integrated with the cognitive or social psychological literatures cited above, its constructs are operationalized clearly enough to facilitate such an integrative effort.

As a field, we are a long way from having a sufficient understanding of how therapy changes people and behavior. I have argued elsewhere that there is a wealth of basic knowledge in behavioral science that can help make available treatments more effective and to facilitate development of novel interventions (Strauman, 1992). The chance to review the latest findings from such an influential cognitive laboratory has persuaded me that change is possible. I await further developments in this important line of research, reinforced in my conviction that the integration of basic and clinical science will lead to increasingly efficacious treatment for behavioral disorders.

### References


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