

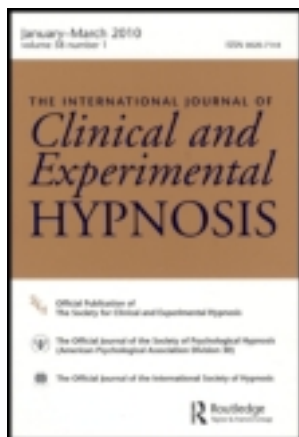
This article was downloaded by: [Macquarie University]

On: 21 August 2012, At: 20:54

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954

Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



International Journal of Clinical and Experimental Hypnosis

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/nhyp20>

Hypnotic Illusions and Clinical Delusions: A Hypnotic Paradigm for Investigating Delusions of Misidentification

Rochelle E. Cox^a & Amanda J. Barnier^a

^a Macquarie University, Sydney, Australia

Version of record first published: 27 Oct 2010

To cite this article: Rochelle E. Cox & Amanda J. Barnier (2008): Hypnotic Illusions and Clinical Delusions: A Hypnotic Paradigm for Investigating Delusions of Misidentification, *International Journal of Clinical and Experimental Hypnosis*, 57:1, 1-32

To link to this article: <http://dx.doi.org/10.1080/00207140802463419>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or

howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

HYPNOTIC ILLUSIONS AND CLINICAL DELUSIONS: *A Hypnotic Paradigm for Investigating Delusions of Misidentification*¹

ROCHELLE E. COX AND AMANDA J. BARNIER²

Macquarie University, Sydney, Australia

Abstract: In 2 experiments, the authors created a hypnotic analogue of delusions of misidentification and explored their impact on autobiographical memory. In Experiment 1, to establish the paradigm, high and low hypnotizable participants were given a suggestion to become someone similar or dissimilar to themselves. In Experiment 2, to further test the paradigm and to examine autobiographical remembering, highs were given a suggestion to become a same-sex sibling, administered 2 challenges to the temporary delusion, and asked to generate autobiographical memories. For high hypnotizable participants, the suggested delusions of misidentification were compelling and resistant to challenge. During these temporary delusions, participants generated specific autobiographical memories that reflected previously experienced events viewed from the perspective of the suggested identity. These findings highlight the instrumental value of hypnosis to the investigation and understanding of delusions and autobiographical memory.

Delusions of misidentification involve a mistaken belief about one's identity or the identity of other people, places, or objects (Breen, Caine, Coltheart, Hendy, & Roberts, 2000). These types of delusions are seen in schizophrenia or following neurological impairment and can be either transient (Ellis, Luaute, & Retterstol, 1994) or long lasting (Frazer & Roberts, 1994; Hirstein & Ramachandran, 1997; Todd, Dewhurst, & Wallis, 1981). According to Breen et al., delusions of misidentification include the disorders of Capgras syndrome (the belief that one's relatives have been replaced by impostors), Fregoli syndrome (the belief that strangers are known people who are in disguise),

Manuscript submitted September 23, 2007; final revision accepted January 30, 2008.

¹This research and the preparation of this manuscript were supported by funding to Amanda Barnier from the Australian Research Council (Queen Elizabeth II Fellowship, Australian Research Fellowship, Discovery-Project Grant) and Macquarie University (MQRDG). We are grateful for that support. We are grateful also to Lynette Hung for research assistance.

²Address correspondence to Dr. Rochelle E. Cox, Macquarie Centre for Cognitive Science, Macquarie University, Sydney, NSW 2109, Australia. E-mail: rcox@maccs.mq.edu.au

intermetamorphosis (the belief that someone else has changed into another person), reverse intermetamorphosis (the belief that oneself has changed into another person), reduplicative paramnesia (the belief that there are doubles of known people or places), and mirrored-self misidentification (the belief that one's reflection in the mirror is a stranger). The complex and multifaceted nature of these delusions makes them particularly difficult to study in the laboratory. However, the instrumental use of hypnosis may provide a new empirical approach to investigating and understanding delusions of misidentification.

Hypnosis has an extensive history of successfully modeling a range of clinical phenomena (for review see Kihlstrom, 1979; Oakley, 2006). For example, in early research using posthypnotic suggestion, Reyher and colleagues modeled pathological symptoms such as repression and impulse inhibition (Burns & Reyher, 1976; Perkins & Reyher, 1971; Reyher, 1961, 1962, 1969; Reyher & Basch, 1970). More recently, hypnosis has been used to model conversion hysteria (Halligan, Bass, & Wade, 2000), auditory hallucinations (Szechtman, Woody, Bowers, & Nahmias, 1998; Zimbardo, Andersen, & Kabat, 1981), functional amnesia (Barnier, 2002; Barnier & McConkey, 1999; Barnier, McConkey, & Wright, 2004; Cox & Barnier, 2003), functional blindness (Blum, 1975; Bryant & McConkey, 1989a, 1989b), mirrored-self misidentification (Barnier, Cox, et al., 2008), and *déjà vu* (O'Connor, Barnier, & Cox, 2008).

Hypnosis is particularly useful for investigating delusions of misidentification because both hypnotic experiences and delusions share a number of features (Kihlstrom & Hoyt, 1988). Both involve a false belief about the self that is: (a) believed with absolute conviction, (b) resistant to rational counterargument, (c) maintained regardless of overwhelming evidence to the contrary, and (d) not shared by others from the same sociocultural group (American Psychiatric Association, 1995; Langdon & Coltheart, 2000). These shared features have been illustrated in our recent work using hypnotic suggestions to model mirrored-self misidentification (Barnier, Cox, et al., 2008), which involves the belief that when I look in the mirror the person I see is a stranger (Breen et al., 2000). To develop a hypnotic analogue of mirrored-self misidentification, we gave a group of talented high hypnotizable participants a hypnotic suggestion to see either: (a) a stranger in the mirror, (b) a mirror as a window, or (c) a mirror as a window with a view of a stranger on the other side. Following the suggestion, participants in the *stranger in the mirror* condition and the *mirror as a window with a view of a stranger* condition reported seeing a stranger when they looked in the mirror. They described the person in the mirror as having different physical characteristics to themselves, referred to their reflection in the third person and looked around the room to find the stranger. Importantly, these participants continued to maintain their delusion when challenged. This study suggests that hypnosis has excellent "instrumental"

value as a laboratory analogue of clinical delusions. Both this study and the present experiments contribute to a larger project that aims to develop a catalogue of hypnotic analogues of clinical delusions.

The first aim of the present research was to create a compelling, viable hypnotic analogue of a delusion of misidentification. To do this, we drew on previous work on hypnotic sex-change delusions. Over 45 years ago, Sutcliffe (1961) initially demonstrated that a number of high hypnotizable individuals could experience a sex-change delusion following a hypnotic suggestion. Three recent studies (Burn, Barnier, & McConkey, 2001; McConkey, Szeps, & Barnier, 2001; Noble & McConkey, 1995) significantly extended this early work and indicated that, in response to a hypnotic sex-change suggestion, very high hypnotizable individuals changed their name, described themselves differently, selectively processed information consistent with their suggested sex and made greater "reality" and "belief" ratings than low hypnotizable individuals. Importantly, these hypnotic delusions were resistant to challenge. Noble and McConkey developed two techniques to challenge participants' conviction in their suggested sex change: a contradiction and a confrontation. In the contradiction, participants were asked what they would say if a doctor (a hypothetical authority figure) came into the room and said they were not their suggested sex. In the confrontation, participants were asked to open their eyes, to look at themselves on a monitor, and to describe what they were experiencing as they did so. Very high hypnotizable participants maintained the sex-change delusion in response to these two challenges.

Taken together, these studies indicate that hypnotic suggestion can produce compelling delusions about an important aspect of identity. The next step is to model more closely the types of delusions that cognitive neuropsychologists and neuropsychiatrists encounter in clinical settings and focus on in their theoretical accounts (Breen et al., 2000; Davies, Coltheart, Langdon, & Breen, 2002). Breen et al., for example, described the case of a 40-year-old woman, RZ, who suffered from reverse intermetamorphosis. For 2 months prior to assessment, she had the delusional belief that she was a man. For most of this period, she believed that she was her father; occasionally, she believed she was her grandfather. At the time of assessment, she had taken on the persona of her father: she would only respond to his name, she signed forms with his name, and she gave her father's personal history and age when asked about herself.

Based on McConkey and colleagues' hypnotic sex-change studies, we aimed to create a hypnotic analogue of this kind of delusion of misidentification. In Experiment 1, we gave participants a suggestion to become a same-sex friend or relative who was either very similar or very dissimilar to themselves. In Experiment 2, we gave participants a suggestion to become a same-sex sibling. In the same way that RZ held

the delusional belief that she was a real, other person (her father), we asked participants to experience themselves as real, other people, whether friends, siblings, or relatives. We were interested in whether hypnotic participants would respond more often or more easily to the delusion suggestion when they were instructed to “become” someone who they were more familiar with (as RZ presumably knew her father). We were also interested in whether hypnotic participants would maintain their delusional experience in the face of strong challenges. In Experiment 2, we used Noble and McConkey’s (1995) contradiction and confrontation procedures. In the contradiction, we asked participants what they would say if their mother came into the room and said they were not their suggested identity, and in the confrontation we asked participants to open their eyes, to look at themselves on a monitor, and to describe what they were experiencing as they did so.

The second aim of the present research was to explore the impact of a delusion of misidentification on autobiographical memory. Clinical reports suggest that autobiographical remembering may become distorted in the service of the delusional belief (Baddeley, Thornton, Chua, & McKenna, 1996; Conway, 2005; Conway & Pleydell-Pearce, 2000). For instance, when the examiner (Nora Breen) challenged RZ’s belief that she was a man, RZ described a “memory” of being operated on in the hospital and changed from a man into a woman. The following is an excerpt (from Breen et al., 2000) of a conversation between the examiner (Nora Breen), RZ, and RZ’s mother, Lil.

Examiner: Could you tell me your name?

RZ: Douglas.

Examiner: Roughly how old are you?

RZ: Sixty-something.

Examiner: Who is this sitting next to you?

RZ: Lil.

Examiner: Who is she?

RZ: She is Roslyn, Beverley, Sharon, Greg, Wayne, Michelle, and Jodie’s mother. [*These are all Lil’s children including Roslyn herself.*]

Examiner: Right, so is she related to you?

RZ: No.

Examiner: I was talking to Lil before and Lil actually said that she was your mother.

RZ: No, she’s not my mum.

The examiner then asked Lil to state the members of her family, including RZ’s place in the family.

Examiner: Do you think this woman is just making that up?

RZ: Yes. Because I have a man’s voice and I’ve got a man’s legs so I can’t be female, because Dr. R gave me injections in the arm to grow breasts and they castrated me about, in the hospital . . . I just

remember going with Wayne and whoever is out on the farm, Doug, I remember going with him to C___ and having an operation and I woke up . . . and I said "oh yes, it's been done." Those were my first words when I woke up.

Examiner: You're a female now are you? Or a man?

RZ: Well, I've got a man's voice and a female body.

Examiner: Right. So how has that happened?

RZ: Through operations. The doctors did it.

In RZ's view, these "memories" explained why she had a man's voice but a female's body. Thus, these autobiographical memories "served" her delusion (Baddeley et al., 1996).

Other case studies illustrate the possibility of clinically deluded individuals recalling autobiographical memories that reinforce their delusional beliefs in an altered identity. For example, Baddeley et al. (1996) described a woman, EN, who believed that she had a nonexistent twin sister. EN recalled that one day she was sunbathing in the garden when a car pulled up and her (nonexistent) twin sister walked in the gate with a suitcase in hand. This plausible autobiographical memory was accompanied by specific details and sensory-perceptual information. Like RZ, EN's belief that she had a twin sister appeared to facilitate the retrieval of specific (yet presumably reinterpreted or confabulated) autobiographical memories consistent with this belief.

Although such case studies suggest that autobiographical remembering is altered in some way during delusions, there has been limited empirical work with clinical populations. Work that has been conducted on autobiographical remembering during delusions has yielded conflicting findings. For example, whereas two studies found deficits in the specificity of autobiographical memories among clinically deluded individuals (Corcoran & Frith, 2003; Kaney, Bowen-Jones, & Bentall, 1999), a third study found no deficit (Baddeley et al., 1996). Accordingly, in Experiment 2, following a suggestion to become a same-sex sibling, we asked participants to describe themselves in a series of "I am" statements and then to generate autobiographical memories from the past that illustrated these statements. We were interested in whether participants would recall specific or general memories from their altered identities' past and whether these memories represented reinterpretations of actual past experiences or confabulations.

EXPERIMENT 1

Drawing on McConkey and colleagues' hypnotic sex-change experiments and our recent work on mirrored-self misidentification (Barnier, Cox, et al., 2008; Burn et al., 2001; McConkey et al., 2001; Noble & McConkey, 1995), in Experiment 1 we developed a general paradigm for creating and testing a hypnotic analogue of delusions of misidentification.

In brief, before hypnosis we indexed high hypnotizable participants' (hereafter "highs") and low hypnotizable participants' (hereafter "lows") current (nondeluded) self. During hypnosis, we administered a delusion suggestion and tested its impact on participants' (deluded) self. We then cancelled the suggestion, terminated hypnosis and finally asked participants about their delusional experiences.

Within this general paradigm, in this experiment we administered the delusion suggestion to highs and lows following either a standard hypnotic induction procedure or imagination instructions. In making the argument that hypnotic effects provide analogues for pathological conditions, such as clinical delusions, we assume that participants in hypnosis will respond in ways most similar to these clinical conditions. Of course, research has indicated that highly hypnotizable people can experience hypnotic-like effects without a formal induction and that imagination may be one important route to such effects (e.g., McConkey, Labelle, Bibb, & Bryant, 1990; Sheehan, Statham, & Jamieson, 1991a, 1991b; Sheehan, Statham, Jamieson, & Ferguson, 1991). However, other research suggests that the combination of high hypnotizability and a hypnotic induction produces the most compelling experiences. For instance, in their hypnotic sex-change experiment, McConkey et al. (2001) found that a similar number of highs in hypnosis and highs in an imagination condition passed the suggested sex change. However, highs in hypnosis experienced a more rapid onset of the suggested sex change than highs in imagination (as measured by a continuous dial indexing strength of experience).

In this experiment, we compared responses to two versions of the suggestion for a delusion of misidentification. We asked half of the participants to think of someone who they felt was similar to themselves, and we asked half to think of someone who they felt was dissimilar to themselves. We then administered the delusion suggestion, which instructed participants to become this (similar or dissimilar) person. As noted above, we were interested in whether participants would respond more often or more easily to the delusion suggestion when they were instructed to "become" someone with whom they were more familiar.

Consistent with the hypnotic sex-change paradigm (Burn et al., 2001; McConkey et al., 2001; Noble & McConkey, 1995), we indexed participants' responses to the delusion suggestion in multiple ways. Immediately after the suggestion, we asked participants to tell us their name and to describe themselves. We scored participants as passing the suggestion if they provided a new name and did not deny their suggested identity. We also indexed the degree of self-change following the delusion suggestion using a modified version of Higgins' (1987) self-discrepancy task. At the beginning of the session, we asked participants to generate five words to describe their "actual self" and

five words to describe their “ideal self” (Self Time 1). We asked them to complete this task again following the delusion suggestion (Self Time 2). We calculated self-change as the number of different words generated at Time 2 compared to Time 1. Finally, during a postexperimental inquiry, we asked participants to describe and rate the reality of their delusional experiences.

Consistent with previous findings on hypnotic delusions, we expected that more highs than lows would pass the delusion suggestion and report compelling delusions of misidentification (indexed also by postexperimental reports and reality ratings). However, we expected that highs’ responses might be influenced by either condition or suggestion version. Highs in hypnosis might show a more compelling response to the delusion suggestion, and highs overall might find it easier to “become” someone similar to themselves.

EXPERIMENT 1: METHOD

Design and Participants

Thirty-two (22 female and 10 male) highs of mean age 21.81 years ($SD = 6.77$) and 32 (21 female and 11 male) lows of mean age 20.53 years ($SD = 5.79$) were tested in a 2 (hypnotizability: high vs. low) \times 2 (condition: hypnosis vs. imagination) \times 2 (suggestion version: similar vs. dissimilar) between-subjects design. Participants were undergraduate psychology students at the University of New South Wales who received credit towards their psychology course for their involvement. They were selected on the basis of their extreme scores on a modified 10-item version of the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A; Shor & Orne, 1962) and a modified 12-item version of the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C; Weitzenhoffer & Hilgard, 1962).³ Highs scored 8 to 10 ($M = 8.05$, $SD = 1.38$) on the HGSHS:A and 9 to 12 ($M = 9.81$, $SD = 1.62$) on the SHSS:C. Lows scored 0 to 2 ($M = 1.22$, $SD = 0.83$) on the HGSHS:A and 0 to 3 ($M = 1.53$, $SD = 1.08$) on the SHSS:C.

³ The 10-item modified HGSHS:A included: head falling, eye closure, hand lowering, finger lock, moving hands together, communication inhibition, experiencing of fly, eye catalepsy, posthypnotic suggestion, and posthypnotic amnesia; arm rigidity and arm immobilization items were removed to ensure that the procedure could be conducted within the time limits of a 1 hour class. The 12-item modified SHSS:C included: hand lowering, moving hands apart, mosquito hallucination, taste hallucination, arm rigidity, dream, age regression, verbal inhibition, arm immobilization, anosmia to ammonia, negative visual hallucination, and posthypnotic amnesia; verbal inhibition was used instead of the auditory hallucination item to ensure that the procedure could be conducted within the time limits of a 1 hour individual session.

Procedure

Following informed consent, participants were randomly allocated to the hypnosis condition ($n = 32$, 16 highs, 16 lows) or imagination condition ($n = 32$, 16 highs, 16 lows). Participants in hypnosis were administered a 12-minute standard hypnotic induction (based on Weitzenhoffer & Hilgard, 1962) that included suggestions to focus on the hypnotist's voice, to relax and breathe freely and deeply, for example:

. . . just listen carefully to my voice . . . you might already notice how you're starting to feel more relaxed, as you're breathing in, and breathing out. Sensations of warmth and comfort all throughout your body. More and more relaxed. Just listen and relax.

The hypnotist concluded the induction by counting from 1 to 20 and suggesting that as she counted, participants would become more deeply hypnotized. Participants in the imagination condition were informed that the study was looking at people's experiences and reactions to a variety of tasks concerned with imaginative involvement. Participants in the imagination condition then received two filler tasks: an L-shaped geometrical puzzle (derived from Snodgrass & Burns, 1978) and a speed and accuracy test (adapted from McConkey & Nogrady, 1984). All participants were subsequently tested on the SHSS:C suggestions for hand lowering, finger lock, and verbal inhibition.

To index current (nondeluded) self, the experimenter gave participants a modified version of Higgins' (1987) self-discrepancy task. In this task, participants generated five words to describe their actual self and five words to describe their ideal self. The verbatim instructions were:

Now just continue to relax. I want you to think for a moment about yourself. I'd like you to think about your actual self. Your actual self is your beliefs concerning the attributes or characteristics you think you actually possess now. This might include positive attributes as well as not-so-positive attributes. Now, I'd like you to tell me five attributes of the type of person you believe you actually are. [*Record responses*]

Now I'd like you to think about your ideal self. Your ideal self is your beliefs concerning the attributes or characteristics you would ideally like to possess. The type of person you wish, desire, or hope to be. Now, I'd like you tell me five attributes of the type of person you believe you ideally would like to be. [*Record responses*]

Following this, half of the participants in the hypnosis and imagination conditions were asked to think of and to name a real, same-sex friend or relative who they believed to be very similar to them. The other half of the participants were asked to think of and to name a real, same-sex friend or relative who they believed to be very dissimilar to them. Participants then received the delusion suggestion (based on Burn et al., 2001; McConkey et al., 2001; Noble & McConkey, 1995) to

become the similar or dissimilar friend or relative they named. The verbatim suggestion for participants in the hypnosis condition was:

I want you to think about yourself now. Pay close attention to yourself, to all of you. Pay attention to what you're like, how you feel, how old you are. Pay attention to all these different aspects of yourself, think about them, because in a moment something very interesting is going to happen. . . . As you sit there relaxed and hypnotized I want you to start feeling something different. I want you to start feeling more and more like your [sister/brother/friend], more and more like [name], more and more like [him/her]. I want you to start to feel more and more like that. As you listen to my voice, you may start to experience this thing that I'm asking you to experience, you may notice how different aspects of yourself are changing. How those different aspects of yourself are becoming more and more like your [sister/brother/friend], more and more like [name], more and more like [him/her], more and more. You might begin to think differently, to look differently, to feel differently, to have different characteristics. Whatever sensations you are now starting to feel, you notice how you are becoming more and more like your [sister/brother/friend], more and more like [name], more and more like your [sister/brother/friend]. Different sensations, changing, it's an interesting experience. More and more like your [sister/brother/friend]. As you listen to my voice and my words, you can feel yourself becoming your [sister/brother/friend], more and more. So that in a moment you will be your [sister/brother/friend], you will be [name] in every way. More and more like your [sister/brother/friend], all the while as you listen to my voice and my words. Becoming [name]. As you continue to listen to my voice and my words—deeply relaxed and deeply hypnotized, you notice the things that make you your [sister/brother/friend], the things that make you [name]. In every way, in every way.

The suggestion for participants in the imagination condition was essentially identical to the suggestion for participants in the hypnosis condition, but it did not refer to being hypnotized; rather it invited participants to imagine the experience, for example:

As you listen to my voice and my words, you should powerfully imagine how it feels to be your [sister/brother/friend], more and more. So that in a moment you will be your [sister/brother/friend], you will be [name] in every way. Concentrate and imagine how it feels to be [name].

The experimenter asked all participants two questions to index their experience of the suggested delusion of misidentification: "tell me about yourself," and "tell me what your name is." To index (deluded) self, and thus self-change following the delusion suggestion, she administered Higgins' (1987) self-discrepancy task again. She said:

Now I'd like you to think about your actual self. Remember, your actual self is your beliefs concerning the attributes or characteristics you think you actually possess now. Now I'd like you to tell me five attributes of the type of person you believe you actually are. [Record responses]

Now I'd like you to think about your ideal self. Remember, your ideal self is your beliefs concerning the attributes or characteristics you would ideally like to possess. Now, I'd like you to tell me five attributes of the type of person you believe you ideally would like to be. [*Record responses*]

Finally, the experimenter cancelled the delusion suggestion and administered either a hypnotic deinduction (based on Weitzenhoffer & Hilgard, 1962) for participants in the hypnosis condition or counted backwards from 20 for participants in the imagination condition.

During a postexperimental inquiry, the experimenter asked participants how they went about experiencing the suggestion and whether they used any particular strategies. She also asked them about the reality of the suggested delusion: "Did you really feel you were [*deluded name*]?" and "Rate on a scale from 0 to 6 how much you felt you were [*deluded name*], where 0 means not at all and 6 means you completely felt it." Finally, the experimenter invited participants to ask questions, debriefed them and ended the session.

EXPERIMENT 1: RESULTS

Experiencing the Delusion

Consistent with the hypnotic sex-change experiments, we scored participants as passing the delusion suggestion if they changed their name and did not deny their suggested identity when asked to describe themselves. Table 1 presents the number and percentage of highs and lows who were scored as passing the delusion suggestion (according to condition and suggestion version). Analyses initially compared the number of highs and lows who passed the suggestion; chi-square analysis indicated that significantly more highs (78.1%) than lows (34.4%) passed, $\chi^2(1, N = 64) = 12.44, p < .05$. Given that the majority of lows failed the delusion suggestion, subsequent chi-square analyses comparing the impact of condition and suggestion version

Table 1
Participants Who Passed the Delusion Suggestion

Condition	Highs	Lows
Hypnosis		
Similar	7 (87.5%)	2 (25.0%)
Dissimilar	6 (75.0%)	3 (37.5%)
Imagination		
Similar	5 (62.5%)	4 (50.0%)
Dissimilar	7 (87.5%)	2 (25.0%)

focused on highs only. For highs, there were no differences in pass rates across hypnosis and imagination conditions, across similar and dissimilar versions of the suggestion, or across suggestion versions within conditions (all $\chi^2 < 1.33$, all $ps > .05$). In other words, most highs passed the delusion suggestion to become a similar or dissimilar person with or without a formal hypnotic induction.

Table 2 presents the postexperimental reality ratings of all highs, all lows, and highs who passed the delusion suggestion. A three-way analysis of variance (ANOVA) (Hypnotizability \times Condition \times Suggestion version) of reality ratings yielded a significant main effect for hypnotizability. Highs rated their delusional experience as significantly more real ($M = 3.88$, $SD = 1.36$) than lows ($M = 2.09$, $SD = 1.73$), $F(1, 56) = 20.40$, $p < .01$, $\eta p^2 = .27$. Thus, both the similar and dissimilar suggestions produced a compelling change in self for highs in hypnosis and imagination conditions.

These reality ratings are supported by participants' postexperimental inquiry comments where they discussed their interpretation of the delusion suggestion. When asked if they had used strategies to experience the delusion, more highs (90.6%) than lows (53.1%) claimed to have used a strategy, $\chi^2(1, N = 64) = 11.13$, $p < .01$. Comments illustrating the strategies used by highs included: "I visualised being her. I thought about her as a person and when we go out . . . how she acts with other people and situations we've been in," and "I imagined her and how she was. I juxtaposed an image of her and an image of me and merged them. I got an image of me wearing her clothes and acting like her." These comments suggest that highs approached the delusion suggestion in a strategic manner, actively seeking information that would enable them to construct their delusional experience.

During the postexperimental inquiry, participants were also asked in what ways they felt they had become their suggested identity. Highs described a compelling experience involving alterations to both their physical characteristics and mood. Comments made by highs

Table 2
Reality Ratings

Condition	All Highs	All Lows	Highs Who Passed
Hypnosis			
Similar	4.00 (1.07)	1.63 (1.85)	4.00 (1.15)
Dissimilar	4.00 (1.69)	2.00 (2.14)	4.50 (0.55)
Imagination			
Similar	3.50 (1.69)	3.00 (0.93)	3.80 (1.10)
Dissimilar	4.00 (1.07)	1.75 (1.75)	4.29 (0.76)

Note. Standard deviations appear in parentheses.

illustrating physical changes included: "I imagined her hands and I noticed my body being like hers; in a similar position," and "I felt like I had a space of air between my clothes and myself. I felt heavy." Comments made by highs illustrating mood changes included: "I felt myself getting funny, humorous, light-hearted," and "I started feeling more stressed." In contrast, lows described their experience of the delusion as difficult, saying, "That was hard. I didn't really feel like I was her, but I just went along with what you were saying."

Notably, when asked whether they really felt they had become their suggested identity, highs in the hypnosis condition commented in ways that indicated that their delusional experiences were more compelling and complete than highs in the imagination condition. For example, highs in the hypnosis condition said: "Yeah, it was odd. I physically felt like her," and "Yeah, I did. I felt the taste of cereal—something that I don't normally like!" In contrast, when highs in the imagination condition were asked whether they really felt they had become their suggested identity, they made comments such as: "Not completely but kind of," and "to some extent, but I still knew I was me."

Impact of the Delusion on Self

Consistent with the analytic strategy of Burn et al. (2001), analyses of the impact of the delusion suggestion on self (indexed by the self-discrepancy task) focused on the 25 highs who passed and the 21 lows who failed. Table 3 presents the mean number of different words (from a total of five) that participants provided for their actual self and ideal self at Time 2, following the delusion suggestion, compared to at Time 1, at the beginning of the session. Higher numbers indicate more change in self following the delusion suggestion.

Separate three-way ANOVAs (Hypnotizability \times Condition \times Suggestion version) of the number of different words provided for actual self and ideal self following the delusion suggestion yielded significant main effects for hypnotizability, $F(1, 38) = 20.41, p < .01, \eta^2 = .35$, and $F(1, 38) = 12.50, p < .01, \eta^2 = .25$, respectively. At Time 2, highs generated a greater number of different words to describe their (deluded) self (actual: $M = 3.96, SD = 1.17$; ideal: $M = 3.68, SD = 1.41$) than lows (actual: $M = 2.19, SD = 1.60$; ideal: $M = 2.00, SD = 1.52$). This is consistent with the pass rates for the suggestion reported above. The ANOVA for actual self also yielded a significant interaction among hypnotizability, condition, and suggestion version, $F(1, 38) = 20.85, p < .01, \eta^2 = .35$. Highs in the imagination condition who received the suggestion to become someone dissimilar to them showed the greatest change in actual self at Time 2, following the delusion suggestion. Whereas those who were hypnotized showed substantial and similar levels of self change for both versions of the suggestion, those who

Table 3
Different Words Provided During Self-Discrepancy Task

Condition	Highs	Lows
Actual Self		
Hypnosis		
Similar	3.86 (0.90)	1.50 (1.05)
Dissimilar	3.67 (0.82)	3.40 (1.82)
Imagination		
Similar	3.20 (1.92)	3.50 (1.00)
Dissimilar	4.86 (0.38)	1.00 (0.89)
Ideal Self		
Hypnosis		
Similar	3.57 (1.27)	1.83 (1.33)
Dissimilar	3.50 (1.38)	2.20 (1.79)
Imagination		
Similar	3.40 (2.07)	3.25 (1.71)
Dissimilar	4.14 (1.21)	1.17 (0.98)

Note. Values represent the mean number of different words provided from a total of five words. Standard deviations appear in parentheses.

were asked to imagine becoming someone different, showed higher levels of self change for the dissimilar version of the suggestion (at least as indexed by this task).

EXPERIMENT 1: SUMMARY

High hypnotizable individuals responded to the suggestion for a temporary delusion of misidentification with subjectively compelling experiences of deluded self. More highs than lows passed the suggestion, highs rated the delusion as more real than lows, and highs but not lows described their actual self and their ideal self differently following the suggestion. Notably, both suggestion versions—to become someone similar or dissimilar—were credible and effective (as measured by ratings, comments, and the self-discrepancy tasks). Highs had little difficulty in experiencing themselves as someone quite dissimilar, perhaps because this person was just as well known as the similar person. Consistent with the findings of McConkey et al. (2001), highs experienced the delusion of misidentification across both hypnosis and imagination conditions. However, highs in the hypnosis condition commented postexperimentally in ways that implied a more compelling delusion than highs in the imagination condition. This is consistent with claims that hypnosis increases the belief that participants

develop in the genuineness of their suggested experiences (Bryant & McConkey, 1989a, 1989b; McConkey, 1991; Sheehan & McConkey, 1982).

It is worth noting that the compelling reality of suggestions administered during hypnosis (as opposed to imagination) has also been reflected at a neurological level (for reviews, see Barabasz & Barabasz, 2008; Oakley, 2008; Woody & Szechtman, 2003). For example, using positron emission tomography (PET) Szechtman et al. (1998) found that participants who received a hypnotic suggestion to hallucinate a voice showed patterns of cerebral blood flow similar to actually hearing a voice, and these differed from patterns shown when asked to imagine a voice (for similar findings, see Barabasz et al., 1999; Kosslyn, Thompson, Costantini-Ferrando, Alpert, & Spiegel, 2000).

Overall, however, our findings indicate that a temporary delusion of misidentification can be created within a controlled laboratory environment. Given the success of this hypnotic paradigm, Experiment 2 built on the parameters established in Experiment 1 and explored participants' subjective experience of a hypnotic delusion of misidentification and whether such a delusion is resistant to challenge. Experiment 2 also investigated the impact of the delusion suggestion on autobiographical memory.

EXPERIMENT 2

In Experiment 2, we extended our hypnotic analogue of delusions of misidentification by focusing on the experiences of 10 excellent hypnotic participants. In brief, before hypnosis we indexed participants' current (nondeluded) self (with a slightly different task to Experiment 1). During hypnosis, we administered the delusion suggestion and tested its impact on participants' (deluded) self. New to this experiment, we asked participants to generate autobiographical memories for their deluded identity and challenged their identity. We then cancelled the suggestion, terminated hypnosis and, also new to this experiment, used the Experiential Analysis Technique (EAT; Sheehan & McConkey, 1982; Sheehan, McConkey, & Cross, 1978) to analyze participants' delusional experiences in detail.

In this experiment, the delusion suggestion instructed participants to become one of their real, same-sex siblings (or a cousin or close friend). As in Experiment 1, we asked participants to tell us their name and to describe themselves, and we scored them as passing the suggestion in the same way. To index the degree of self-change following the delusion suggestion, in this experiment we used Kuhn and McPartland's (1954) "I am" task. At the beginning of the session, we asked participants to complete five sentences beginning with the words "I am" (Self Time 1). We asked them to complete this task again following the delusion

suggestion (Self Time 2). Similar to Experiment 1, we calculated self-change as the number of different sentence completions generated at Time 2 compared to Time 1. We chose this task so we could use the "I am" responses as cues to autobiographical memories. During the delusion, we asked participants to elicit two specific, detailed memories that illustrated two of the characteristics from the "I am" task; we were interested in how participants' memories would be influenced by their hypnotically deluded self.

To explore whether hypnotic delusions of misidentification are held with the conviction that characterize clinical cases of such delusions (such as RZ; Breen et al., 2000), we adapted Noble and McConkey's (1995; see also Burn et al., 2001) two challenge procedures. For the contradiction, during the delusion we asked participants what they would say if their mother came into the room and said that they were not their suggested identity. For the confrontation, during the delusion, we asked participants to open their eyes, to look at themselves on a monitor, and to describe what they were experiencing as they did so. The final major feature of Experiment 2 was our use of the EAT. We videotaped the hypnosis session, and afterward the participant and a second, independent experimenter watched the videotape. While watching the videotape, we invited the participant to comment on their experience of the delusion suggestion. The EAT allowed us to explore participants' experience of the delusion suggestion, the amount of effort involved, how real their experience was, their reactions to the challenge procedures, the level of difficulty associated with generating each autobiographical event, and the source of their autobiographical memories.

We expected that the majority of our talented hypnotic participants would pass the delusion suggestion and report compelling delusions of misidentification (indexed also by EAT reports). We expected that the majority of these participants would maintain their suggested identity during both the contradiction and confrontation, and we expected that participants' autobiographical memories would reflect their delusional experience.

EXPERIMENT 2: METHOD

Design and Participants

Ten (9 female and 1 male) highly intelligent participants of mean age 20.90 years ($SD = 3.45$) participated in the experiment. Participants were undergraduate psychology students at the University of New South Wales who received credit towards their psychology course for their involvement. They were selected on the basis of their extreme scores on a modified 10-item version of the HGSHS:A and a modified 12-item SHSS:C. All participants

scored in the range 8 to 10 on the HGSHS:A ($M = 9.00$, $SD = 0.97$) and 9 to 12 on the SHSS:C ($M = 10.30$, $SD = 1.25$).

EXPERIMENT 2: PROCEDURE

We tested participants individually in 2-hour sessions, which involved a hypnosis procedure and an EAT inquiry. The hypnosis procedure and posthypnotic interview were conducted by the first experimenter (the hypnotist), and the EAT inquiry was conducted by a second, independent experimenter (the inquirer).

Hypnosis Session

Following informed consent, to index current (nondeluded) self, the hypnotist asked participants to complete an "I am" task where they generated five sentences beginning with the words "I am." The verbatim instructions were:

I want you to think for a moment about yourself. I want you to give me five sentences, beginning with the words "I am . . .," which describe who you are, the kind of person you are. Try to complete each "I am . . ." sentence with words that you believe are very characteristic of you. Don't spend too long thinking about each sentence – just say whatever comes to mind; keep the sentences fairly short. Do you understand?

Okay, complete the first sentence,

"I am . . ." [*Hypnotist prompted with "I am" until five sentences were elicited.*]

Participants were then administered a standard hypnotic induction (based on Weitzenhoffer & Hilgard, 1962) and tested on SHSS:C suggestions for hands moving together, finger lock, and verbal inhibition. Following this, the hypnotist asked participants to indicate whether they had a sibling of the same sex (or cousin or close friend if no sibling) and the name of that person. She then administered the delusion suggestion to become the sibling they had named. Wording of the suggestion was the same as the hypnosis condition in Experiment 1.

The experimenter asked all participants two questions to index their experience of the suggested delusion of misidentification: "tell me about yourself," and "tell me what your name is." To index (deluded) self, and thus self-change following the delusion suggestion, she administered another "I am" task where participants generated five sentences beginning with the words "I am." The verbatim instructions were:

I want you to think for a moment about yourself. I want you to give me five sentences, beginning with the words "I am . . .," which describe who you are, the kind of person you are. Try to complete each "I am . . ." sentence with words that you believe are very characteristic of you. Don't spend too long thinking about each sentence—just say whatever comes to mind; keep the sentences fairly short. Do you understand?

Okay, complete the first sentence,
 "I am . . ." [Hypnotist prompted with "I am" until five sentences were elicited.]

To index the impact of the delusion suggestion on autobiographical memory, the hypnotist selected two sentences that participants had completed in the "I am" task at Time 2, which portrayed personality traits (e.g., I am lazy, I am confident). She read each sentence back to participants and asked them to describe a time when they did something, or something happened, which would illustrate this about them. The verbatim instructions were:

A moment ago you said "I am . . ." Think back and tell me about a time when you did something or something happened which illustrates this about yourself. Tell me briefly, in about 10 words, about a time when you were . . . [wait for response].

I want you to think about this event or experience. Take a moment to make it clear in your mind. Do you have this event in mind now? Think about what happened, who was involved, how you felt . . .

I want you now to tell me about that event. Tell me everything that you can remember in as much detail as possible. [Record response]

The hypnotist then challenged the delusion with a contradiction and a confrontation. During the contradiction, she asked participants "if your mother came into the room now and said that you were not [suggested identity's name], then what would you say to her?" During the confrontation, the hypnotist said:

In a moment, as you sit there relaxed and deeply hypnotized, I'll ask you to open your eyes, not yet, but in a moment. When I ask you to open your eyes I'd like you to look at the television screen that's directly in front of you. When you open your eyes I want you to focus just on the television screen and look at yourself. All right, now remaining relaxed and hypnotized, just open your eyes and look at the monitor. Tell me now, what are you experiencing as you look at yourself on the screen?

Finally, the hypnotist cancelled the suggestion and administered a hypnotic deinduction (based on Weitzenhoffer & Hilgard, 1962). She then left the room and the inquirer entered to conduct the EAT session.

EAT Session

The inquirer (who was not aware of participants' prior hypnotic responses) informed participants that she would show them the videotape of the hypnosis session they had just completed, stop the videotape at various points and ask them about their experiences. As participants watched the videotape of the hypnosis session, the inquirer asked them to comment on their response to the delusion: "How easy or difficult it was to become [deluded name]? (0 = very difficult, 6 = very easy)," "How much effort did it take to become [deluded

name]? (0 = no effort at all, 6 = a great deal of effort),” “Did you really feel you were [deluded name]? (0 = not at all, 6 = completely),” and “How much did you believe you were [deluded name]? (0 = not at all, 6 = completely).”

The inquirer then asked participants to describe their reactions to the two challenge procedures: “Tell me about what you were thinking and feeling at this point.” She also asked participants how easy it had been for them to think of autobiographical memories during the delusion: “How easy or difficult did you find this experience? (0 = very difficult, 6 = very easy).” Finally, the inquirer asked participants to indicate the source of the autobiographical information they provided during the delusion: “How did you come up with the memories you described?” At the completion of the EAT session, participants were invited to ask questions, debriefed and thanked for their time.

EXPERIMENT 2: RESULTS

Experiencing the Delusion and Impact of Delusion on Self

Consistent with Experiment 1, we scored participants as passing the delusion suggestion if they changed their name and did not deny their suggested identity when asked to describe themselves. Nine of our 10 talented hypnotic subjects (90.0%) were scored as passing the delusion suggestion. Participants’ EAT ratings confirmed that the majority had compelling delusional experiences. Participants’ ratings indicated that they found it quite easy to experience the delusion ($M = 4.11$, $SD = 1.45$), that it required little effort ($M = 0.50$, $SD = 0.58$), that the delusion felt very real ($M = 5.00$, $SD = 0.67$), and that they strongly believed that they were their sibling (or cousin or close friend, if they had no sibling) ($M = 4.90$, $SD = 0.99$). These ratings are supported by participants’ EAT comments. For example, one participant said: “It felt extremely real. I could see myself in my sister’s bedroom and at the child-care center.” Another commented: “I felt like I had longer, darker hair and a smaller face.” Participants also commented in ways that illustrated a strong belief that they had become their suggested identity. One said, “I didn’t feel like it was me pretending to be my sister, but I actually was her,” and another said, “I started to feel as though I was looking from her perspective.”

Consistent with Experiment 1, analyses of the impact of the delusion suggestion on self (indexed by the “I am” task) focused on the 9 participants who passed the delusion suggestion. Following the delusion suggestion, these participants provided an average of 4.67 ($SD = 0.50$) different descriptions (from a total of five) at Time 2, compared to at Time 1, at the beginning of the session (the 1 participant who failed the suggestion gave only two different descriptions). This high number indicates substantial change in self following the delusion suggestion, at least as indexed by this task.

Response to Challenge Procedures

During the contradiction, we scored participants as maintaining the delusion if they continued to claim that they were their suggested identity. Seven participants (70.0%) maintained the delusion; 2 (20.0%) expressed confusion, and for 1 (10.0%) the delusion was breached. When asked what they would say to their mother if she said they were not their suggested identity, participants' replies included: "she's crazy, she's talking nonsense," and "I'd tell her she's lost it again . . . she's gone nuts."

During the confrontation, we scored participants as maintaining the delusion if they claimed that the person on the monitor was their deluded identity or if they referred to the person on the monitor as themselves in the third person (e.g., if a subject named Rochelle looked at the monitor and said, "That's Rochelle"). Seven (70.0%) participants claimed that the person on the monitor was not them and thus maintained the delusion; 2 (20.0%) said it was them, and 1 (10.0%) did not say who the person was. When asked to look at themselves on the monitor, participants made comments such as: "I can see my sister . . . I don't know why," and "I don't think that's actually me." Thus, the majority of participants successfully maintained their delusion during the contradiction and confrontation. Participants' EAT comments further illustrated their ability to maintain the delusion in the face of these challenges. When discussing the contradiction, 1 participant said: "I could really see my mum walking in and I really felt like my sister." When discussing the confrontation, another said: "It was very blurry at first. Then my eyes focused and I thought, 'That's my brother on the TV.'"

Autobiographical Memories

Following the delusion suggestion, we asked participants to generate two autobiographical memories that illustrated characteristics from their "I am" task at Time 2. We coded memories as specific if they were unique, specific events with an identifiable beginning and end. In the absence of these features, we coded a memory as general (based on Conway & Pleydell-Pearce, 2000). For the first autobiographical memory, 9 (90.0%) participants described specific events, and for the second autobiographical memory, 10 (100.0%) participants described specific events. For instance, 1 male participant, MF, adopted the identity of his brother, CF; CF lived overseas. Recalling from the perspective of CF, MF described a memory in which he, MF, had visited CF: "My brother came over from Australia and we walked around the streets and it was relaxed and pretty cool." A female participant, HS, adopted the identity of her 4-year-old sister, RS. Recalling from the perspective of RS, HS described a memory of her birthday party: "At my birthday, I got lots of presents. There were lots of people, and a Barbie birthday cake."

A number of participants explicitly referred to their actual (non-deluded) self when recalling autobiographical memories during the delusion. For example, 1 participant, JK, adopted the identity of her sister, LK. Recalling from the perspective of LK, JK described a memory involving her actual identity, her adopted identity, and a third person: "I went shopping and bought all the food for JK and Christine but they wouldn't give me money." These memory patterns suggest that during the delusion, participants reinterpreted actual autobiographical events but viewed them from the perspective of their suggested identity.

We also coded participants' autobiographical memories as either a confabulation (an event that was completely made up), a previous experience (an event that participants themselves had experienced), or a known event (an event that had been described to participants by another person). For the first memory, 9 (90.0%) participants described a previous experience, and 1 (10.0%) described a known event. For the second memory, 8 (80.0%) participants described a previous experience, and 2 (20.0%) described a known event. No participants confabulated. In other words, these participants had no difficulty generating memories following the delusion suggestion and consistent with their delusional identity. During the EAT, a number of participants commented on the ease of generating autobiographical memories: "It came so easily I didn't have to try," "They were easy to come to mind," and "The memories came straight away." These comments were supported by participants' ratings of how easy it had been to generate autobiographical memories (0 = *very difficult*, 6 = *very easy*), which indicated that they found this task fairly easy ($M = 5.00$, $SD = 1.41$).

EXPERIMENT 2: SUMMARY

As in Experiment 1, high hypnotizable individuals responded to the suggestion for a temporary delusion of misidentification with subjectively compelling experiences of deluded self. The majority of our talented hypnotic participants passed the suggestion and provided different self-descriptions following the suggestion compared to the beginning of the session. Again, highs had little difficulty in experiencing themselves as their sibling—someone both real and presumably very well known. Indeed, in describing autobiographical memories, participants often reported from the perspective of their sibling; they seemed to find it easy to "walk in their shoes," at least for a short time. Our challenge procedures represented an attempt to undermine the belief that participants developed in their delusional identity. But most participants maintained their delusion in the face of these challenges. As noted above, in this first demonstration of the impact of a hypnotic delusion of misidentification on autobiographical memory, participants

generated specific memories consistent with their suggested identity. Notably, not one person confabulated memories. Rather, they described previously experienced events, which they appeared to reinterpret from the perspective of their suggested identity. Taken together, these findings reinforce the success and interest of our hypnotic analogue of delusions of misidentification. We turn now to discuss the broader implications of this research.

GENERAL DISCUSSION

These two experiments highlight the instrumental value of hypnosis. They demonstrate that a hypnotic suggestion can create a compelling, credible delusion of misidentification among high hypnotizable individuals. Just as clinical patients may believe themselves to be a range of different identities, our highs were able to temporarily experience themselves as either a sibling, friend, or relative. In response to the delusion suggestion, they changed their names, described themselves in ways consistent with the deluded identity, recalled "autobiographical memories" for their deluded self and maintained their delusional experience when challenged. These two experiments contribute to an expanding literature on hypnotic analogues of clinical delusions, including hypnotic sex-change and hypnotic mirrored-self misidentification (Barnier, Cox, et al., 2008; Burn et al., 2001; McConkey et al., 2001; Noble & McConkey, 1995; Sutcliffe, 1961).

Drawing together findings from these experiments and our other recent work, the elements required to create a viable hypnotic analogue of delusions include: (a) high hypnotizable participants (who preferably receive a formal hypnotic induction; see below for further discussion of this issue), (b) a credible delusion suggestion that can be understood and interpreted appropriately (we explored different versions of the suggestion because in previous work on hypnotic mirrored-self misidentification one of the versions we selected was ineffective; Barnier, Cox, et al., 2008), (c) techniques to index self-change (e.g., self-discrepancy and "I am" tasks), (d) objective and subjective indices of response to the suggestion (e.g., objective measures include providing a name and self-description following the suggestion; subjective measures include postexperimental and EAT inquiry comments), (e) challenges to the suggested delusion (e.g., contradiction and confrontation), and (f) techniques to index the impact of the delusion on information processing (e.g., autobiographical memory elicitation, and selective encoding and/or recall as used by Burn et al., 2001; see also Cox, 2007).

Our findings indicate two striking parallels between hypnotic and clinical delusions of misidentification. First, both are resistant to challenge; they are maintained regardless of rational counterargument or

evidence to the contrary. Second, deluded individuals resist these challenges and support their delusion by generating information (and autobiographical memories) from the perspective of the deluded identity. For example, the examiner (Nora Breen) challenged RZ's delusional belief by asking her why the staff at the hospital called her Roslyn. RZ resisted this challenge and proceeded to talk about herself from her father's perspective, saying: "Because something happened years ago. I kicked Roslyn out of the house when she was living out there with Philip and Leah." Our high hypnotizable participants reacted in similar ways (at least in kind, if not in degree). In Experiment 2, highs interpreted the challenging information in ways that supported and reinforced their delusional experience. During the contradiction, participants never said that they wouldn't know what to say to their mother if she challenged their identity; they said that their mother was mistaken about their identity. Similarly, during the confrontation, they never looked away or ignored the image on the monitor; they referred to themselves in the third person or said that they could see their sibling. These highly hypnotizable individuals typically offered evidence that they were their suggested identity (e.g., by stating that their mother was crazy). Such responding is consistent with other research that highly hypnotizable people will resist challenges to their experiences of, for instance, hypnotic age regression (Nash, 1987), hypnotic blindness (Bryant & McConkey, 1989b; Mallard & Bryant, 2001), hypnotic mirrored-self misidentification (Barnier, Cox, et al., 2008), and posthypnotic amnesia (Sheehan et al., 1978). This responding highlights also the compelling nature of participants' experiences of hypnotic delusions of misidentification.

In exploring the parameters of this hypnotic delusion, we found in Experiment 1 that a formal hypnotic induction was not necessary to pass the delusion suggestion. We can interpret this finding in two ways. First, we might argue that our talented hypnotic participants did not need the full patter of a standard induction to experience the effects of hypnosis and that they interpreted the communications and outcomes in that setting as hypnotic despite the imagination induction. Alternatively, we might suggest that hypnotizability is a more important factor than a hypnotic induction and that participants can generate a delusional experience via imagination alone. This points to one possible pathway to delusional experiences in the clinical setting: perhaps they start as vividly imagined, but misattributed, experiences (Barnier, Cox, et al., 2008; for more on source monitoring errors, see Johnson, Foley, Suengas, & Raye, 1988; Johnson, Hashtroudi, & Lindsay, 1993; Mitchell & Johnson, 2000). It is worth noting, however, that participants in the hypnotic condition described a more complete and compelling experience of the suggested delusion. This is consistent with other findings that, although high hypnotizable participants can

achieve hypnotic-like experiences outside of hypnosis, their responses in hypnosis are often slightly easier or more compelling (McConkey et al., 2001; for a theoretical account, see Barnier, Dienes, & Mitchell, 2008).

Experiment 2 explored the impact of a hypnotic delusion of misidentification on autobiographical remembering. Surprisingly, few studies have focused on this, and current theories of delusions do not address how deluded beliefs might influence autobiographical memory (e.g., Bentall, Kaney, & Dewey, 1991; Garety & Freeman, 1999; Langdon & Coltheart, 2000; Maher, 1974, 1988, 1992; Stone & Young, 1997). However, this is an important aspect of delusions, because clinically deluded individuals often defend their beliefs by generating autobiographical material that supports their delusion. For example, when RZ's delusional belief that she was her father was challenged, RZ defended this belief by describing a "memory" of an operation that had made her look like a woman. In our experiments, high hypnotizable participants had no difficulty generating memories during their temporary delusion of misidentification. Consistent with clinically deluded individuals studied by Baddeley et al. (1996), high hypnotizable participants elicited specific (rather than general) autobiographical memories that were rich in sensory-perceptual detail. Importantly, these memories were consistent with their suggested identity and viewed from the perspective of this identity. This implies that the hypnotic delusion of misidentification facilitated access to memories that supported the suggested identity.

This pattern of remembering in the service of the delusion can be understood in terms of a recent and influential theory of autobiographical memory proposed by Conway (2005; Conway & Pleydell-Pearce, 2000). Conway's (2005) self-memory system is a motivational model of autobiographical remembering in which the self (and goals of the self) influences the accessibility of autobiographical memories. Central to the model is a distinction between memory correspondence and memory coherence. Correspondence refers to the need to record experiences as accurately and efficiently as possible, and coherence refers to the need to maintain a coherent system where goals, beliefs, and self-images are consistent with autobiographical memories. Within Conway's model, control processes facilitate access to autobiographical memories that are consistent with current self and inhibit access to memories that may disrupt the coherence of self and memory. In a reciprocal fashion, autobiographical memories that are retrieved also influence and shape the self. According to Conway (2005), a disruption to the coherence of self and memory may lead to a pathological state where one's goals and beliefs are unconstrained by their autobiographical knowledge. This is illustrated by the cases of RZ and EN who selectively recalled and reinterpreted autobiographical memories to

support their delusional beliefs. Based on Conway's (2005) model, during a delusion of misidentification (whether clinical or hypnotic), memories that are consistent with the delusion should be facilitated and repeated retrieval of such memories should reinforce and maintain the deluded identity. This may help to explain why both clinical and hypnotic delusions are so resistant to challenge.

When asked to recall memories during the hypnotic delusion of misidentification, individuals in Experiment 2 appeared to draw upon certain parts of existing autobiographical knowledge and reinterpret them, rather than to confabulate never-experienced events. This is similar to observations that the autobiographical memories of some clinically deluded individuals seem to be "honest lies" (Conway, 2002). This refers to occasions where clinically deluded people describe events that did not occur but draw on information from their autobiographical knowledge base to construct these events. But while some people with delusions are able to access their autobiographical knowledge base, not all are able to. Some delusions are the result of organic conditions that may also impair access to autobiographical information. When there is complete loss of access to the autobiographical knowledge base, individuals may be left with no other option but to confabulate autobiographical information. Hence, confabulation may be more common among clinically deluded individuals with impairments that include damage to memory systems (Gilboa & Moscovitch, 2002; Metcalf, Langdon, & Coltheart, 2007).

Interestingly, the autobiographical memories elicited following the delusion suggestion by participants in Experiment 2 were viewed from the perspective of their suggested identity. This change in perspective during the suggested delusion may have contributed to participants' conviction that these memories were self-experienced. According to Johnson's (1993) source monitoring theory, autobiographical memories contain distinctive qualities (e.g., vividness, clarity, temporal order, consistency of an event with other autobiographical knowledge) that enable an individual to know that they were self-experienced events (Johnson, 1993; Johnson et al., 1993; Mitchell & Johnson, 2000; Norman & Schacter, 1997). During a delusion of misidentification, individuals may experience a source-monitoring deficit where their ability to distinguish self-experienced events from other types of events (e.g., imagination, dreams, thoughts) is impaired. Specifically, the criteria that individuals use to judge whether an event has been self-experienced may be altered (i.e., lowered). For instance, when determining memory source, certain qualitative features such as memory perspective may inappropriately provide strong evidence that an event was self-experienced. In turn, other qualitative features of a memory, such as the consistency of an event with other autobiographical knowledge, may not be given appropriate importance (for a similar

argument in a hypnotic delusion of mirrored-self misidentification, see Barnier, Cox, et al., 2008). To examine this possibility, future research could examine whether a hypnotic delusion (such as of misidentification) is associated with susceptibility to source errors for autobiographical events. Interestingly, work by Hassabis and Maguire (2007) indicates that different areas of the brain are implicated when individuals recall “real” versus “imagined” memories. Thus, at some point in the future, researchers might consider using neuroimaging procedures to explore patterns of activation for autobiographical remembering during a hypnotic delusion of misidentification. However, we first need to resolve some limitations and questions at the behavioral level.

For instance, although the patterns of autobiographical remembering seen in this work are provocative, we did not independently verify the source of the autobiographical memories generated by our hypnotic participants. The extent of confabulation may have been underreported as participants may have been unwilling to admit that they completely made up events. Further, our assessment of memory during a delusion can be improved and extended by exploring how different types of memories are influenced by a hypnotic delusion. Using cue words to index autobiographical memories is common in autobiographical memory research, but the memories elicited may not necessarily be emotional or personally important. However, self-defining memories that are personally important, vivid, rich in detail, characterized by strong affect, and have strong links to the self (Singer & Moffit, 1991–1992; Singer & Salovey, 1993), may provide more specific information about how a hypnotic delusion influences self and memory.

And although our experiments support the use of hypnosis as a valuable analogue of delusions of misidentification, we acknowledge a number of limitations in our current paradigm. First, our hypnotic suggestions asked participants to “become” someone that was both real and that they knew very well. However, delusions of misidentification can involve beliefs about someone either nonexistent and/or unknown (e.g., EN’s nonexistent twin sister) or someone who may have existed but who is personally unknown (e.g., Napoleon or Jesus). In other work, we have examined the impact of hypnotic suggestions for both nonexistent and less well-known identities, with equal success (Cox & Barnier, 2008). This implies, perhaps obviously, that the content of a delusional belief about identity may not be limited to those who are real, familiar, or known. A more interesting question to be explored is how deluded individuals remember autobiographical events across such a range of known and unknown, real and nonexistent identities.

Second, the etiology of the delusional belief differs across hypnotic and clinical delusions of misidentification. In clinical cases, the etiology appears to involve a neuropsychological impairment (e.g., brain

injury), leading to perceptual and/or affective deficits, combined with faulty belief evaluation processes (Breen et al., 2000). In contrast, in hypnotic cases it is a combination of hypnotically induced cognitive (dissociative) and social/motivational factors. We might argue then that hypnotic analogues can map the features of clinical delusions but will not completely share etiological processes (Kihlstrom & Hoyt, 1988).

Third, clinical delusions of misidentification and hypnotic versions differ in their longevity and intensity. For instance, RZ had held the delusional belief that she was her father for 2 months prior to her examination, and during this time she had presumably faced strong challenges from other family members. As seen in many clinical delusions, the intensity of RZ's delusional belief also had significant behavioral consequences; she signed all forms as her father and would only respond to his name. In contrast, hypnotic effects are usually confined to the hypnotic setting and generally do not have an ongoing disruptive influence on behavior. However, research on posthypnotic responding indicates that in some circumstances, hypnotic suggestions can persist over extended periods of time (see Barnier & McConkey, 1998, for an example). Nevertheless, it remains to be seen whether hypnotically suggested beliefs about the self, such as a delusion of misidentification, can resist breaching and continue to influence behavior outside of the hypnotic context (see Nash & Barnier, 2008, for examples of clinical hypnotic interventions that have long lasting behavioral effects).

In conclusion, these experiments have demonstrated the value of hypnosis as a laboratory paradigm of clinical delusions, in particular, delusions of misidentification. This paradigm has allowed us to investigate the impact of such delusions on autobiographical memory; an area that has been largely neglected in previous research despite its obvious relevance to clinical cases. Our hypnotic techniques offer wide scope to empirically test theoretical models of both delusional belief and autobiographical memory. In future research, we aim to explore the cognitive processes underlying hypnotic delusions of misidentification by exploring encoding and retrieval processes and memory selectivity. We hope that these experiments, in combination with our other work on hypnotic delusions, will help establish hypnosis as a framework to guide future research and contribute towards an understanding of delusions of misidentification.

REFERENCES

- American Psychiatric Association. (1995). *Diagnostic and statistical manual of mental disorders, international version* (4th ed.). Washington, DC: Author.
- Baddeley, A. D., Thornton, A., Chua, S. E., & McKenna, P. (1996). Schizophrenic delusions and the construction of autobiographical memory. In D. C. Rubin (Ed.), *Remembering our past: Studies in autobiographical memory* (pp. 384–428). Cambridge, UK: Cambridge University Press.

- Barabasz, A. F., & Barabasz, M. (2008). Hypnosis and the brain. In M. R. Nash & A. J. Barnier (Eds.), *The Oxford handbook of hypnosis: Theory, research and practice* (pp. 337–364). Oxford, UK: Oxford University Press.
- Barabasz, A. F., Barabasz, M., Jensen, S., Calvin, S., Trevisan, M., & Warner, D. (1999). Cortical event-related potentials show the structure of hypnotic suggestions is crucial. *International Journal of Clinical and Experimental Hypnosis*, *47*, 5–22.
- Barnier, A. J. (2002). Posthypnotic amnesia for autobiographical episodes: A laboratory model of functional amnesia? *Psychological Science*, *13*, 232–237.
- Barnier, A. J., Cox, R. E., O'Connor, A., Coltheart, M., Langdon, R., Breen, N., et al. (2008). Developing hypnotic analogues of clinical delusions: Mirrored-self misidentification. *Cognitive Neuropsychiatry*, *13*, 406–430.
- Barnier, A. J., Dienes, Z., & Mitchell, C. J. (2008). How hypnosis happens: New cognitive theories of hypnotic responding. In M. R. Nash & A. J. Barnier (Eds.), *The Oxford handbook of hypnosis: Theory, research and practice* (pp. 141–178). Oxford, UK: Oxford University Press.
- Barnier, A. J., & McConkey, K. M. (1998). Posthypnotic responding: Knowing when to stop helps to keep it going. *International Journal of Clinical and Experimental Hypnosis*, *46*, 204–219.
- Barnier, A. J., & McConkey, K. M. (1999). Autobiographical remembering and forgetting: What can hypnosis tell us? *International Journal of Clinical and Experimental Hypnosis*, *47*, 346–365.
- Barnier, A. J., McConkey, K. M., & Wright, J. (2004). Posthypnotic amnesia for autobiographical episodes: Influencing memory accessibility and quality. *International Journal of Clinical and Experimental Hypnosis*, *52*, 260–279.
- Bentall, R. P., Kaney, S., & Dewey, M. E. (1991). Paranoia and social reasoning: An attribution theory analysis. *British Journal of Clinical Psychology*, *31*, 12–23.
- Blum, G. S. (1975). A case study of hypnotically induced tubular vision. *International Journal of Clinical and Experimental Hypnosis*, *23*, 111–119.
- Breen, N., Caine, D., Coltheart, M., Hendy, J., & Roberts, C. (2000). Towards an understanding of delusions of misidentification: Four case studies. *Mind and Language*, *15*, 74–110.
- Bryant, R. A., & McConkey, K. M. (1989a). Hypnotic blindness, awareness, and attribution. *Journal of Abnormal Psychology*, *98*, 443–447.
- Bryant, R. A., & McConkey, K. M. (1989b). Visual conversion disorder: A case analysis of the influence of visual information. *Journal of Abnormal Psychology*, *98*, 326–329.
- Burn, C., Barnier, A. J., & McConkey, K. M. (2001). Information processing during hypnotically suggested sex change. *International Journal of Clinical and Experimental Hypnosis*, *49*, 231–242.
- Burns, B., & Reyher, J. (1976). Activating posthypnotic conflict: Emergent uncovering psychopathology repression, and psychopathology. *Journal of Personality Assessment*, *40*, 492–501.
- Conway, M. A. (2002). Sensory-perceptual episodic memory and its context: Autobiographical memory. In A. Baddeley, J. P. Aggleton, & M. A. Conway (Eds.), *Episodic memory: New directions in research* (pp. 53–70). New York: Oxford University Press.
- Conway, M. A. (2005). Memory and the self. *Journal of memory and language*, *53*, 594–628.
- Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review*, *107*, 261–288.
- Corcoran, R., & Frith, C. D. (2003). Autobiographical memory and theory of mind: Evidence of a relationship in schizophrenia. *Psychological Medicine*, *33*, 897–905.
- Cox, R. E. (2007). Autobiographical memory during hypnotic identity delusions. Unpublished doctoral dissertation, University of New South Wales, Sydney, Australia.
- Cox, R. E., & Barnier, A. J. (2003). Posthypnotic amnesia for a first romantic relationship: Forgetting the entire relationship versus forgetting selected events. *Memory*, *11*, 307–318.

- Cox, R. E., & Barnier, A. J. (2008). *Autobiographical memory during hypnotic delusions of self*. Manuscript submitted for publication.
- Davies, M., Coltheart, M., Langdon, R., & Breen, N. (2002). Monothematic delusions: Towards a two-factor account. *Philosophy, Psychiatry, and Psychology*, 8, 133–158.
- Ellis, H. D., Luaute, J. P., & Retterstol, N. (1994). Delusional misidentification: The three original papers on the Capgras, Fregoli, and intermetamorphosis delusions. *History of Psychiatry*, 5, 117–146.
- Frazer, S. J., & Roberts, J. M. (1994). Three cases of Capgras' Syndrome. *British Journal of Psychiatry*, 164, 557–559.
- Garety, P. A., & Freeman, D. (1999). Cognitive approaches to delusions: A critical review of theories and evidence. *British Journal of Clinical Psychology*, 38, 113–154.
- Gilboa, A., & Moscovitch, M. (2002). The cognitive neuroscience of confabulation: A review and a model. In A. Baddeley, M. D. Kopelman, & B. Wilson (Eds.), *The handbook of memory disorders* (2nd ed., pp. 315–340). Chichester, UK: John Wiley & Sons, Ltd.
- Halligan, P. W., Bass, C., & Wade, D. T. (2000). New approaches to conversion hysteria. *British Medical Journal*, 320(7248), 1488–1489.
- Hassabis, D., & Maguire, E. A. (2007). Deconstructing episodic memory with construction. *Trends in Cognitive Sciences*, 11, 299–306.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, 94, 319–340.
- Hirstein, W., & Ramachandran, V. S. (1997). Capgras Syndrome: A novel probe for understanding the neural representation of the identity and familiarity of persons. *Proceedings of the Royal Society: Biological Sciences*, B264, 437–444.
- Johnson, M. K. (1993). Reality monitoring: An experimental phenomenological approach. *Journal of Experimental Psychology: General*, 117, 390–394.
- Johnson, M. K., Foley, M. A., Suengas, A. G., & Raye, C. L. (1988). Phenomenal characteristics of memories for perceived and imagined autobiographical events. *Journal of Experimental Psychology: General*, 117, 371–376.
- Johnson, M. K., Hashtroudi, S., & Lindsay, D. S. (1993). Source monitoring. *Psychological Bulletin*, 114, 3–28.
- Kaney, S., Bowen-Jones, K., & Bentall, R. P. (1999). Persecutory delusions and autobiographical memory. *British Journal of Clinical Psychology*, 38, 97–102.
- Kihlstrom, J. F. (1979). Hypnosis and psychopathology: Retrospect and prospect. *Journal of Abnormal Psychology*, 88, 459–473.
- Kihlstrom, J. F., & Hoyt, I. P. (1988). Hypnosis and the psychology of delusions. In T. F. Oltmanns & B. A. Maher (Eds.), *Delusional beliefs: Wiley series on personality processes* (pp. 66–109). Oxford, UK: John Wiley & Sons.
- Kosslyn, S. M., Thompson, W. L., Costantini-Ferrando, M. F., Alpert, N. M., & Spiegel, D. (2000). Hypnotic visual illusion alters color processing in the brain. *American Journal of Psychiatry*, 157, 1279–1284.
- Kuhn, M. H., & McPartland, T. S. (1954). An empirical investigation of self attitudes. *American Sociological Review*, 19, 68–76.
- Langdon, R., & Coltheart, M. (2000). The cognitive neuropsychology of delusions. *Mind and Language*, 15, 184–218.
- Maher, B. A. (1974). Delusional thinking and perceptual disorder. *Journal of Individual Psychology*, 3, 421–428.
- Maher, B. A. (1988). Anomalous experience and delusional thinking: The logic of explanations. In T. F. Oltmanns and B. A. Maher (Eds.), *Delusional beliefs* (pp. 15–33). New York: Wiley.
- Maher, B. A. (1992). Delusions: Contemporary etiological hypotheses. *Psychiatric Annals*, 22, 260–268.
- Mallard, D., & Bryant, R. A. (2001). Touching the unseen: An investigation of hypnotic conflict. *Australian Journal of Clinical and Experimental Hypnosis*, 29, 1–7.

- 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.
- McConkey, K. M., Labelle, L., Bibb, B. C., & Bryant, R. A. (1990). Hypnosis and suggested pseudomemory: The relevance of test context. *Australian Journal of Psychology*, 42, 197–205.
- McConkey, K. M., & Nogrady, H. (1984). Hypnosis, hypnotizability, and story recall. *Australian Journal of Clinical and Experimental Hypnosis*, 12(2), 93–98.
- McConkey, K. M., Szeps, A., & Barnier, A. J. (2001). Indexing the experience of sex change in hypnosis and imagination. *International Journal of Clinical and Experimental Hypnosis*, 49, 123–138.
- Metcalfe, K., Langdon, R., & Coltheart, M. (2007). Models of confabulation: A critical review and a new framework. *Cognitive Neuropsychology*, 24, 23–47.
- Mitchell, K. J., & Johnson, M. K. (2000). Source monitoring: Attributing mental experiences. In E. Tulving & F. I. M. Craik (Eds.), *The Oxford handbook of memory* (pp. 179–195). London: Oxford University Press.
- Nash, M. R. (1987). What, if anything, is regressed about hypnotic age regression? *Psychological Bulletin*, 102, 42–52.
- Nash, M. R., & Barnier, A. J. (2008). *The Oxford handbook of hypnosis: Theory, research and practice*. Oxford: Oxford University Press.
- Noble, J., & McConkey, K. M. (1995). Hypnotic sex change: Creating and challenging a delusion in the laboratory. *Journal of Abnormal Psychology*, 104, 69–74.
- Norman, K. A., & Schacter, D. L. (1997). False recognition in younger and older adults: Exploring the characteristics of illusory memories. *Memory & Cognition*, 25, 838–848.
- Oakley, D. A. (2006). Hypnosis as a tool in research: Experimental psychopathology. *Contemporary Hypnosis*, 23, 3–14.
- Oakley, D. (2008). Hypnosis, trance and suggestion: Evidence from neuroimaging. In M. R. Nash & A. J. Barnier (Eds.), *The Oxford handbook of hypnosis: Theory, research and practice* (pp. 365–392). Oxford, UK: Oxford University Press.
- O'Connor, A., Barnier, A. J., & Cox, R. E. (2008). Déjà vu in the laboratory: A behavioral and experiential comparison of posthypnotic amnesia and posthypnotic familiarity. *International Journal of Clinical and Experimental Hypnosis*, 56, 425–450.
- Perkins, K. A., & Reyher, J. (1971). Repression, psychopathology and drive representation: An experimental hypnotic investigation of impulse inhibition. *American Journal of Clinical Hypnosis*, 13, 249–258.
- Reyher, J. (1961). Posthypnotic stimulation of hypnotically induced conflict in relation to psychosomatic reactions and psychopathology. *Psychosomatic Medicine*, 23, 384–391.
- Reyher, J. (1962). A paradigm for determining the clinical relevance of hypnotically induced psychopathology. *Psychological Bulletin*, 59, 344–352.
- Reyher, J. (1969). Comment on “Artificial induction of posthypnotic conflict.” *Journal of Abnormal Psychology*, 74, 420–422.
- Reyher, J., & Basch, J. A. (1970). Degree of repression and frequency of psychosomatic symptoms. *Perceptual and Motor Skills*, 30, 559–562.
- Sheehan, P. W., & McConkey, K. M. (1982). *Hypnosis and experience: The exploration of phenomena and process*. Hillsdale, NJ: Erlbaum.
- Sheehan, P. W., McConkey, K. M., & Cross, D. (1978). Experiential Analysis of Hypnosis: Some new observations on hypnotic phenomena. *Journal of Abnormal Psychology*, 87, 570–573.
- Sheehan, P. W., Statham, D., & Jamieson, G. A. (1991a). Pseudomemory effects and their relationship to level of susceptibility to hypnosis and state instruction. *Journal of Personality and Social Psychology*, 60, 130–137.
- Sheehan, P. W., Statham, D., & Jamieson, G. A. (1991b). Pseudomemory effects over time in the hypnotic setting. *Journal of Abnormal Psychology*, 100, 39–44.

- Sheehan, P. W., Statham, D., Jamieson, G. A., & Ferguson, S. R. (1991). Ambiguity in suggestion and the occurrence of pseudomemory in the hypnotic setting. *Australian Journal of Clinical and Experimental Hypnosis*, *19*, 1–18.
- Shor, R. E., & Orne, E. C. (1962). *The Harvard Group Scale of Hypnotic Susceptibility, Form A*. Palo Alto, CA: Consulting Psychologists Press.
- Singer, J. A., & Moffitt, K. H. (1991–1992). An experimental investigation of specificity and generality in memory narratives. *Imagination, Cognition, and Personality*, *11*, 233–257.
- Singer, J. A., & Salovey, P. (1993). *The remembered self: Emotion and memory in personality*. New York: Free Press.
- Snodgrass, J. G., & Burns, P. M. (1978). The effect of repeated tests on recognition memory for pictures and words. *Bulletin of the Psychonomic Society*, *11*, 263–266.
- Stone, T., & Young, A. (1997). Delusions and brain injury: The philosophy and psychology of belief. *Mind and Language*, *12*, 327–364.
- Sutcliffe, J. P. (1961). “Credulous” and “skeptical” views of hypnotic phenomena: Experiments in esthesia, hallucination and delusion. *Journal of Abnormal and Social Psychology*, *62*, 189–200.
- Szechtman, H., Woody, E., Bowers, K., & Nahmias, C. (1998). Where the imaginal appears real: A positron emission tomography study of auditory hallucinations. *Proceedings of the National Academy of Sciences*, *95*, 1956–1960.
- Todd, J., Dewhurst, K., & Wallis, G. (1981). The syndrome of Capgras. *British Journal of Psychiatry*, *139*, 319–327.
- Weitzenhoffer, A. M., & Hilgard, E. R. (1962). *Stanford Hypnotic Susceptibility Scale, Form C*. Palo Alto, CA: Consulting Psychologists Press.
- Woody, E. Z., & Szechtman, H. (2003). How can brain activity and hypnosis inform each other? *International Journal of Clinical and Experimental Hypnosis*, *51*, 232–255.
- Zimbardo, P. G., Andersen, S. M., & Kabat, L. G. (1981). Induced hearing deficit generates experimental paranoia. *Science*, *212*, 1529–1531.

Hypnotische Illusionen und klinische Delusionen: Ein hypnotisches Paradigma zur Untersuchungen von Misidentifikationsdelusionen

Rochelle E. Cox und Amanda J. Barnier

Zusammenfassung: In zwei Experimenten wurde ein hypnotisches Analogon von Misidentifikationsdelusionen eingesetzt und deren Auswirkung auf autobiographische Gedächtnisinhalte untersucht. In Experiment 1 erhielten (zur Etablierung des Paradigmas) hoch und gering hypnotisierbare Teilnehmer eine Suggestion, eine der eigenen Person ähnliche oder unähnliche Person zu sein. In Experiment 2 (Ziel: das Paradigma weiter zu testen und autobiographisches Gedächtnis zu untersuchen) erhielten hochsuggestible Teilnehmer die Suggestion, ein gleichgeschlechtliches Geschwister darzustellen. Mittels zweier Aufgaben wurde die temporäre Delusion untersucht und die Teilnehmer wurden gebeten, autobiographische Erinnerungen zu generieren. Für gut hypnotisierbare Teilnehmer waren die suggerierten Misidentifikationsdelusionen überzeugen und hielten der Überprüfung stand. Während dieser temporären Delusionen erzeugten die Teilnehmer spezifische autobiographische Erinnerungen welche früher erlebten Ereignisse aus der Perspektive der suggerierten Identität widerspiegeln. Diese Befunde heben die Einsatzmöglichkeiten von

Hypnose für das Verständnis und die Untersuchung von Delusionen des autobiographischen Gedächtnisses hervor.

RALF SCHMAELZLE

University of Konstanz, Konstanz, Germany

Illusions hypnotiques et méprises cliniques: Un paradigme hypnotique pour l'étude des illusions de fausse identité

Rochelle E. Cox et Amanda J. Barnier

Résumé: Dans le cadre de deux expériences distinctes, les auteures ont créé un analogue hypnotique fondé sur des illusions de fausse identité et ont examiné l'impact de celles-ci sur la mémoire autobiographique. Dans la première expérience, afin d'établir le paradigme, des participants hautement hypnotisables et des participants faiblement hypnotisables ont reçu la suggestion de devenir soit une personne semblable à eux-mêmes, soit une personne dissemblable. Dans la seconde expérience, afin de tester plus à fond le paradigme et d'examiner le rappel des souvenirs autobiographiques, on a administré aux sujets hautement hypnotisables la suggestion de devenir son propre frère ou sa propre sœur du même sexe; on leur a fait passer deux épreuves remettant en question leur illusion temporaire et on leur a demandé de générer des souvenirs autobiographiques. Chez les participants hautement hypnotisables, les illusions suggérées de fausse identité étaient convaincantes et avaient tendance à s'opposer aux remises en question. Durant ces périodes d'illusion temporaire, les participants ont généré des souvenirs autobiographiques précis, reflétant des événements vécus considérés selon le point de vue de l'identité suggérée. Ces résultats soulignent la valeur déterminante de l'hypnose dans la recherche et la compréhension des illusions et du rappel de souvenirs autobiographiques.

JOHANNE REYNAULT

C. Tr. (STIBC)

Ilusiones hipnóticas y delirios clínicos: Un paradigma hipnótico para investigar delirios de falsa identificación

Rochelle E. Cox y Amanda J. Barnier

Resumen: En 2 experimentos, los autores crearon un análogo hipnótico a los delirios de falsa identificación y exploraron su impacto en la memoria autobiográfica. En el experimento 1, para establecer el paradigma dimos sugerencias a personas con alta o baja hipnotizabilidad de convertirse en alguien similar o distinto a sí mismos. En el experimento 2, para evaluar el paradigma y examinar la memoria autobiográfica, dimos sugerencias para convertirse en un hermano del mismo sexo, administramos dos desafíos al delirio temporal, y pedimos que generaran memorias autobiográficas. Los delirios de falsa identificación sugeridos fueron convincentes y resistentes al desafío para los altamente hipnotizables. Durante los delirios temporales,

los participantes generaron memorias autobiográficas específicas que reflejaron sucesos anteriormente experimentados desde la perspectiva de la identidad sugerida. Estos resultados realzan el valor instrumental de la hipnosis para la investigación y comprensión de los delirios de falsa identificación y la memoria autobiográfica.

ETZEL CARDEÑA

Lund University, Lund, Sweden