HYPNOTIZABILITY AND POSTTRAUMATIC STRESS DISORDER: A Prospective Study

RICHARD A. BRYANT, RACHEL M. GUTHRIE, MICHELLE L. MOULDS, REGINALD D.V. NIXON, AND KIM FELMINGHAM

University of New South Wales, Sydney, Australia

Abstract: Although there is converging evidence that posttraumatic stress disorder (PTSD) is associated with higher levels of hypnotizability, there are no studies concerning the stability of hypnotizability levels following trauma. Acutely traumatized participants with acute stress disorder (N = 45) were administered the Stanford Hypnotic Clinical Scale (SHCS) within 4 weeks of their trauma. Participants were subsequently administered a brief cognitive-behavior therapy program. Six months after treatment, participants were re-assessed with the SHCS. Although SHCS scores were generally stable (r = .47), two thirds of participants responded differently across the 2 assessments. Increased SHCS scores at the second assessment were correlated with elevated PTSD avoidance scores. This finding suggests that elevated hypnotizability in PTSD populations may not be entirely stable and may be associated with specific PTSD responses.

There is convergent evidence that a range of psychological disorders are associated with elevated levels of hypnotizability, including dissociative disorders (Carlson & Putnam, 1989), eating disorders (Covino, Jimerson, Wolfe, Franko, & Frankel, 1994), phobias (Frankel & Orne, 1976), and posttraumatic stress disorder (PTSD; Spiegel, Hunt, & Dondershine, 1988; Stuntman & Bliss, 1985). The role of hypnotizability in PTSD has received considerable attention because of the potential role of dissociation in trauma response, which is often manifested in the form of flashbacks, emotional numbing, or dissociative amnesia. One view suggests that higher levels of hypnotizability are observed in these clinical populations, because these individuals have a predisposition to dissociation that manifests itself in dissociative-type disorders following stressful precipitants (Butler, Duran, Jasiukaitis, Koopman, & Spiegel, 1996; Kihlstrom, Glisky, & Angiulo, 1994). A
limitation with all previous studies of hypnotizability and clinical disorders is that assessment of hypnotizability occurs cross-sectionally. Accordingly, there is a lack of evidence indicating the stability of hypnotizability levels in people with a clinical disorder.

Individuals with acute stress disorder (ASD) represent a useful population in which to study hypnotizability. The ASD diagnosis describes people who are recently exposed to trauma and display dissociative, reexperiencing, avoidance, and hyperarousal symptoms (Harvey & Bryant, 2002). Importantly, to meet criteria for ASD, one must display at least three dissociative symptoms (Spiegel, Koopman, Cardeña, & Classen, 1996). Prospective studies have indicated that approximately 80% of people who meet criteria for ASD subsequently develop chronic PTSD (for a review, see Bryant, in press). We have previously reported that people with ASD have markedly higher levels of hypnotizability than people recently exposed to trauma who don’t have ASD (Bryant, Moulds, & Guthrie, 2001). Although we interpreted this finding as being consistent with the proposal that people with an aptitude for dissociative tendencies may develop a dissociative disorder following stress, the cross-sectional nature of that study did not address other possibilities. It is possible that hypnotizability levels may be influenced by the recentness of trauma exposure or by the symptoms associated with ASD, including the requisite dissociative symptoms.

To address this issue, we conducted a prospective study of hypnotizability levels in individuals with ASD prior to receiving therapy and 6 months following therapy. All participants were administered a hypnotic susceptibility scale prior to treatment and within 1 month of their trauma. Participants then received six sessions of cognitive-behavior therapy. Six months following therapy, participants were readministered a hypnotic susceptibility scale. On the basis that hypnotizability levels remain stable across time (Piccione, Hilgard, & Zimbardo, 1989), we predicted that hypnotizability would not change across assessments.

**METHOD**

**Participants**

Forty-five survivors of nonsexual assault or motor vehicle accidents were referred to the PTSD Unit at Westmead Hospital for treatment within 1 month of trauma exposure. Inclusion criteria included (a) meeting criteria for acute stress disorder, (b) ability to comprehend all interview questions without the aid of an interpreter, (c) no evidence of traumatic brain injury, (d) no prescription of narcotic analgesia (with the exception of codeine) for the first 4 weeks posttrauma, and (e) aged
between 16 and 65 years. The final sample included 18 males and 27 females who ranged in age from 18 to 60 years ($M = 30.38$, $SD = 10.79$). Twenty-two participants were motor-vehicle-accident survivors and 23 were nonsexual-assault victims.

**Procedure**

After description of the study, participants’ written informed consent was obtained. The first assessment involved the administration of the Acute Stress Disorder Interview (ASDI; Bryant, Harvey, Dang, & Sackville, 1998), which is a structured clinical interview that contains 19 dichotomously scored items that relate to ASD symptoms. The ASDI possesses sound test-retest reliability between 1 and 3 weeks interval ($r = .95$), sensitivity (91%), and specificity (93%) relative to independent clinician diagnoses (26). To index the range of reexperiencing, avoidance, and hyperarousal symptoms in PTSD, participants were also administered the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979) and the Beck Anxiety Inventory (BAI; Beck & Steer, 1990). Between 1 and 3 days later, participants were administered the Stanford Hypnotic Clinical Scale (SHCS; Morgan & Hilgard, 1978–1979) by an independent clinical psychologist who was blind to the diagnostic status of the participant. The SHCS is a standardized assessment of hypnotic susceptibility that involves a hypnotic induction, followed by five hypnotic suggestions (hand lowering, age regression, dream, posthypnotic suggestion, and posthypnotic amnesia). The SHCS is normally distributed and correlates strongly with established measures of hypnotizability (e.g., $r = .72$ with the Stanford Hypnotic Susceptibility Scale, Form C; Weitzenhoffer & Hilgard, 1963). Participants were informed that the SHCS was being administered in order to assist “our understanding of how trauma influences how people think and feel.”

Participants were then provided with cognitive-behavior therapy for six sessions. Therapy involved education about trauma, anxiety management, exposure, and cognitive therapy. Half the participants also received a hypnotic induction prior to exposure (for full details, see Bryant, Moulds, Guthrie, & Nixon, in press). Six months following treatment, participants were assessed with the Clinician Administered PTSD Scale, Form 2 (CAPS-2; Blake et al., 1995) to assess for PTSD, as well as the IES and BAI. Participants were also re-assessed with the SHCS by a clinical psychologist who was blind to participants’ treatment status.

**RESULTS**

**Preliminary Analyses**

All participants met criteria for ASD at the initial assessment, and the mean SHCS score at the initial assessment was 3.24 ($SD = 1.35$). At the
follow-up assessment, 31 participants did not meet criteria for PTSD and 14 did meet criteria for PTSD. A planned comparison that controlled for treatment condition indicated that there was no difference in SHCS scores for participants with PTSD, $M = 3.07, SD = 1.50$, and without PTSD, $M = 3.23, SD = 1.54$, $t(42) = 0.10, p = .74$.

**Stability of Hypnotizability Scores**

In terms of stability of SHCS scores across time, the Pearson correlation coefficient between the two assessments was $.47, p < .001$. Specifically, 38% of participants displayed decreased SHCS scores at the 6-month assessment, 35% displayed the same SHCS score, and 27% displayed increased SHCS scores.

To index associations between changes in SHCS scores and psychopathology scores, we calculated an SHCS change score by subtracting the SHCS score at the follow-up assessment from the SHCS score at the initial assessment. Table 1 presents the Pearson correlation coefficients between the IES-Intrusion, IES-Avoidance, BAI scores at the initial assessment and follow-up, the total SHCS scores at the initial and follow-up assessments, and the SHCS change scores. These correlations partialed out the effects of treatment condition. To correct for the multiple correlations being conducted, a Bonferroni adjustment was made, and an alpha rate of .005 was adopted. The only significant correlation was between SHCS change scores and IES-Avoidance at the follow-up assessment. That is, higher IES-Avoidance scores at follow-up were associated with increased SHCS scores at follow-up compared to the initial SHCS score.

**DISCUSSION**

Whereas there was general stability of SHCS scores across assessment points ($r = .47$), approximately two thirds of participants displayed some variation in SHCS scores across assessments. The only
factor associated with this change was the observation that higher avoidance responses at the follow-up assessment were associated with increases in SHCS scores. Several explanations may be offered for this finding. First, avoidance symptoms of PTSD include dissociative-type responses, such as withdrawal, emotional numbing, and amnesia. It is possible that participants with elevated dissociative-type responses to the trauma were more prone to responding to hypnosis because of their aptitude for dissociative tasks. This view is consistent with propositions that dissociative clinical disorders display higher levels of hypnotizability because of their aptitude for dissociation (Butler et al., 1996; Kihlstrom et al., 1994). The strong association between increased hypnotizability and elevated avoidance scores may be explained by the particular characteristics of avoidance in PTSD. A major component of avoidance symptoms in PTSD involves withdrawal from one’s environment (Foà, Riggs, & Gershuny, 1995). One possibility is that this withdrawal is associated with more absorption in subjective experiences, which is strongly correlated with hypnotizability (Roche & McConkey, 1990). This interpretation is consistent with some evidence that hypnotizability scores have been shown to increase following brief isolation in the Antarctic (Barabasz, Barabasz, & Mullin, 1983) and in a restricted environmental stimulation chamber (Barabasz, 1982; Barabasz & Barabasz, 1989). We recognize, however, that hypnotizability comprises a range of constructs, including dissociation, suggestibility, and absorption (Glisky, Tataryn, Tobias, Kihlstrom, & McConkey, 1991). Future prospective studies of posttraumatic adjustment should investigate constructs associated with hypnotizability to determine the specific features of hypnotizability associated with posttraumatic psychopathology.

The observed findings may also be explained by a more socio-cognitive perspective (Council, Kirsch, & Hafner, 1986). It is possible that a proportion of participants perceived questions about dissociative aspects of PTSD in a way that cued them to respond positively to the hypnotic testing. This perspective accords with claims that the suggestible nature of highly hypnotizable individuals makes them more prone to endorsing questions about dissociative experiences, because they are strongly influenced by the cued questions (Bowers, 1991). This possibility is heightened by the procedure in which psychopathology scores and hypnotizability were administered in the same context at the follow-up assessment. Further, although the clinicians who administered the SHCS at the follow-up were not aware of the participants’ psychopathology scores at the time of the SHCS administration, it is possible that the clinicians were not fully blind to participants’ diagnostic status, and this may have influenced their administration of the SHCS.

Inferences from this study are limited by the possibility that therapy may have influenced responding on the SHCS. Future studies should
prospectively index the hypnotizability of PTSD populations without the potential confound of intervening therapy. Despite this limitation, these pilot data point to potential mechanisms that may mediate the association between PTSD and hypnotizability. Prospective studies will provide an opportunity to index the social, cognitive, and clinical factors underpinning elevated hypnotizability in clinical disorders.

REFERENCES


**Hypnotisierbarkeit und Posttraumatische Belastungsstörung:**

Eine prospektive Studie

Richard A. Bryant, Rachel M. Guthrie, Michelle L. Moulds, Reginald D.V. Nixon, und Kim Felmingham


Ralf Schmaelzle

University of Konstanz, Konstanz, Germany
Hypnotisabilité et PTSD Etude prospective

Richard A. Bryant, Rachel M. Guthrie, Michelle L. Moulds, Reginald D.V. Nixon, y Kim Felmingham

Résumé: Bien qu'il y soit évident que le PTSD soit associé à des niveaux plus élevés d'hypnotisabilité, il n'y a aucune étude au sujet de la stabilité des niveaux d'hypnotisabilité après trauma. Des participants intensément traumatisés avec l'état de stress aigu (N=45) ont été testés à l'échelle de Stanford (SHCS) dans un délai de 4 semaines après leur trauma. Des participants ont été plus tard traités par un bref programme de thérapie cognitivo-comportemental. Pendant les six mois après traitement, des participants ont été réévalués avec le SHCS. Bien que les points de SHCS aient été généralement stables (r=.47), deux tiers des participants ont répondu différemment à travers les 2 évaluations. Des scores accrus de SHCS à la deuxième évaluation ont été corrélés avec des scores élevés d'évitement caractéristiques de PTSD. Ceci suggère que l'hypnotisabilité élevée dans des populations de PTSD puisse ne pas être entièrement stable et puisse être associée aux réponses spécifiques de PTSD.

ETZEL CARDEÑA
University of Texas, Pan American, Edinburg, Texas, USA