RISK FACTORS FOR PARAPSYCHOLOGICAL VERBAL REPORTS, HYPNOTIZABILITY AND SOMATIC COMPLAINTS

IAN WICKRAMASEKERA

I must say that in the presence of so many illustrious parapsychologists I feel like an imposter. I have never published a study in parapsychology, but I have stumbled onto something that I think is interesting. I do not know how important it is. I did not plan to find it and I think that it is only indirectly related to parapsychology. In any event let me tell you briefly and up front what I think I have found and then later I will bore you with where I found it and how I found it.

I have done two small empirical studies. The first finding is that the majority of patients, who are non-psychotic as determined by the Diagnostic and Statistical Manual (III) and who have social histories contraindicating psychosis, but who present somatic complaints in the absence of physical findings (pathophysiology), are either very high on hypnotic ability or very low. Very few of them are found in the middle of the distribution of hypnotic ability. Of these patients (sample size N = 53) who are non-psychotic, have physical symptoms in absence of pathophysiology and who are high on hypnotic ability, about 71 percent will report parapsychological experiences. A psychotic process is unlikely to explain their parapsychological experiences. They could be lying; all kinds of other things could be going on. We do not know whether there is any validity to their verbal reports. We have been looking at these people for about 15 years now. We screen all of them with the Harvard Hypnotic Susceptibility Scale and sometimes the Stanford Scale. If I see a patient with a score over ten on the Harvard, I will routinely ask "can you tell me about some of these unusual experiences you have been having?" The patient is frequently flabbergasted and asks how I know that he or she has been having these parapsychological experiences. The patient says "I haven't told my wife or my mother about these things. How do you know about them?" And that immediately creates credibility in the patient's mind and escalates my placebo value. He thinks I am reading his mind. Here is another

tool that can increase your social reinforcer effectiveness. Of similar patients who are *low* on hypnotizability and who have somatic complaints in the absence of pathophysiology, only 19 percent of them report parapsychological experiences. So the low hypnotizables do not and the high hypnotizables do report these parapsychological experiences. Again I repeat we know nothing about the validity of these reports.

Perhaps the phenomena are then restricted to what might be called behavioral medicine patients or what was previously called psychophysiological or psychosomatic patients. I have found the same phenomena in a sample of 51 normal college students. Of those who were high on hypnotic ability, 80 percent reported parapsychological experiences. Only 32 percent of the lows reported this. On the basis of these data, I am beginning to feel that the possession of high hypnotic ability constitutes a risk factor for parapsychological verbal reports. People who are high on hypnotic ability are at risk for reporting parapsychological experiences.

Now I would like to tell you why I have been studying these patients with functional disorders and what we know about hypnotic ability from a scientific point of view, because it is quite likely that some of the people in this room might not be familiar with the validity and the reliability of hypnotic phenomena and hypnotic ability scales.

I have been studying people with psychophysiological disorders for about 15 years and I have developed a model to try to identify people who are at risk for developing these disorders. The kind of thing that got me interested in these somatizing patients was a statement by Sir William Osler, "Sometimes it is more important to know what kind of patient has the disease than to know what kind of disease the patient has." Osler had to depend on intuition to try to identify what kinds of patients these were. What I have been working on is trying to specify a series of subject variables and situational variables that place people at risk for developing psychophysiological disorders. In this model (Wickramasekera, 1979, 1983, 1986) one variable is very high or very low hypnotic ability. There are four other variables in the model. In the course of looking at people who developed these disorders we found that some of them also report parapsychological experiences. For those of you who do not know much about hypnosis research there are at least three scales to measure hypnotic ability in the human subject. On the Stanford Hypnotic Susceptibility Scale, Forms A, B, and C are equivalent forms, each takes about an hour to administer and they are administered to one subject at a time. The Harvard Scale which is a group scale is the one I have used most frequently. It is really a screening instrument. There is also a scale called the Barber Suggestibility Scale.

When you sort people with these scales, essentially what you find is that a component of hypnotic ability is a skill or a trait, and the other component is attitude or motivation. There has been some disagreement between Barber and the trait group as to how much is which. But there is good consensus that you cannot make a silk purse out of a sow's ear. Any amount of motivation is not going to enable you to be responsive to complex cognitive suggestions and feel "involuntariness" unless you actually have good hypnotic ability. Motivation is an essential, but not a sufficient condition to produce or report these phenomena. If you measure the hypnotic ability of the people in this room, for example, on the Stanford or the Harvard Scale, you will get approximately a normal distribution. Some people are very low on this scale and are unable to have these experiences and others have them quite readily. Milton Erickson and the other clinicians notwithstanding, hypnotic ability seems to be distributed normally. Good subjects can produce the phenomena reliably and rapidly, but with a poor subject you could work for hours and still not produce the phenomena. By the way, I define hypnotic ability as the capacity to modify perception, mood and memory voluntarily. What does that mean practically? Ten percent of the people in this room can hallucinate voluntarily, without psychosis. We know now that ten percent of the normal population can hallucinate voluntarily. This is an important fact. The Diagnostic and Statistical Manual of the American Psychiatric Association pays no attention to this fact.

What about the stability of hypnotic ability? Hypnotic phenomena and hypnotic ability peak around adolescence and then slowly begin to fall off as people get older. So the best chance of picking a person of superior hypnotic ability is to work with adolescents. Very important neuro-endocrine changes occur during adolescence. If you look at monozygotic twins, dizygotic twins and siblings in terms of hypnotic ability you see a clear pattern. But these studies have not involved twins reared apart, which is the control for learning effects. The correlation is about .54 between monozygotic twins; for dizygotic twins and siblings the correlation drops to about .23. This is a replicated finding. Hence, there is evidence suggesting that hypnotic ability is possibly a genetically transmitted ability, but motivation and learning are clearly involved.

There have been numerous attempts to use standard self-report personality tests to predict hypnotic ability. These efforts have been uniformly unsuccessful (Hilgard, 1965; Barber, 1964). However, efforts based on inquiring about hypnotic-like experiences that occur in everyday life (Shor, Orne and O'Connel, 1962; As, 1963) and early childhood experiences (Hilgard, 1970) have been more successful

(Tellegen and Atkinson, 1974). Yet, the amount of variance accounted for by this approach is insufficient for routine individual clinical prediction with even cooperative subjects.

There appear to be good theoretical and clinical reasons (Wickramasekera, 1979, 1983, 1984a, 1984b) to routinely and unobtrusively estimate the style of information processing or, more specifically, the hypnotic ability of all patients who present chronic stress-related physical symptoms. I have noticed two things about patients who present with chronic stress-related physical disorders without pathophysiology. First, most of them tend to be either high or low on hypnotic ability (Wickramasekera, 1979, 1983, 1984, 1986). Few of these patients are found in the middle range of hypnotic ability. Second, those who are high on hypnotic ability tend to either spontaneously report or, if given permission, admit an unusually high base rate of naturally occurring altered states of consciousness and, more specifically, parapsychological incidents in their lives (Wickramasekera, 1979, 1980, 1983, 1984, 1986). Wilson and Barber (1982) have independently confirmed the high base rate of parapsychological verbal reports in very high hypnotizable non-patients who they described as "fantasy-prone personalities." There are also prior cogent reports relating hypnotic ability and the hypnotic state to superior performance of parapsychological tasks (Van de Castle, 1969; Honorton and Krippner, 1969).

Patients presenting somatic symptoms have a negative attitude toward psychological evaluations of any kind and hypnotic tests in particular. This attitude ranges from overt hostility to fearfulness based on either religious objection, false information about hypnosis, or simple unfamiliarity. Psychological tests appear to be a challenge to the authenticity of their physical symptoms. Their hostile attitude toward psychological investigations is based on the fact that these patients are committed to a somatic definition and presentation of psychosocial distress and they will present only in a medical setting.

I have been searching for unobtrusive methods of assessing the hypnotic ability of all these somatically committed and non-psychologically minded patients even when they refuse to take a hypnotic test such as the Harvard Group Scale. The present preliminary, but promising approach is based on inquiring about naturally occurring altered states of consciousness (Evans, 1977) and culturally acceptable religious and parapsychological experiences, both conceptualized as unevenly distributed, naturally occurring skills, or talents. The essence of this promising approach appears to be a repackaging of the manner in which we inquire about spontaneously occurring hypnotic phenomena in this non-psychologically minded group of patients.

The first version of the Wickramasekera Scale (WS) consisted of 46 true-false items such as the ability to change dreams while they were occurring (lucid dreaming), to nap, to fall asleep easily, to have spiritual experiences and to have religious conversion experiences, etc. This first WS was administered exclusively to patients with chronic stress-related physical symptoms (e.g., headaches, low back pain, irritable bowel syndrome, etc). It was followed by the Harvard Scale, administered by an experimenter who was blind to the patient's score on the WS. Using all of a consecutive series of 64 unselected patients, we obtained a Pearson's r of .48 ($p < .001$) between the Harvard and the WS.

Because of the low correlations with the Harvard Scale, 22 items were dropped and other items were added or rewritten. The present version of the scale is called the Wickramasekera Scale II (WSII) and is the basis of the present report.

Method

The WSII is a 24-item, true-false paper-and-pencil test that inquires about culturally acceptable, but unusual experiences and talents. A test-retest (six weeks between testing procedures) reliability correlation of .86 was obtained using a sample of 51 normal college students and the WSII. The WSII test is now routinely administered to all patients seen at the Eastern Virginia Medical School Behavioral Medicine Clinic after the initial clinical interview with me. It was given in this second study to a consecutive series of 53 unselected patients making somatic presentations.

The initial clinical interview is an abbreviated medical-behavioral history and screen for psychosis. Before the interview the patients are told we are evaluating their candidacy for "stress management therapy" and, to complete this evaluation, they will need to take a few paper-and-pencil tests, the psychophysiological stress profile (Wickramasekera, 1976), and the Harvard hypnotic ability test. The WSII was part of an approximately one hour paper-and-pencil test battery. It was taken immediately after the clinical interview.

The Harvard Scale was typically given one or two weeks later, before any explicit clinical interventions were started, but after each subject had read the American Society for Clinical Hypnosis (ASCH) pamphlet "An Old Art Returns to Medicine" (Heron and Hershman, 1958). This pamphlet presents questions and answers about hypnosis and tries to reduce anxieties about hypnosis and correct misconceptions. The

TABLE 1

Components (Test Items) of the Wickramasekera Scale II That Predict Hypnotic Talent

Components	True Responses 1986 Study (Patients) N = 53	True Responses 1986 Study (Normal College Students) N = 51	Hypnotic Ability*
Parapsychological Experience	19%	32%	Low
	71%	80%	High
Absorption	34%	21%	Low
	84%	70%	High
Hypersensitivity to Sensory Stimuli	22%	29%	Low
	65%	69%	High
Fantasy	8%	18%	Low
	50%	48%	High
Control of Altered States of Consciousness	25%	27%	Low
	63%	57%	High
Hallucinations	11%	10%	Low
	42%	47%	High
Empathy	62%	50%	Low
	84%	77%	High
Memory	25%	14%	Low
	34%	53%	High

* Low (Harvard 0–3), High (Harvard 9–12).

Harvard Scale was administered by a research assistant (who was blind to the patient's WSII score) in a group situation (2–4 patients).

Results

A Pearson's r correlation of .55 ($p < .001$) between a consecutive series of all 53 Harvard scores and the WSII was found using SPSS software on a DEC PDP-11. Test items on the Word Association Test (WAT) were further divided based on rationally derived content categories to determine if a certain category better discriminated among high (Harvard 9–12) and low (Harvard 0–3) Harvard Scale scores. Table 1 shows category discrimination in terms of the percentage of true responses within a particular category and level of hypnotic ability for the average patient. It appears that for this sample the items in the

category "Parapsychological Experience" best discriminate between high and low hypnotic ability scores and the items in the category "Memory" least discriminate between high and low hypnotic ability scores.

Discussion

The very preliminary character of these empirical observations cannot be overemphasized even though they are based on good theoretical reasons and promising clinical observations of intervention (Wickramasekera, 1979, 1980, 1983, 1984, 1986). First, it is not known if this correlation will hold for a third replication with a consecutive series of patients. It is encouraging to note that the correlation (validity coefficient) has in fact improved with even a smaller number of patients and a smaller number of test items. Second, our results may simply be related to patient willingness to say "yes" to unusual experiences and have nothing to do with hypnotic ability (Hilgard, 1965).

These WAT scores may be related to undetected psychopathology, but this is unlikely because each patient is carefully screened for psychopathology and given a DSM III diagnosis. The clinical interview was done by the writer, who is a diplomate in clinical psychology and has worked extensively with psychotic patients in state hospitals. None of our patients received a psychotic diagnosis and all of them have clear contraindicating social histories. Also, because of a very low drop-out rate, we were able to follow these patients for several months during active psychophysiological therapy (Wickramasekera, 1976) and later for several years (1–5) during our required long-term follow-up to further verify clinically both their hypnotic ability and their non-psychotic status. Because of the selective nature of our sample, we do not yet know if these results of the Harvard Scale and WSII will replicate only with normal (college students) subjects and medical (physically presenting) patients.

If the observation that parapsychological experience, absorption and hypersensitivity to sensory stimuli replicate as the best discriminators of Harvard Scale scores, it may provide a new and heuristic way of conceptualizing and intervening with at least a subset of people that bear the pejorative label of hypochondriac or "crock." It is just possible that high hypnotic ability is a risk factor for developing somatic symptoms in some people who have unusual, "unassimilated" (McReynolds, 1960) perceptual experiences, but who are not psychotic. We have found that when these parapsychological experiences are elicited in a trusting relationship and cognitively reframed in more naturalistic ways,

there is a dramatic remission of somatic symptoms. Also, absorption focused on sensory stimuli may be related to lower sensory thresholds and may be the mechanism through which psychological factors can potentiate sensory signals in the highly hypnotizable.

Let me state a few cautions now. First, my data pertain purely to verbal reports. These people may very well be lying. We do not know if there is any validity to these verbal reports. Also I want to point out that the sample is very small, but we have replicated this in four separate studies. Also Ted Barber and Cheryl Wilson have found the same thing looking at very, very high hypnotic ability people.

Implications

Now what might be the implications of these findings, that people who have higher hypnotic ability are at greater risk for parapsychological experiences. If you want to study tigers, it may be good to find a part of the forest in which tigers are found in abundance. And it may also be helpful to have a tool to distinguish tigers from panthers. Here may be a tool that could be used to recognize people who generate these verbal reports (paranormal) at high frequency. This may help with the chronic problem of replicability in parapsychology. Another possible payoff here is that procedures that are known to at least temporarily increase hypnotic ability (Wickramasekera 1977) may also temporarily increase parapsychological abilities. Others (Diamond, 1977) and I (Wickramasekera, 1977) have done several studies that have shown that hypnotic ability can at least be *temporarily* increased. There is some controversy in the literature as to these findings. I am not saying that hypnotic ability is permanently modifiable, but it is at least temporarily modifiable. Theoretically both very low and very high levels of physiological arousal will temporarily increase hypnotic ability (Wickramasekera, 1977). I am predicting that hypnotic ability and parapsychological ability will be temporarily increased during conditions of massive stress; for example, earthquakes, losing your wife, losing your job, having to move, birth of a child, auto or industrial accidents, seeing people dying around you, etc. Stress may also increase your risk for parapsychological experiences. Under conditions of very low physiological arousal I am predicting that the same increase in parapsychological ability will occur, for example, in bio-feedback, progressive muscle relaxation, etc. Techniques that drop the level of physiological arousal also place people at higher risk for parapsychological experiences. This data in regard to hypnosis is summarized in my New York Academy of Sciences paper (Wickramasekera, 1977). So under

conditions of very *high* physiological arousal or very *low* physiological arousal people may be at greater risk for parapsychological experiences. The other condition that seems to temporarily increase hypnotic abilities is sensory restriction or sensory deprivation. If you reduce the amount of sensory stimulation, people seem to become more hypnotizable, at least temporarily. There are three independent studies to date showing that. Only one study failed to find this. Sensory restriction may also increase people's risk for parapsychological experiences. In conclusion I want to say that perhaps hypnotic ability tests can be used to select promising subjects for parapsychological studies and these subjects can then be subjected to empirical validity tests of their parapsychological verbal reports. Procedures that temporarily increase hypnotic ability (high and low physiological arousal and sensory restriction) may also temporarily increase parapsychological abilities and these suggestions may help with the problem of replication in parapsychological research. It is unlikely that psychopathology or suggestion alone can provide a naturalistic explanation of parapsychological verbal reports.

NOTES

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[2] Reprint requests should be addressed to Ian Wickramasekera, Ph.D., Department of Psychiatry and Behavioral Sciences, Eastern Virginia Medical School, P.O. Box 1980, Norfolk, Virginia 23501.

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DISCUSSION

WICKRAM: Someday hypnotic ability tests may be used to detect people who are at "high risk" for reporting having paranormal experiences. My research suggests that people who are very high or very low in hypnotic ability are more likely to have these experiences, but the lows *actively inhibit,* block, or deny their paranormal experiences. Saying that the "highs" and "lows" on hypnotic ability are at greater risk for paranormal experiences is *not* to imply that they are in any sense pathological or sick tigers. But rather that they are more vulnerable to paranormal events.

ISAACS: It is a lovely thought that you have a tiger detector and that we can go and get these tigers out of the forest. The problem is that you seem to only offer us sick tigers. Your people would not come into the lab because they would forever be in the hospital, they would forever be complaining of some form of illness. But we actually need

people to turn up at the labs. If these people are as ill or as consistently non-attending of their normal life functions as you have found then you have got a sick tiger.

WICKRAM: Maybe I did not make it clear that the bulk of my data was gathered from patients. We have now a fourth study using perfectly normal college students without psychiatric history, without neurological findings and we found exactly the same thing at similar magnitudes.

ISAACS: Thank you. I had not appreciated that point.

WICKRAM: I am very confident that we are going to replicate this with normals even better than we have done with patients.

TART: This was a quite stimulating paper. It reminded me of my early days in hypnosis research. There was a study I did back then that showed you can increase hypnotizability on a long term basis, but the treatment in this case was having people spend a year in a personal growth program at Esalen Institute. You probably know that one. And that made me think, from what you said, that hypnotizability, rather than a special talent, is a reflection of a more general ability we have to focus our attention wherever we want. Now I have been thinking a lot about a much more profoundly altered state of consciousness than hypnosis, and that is ordinary consciousness. I have been thinking about the induction of ordinary consciousness. Compared to what we are allowed to do in the laboratory and in the clinic, it is a far more powerful induction. In the clinic, for instance, if the patient does not respond you cannot hit him or threaten to take away your love for him. So I am beginning to come up with a theory that we are born with an ability to learn to focus our attention anywhere. The culture comes in and says that you must focus on this because this is good, you do not see those things because they are bad and the more thoroughly this process works the less you can actually focus your attention as your enculturated self might desire. Now since our culture rejects psychic phenomena by and large, that means you are in effect giving a kind of hypnotic suggestion to not focus on these things. A highly hypnotizable person or a very psychically talented person might be seen as someone in whom the induction process for enculturation did not work as well, so they have retained some ability to focus more widely. So your finding makes very good sense—hypnotizability is a somewhat general manifestation of the ability to look beyond cultural limits and that includes psi. So I am excited about your "tiger detector."

WICKRAM: When I began to do this work I recognized how little I knew about parapsychology. In fact, if you give me a multiple choice exam, I would probably flunk it on all these terms. You did some original work that demonstrated that hypnotic ability can be modified.

Stanley Krippner, Robert Van de Castle and Charles Honorton have also demonstrated that people with high hypnotic ability or people in hypnotic states are at greater risk for having parapsychological experiences. So I learned about this later.

TART: Risk is not quite the word here. We think of it as a talent!

WICKRAM: I have seen numerous patients report ESP experiences and immediately their sanity is suspect. Many of them are anguished about having these paranormal experiences. Reframe them and it is amazing how they are "assimilated" and somatic symptoms remit. For example, a woman came to me with recurrent abdominal swelling. She had it for twelve years. She had thirteen exploratory surgical procedures on her abdomen. They found nothing, but she would keep swelling up twice a month. She got actual physical swelling of the abdomen. She turned out to be highly hypnotizable. When we evaluated her we found she had had many out-of-the-body experiences. We reframed that for her, she was able to assimilate the experience confortably and the abdominal swelling stopped. We have followed her for eight years now. Calling these people at risk makes good clinical sense and maybe political sense too. But I can see from a scientific point it is a different issue.

NOLL: Your paper was very good. It brought up a couple of issues. It occurred to me that in your non-psychotic group there were somatic complaints and several things were going on. I am glad you mentioned the Wilson-Barber study with fantasy prone personalities because your study down to the last detail supports theirs—highly hypnotizable, very good imagery, highly absorbed into the events around them. If they watch a movie they get into it. Reports of parapsychological experiences are high. The second thing that really intrigued me is something I have been doing lately, looking into multiple personality disorder. There has been a lot of research lately on that. When you said high hypnotizability with somatic complaints, alarms started going off in my mind. A possible area to look into would be multiple personality disorder. With some of these people, like the woman you were describing, it is a very common tale. Someone goes for multiple operations and it turns out it is because of different personalities. There is never anything wrong. Going back to the time of William James, multiple personality disorder, hypnosis, mediumistic activities and reports of psi events are all connected somehow. William James tried to sort that all out in his *Principles of Psychology.* I was wondering if any of this brought to mind a dissociative disorder? Have you ever considered that area at all?

WICKRAM: I am not clear what the question was.

NOLL: I was wondering if you have ever considered a multiple per-

sonality disorder? I understand you are not looking for the disease, but you are looking for suggestive characteristics.

WICKRAM: I think that *DSM-III* will someday specify what is the mechanism of the disorder with a diagnosis of multiple personality. They should require a test of hypnotic ability. Maybe the mechanism of multiple personality is in fact dissociation. If you can show that these people have superior hypnotic ability then you will begin to account naturalistically for the presentation of multiple personality. We are currently doing a small study with Paul Dell, who is a family therapist, in which we are finding exactly that—that multiple personalities are at higher risk for having hypnotic ability.

KRIPPNER: Just to add an asterisk for the non-psychotherapists—when we talk about *DSM-III* we refer to the third edition of the *Diagnostic and Statistical Manual* published by the American Psychiatric Association.

NOLL: Eugene Bliss in Utah and Richard Kluft in Philadelphia are doing a lot of work in that area. They say that this is a trait. It is something that they have had to use very early in life to dissociate themselves from very horrible experiences in childhood. Over 90 percent of the patients who end up with multiple personality disorder have a history of child abuse of some sort.

WICKRAM: There is one study by Nash showing that, if you look at people who had been physically abused, they are either very high on hypnotic ability or they are very low. Very few of them are in the middle. Maybe they developed the ability to cope with the pain of living under those conditions.

ARONS: The problem that Julian Isaacs has with the experimental subjects is that these people do not make good experimental subjects. It seems to me that is exactly the reason why they would make very good phenomenological subjects, to enter into the universe of the experience and then to be able to see how these things make sense from within—a type of integrity of the experience. Have you been in touch with some phenomenologist who could take some of this factual information that you are giving and enter into the experience, without some of the scientific requirements and presuppositions, and then turn this back to a laboratory with a good deal more understanding of why these particular traits tend to hang together in certain areas?

WICKRAM: What was the question?

ARONS: Well, it is not a question. What I am suggesting is that you are standing there with a good objective scientific wonderment about the results that you received. I am talking particularly about the reports of physical ailments related to this susceptibility. Julian was arguing

"Well that is great but you get sick tigers." You know you do not end up with a very good tiger there. I am saying that from a phenomenological point of view your results would be very interesting. These people would make extraordinarily good subjects for phenomenologists, because you would be able to enter into this world, not from the outside of it, but from the inside where all of these things would then make sense. I think this is the value of phenomenology for parapsychology.

WICKRAM: I need to repeat that we have found this not just with sick tigers, but also with normal college students. Even normal students who had high hypnotic ability had higher risk or report more parapsychological experiences. I am not clear beyond that.

ARONS: You mean sick tigers and college students are the same thing? Maybe there is something in common between the two.

WICKRAM: Essentially I think people who are making these somatic presentations in the sense of physical findings, are closet psychotherapy patients. What we find is that once you begin to repackage psychotherapy for them, using some kind of Trojan Horse approach, the psychosomatic symptoms go away. They start presenting depression, anxiety and so forth. They make more honest presentations. We found the phenomenon with them, but we also found it in normal college students who deny a psychiatric history.

ISAACS: I want to move away from the tigers for a minute and make two comments which I think that you may find useful. One of them is that there is a very well known and rather well substantiated and replicated technique for increasing ESP performance which uses partial sensory deprivation. This tends to back your increase in hypnotizability as one factor and that is within the realm of ESP. It is called the ganzfeld technique. The second, which is relevant to hypnotizability, is from the parapsychologist who is most concerned with seance room psychokinesis, where PK occurs in the so-called sitter group context. The parapsychologist Kenneth Batcheldor has hypothesized that the setting of the dark seance room increases suggestibility, which would be a "state" analog of hypnotic susceptibility. He has a theory that the PK effects are generated by the sitters accepting a suggestion, or generating the suggestion within themselves, that PK is occurring and that the sensory deprivation of that dark seance room allows people to get into a more suggestive state. From both the ESP realm and in a more hypothetical and less tested way from the PK research there seems to be some confirmation of your viewpoint.

WICKRAM: There is some convergence there. Now you are telling

me that there is replicated evidence that sensory restriction increases parapsychological verbal reports?

ISAACS: Yes.

WICKRAM: How many replications?

ISAACS: I think Rex Stanford is standing by to give us that information if you want it.

WICKRAM: And no failures to replicate?

STANFORD: I do not want to be quoted on exact figures, but I think we have over 45, perhaps 48 examples of attempted replication. It gets into a lot of technical criteria about replicability and how many statistical tests you use. If you will refer to a recent issue of the *Journal of Parapsychology* this whole matter has been debated by Charles Honorton and Ray Hyman as to the validity of the paradigm for replicability. There is an up-coming issue where they will prepare a joint article which shows some of their areas of agreement. I think you would find it very interesting because the replicability rate is certainly statistically very significant by any type of reasonable criterion. Studies that have a certain uniformity, make available a single method of scoring. There you do get a highly significant rate of replication.

NEPPE: I want to ask you two things. The first is a very short question. What proportion of your population have low hypnotic and what proportion high hypnotic abilities? Just ball park figures.

WICKRAM: Generally in the patient population we have more that tend to be highs and a smaller number of lows. We have very few in the middle. In the student population we have the same problem. There are more highs than lows. When I studied hypnotic ability in normals in Illinois I found that we had a normal distribution. But since I have moved to the South, I found (Joe Dane has reported the same thing), that when you give the Harvard Scale to 100 subjects you get an unexpectedly large number of people on the high end of the distribution. You do not get the normal distribution. There are at least two studies that I know of in the South, my studies and Joe Dane's at the University of Virginia. We found the same thing with the patients. Generally 10 percent of the population gets high scores (12–9) and 10 percent get very low (0–3) scores on the Harvard Test of Hypnotic Ability.

NEPPE: As for the other question, I think one has got to be more specific when talking about parapsychological experience. What particular measures did you ask about? Did you ask about hallucinations? The reason I am mentioning it is that it is all very well to say that we will find these people with high hypnotizability and they may be useful subjects. One of the major points to be made, which I tried to make in my presentation, is the fact that I was taking an extreme group of

experients who had had a lot of experiences. These people have anomalous temporal lobe functioning. There are studies from eight different countries involving at least 11 different levels of study where the incidence of people who claim to have had subjective paranormal experiences in the general population run all the way through to 80 percent to 90 percent. At the lowest kind of level one is talking probably in the region of one third or one half of the population. It is all very well saying these people have had "parapsychological" (psi) experiences, but most of the general population claim to have had some kind of experience of these kinds. It sounds as if it may be logical if one was extending this hypothesis to develop more adequate parapsychological screening questionnaires. The Charlottesville survey had some excellent questions.

WICKRAM: I would be delighted to hear about it because what I am doing is very primitive.

NEPPE: The other one is hallucinations. But again I think one has got to categorize one's hallucinations in some detail otherwise you are going to find that you are calling like like when in fact a lot of what is superficially regarded as like is not like at all, it is one group with pathological experience as opposed to one group with normative kinds of experience. And I think one has got to be very careful in interpreting hallucinatory experiences as normal just on the basis of little questionnaires. These studies that have been done spoke about one or two in a person's lifetime and they were under very specific circumstances.

TART: Going back to this rather good apparent correlation of hypnotizability with ostensible psychic abilities it occurred to me people might wonder why hypnosis has not been routinely used to increase psychic functioning all the time. I think it would be well to remind people that the kind of hypnotic data you are presenting today is 50 years ahead of almost all the parapsychological data in terms of hypnotizability. You are able to use standardized instruments to talk about high and low hypnotic susceptibility and the like, whereas most of the parapsychological studies done in the past had no real measure of susceptibility. It was a very unsophisticated sort of thing and the key may be in using high hypnotizables where you get an effect, not the kind of low level stuff that has been done. I am glad you are introducing this level of sophistication about the hypnosis aspects of things into the discussion. Parapsychologists need it.

WICKRAM: I think if you look at most psychologists and psychiatrists they are unaware of the level of sophistication of experimental study that exists in hypnosis today in terms of the measurement instruments, their reliability, their validity, the levels of replication. It is very un-

fortunate. It is simply not known. Hypnosis research as such has not been integrated into general psychology. The tools that exist are available now and it remains for people to begin to use them.

STANFORD: I am very intrigued by your presentation and I noticed you did something that I should think is important; and that is that you wanted to develop some measures, as you put it, that took out some of the motivational factors and looked at pure ability factors. For example, you mentioned that you had developed your own scale of hypnotic or trance-like experiences. One thing I wanted to know was whether, using that scale, you get the kind of bimodal split that persons reporting these psychosomatic symptoms, are either high or low hypnotically susceptible. Do you get the same kind of split using this type of personal experience questionnaire as you would using a Harvard Group Scale that involves behavioral response to suggestions in terms of definitely high or low or do you get a more uniform response?

WICKRAM: That is a very good question. We have not looked at that. We know that with the conjugal lateral eye movement test we get that distribution with the Harvard Scale, but we do not know what happens with this paper and pencil test we put together.

STANFORD: I would suggest, in looking at the kinds of subjective paranormal experience (to use Dr. Neppe's term) that correlate with hypnotic susceptibility, that the state of consciousness, the state of mind in which the experience is reported may be of considerable importance in the correlation. We have recently shown in our laboratory that out-of-body experiences reported in different states of consciousness, hypnagogic, hypnopompic, as distinguished from being awake or while ostensibly dreaming, correlate differently with various scales. I would suggest that that might be a further way of digging into this analysis that would help you to make better predictions.