Somatization

Concepts, Data, and Predictions from the High Risk Model of Threat Perception

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Eighty-three consecutive patients with chronic somatic complaints seen prior to therapy were tested on the eight factors of the High Risk Model of Threat Perception. Thirty-two percent were high and 28% were low on hypnotic ability, which is more highs and lows than would be expected in a normal population. In the high and low hypnotic ability somatizers, the distribution of somatic and psychological symptoms is significantly different from the moderate group. Counterintuitively, hypnotic ability and major life change were orthogonal to all of the other risk factors. These findings are consistent with eight of nine predictions from the High Risk Model of Threat Perception.


There is controversy regarding the diagnosis of somatoform or somatization disorder (Barsky and Klerman, 1983; Escobar et al., 1989; Katon et al., 1991; Kellner, 1991; Kirmayer and Robbins, 1991; Smith, 1990). Somatizers present somatic symptoms with no basis in identifiable pathophysiology or with somatic symptoms grossly in excess of identified pathophysiology (Kellner, 1991; Smith, 1990; Wickramasekera, 1988). Broadly defined somatizers may constitute up to 50% of all patients who visit primary care physicians (Garfield et al., 1976; Jencks, 1985; Monson and Smith, 1983).

Somatizers seen in primary care seldom report gross overt psychopathology (Barsky and Klerman, 1983; Jencks, 1985; Katon et al., 1991) and often do not meet the DSM III-R (American Psychiatric Association, 1987) criteria for somatoform disorders (Katon et al., 1991). A recent article in the Journal of the American Medical Association described somatization as "one of medicine's blind spots" (Quill, 1985) and an editorial described it as medicine's "unsolved problem" (Lipowski, 1987).


The diagnosis of somatization by the absence of identifiable pathophysiology is diagnosis by exclusion. Diagnosis by exclusion is irrational because it may be based on inappropriate or insensitive biomedical tests (Hall, 1980). Diagnosis by inclusion requires not only the exclusion of pathophysiology, but also the identification of psychological factors that can independently drive or amplify (Barsky and Klerman, 1983) somatic symptoms. The High Risk Model of Threat Perception (HRMTP) provides an approach to diagnosis by inclusion, because it identifies specific psychosocial factors in threat perception that are hypothesized to amplify or induce somatic symptoms (Wickramasekera, 1979, 1984, 1986, 1988, 1993).

This article provides the first norms and an intercorrelational matrix on the eight risk factors of the HRMTP considered simultaneously in a consecutive sample (N = 83) of chronic somatizers resistant to medical therapy. These risk factors were proposed separately but never simultaneously, as in the HRMTP. There are no prior published norms on the empirical relationships between these unique combination of risk factors in any single clinical sample, much less one that is notoriously resistant to psychosocial study (Smith, 1990). This article is not intended as a stringent test of the HRMTP. It is simply as an initial integrated theoretical-empirical description of a model.

The identification of risk factors that can independently drive somatic symptoms could have profound implications for diagnostic practice in primary care, therapy, and the primary prevention of somatization.

High Risk Model of Threat Perception

Methods

This multidimensional model identifies three predi-
posing factors (hypnotic ability, catastrophizing, and negative affectivity) that amplify the probability that two triggering variables (major life change and minor hassles) will generate psychological or somatic symptoms unless the impact of the triggers and predisposers are buffered (by social support and coping skills) (Figure 1).

**Predisposers**

_Hypnotic Ability._ Hypnosis can be defined as a mode of information processing in which a suspension of peripheral attention and critical analytic cognition can lead in people of high hypnotic ability to major changes in perception, memory, and mood that appear “involuntary” and can have significant behavioral and biological consequences (Wickramasekera 1979, 1988, 1993). People high in hypnotic ability (highs) are especially prone to perceive “lack of self-control” or “involuntariness” during verbal information processing, both during hypnosis (Bowers, 1981) and also when they are not formally hypnotized (Dixon and Laurence, 1992; Dixon et al., 1990). The HRMPT states that people who score high (10 to 12) or low (0 to 4) on hypnotic ability are at risk, but for very different reasons (Wickramasekera, 1979, 1988, 1993). I hypothesize several reasons why the highs are at risk for threat-related diseases:

1. When the highs encounter personally relevant threats, they may spontaneously enter the hypnotic mode of information processing and experience “involuntary” changes in perception, memory, and mood that can amplify the perception of fear and pain. This amplified fear or pain can trigger the hypothalamic-pituitary-adrenal axis and alter immune function, which can generate threat-related disease (Blascovich and Katkin, 1993; Dantzer, 1991).

2. Highs are also hypothesized to be prone to “surplus pattern recognition” or to see meaning in events that seem randomly distributed or meaningless to people moderate or low in hypnotic ability (moderates or lows, respectively). I hypothesize that a subset of these “meanings” may be threatening and in highs can be attenuated from consciousness (Kihlstrom, 1987), but not without chronic autonomic nervous system consequences (Pennebaker et al., 1987). This perception of threatening meaning is particularly likely if they are also high on the orthogonal trait of negative affectivity (neuroticism), which is another risk factor in the HRMPT.

3. Finally, people high in hypnotic ability are hypothesized to be at risk for threat-related disorders because they are prone to “surplus empathy” or have “permeable membranes.” Hence, they may “involuntarily” absorb the pain, fear, or negative affect of others when they perceive personally relevant threats. Empirical studies have found that high hypnotic ability people can process information in ways that alter perception, memory, and mood with profound behavioral and biological consequences (Crawson et al., 1991; Dywan and Bowers, 1983; Ewer and Stewart, 1986; Hilgard and Hilgard, 1975; Klein and Spiegel, 1989; Laurence and Perry, 1983; Pettinati et al., 1985, 1990; Spiegel et al., 1985, 1988; Velten, 1968; Whorwell et al., 1992).

Less is known empirically about low hypnotic ability, except for a lack of words for feelings (Frankel et al., 1977). I hypothesize that lows are hypo-sensitive consciously or verbally, but not implicitly or sympathetically, to relevant threats. Yet, they repress or deny psychological causation. They prefer mechanical, surgical, or chemical solutions to their health problems. Threat perception in lows may be absent from verbal report or consciousness but present in measures of sympathetic activation or motor behavior. Lows are hypothesized to know “the words but miss the music” and prefer to be “shown” rather than “told.” They are skeptics.

Based on clinical observation, I theorize that people high in hypnotic ability will, in response to threat perception, develop both somatic and psychological symptoms, whereas people low in hypnotic ability will develop mainly or only somatic symptoms.

I used the Harvard Group Scale of Hypnotic Susceptibility, Form A of Shor and Orne (1962). The Harvard scale correlates with the Stanford Form A, which has been used extensively in large scale longitudinal and cross-sectional studies (N = 1232) of the stability and genetics of hypnotic ability (Morgan and Hilgard, 1973; Piccione et al., 1989). The Harvard scale was originally designed as a screening instrument for research purposes; therefore, it may not be as ideal for clinical purposes as the Stanford Clinical Scale (Hilgard and Hilgard, 1975). However, the Stanford Clinical Scale has very limited range and published norms. The Harvard scale has cross-sectional and cross-cultural norms (Coe, 1964; Lamas et al., 1989) on large samples of normal subjects and patients with depth estimates (Jupp et al., 1985; Pettinati et al., 1985). The Harvard

![Diagram](image-url)
scale broadly behaviorally samples the domain of hypnотic ability with many subjects, concurrently saving clinical time. I have increased the validity of the Harvard behavioral scores by adding the Kirsch et al. (1990) "congruent subjective-involuntary" testing procedures. In general, studies indicate that the psychometric features (reliability and validity) of the Harvard Group Scale of Hypnotic Susceptibility, Form A are satisfactory.

**Catastrophizing.** The second personality variable that is hypothesized to amplify threat perception is learned situation-specific or state catastrophizing (Keefe et al., 1989; McCracken et al., 1992; Spanos et al., 1981), which is a fairly conscious verbal behavior. High catastrophizing appears to be correlated with greater use of analgesic and psychotropic medications (Brown and Chaves, 1980). Catastrophizing is measured with the Zocco scale (1984), a verbal-report instrument with 16 test items that were designed to measure the tendency to verbally catastrophize. The alpha reliability coefficient for the catastrophizing scale is .921 and its test-retest (1 week) reliability is .95.

**Negative Affectivity or Neuroticism.** The third amplifying personality variable is high overt negative affectivity (NA) or high covert NA. People high on overt NA are more likely to see the glass as half empty rather than half full. This dimension of personality is found in people who frequently report negative emotions and distress across time, cultures, and situations independent of objective stress (Clark and Watson, 1991). It is related to the number of somatic complaints people present independent of age and pathophysiology (Costa and McCrae, 1987). It has been found prospectively that NA is a risk factor for chronic pain developed secondary to herpes zoster infection (Dworkin et al., 1992) as well as rheumatoid arthritis (Affleck et al., 1992). Negative affectivity is believed to be partly genetically based (Tellegen et al., 1988). I have hypothesized that NA is a risk factor for threat-related organic disorders because this negative bias in perception, mood, and memory can chronically trigger the hypothalamic-pituitary-adrenal axis and alter immune function (Wickramasekera, 1979, 1986, 1988, 1993).

People who are low on NA but who also score high on the Marlowe-Crowne scale (The Lie Score) are also hypothesized to be at risk for somatization, perhaps because they overuse repression or denial mechanisms (Weinberger, 1990). Out of mind is not necessarily out of body (Wickramasekera, 1979, 1988, 1993). Threat perception and psychopathology (Lane et al., 1990) may be attenuated from consciousness by covert high NA or repression. A large literature on behavioral and physiological measures (electrodermal response, endorphins, heart rate, immune responses, etc.) indicates that covert high NA individuals implicitly experience levels of anxiety equal to or greater than individuals high on explicit or conscious NA (Weinberger, 1990) and, in a prospective study, more rapid progression of breast cancer (Jensen, 1987). The Eysenck Personality Inventory (Eysenck and Eysenck, 1968) is used to measure high (N > 75%) overt NA and high covert NA (N < 25% and L > 68%) on the HRMTP. The Eysenck test (Eysenck and Eysenck, 1968) has superior psychometric properties with a retest (1 year) reliability of .84 to .94. Hypnotic ability is orthogonal to Eysenck lie scores and Marlowe-Crowne scores (Falsson, 1992; Remler, 1990; Wickramasekera, 1979, 1988, 1993).

**Triggers.**

**Life Change and Hassles.** The two triggering variables can be a large number of major life changes over 1 year (death, divorce, loss of job, etc.) and/or a large number of minor chronic hassles (microstressors). Several studies have shown that only about 10% of the variance in predicting symptoms is accounted for by major life change (Rabkin and Struening, 1976). More recently, an accumulation of microstressor or minor daily hassles (e.g., noise, running out of gas, etc.) has been shown to be strongly related to somatic symptoms (Sternbach, 1986) and endocrine measures of stress (Branley et al., 1988), even after the effects of major life changes were statistically removed (DeLongis et al., 1982; Zarski, 1984). Hassles are more frequent than major life changes and have been related to other validated indicators of health status (Weinberger et al., 1987). Several methodological problems remain to be resolved in the measurement of neuroticism, major life change, social support, and hassles (Dohrenwend et al., 1984; Lazarus et al., 1985; Schroeder and Costa, 1984). I used the Schedule of Recent Experience to measure life changes and its retest reliability is .93 (Amundson et al., 1981). The Hassles Scale (Kanner et al., 1981) is an instrument of known retest reliability (r = .79).

**Buffers.**

**Social Support and Coping Skills.** The two buffering variables are number and degree of satisfaction with social support (House et al., 1988) and coping skills (Lazarus and Folkman, 1984). It has been established prospectively and retrospectively that social support is associated with less morbidity and is "causally related" to mortality (House et al., 1988). There is good agreement on the importance of individual differences in coping skills for health outcomes (Lazarus and Folkman, 1984), but controversy about the best method of measurement. I use the Social Support Questionnaire to measure support systems (Sarason et al., 1983). It's retest reliability ranges from .83 to .90. The Self-Control Scale (Rosenbaum, 1980) is used to measure coping skills and it has a retest reliability of .86.
Patients

Mean age (± SD) of the sample was 40 ± 12.5 years (50 women and 33 men). There was no significant difference in mean age between men and women. There were 83 consecutive patients seen at our clinic only on medical referral from specialist or subspecialists. All of the patients had one or more medically investigated somatic symptoms. The majority also reported one or more associated psychological symptoms. All had previously been subjected to extensive medical-surgical studies. The patients' primary presenting complaint was classified by the patient as either somatic or psychological. Patients were asked explicitly on an intake questionnaire to specify their most troublesome problem. Then they were asked to classify it as either somatic (medical) or mental (psychological). Somatic complaints included headaches (muscular, vascular, psychogenic), syncope (negative CT scans, EEG, etc.), asthma, warms, chronic back pain, insomnia (negative for apnea or myoclonus on EEG sleep study), irritable bowel syndrome, vaginismus, peptic ulcers, nausea, vomiting, hyperemesis gravidarum, angina (negative cardiac catheterization), primary dysmenorrhea, primary hypertension, idiopathic flushing, TMJ, hyperhidrosis, and several types of chronic pain syndromes. Psychological symptoms listed included anxiety, depression, panic, fears, and phobias. There was no pathophysiology to explain these somatic symptoms, or more frequently, the duration or intensity of the symptoms were judged by the referring specialist to be grossly out of proportion to the extent of identified pathophysiology. The patients did not meet criteria for a DSM-III-R diagnosis of somatization (300.81) disorder (Katon et al., 1991). All of these patients received what the DSM-III-R calls somatiform disorder (American Psychiatric Association, 1987, pp. 386–387) diagnoses (see Table 1).

These patients' symptoms had not responded to conventional medical therapies such as physical therapy, nerve blocks, multiple drug trials, and/or multiple surgeries. Some patients were referred because of analgesic, hypnotic, or benzodiazepine medication abuse, tolerance, or negative side effects. Some had received iatrogenic injury from invasive tests and surgical procedures. The bulk of them were angry, suspicious, and hopeless. Most had medical folders in excess of 1 pound, a rough operational definition of chronic somatization (Wickramasekera, 1988, 1993). Some of these patients had been referred to or seen at least once by a psychiatrist or psychologist but were generally noncompliant. The referral was specifically for hypnosis, biofeedback, and psychophysiological psychotherapy that may have “face validity” for somatizers (Wickramasekera, 1988, 1989, 1993).

Hypotheses

1. Compared with controls, somatizing patients will show an excess of high and low hypnotic ability.

2. Hypnotic ability will be uncorrelated with all of the other seven high risk factors.

3. The percentage of somatic symptoms will be highest in low and high hypnotic ability patients as compared with moderate hypnotic ability patients.

4. The percentage of psychological symptoms will be lowest in the low hypnotic ability group.

5. Major life changes will be uncorrelated with the other seven risk factors because life changes can drive symptoms independent of explicit (conscious) psychological distress (neuroticism and catastrophizing).

6. Neuroticism, hassles, and catastrophizing will be moderately correlated in these patients.

7. Catastrophizing will be moderately negatively correlated with all measures of psychological well being (e.g., coping skills, satisfaction with social support, etc.).

8. The lie scale (Eysenck and Eysenck, 1968) will be positively correlated with measures of psychological normality such as coping skills (Lane et al., 1990).

9. Somatizers will have mean levels of NA, lower than psychiatric patients but higher than normal subjects.

Procedure

Data were collected in a behavioral medicine clinic within a psychiatry department. This study consisted of an initial clinical interview followed immediately by testing on the HRMTP. The initial interview determined patients' perception of their primary and secondary complaints, their history, and what factors originally triggered and were currently amplifying or attenuating their symptoms. The patients monitored themselves and recorded the frequency, duration, intensity, and location of the presenting somatic symptoms and any

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1 The author, an ABPP diplomate in clinical psychology and professor of psychiatry and behavioral science, did the initial diagnostic interview on all of these patients.
new symptoms that emerged during therapy. The explicit rationale for the tests was to a) identify each patient's risk factors that needed alteration and b) to identify the most appropriate treatment and treatment strategy for each patient. The patient data on the HRMTCP were compared with test data from a community sample (N = 78) matched for age (mean 40 years) and sex (40 women and 38 men) who attended a conference on stress management.

**Results**

Hypnotic ability scores were based on the stringent criterion that required categorization according to both behavioral and subjective scoring (Kirsch et al., 1990). Figure 2 shows that the distribution of hypnotic ability in patients and normal subjects is significantly different (p < .001) by chi-square test. Thirty-two percent of the patients got high (scores between 12 and 10) Harvard scores and 28% got low (scores 4 to 10) Harvard scores. This definition of high (12 to 10) is more stringent than any previous published clinical study. Hypnotic ability is not normally distributed in our patient sample as it is in the community control group. These results support the first hypothesis. The discrepancy between patient (mean ± SD, 6.6 ± 3.6) and control (4.8 ± 3.4 samples of matched age in mean hypnotic ability) is significant (p < .05). There was no significant sex difference in hypnotic ability in patients or controls (see Table 2).

Table 2 compares the means of patients and an age- and sex-matched normal community control sample, plus, where available, published norms on psychiatric patients (Eysenck and Eysenck, 1968; Zocco, 1984). The covert high NA (reducers) subset is < 3% of all our somatizing patients. The somatizers score was significantly higher than that of the normal control subjects on the lie scale. Somatizers score significantly higher than normal control subjects on total major life changes. The present patient sample had a significantly greater frequency and intensity of hassles than did the normal controls. Our patients were significantly lower in number of and satisfaction with social supports than the control group. The patient sample had significantly fewer coping skills than the control group.

**Somatic and Psychological Symptoms**

There is a significant difference in the distribution of somatic and psychological symptoms based on patient classification among low, moderate, and high hypnotic ability groups (p = .003) by chi-square test. Table 3 and Figure 3 present the frequencies and percentages of somatic and psychological symptoms. Low and high Harvard scale score patients have a much larger percentage of somatic symptoms than psychological symptoms (66% vs. .4% for lows, .00007; 76% vs. 24% for highs, .0082), whereas somatic and psychological symptoms are more evenly distributed among moderates (56% vs. 44%, p = .405). The above findings support hypotheses 3 and 4.

**Correlations between Risk Variables in Somatizers**

Table 4 presents the correlations between the three factors. Hypnotic ability and major life change are orthogonal to each other and to all the other risk factors. Catastrophizing is positively and moderately correlated with NA and hassles, but weakly, negatively correlated with satisfaction with social support and coping skills. The lie scale is positively correlated with coping skills. The above results support hypotheses 2, 5, 6, 7, and 8.

**Discussion**

**Hypnotic Ability**

Hypnotic ability is normally distributed in the general population (Hilgard and Hilgard, 1975) and in our community control group. However, these somatizers are clearly not normally distributed in hypnotic ability and there is a surplus of high (33%) and low (25%) hypnotic ability in this sample, as predicted by the HRMTCP. Greenleaf et al. (1992) found that high and low hypnotic ability cardiac surgery patients took longer to stabilize in the intensive care unit than patients moderate in hypnotic ability. These data confirm in somatizers the "surplus" of highs which I have noted (Wickramasekera, 1979, 1984, 1986, 1988, 1993) and others have seen in chronic pain patients (Renler, 1990; Stam et al., 1986), bulimics (Pettinati et al., 1985), substance abusers (Pettinati et al., 1990), posttraumatic stress disorder patients (Spiegel et al., 1988), multiple personality disorder patients (Frischolz, 1985; Statman and Bliss, 1985), some studies of phobics (Kelly, 1984), and patients with anticipatory nausea and vomiting (Challis...
TABLE 2

Comparison of Patients and Normal Subjects on High Risk Variables

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
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<th>df</th>
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<td>Satisfaction</td>
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<td>35.20</td>
<td>-2.96</td>
<td>159</td>
<td>.003</td>
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* Independent t-test for differences in means.

TABLE 3

Frequency and Percentage of Somatic and Psychological Symptoms in High, Moderate, and Low Hypnotic Ability Groups

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<tr>
<th>Hypnotic Ability</th>
<th>Frequencies</th>
<th>Row Percentages</th>
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<tr>
<td></td>
<td>Somatic</td>
<td>Psych</td>
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<tr>
<td>Low</td>
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<tr>
<td>Moderate</td>
<td>19</td>
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<tr>
<td>High</td>
<td>19</td>
<td>16</td>
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![Graph](https://via.placeholder.com/150)

Fig. 3. Percentage of psychological and somatic symptoms in each low, moderate, and high hypnotic ability level.

and Stam, 1992). A hundred years ago, Charcot proposed, and Bernheim opposed, the theory that high hypnotic ability generated disease. I have proposed that it is not hypnotic ability per se but its interaction with other high risk factors, particularly NA, that can generate disease (Wickramasekera, 1979, 1988, 1993, 1994). In the general population, NA is orthogonal to hypnotic ability, but the high level of NA in this patient sample (see Table 2) is consistent with my interactional hypothesis. There is no significant sex difference in hyp-
Table 4
Pearson Correlation among High Risk Factors (Wickramasekera, 1979)

<table>
<thead>
<tr>
<th>Hypnotic Ability</th>
<th>Catastrophizing</th>
<th>Neuroticism</th>
<th>Lie</th>
<th>Major Life Changes</th>
<th>Hassles</th>
<th>Social Support (N)</th>
<th>Social Support Sat.</th>
<th>Coping Skills</th>
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<td>.11</td>
<td>-.06</td>
<td>.01</td>
<td>.22</td>
<td>.01</td>
<td>.02</td>
<td>.04</td>
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<tr>
<td>p = .17</td>
<td>p = .23</td>
<td>p = .54</td>
<td></td>
<td>p = .45</td>
<td>p = .09</td>
<td>p = .87</td>
<td>p = .86</td>
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<tr>
<td>Catastrophizing</td>
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<td>-.16</td>
<td></td>
<td>-.09</td>
<td>.57</td>
<td>-.08</td>
<td>-.03</td>
<td>-.37</td>
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<td>p = .00</td>
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<td>-.06</td>
<td>.01</td>
<td>-.31</td>
<td>-.32</td>
<td>.35</td>
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<td>.01</td>
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<td>.04</td>
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<td>Major Life Changes</td>
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<td></td>
<td>.67</td>
<td>.71</td>
<td>.43</td>
<td>.00</td>
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<td>Hassles</td>
<td></td>
<td></td>
<td>.18</td>
<td>-.02</td>
<td>.17</td>
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<tr>
<td>Social Support N</td>
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<td></td>
<td>.44</td>
<td>.06</td>
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<td>Social Support Sat.</td>
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</table>

Hypnotic ability in the general population (Hilgard and Hilgard, 1975), in our community sample, and in our somatizing patients. If hypnotic ability is one factor driving somatization, contrary to DSM-III-R, perhaps there may be no actual sex differences in the incidence of somatization in the general population. Yet, is psychophysiology more readily diagnosed in males and psychopharmacology (somatization) in females? Hypnotic ability is known to decline with age (Hilgard, 1965); hence, this large percentage of highs (32%) in this older somatizing sample (mean age = 40 years) is doubly surprising. Our patients are blind to the hypotheses of the HRMTTP. The Harvard scale is a standardized test scored objectively and behaviorally, and resistant to administrator (an assistant) bias. If it is argued that patients have greater motivation to score higher on hypnotic ability (to secure therapy), how would one simultaneously account for the surplus of lows in the somatizing sample. A surplus of both highs and lows is exactly what is predicted by the HRMTTP in a sample of somatizers.

Major Life Change

The high density of life changes in somatizers is consistent with the prediction from the HRMTTP which regards this risk factor as operating through mainly unconscious mechanisms in somatizers. It is empirically surprising (Dohrenwend et al., 1984; Schroeder and Costa, 1984), but consistent with our hypothesized unconscious theoretical mechanism.

NA, Catastrophizing, Social Support, Coping Skills, Life Changes, and Hassles

The HRMTTP predicts that somatizers would get more deviant scores on these measures than normal controls, but lower scores than psychiatric patients. Table 2 confirms this prediction for all risk factors but NA. Negative affectivity in somatizers is above psychiatric patients’ norms and this could be secondary to chronic somatic complaints. However, we know that NA is a stable feature of personality and may have preceded the development of the somatic symptoms (Affleck et al., 1992; Dworkin, 1991). Hence, all but the ninth hypothesis of this study is confirmed.

Because of multiple t-tests in this study, it is possible to get significance simply by chance.

There are significant positive but modest correlations between catastrophizing, NA, and hassles, as expected (Dohrenwend et al., 1984; Lazarus et al., 1985). Note that these correlations are only moderate, accounting for approximately between 9% and 32% of the variance. A future statistical regression analysis will test these complex interactions. Highs in psychophysiological psychotherapy (Wickramasekera, 1979, 1988, 1989, 1993) learn that their hypnotic talent is both a liability and an asset. They learn to redirect it. They learn to use hypnotic ability to increase coping skills (e.g., cognitive reappraisal, reduce sympathetic arousal), to access and defuse unconscious perceptions or memories of threat, and to more critically analyze the surplus pattern recognition and surplus social empathy. They learn that it is not enough to put out the “fire” (symptoms) with hypnotic or biofeedback skills, but they must also learn to find the “matches” (identify and define unconscious threats) to avoid new symptoms, because out of mind is not out of body.

Predictions

1. The HRMTTP predicts that highs will have both
somatic and psychological symptoms, and will present in both the mental health and primary care sectors.

2. The HRMT can predict that patients low in hypnotic ability and “repressors” will present mainly or only to primary care physicians for complex reasons (Wickramasekera, 1979, 1988, 1989).

3. Harvard scale screening of all patients in the psychiatric sector will demonstrate that <5% of the retained somatizers (e.g., low back pain) will be lows.

4. In the primary care medical sector, approximately 32% to 40% of all (not simply volunteer) somatizing patients on Harvard scale screening will be found to be low in hypnotic ability.

5. The excess of high and low hypnotic ability somatizers predicted by the HRMT will not be seen in the same health care setting because of the mind-body dichotomy that is implicit in the current perceptions of patients and physicians, and the current practices of insurance companies (Wickramasekera, 1988, 1989).

6. It is predicted that the disconnection of threat perception from consciousness is related to at least three separate mechanisms: high hypnotic ability, low hypnotic ability, and a high covert NA.

References


Eysenck HJ, Eysenck SBG (1958) Eysenck Personality Inventory, Form A. San Diego, CA: Educational and Industrial Testing Service.


Keilner R (1991) Somatization. Psychosomatic syndromes and so-