

On the Interaction of Two Orthogonal Risk Factors, (1) Hypnotic Ability and (2) Negative Affect (Threat Perception) for Psychophysiological Dysregulation (Sympathetic and Parasympathetic) in Psychophysiological Disorders

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■ *The High Risk Model of Threat Perception (HRMTP) postulates that the perception of threat activates the hypothalamic-pituitary-adrenal-axis and psychological security operations (operationalized as predisposing risk factors). The HRMTP (Wickramasekera, 1979, 1986, 1988, 1993a, b, 1994a, b, 1998) is a multidimensional model which proposes that the interaction between a set of 1) predisposing, 2) triggering and 3) buffering factors determines if "threat perception" will produce dysregulation, driving psychological, behavioral and/or somatic symptoms. The predisposing risk factors are (1) High (Harvard 12-9) or low (Harvard 3-0) hypnotic ability; (2) Catastrophizing cognitions (Ellis, 1962; Zocco, 1984); (3) High negative affectivity (N.A.); (4) High repressive coping (Weinberger, 1990) as operationalized by a Marlowe Crowne score of 17 or greater. The triggering factors are (5) Major Life changes and/or (6) Minor Hassles (Kanner et al., 1981). The buffering factors are (7) Low number and satisfaction with Social Support Systems (House et al., 1988; Sarason et al., 1983) and (8) High Coping Skills (Lazarus & Folkman, 1984; Moos, 1993). It appears that "Secrets Kept From the Mind But Not From the Body or Behavior" are due to the operation of at least 3 predisposing risk factors (high and low hypnotic ability and high repressive coping) that block the perception of threat from consciousness but not from behavior and/or biology. It is hypothesized that during threat perception these three predisposing risk factors can induce an incongruence between implicit and explicit (Kihlstrom, 1987) perception, memory and mood. The predisposers (1) high hypnotic ability, (2) low hypnotic ability, and (3) repressive coping are hypothesized to be risk factors for attenuating or blocking the perception of threat from consciousness, and driving psychophysiological dysregulation. High hypnotic ability and high repressive coping are hypothesized to dysregulate the sympathetic nervous system and low hypnotic ability is hypothesized to dysregulate the parasympathetic nervous systems (Wickramasekera, 1979, 1993a, b, 1998; Wickramasekera et al., 1996). Hypnotic ability can cognitively amplify both psychopathology and Autonomic Nervous System reactivity. High hypnotic ability can paradoxically also cognitively attenuate (hypnotic analgesia and hypnotic amnesia) the perception of threat until it is abolished from consciousness and transduced into information limited to the Autonomic Nervous System driving somatization.*

The High Risk Model of Threat Perception (H.R.M.T.P.)

The perception of "threat" can activate physiologically the hypothalamic-pituitary-adrenal-axis and eventually driving neuroendocrine and immune changes, and psychologically threat can mobilize security operations (e.g., repression, projection). The H.R.M.T.P. (Wickramasekera, 1979, 1986, 1988, 1993a, b; 1995, 1998; Wickramasekera et al., 1996) is multidimensional model which proposes that the interaction between a set of (1) predisposing, (2) triggering, and (3) buffering factors determines if "threat perception" will produce dysregulation, driving psychological, behavioral and/or somatic symptoms or will promote adaptive approach coping (Moos, 1993; Wickramasekera, 1988). These predisposing risk factors are (1) high or low hypnotic ability (Wickramasekera, 1979, 1988), (2) catastrophizing cognitions (Ellis, 1962), (3) High negative affect or N.A. (Watson & Tellegen, 1985), and (4) High self-deception (Weinberger, 1990). The triggering risk factors are (5) Major life changes and (6) Minor hassles (Kanner et al., 1981). The buffering risk factors are (7) High number and high satisfaction with support systems (House et al., 1988; Sarason et al., 1983), and (8) high approach and low avoidance coping skills (Moos, 1993).

Dysregulation

Threat perception that is "Out of Mind is not out of Body or Behavior" (Wickramasekera, 1979, 1988, 1993a, b; 1998). It is hypothesized that during threat perception at least 3 of these predisposing risk factors can potentially induce an incongruency between implicit and explicit (Kihlstrom, 1987) perception, memory and mood. The predisposers are (1) high hypnotic ability (Harvard 12-9), (2) low hypnotic

Figure 1: High Risk Model of Threat Perception (Wickramasekera, 1979, 1998)

Factors that may REDUCE threat perception	
BUFFERS	1. High Social Support 2. High Satisfaction With Social Support 3. High Approach vs. Avoidance Coping Skills
TRIGGERS	Density of 1) Major Life Changes and/or 2) Minor Hassles Psychological and/or Somatic Symptoms
AMPLIFIERS OR TRANSDUCERS	Factors that may INCREASE Threat perception 1. High Or Low Hypnotic Ability 2. High Catastrophizing 3. High Negative Affectivity 4. High Repressive Coping

Figure 2: Pearson Correlation Between High Risk Factors (Wickramasekera, 1979)

	Catastrophizing	Neuroticism	Lie	Major Life Changes	Hassles	Social Support Number	Social Support Satisfaction	Coping Skills
Hypnotic Ability	0.15 p=.17	0.11 p=.23	-0.06 p=.54	0.01 p=.46	0.22 p=.09	0.01 p=.87	0.02 p=.86	0.04 p=.33
Catastrophizing		0.57 p=.00	-0.16 p=.18	0.09 p=.28	0.57 p=.00	0.08 p=.46	-0.3 p=.00	-0.37 p=.00
Neuroticism			-0.25 p=.07	-0.06 p=.33	0.52 p=.00	-0.1 p=.35	-0.07 p=.50	-0.51 p=.00
Lie				0.01 p=.67	-0.28 p=.06	0.04 p=.71	-0.02 p=.43	0.3 p=.00
Major Life Changes					0.18 p=.12	-0.02 p=.44	-0.17 p=.06	-0.12 p=.13
Hassles						-0.03 p=.75	-0.3 p=.00	-0.38 p=.00
Social Support Number							0.54 p=.00	0.32 p=.00
Social Support Satisfaction								0.44 p=.00
Coping Skill								

ability (Harvard 3-0), and (3) high self-deception (Marlowe-Crowne equal to or greater than 17). They are hypothesized to be risk factors for reducing or blocking the perception of threat from consciousness, and driving psychophysiological dysregulation (Wickramasekera, 1979, 1988, 1993a, b; 1998; Wickramasekera et al., 1996). High trait hypnotic ability is one of the main personality factors that can drive disorder and eventually disease through dysregulation of the autonomic nervous system, or alternatively, it can drive a higher level of behavioral approach coping and adaptive physiological functioning associated with the transformation of life (Wickramasekera, 1988). High trait hypnotic ability can also paradoxically cognitively amplify (e.g., through the perception of "involuntary" changes in memory, mood, and perceptions) psychopathology and both ANS reactivity and delayed recovery from threat perception (Wickramasekera, 1987; Wickramasekera & Atkinson, 1992; Wickramasekera, Ware, & Saxon, 1992; Wickramasekera, 1994a, b; Wickramasekera, Pope & Kolm, 1996). For example, Wickramasekera et al. (1996) showed that "highs" reacted sympathetically more stron-

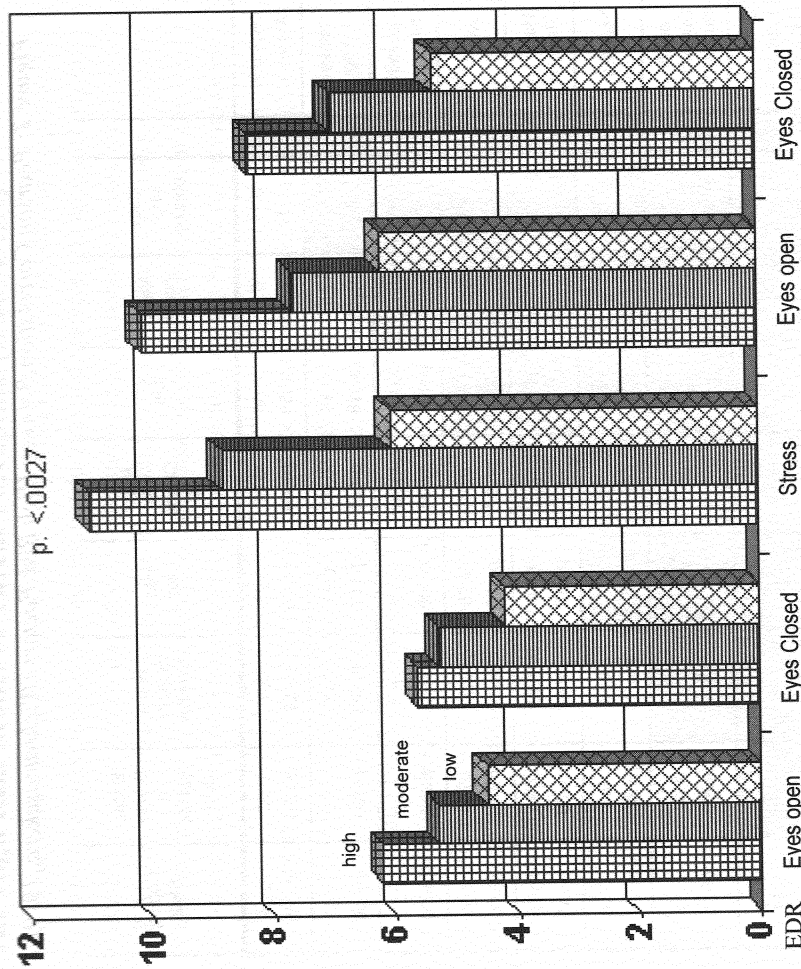


Figure 3: Interaction Between Hypnotizability and EDR in Chronic Pain. Wickramasekera et al. (1996)

gly and took longer to recover from cognitive stress than "lows". For example, highs are also more likely to respond to negative affect (threat perception) with EEG defined primary insomnia and moderate obesity (Wickramasekera & Atkinson, 1992; Wickramasekera et al., 1992). Whereas lows will also respond to threat perception (N.A.) with insomnia (Perlstrom et al., 1995, 1996; Perlstrom & Wickramasekera, 1998; Wickramasekera et al., 1992) and morbid obesity (Wickramasekera & Price, 1997). High hypnotic ability people can cognitively reduce the perception of threat until it is abolished from consciousness (e.g., post hypnotic amnesia, surgical analgesia) and or transduced into threatening information which can be limited to the ANS, neuroendocrine and immune systems, causing somatization (e.g. primary hypertension) and eventually psychophysiological dysregulation and organic disease (Wickramasekera, 1998). It appears that high hypnotic ability is related mainly to a hyperactivation and delayed recovery of the sympathetic branch of the autonomic nervous system (Wickramasekera, 1987; Wickramasekera, 1994a; Wickramasekera, Pope, & Kolm, 1996). It appears that low hypnotic ability, as a risk factor, is related to a dys-

regulation, manifested as excessive or insufficient vagal tone (Porges, 1991, 1992) of the parasympathetic branch of autonomic nervous system (Price & Wickramasekera, 1994; Wickramasekera & Price, 1997; Wickramasekera, 1998).

Self-Regulation

Self-regulation consists of at least four operations (1) identify and temporarily decrease the patient's high risk predisposing factors (e.g., catastrophizing, selective retention of negative memories) with self-hypnosis, biofeedback, or cognitive behavior therapy techniques like desensitization, reframing, or correction of cognitive distortions (Wickramasekera, 1986, 1988), (2) increase congruency in information processing between implicit and explicit perceptions, memories, and moods in the present (Wickramasekera, 1994b; Wickramasekera, 1998; Wickramasekera & Wickramasekera II, 1997; Wickramasekera, Davies & Davies, 1996) through accessing processing and assimilating aversive repressed fantasies, memories or perceptions, (3) acquire and practice self-soothing skills (self-hypnosis for high trait hypnotic ability people and biofeedback or cognitive behavior therapy for low trait hypnotic ability people) in the therapeutic alliance to access and buffer the assimilation and digestion into consciousness of painful perceptions, fantasies or memories of threat, (4) recruit and reverse the direction of activity (Wickramasekera, 1979, 1988, 1993a, b; 1998) of high trait hypnotic ability mechanisms (e.g., hypersensitivity reversed into analgesia or amnesia, surplus empathy to stronger boundaries, surplus pattern recognition to more critical cognition, reduce self-absorption in negative affect and refocus it on positive affect). Self-regulation is implemented initially, for low hypnotic ability patients, through a set of quantitative low physiological arousal induction procedures called the Trojan Horse Role Induction (Wickramasekera, 1988) to by-pass security operations and to inhibit the typically automatic skeptical, critical analytic mechanisms of cognition in low trait hypnotic ability people. Psychophysiological psychotherapy (Wickramasekera, 1979, 1988, 1993a, b) is the therapy of choice for all somatizers irrespective of high or low hypnotic ability or high self-deception. It has the following four components (1) psychotherapy done always with (2) concurrent autonomic nervous system monitoring to detect "threat perception" this is "out of mind but not out of body" (Wickramasekera, 1993a, b, 1994b, 1998; Wickramasekera, Davies & Davies, 1996; Wickramasekera & Wickramasekera II, 1997). The practice of (3) self-hypnosis or biofeedback to grow physiological "self-soothing" skills to buffer the assimilation and digestion into consciousness of threat perception (Wickramasekera, 1979, 1988, 1993a, b, 1998).

Prediction from the High Risk Model of Threat Perception

During threat perception (major life changes or multiple hassles), the following somatic, behavioral, and psychological symptomatic patterns are predicted for the following risk factors. The coincidence of (1) low hypnotic ability (Greenleaf et al., 1992; Saxon & Wickramasekera, 1994; Wickramasekera & Price, 1997) and high self-deception (Palsson et al., 1997; Saxon & Wickramasekera, 1994) is predicted to generate predo-

minantly (approximately 95%) somatic symptoms and the most robust form of repression (e.g., primary hypertension, morbid obesity, non-organic chest pain, chronic pain, TMJ), and eventually cancer, heart disease and coronary occlusion). The coincidence of (2) high hypnotic ability and high self-deception is predicted to generate a less robust form of repression with somatization (e.g., vasovagal syncope, primary insomnia, irritable bowel syndrome, migraine and tension headache) in which approximately 60% of all symptoms are somatic (Wickramasekera, Ware, & Saxon, 1992; Wickramasekera, 1994b; Wickramasekera, Davies, & Davies, 1996), but psychological (e.g., depression, anxiety, phobias, panic disorder) and behavioral (substance abuse, sexual addictions, etc.) symptoms also occur. The coincidence of (3) high hypnotic ability and true low negative affectivity (low Marlowe-Crowne score and low negative affect) is predicted to generate few or no psychological or somatic symptoms of any kind, and mainly approach rather than avoidance coping. The coincidence of (4) high hypnotic ability and high negative affectivity (Perlstrom et al., 1995; Perlstrom et al., 1996; Perlstrom & Wickramasekera, 1998; Wickramasekera & Atkinson, 1992; Wickramasekera, Ware, & Saxon, 1992; Wickramasekera, 1995) is predicted to generate symptoms that are approximately 70% psychological (depression, anxiety, phobias, etc.) or behavioral (addictions, etc.) and approximately 30% mixed psychological and somatic (e.g., dissociative identity disorder, primary insomnia, borderline, post traumatic stress disorder, hysterical psychosis).

All the above four predictions are more likely if the patient's quantity and level of satisfaction with social support systems is low and the patient's approach coping skills are also low, and if the patient has recently experienced major life changes and or many hassles. It is predicted that low hypnotic ability and high self-deception will be the primary mechanism of somatization and eventually organic disease of patients seen in the (6) primary care (e.g., Family and Internal Medicine) and medical/surgical sector (Greenleaf et al., 1992; Palsson et al., 1997; Saxon & Wickramasekera, 1994a, 1988, 1998). But, in the case of patients seen in the (7) mental health sector, high hypnotic ability and high self-deception will be the primary mechanism of psychopathology, somatization, and behavioral (substance abuse) addictions (Wickramasekera, 1988, 1995, 1998).

References

- Ellis, A. (1962). *Reason and emotion in psychotherapy*. New York: Lyle Stuart, Inc. Greenleaf, M., Fisher, S., Miaskowski, C., & DuHamel, K. (1992). Hypnotizability and recovery from cardiac surgery. *American Journal of Clinical Hypnosis*, 35(2), 119-128.
- Greenleaf, M., Fisher, S., Miaskowski, C., & DuHamel, K. (1992). Hypnotizability and recovery from cardiac surgery. *American Journal of Clinical Hypnosis*, 35(2), 119-128.
- House, J.S., Landis, K.R., & Umberson, D. (1988). Social relationships and health. *Science*, 241, 540-545.
- Kanner, A.D., Coyne, J.C., Schaefer, C., & Lazarus, R.S. (1981). Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. *Journal of Behavioral*

- Kihlstrom, J.F. (1987). The cognitive unconscious. *Science*, 237, 1445-1452.
- Lazarus, R.S., & Folkman, S. (1984). *Stress, Appraisal and Coping*. New York: Springer. Moos, R.H. (1993). *Coping Responses Inventory. CRI - Adult Form Professional Manual*. Odessa, Florida: Psychological Assessment Resources, Inc.
- Palsson, O.S., Wickramasekera, I.E., Rutledge, C., Davies, M., & Downing, B. (1997). Social desirability, repression, and finger temperature. *Applied Psychophysiology and Biofeedback*, 22(2), 143.
- Perlstrom, J.R., Morin, C.M., Wickramasekera, I.E., Strong, S.R., & Ware, J.C. (1995). The high risk model of threat perception: Clinical and theoretical implications for sleep disorders. *Sleep Research*, 24, 177.
- Perlstrom, J.R., Morin, C.M., Wickramasekera, I.E., & Ware, J.C. (1996). Hypnotizability in insomnia and apnea patients. *Sleep Research*, 25, 172.
- Perlstrom, J.R., & Wickramasekera, I.E. (1998). Insomnia, hypnotic ability, negative affectivity, and the high risk model of threat perception. *The Journal of Nervous and Mental Disease*, 186(7), 437-440.
- Porges, S.W. (1991). Vagal tone: An autonomic mediator of affect. In J.A. Gaber and K.A. Dodge (Eds), *The development of affect regulation and dysregulation* (pp. 111-128). New York: Cambridge University Press.
- Porges, S.W. (1992). Vagal tone: A physiological marker of stress vulnerability. *Pediatrics*, 90(3), 498-503.
- Price, D., & Wickramasekera, I. (1994). *Morbid Obesity: Absorption and Negative Affect*. Symposium on the High Risk Model of Threat Perception, Atlanta, GA (1994 March). Association for Applied Psychophysiology and Biofeedback.
- Sarason, I.G., Levine, H.M., Basham, R.B., and Sarason, B.R. (1983). Assessing social support: The social support questionnaire. *Journal of Personality and Social Psychology*, 44, 127-139.
- Saxon, J., & Wickramasekera, I. (1994). *Discriminating patients with organic disease from somatizers among patients with chest pain using factors from the high risk model of threat perception*. Society for Experimental and Clinical Hypnosis, San Francisco, CA October 1994.
- Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin*, 98, 219-235.
- Weinberger, D. A. (1990). The construct validity of the repressive coping style. In J. L. Singer (Ed.), *Repression and Dissociation: Implications for personality theory, psychopathology, and health* (pp. 337-386). University of Chicago Press.
- Wickramasekera, I. (1979). *A model of the patient at high risk for chronic stress related disorders: Do beliefs have biological consequences?* In Proceedings of the Annual Convention of the Biofeedback Society of America, San Diego, CA.
- Wickramasekera, I. (1986). A model of people at high risk to develop chronic stress related somatic symptoms: Some predictions. *Professional Psychology: Research and Practice*, 17(5), 437-447.
- Wickramasekera, I. (1987). *Chronic Pain, EDR and Hypnotic Ability*. Symposium on the High Risk Model of Threat Perception with Charles Strobel, M.D., Ph.D. and Paul Bindler, Ph.D. March 1987, Association for Applied Psychophysiology and Biofeedback.
- Wickramasekera, I. (1988). *Clinical behavioral medicine: Some concepts and procedures*. New York: Plenum.
- Wickramasekera, I. (1993a). Assessment and treatment of somatization disorders: The high risk

model of threat perception. *Handbook of Clinical Hypnosis* (pp.587-621). Washington, DC: American Psychological Association.

Wickramasekera, I. (1993b). *High hypnotic ability and high neuroticism as risks factors for psychopathology and pathophysiology*. Paper presentation, American Psychological Association, Toronto, Canada.

Wickramasekera, I. (1994a). Psychophysiological and clinical implications of the coincidence of high hypnotic ability and high neuroticism during threat perception in somatization disorders. *American Journal of Clinical Hypnosis*, 37(1), 22-33.

Wickramasekera, I. (1994b). Somatic to psychological symptoms and information transfer from implicit to explicit memory: A controlled case study with predictions from the High Risk Model of Threat Perception. *Dissociation*, 7(3), 153-166.

Wickramasekera, I. (1995). Somatization: Concepts, data and predictions from the high risk model of threat perception. *The Journal of Nervous and Mental Disease*, 183(1), 15-23.

Wickramasekera, I. (1998). Secrets kept from the mind but not the body or behavior: The unsolved problems of identifying and treating somatization and psychophysiological disease. *Advances: The Journal of Mind-Body Medicine*, 14, 81-98.

Wickramasekera, I., & Atkinson, R. (1992). *Obesity, hypnotic ability and the psychophysiology of cognitive threat*. Paper presented at the symposium on Hypnotic Ability as a risk factor for psychopathology and pathophysiology with Herbert Spiegel, M.D. and A. Tellegen, Ph.D., Washington, D.C. August 1992, American Psychological Association.

Wickramasekera, I., Davies, T., & Davies, M. (1996). Applied psychophysiology: A bridge between the biomedical model and the biopsychosocial model in family medicine. *Professional Psychology: Research and Practice*, 27(3), 221-233.

Wickramasekera, I., Pope, A.T., & Kolm, P. (1996). On the interaction of hypnotizability and negative affect in chronic pain: Implications for the somatization of trauma. *Journal of Nervous and Mental Disease*, 184, 628-635.

Wickramasekera, I., & Price, D. (1997). Morbid obesity, absorption, neuroticism and the high risk model of threat perception. *American Journal of Clinical Hypnosis*, 34(4), 291-302.

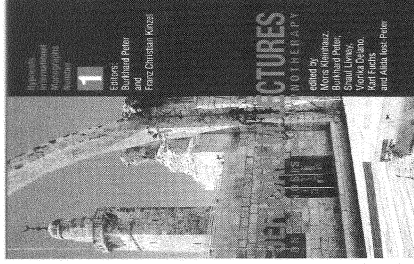
Wickramasekera, I., Ware, C., & Saxon, J. (1992). *EEG defined insomnia and hypnotic ability with pathophysiology excluded*. Paper presented at a symposium on "Hypnotic Ability as a Risk Factor for Psychopathology and Pathophysiology" at the 100th Annual Convention of the American Psychological Association, Washington, DC.

Wickramasekera, I., & Wickramasekera II, I. (1997). A case study: Electromyographic correlates in the hypnotic recall of a repressed memory. *Dissociation*, 10(1), 11-20. Zocco, L. (1984). *The development of a self-report inventory to assess dysfunctional cognitions in phobias*. Unpublished doctoral dissertation, Virginia Consortium for Professional Psychology, Norfolk.

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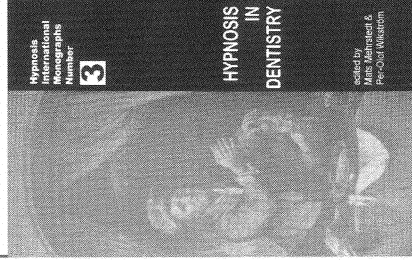
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