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Higher States of Consciousness: Maharishi Mahesh Yogi's Vedic Psychology of Human Development

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This paper describes a systematic framework, derived from the Vedic tradition of India by Maharishi Mahesh Yogi, for the development of higher states of consciousness. A series of three stable stages beyond currently conceived endpoints of development are described, based upon the unfoldment of "pure" or "self-referral" consciousness as a stable underlying basis of experience. Pure consciousness is consciousness aware of itself as an unbounded field independent of all mental activity such as thought and feeling. The first of the higher stages is "cosmic consciousness," in which pure consciousness is permanently maintained throughout all other experiences. A substantive body of research supports the uniqueness of the state of pure consciousness and the pattern of development predicted to occur with growth of cosmic consciousness. Development is predicted to further progress through the higher stages of "refined cosmic consciousness" to "unity consciousness," in which the individual is said to directly and permanently experience the underlying unity of the perceiver and the perceived, the subject (self) and object, as the field of pure consciousness. The Vedic perspective extends current conceptions of development by locating a unified foundation of cognitive and affective processes, pure consciousness, as the basis of higher stages of development.

We propose that the description of higher states of consciousness found in the Vedic tradition of India, as elaborated by Maharishi Mahesh Yogi, provides a comprehensive and rigorous psychology of human development beyond current conceptions. Our central thesis is that Maharishi's perspective on Vedic knowledge identifies a more fundamental level of cognitive structure than that of sensorimotor activity or mental operations, a level of "pure consciousness" that forms the basis of several higher stages of human development.

Our intention is to first comprehensively present the Vedic perspective on

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human development in its own terms, explaining the higher stages it identifies; the relationship of this perspective to the current views of development is explored in the second part of the paper.

The Vedic tradition is the world's oldest continuous system of knowledge (Basham, 1959, p. 4), containing both a body of theoretical descriptions and experimental or experiential practices for the attainment of higher states of consciousness, or "enlightenment" (*Bhagavad-Gita*, 1897/1977; Maharishi Mahesh Yogi, 1969; Patanjali, 1912/1978; *Principal Upanishads*, 1974). Among the distinctive features which make the descriptions of enlightenment attractive as a source for a theoretical perspective on human development beyond adolescence are the following: (1) the goal of enlightenment is shared as a cultural ideal by many peoples; (2) enlightenment is explicitly seen as a higher level of human functioning than what is usually considered as typical of normal adult life; (3) a substantial body of theoretical work describes this higher development; and (4) an extensive set of practices have the attainment of this goal as their purpose.

In spite of this, in the past a number of constraints has kept psychologists and the scientific community at large from pursuing more deeply the Vedic perspective. Among these restrictions were that persons displaying such enlightenment or even apparent progress toward it were exceedingly rare, that enlightenment was considered not open to scientific investigation, that the theoretical literature was obscure to those outside the tradition itself, and that the practices to gain enlightenment were usually described as difficult and demanded a renunciation of activity, thus appearing neither available for study nor central to the general pattern of human life.

Maharishi Mahesh Yogi's contribution in clarifying and applying the Vedic framework of human development is unique in three respects. The first is that on a theoretical level, he has elaborated the Vedic descriptions of development of consciousness in a coherent and scientifically testable language, as a systematic and precisely defined sequence of development leading to the full unfoldment of human potential. The second major contribution is that he has made available systematic and uniform practices, the Transcendental Meditation (TM) technique and the advanced practice of the TM-Sidhi program, which are compatible with an active rather than reclusive life style, are simple to practice, amenable to scientific research, and are predicted to lead to the full range of human development outlined in the Vedic tradition (Maharishi Mahesh Yogi, 1969). The result of this practical contribution is that a large body of individuals instructed in the TM technique (over one million in the United States, and over three million world-wide) are available for research, and a large body of scientific data is available which relates directly to this theory of development (Chalmers, Clements, Schenkluhn, and Weinless, in press; Orme-Johnson and Farrow, 1976).

The third contribution is that Maharishi's Vedic psychology not only offers a theory of human development and procedures to culture this development, but it also proposes a fundamental connection between human consciousness and nature. Ancient Vedic science asserts that there is a unified field at the source of all manifest existence, identified as a field of pure intelligence in nature (Maharishi Mahesh Yogi, 1969; *Principal Upanishads*, 1974). This description is quite contemporary. The formulation of a consistent unified field theory is a focus of intense current activity in physics, and the major features of such a theory are now in place (Green, 1986; Hagelin, 1987). However, according to Maharishi's Vedic psychology, what makes such a field practically relevant to human life is that the unified field of intelligence in nature can be directly experienced by the individual, and fully unfolded in human life. With the full development of human consciousness, the underlying unity of nature is fully available to experience, integrating and enriching all aspects of life (Maharishi Mahesh Yogi, 1986). The connection between consciousness and nature will be explored in more detail after outlining Maharishi's Vedic psychology of development and its relation to contemporary theories of development.

Maharishi's Vedic Psychology of Development

Maharishi's Vedic psychology states that a progressive sequence of transformations in the basic structure of knowledge should occur after the development of the structure characteristic of typical "adult" thought. It outlines a series of higher stages of development, referred to as higher states of consciousness or enlightenment. These states represent holistic development that are at once cognitive, affective, and physiological. The higher stages are said to be potentially available to every person, yet their attainment is rare unless consciousness is cultured through the experiences provided by specific practices preserved in the Vedic tradition (e.g., Maharishi Mahesh Yogi, 1969, pp. 14–15).

Maharishi describes "seven states of consciousness," four of which are temporary states and three of which are stable higher stages. The first three of the temporary states are found in all persons: waking, dreaming, and dreamless sleep states of consciousness (Maharishi Mahesh Yogi, 1972). Life prior to the development of enlightenment is considered limited to the alternation of these major states of consciousness. This cycle is clearly described in the classical Vedic literature (e.g., *Principal Upanishads*, 1974, p. 693). Contemporary psychophysiological research has outlined in detail the diurnal or daily cycle of waking, dreaming, and sleeping (e.g., Gackenbach, 1987; Reschtschaffen and Kales, 1978).

Maharishi's Vedic psychology states that when the individual is limited to

these three variable states of consciousness, the rate of development of all aspects of life is restricted. When one's awareness is not consciously connected with the field of pure intelligence in nature, the unified field, it is said that one does not express one's full potential nor does one spontaneously act in a manner that simultaneously supports one's own interests and the interests of others (Maharishi Mahesh Yogi, 1986, pp. 94–101). As a result of this partial perspective on nature, the individual repeatedly makes mistakes, and both the individual and collective life suffer as a result. From this framework, typical adult life expresses only a limited degree of development.

The Fourth State of Consciousness

The real beginning of development to a higher level of cognitive, affective, and physiological functioning, according to Maharishi's Vedic psychology, is the experience of the fourth major state of consciousness, referred to traditionally as "transcendental consciousness" or "pure consciousness" (Maharishi Mahesh Yogi, 1972; *Principal Upanishads*, 1974, p. 693). The state of pure consciousness is described by Maharishi as a state of "least excitation of consciousness," a state in which the awareness retires from all objects of preception and from all mental fluctuations or activity to a state of pure inner, wakeful silence (Maharishi Mahesh Yogi, 1969, p. 433). In this state, the knower is said to experience the field of consciousness itself, consciousness in its pure state separate from any thought, feeling, or perception. In this "self-referral" state of consciousness, the observer (*Rishi* in Vedic terminology), the process of observation (*Devata*), and the observed (*Chhandas*) are unified in one unbroken wholeness of pure consciousness (*Samhita*) [Maharishi Mahesh Yogi, 1986]. That is, the subject-object relationship itself is transcended, including all representational structures or categories (Maharishi Mahesh Yogi, 1972). Pure consciousness is said to be the experience of consciousness as an unbounded or universal field. This experience is also traditionally described as the experience of the "Self"; the capitalization is used to distinguish the experience from that of the restricted ego structure or dynamics characteristic of normal "waking" activity and to denote the universality of the field of pure consciousness (Maharishi Mahesh Yogi, 1969, p. 432).

To experience pure consciousness, the individual's awareness must settle from a state of activity to a state of silence while remaining alert. What distinguishes Maharishi's practical procedure for gaining this experience is its effortlessness; the mind is not "forced" to be still (Maharishi Mahesh Yogi, 1969, p. 432). According to Maharishi, the reason for this effortlessness is that "subtler" or more refined levels of mental activity and the experience of pure consciousness are increasingly charming or satisfying in contrast to more active levels of thought or perception, and thus the attention can be spontaneously taken in this direction (Maharishi Mahesh Yogi, 1969, p. 420).

Because the TM technique is effortless and said to be based only on the individual's ability to experience any impulse of thought rather than the degree to which one is able to formally represent or manipulate a proposition, the technique can be taught to anyone regardless of intelligence, attitude, belief, or lifestyle (Maharishi Mahesh Yogi, 1969, p. 470). This is consistent with the experience of those who have taught the technique; the elderly in nursing homes, maximum security prisoners with minimal education, hospitalized psychiatric patients, and moderately mentally retarded subjects have been able to learn and benefit from the technique (Alexander, Langer, Newman, Chandler, and Davies, in press; Bleick and Abrams, 1987; Candelent and Candelent, 1975; Eyerman, 1981; Subrahmanyam and Porkodi, 1980). The fact that pure consciousness can be universally experienced is consistent with the proposal that this state and the other higher states of consciousness described below are natural and independent of individual differences in personality, cognitive style, or conceptual abilities.

Research on the State of Pure Consciousness

Maharishi describes pure consciousness as a major state of consciousness, and thus he predicted that it is associated with a unique style of physiological functioning—a state of "restful alertness"—distinct from waking, dreaming, and deep sleep (Maharishi Mahesh Yogi, 1966, pp. 132–134). This prediction motivated the first physiological research on the TM technique (Wallace, 1970). Subsequent research on the technique has mostly focused on the general physiological changes associated with the practice, but has also identified those changes found during periods of the technique denoted by subjects as experiences of pure consciousness.

Among the general effects of the TM technique in contrast to eyes-closed rest are reduced respiration rate (Gallois, 1984; Kesterson, 1986), decreased respiratory tidal volume and response to hypercapnia (Wolkove, Kreisman, Darragh, Cohen, and Frank, 1984), reduced arterial lactate (Jevning, Wilson, Smith, and Morton, 1978), reduced plasma cortisol (Jevning, Wilson, and Davidson, 1978), increased basal GSR and increased argenine vasopressin (O'Halloran, Jevning, Wilson, Skowsky, Walsh, and Alexander, 1985). A meta-analysis of frequently-studied physiological effects of TM practice showed significantly larger effect sizes for basal GSR, respiration rate, and plasma lactate than for eyes-closed rest (Dillbeck and Orme-Johnson, 1987).

EEG changes consistently associated with the practice in contrast to eyes-closed relaxation include an increase in high-amplitude alpha activity in frontal and central derivations, particularly in the slow alpha frequencies, with the occasional occurrence of synchronous theta trains and high-amplitude theta activity (Banquet, 1973; Hebert and Lehmann, 1977; Wallace, Benson, and

Wilson, 1971). Increases in EEG coherence above a .95 threshold, particularly in the frontal areas, were distinctive of the TM technique in contrast to relaxation (Dillbeck and Bronson, 1981; Levine, 1976). EEG coherence is a relational measure of similarity of two EEG signals, comparable to a squared correlation.

The integrated complex of physiological changes taking place spontaneously during the TM technique is consistent with the suggestion of a major change in the state of physiological functioning. An important question relating to the changes found during the technique is their distinctiveness from the waking and sleeping states. All the effects noted above are in contrast to a waking baseline period, and all these studies but one (Wallace et al., 1971) also used eyes-closed resting controls. Although it is reported that sleep can occur during practice if subjects are fatigued, the physiological changes reported above also distinguish the state during TM practice from that of sleep. A more detailed analysis of physiological differences between waking, sleep states, and that of TM practice is found in Alexander, Cranson, Boyer, and Orme-Johnson (1987).

It should be noted that during the technique, the subjective and physiological process is such that the quality of experience varies at different times of the meditation practice. During periods reported by subjects as the experiences of pure consciousness (indicated by a button press immediately following the experience), there was an intensification of physiological changes usually found during the practice, particularly respiratory and EEG coherence changes (Badawi, Wallace, Orme-Johnson, and Rouzeré, 1984; Farrow and Hebert, 1982). Among these more distinct effects were periods of natural breath suspension for durations of up to one minute; these periods were not followed by compensatory hyperventilation and were coincident with periods indicated by the button press. Sudden increase in EEG coherence also occurred at these times, in contrast to controls holding their breath for comparable periods of time (Badawi et al., 1984).

The Fifth State of Consciousness

The fifth state of consciousness in Maharishi's Vedic psychology is the first of the higher stages of development, in the sense that it represents a stable structure of experience. It is the first of the permanent stages of enlightenment. The structure of this stage as well as its process of development are best described in terms of the experience of pure consciousness.

With regular experience of pure consciousness, the quality of waking, dreaming, and sleeping states of consciousness are predicted to become enriched as a result of the physiological effects of the practice. That is, the quality of

"restful alertness" is predicted to carry over into deep sleep, dreaming, and waking, leading to a more efficient quality of rest during sleep and dreaming, and increased physiological stability and effectiveness of activity during the waking state (Maharishi Mahesh Yogi, 1972).

The body is also predicted to be conditioned or habituated gradually and increasingly to maintain the state of pure consciousness along with the changing states of sleeping, dreaming, and the dynamic activity of the waking state. Thus, pure consciousness is maintained as a stable, continuous substrate to the changing states of awareness. It is this stage that is described by Maharishi as the fifth major state of consciousness, the first stage of enlightenment, termed "cosmic consciousness" (Maharishi Mahesh Yogi, 1972). It is also traditionally referred to as the state of "Self-realization," because the field of pure consciousness, the "Self," bcomes a permanent and unshakeable experience (e.g., *Bhagavad-Gita*, 1897/1977, p. 174). Maharishi states that this stage of development should have a distinctive style of physiological activity, characterized by stress-free functioning, great neurophysiological integration, and the coexistence of restful alertness along with dynamic activity (Maharishi Mahesh Yogi, 1972).

As a proposed higher structural stage of development, what is the nature of cognition and behavior in this first stage of enlightenment? In order to understand the broadest implications of the description of thought and behavior in this stage, it is useful to elaborate on the Vedic description of pure consciousness. The less excited states of mental activity experienced as the awareness settles to the state of pure consciousess are described as more "abstract" levels of mental activity (Maharishi Mahesh Yogi, 1972). Although the TM technique is an effortless experiential technique rather than an intellectual process, the word "abstract" is meant to denote that the lesser excited states are, in a structural sense, hierarchically more comprehensive, as more abstract mathematical structures are more comprehensive. It is predicted that when one's awareness is functioning in daily life from a more abstract level, then one's cognitive structure is more broadly comprehensive and capable of more efficient focus of attention, and as a result one is more integrated with the environment. Thought and behavior are said to be more appropriate, in a spontaneous way, to the needs of one's environment (Maharishi Mahesh Yogi, 1969, p. 284).

This process culminates in the first stage of enlightenment, in which the comprehensiveness of awareness has expanded to be permanently identified with the most universal level of nature, the unified field of pure intelligence (Maharishi Mahesh Yogi, 1969, pp. 135–138). When the individual's awareness is established in this field, individual action is predicted to be integrated with the full range of natural law and therefore to have no damaging effect on anyone or anything (Maharishi Mahesh Yogi, 1986, p. 45). The adjective

"cosmic" in the name of this state indicates this characteristic of universality, in which the individual has permanently realized the field of pure intelligence, or pure consciousness, as the "Self."

The subjective consequences of this breadth of comprehension are said to be both inner satisfaction and freedom from mistakes and suffering (Dillbeck, 1983). It was earlier proposed that lesser excited states were subjectively more pleasing. The exprience of pure consciousnes is traditionally characterized as one of "supreme" happiness or "bliss" (*Bhagavad-Gita*, 1897/1977, p. 197; Maharishi Mahesh Yogi, 1969, p. 173). When this exprience is permanently established, in cosmic consciousness, then contentment, security, and inner satisfaction are said to be unshaken by any external events. Moreover, one is said to be free from restricting identification with external sources of reinforcement. Correspondingly, the sense of self-identity is said to be solely in terms of pure consciousness rather than dependent upon any particular experience or intellectual construction. The sense of self is identified with the silent experience of pure consciousness, described as a constant background to all mental activity, as well as sleep and dreams. This inner stability on the level of consciousness leads to greater cognitive, affective, behavioral, and physiological stability and adaptability. Therefore, the experiences of inner silence, stability, and freedom are described as accompanying even the most dynamic activity (Maharishi Mahesh Yogi, 1969, pp. 145, 151).

Research on the Development of Cosmic Consciousness

The various aspects of the general description of the development of cosmic consciousness have been tested to different degrees. A great deal of research relates to the direction of growth predicted in the development of cosmic consciousness; several studies relate more directly to the stage of cosmic consciousness itself.

A major approach to study the development of cosmic consciousness is to assess longitudinal changes in physiological and psychological parameters among adults who start the practice of the Transcendental Meditation and TM-Sidhi program. Among the general predictions of the developmental model supported by empirical research on the Transcendental Meditation technique are greater neurophysiological integration and development and improved health, such as increased EEG coherence, greater lateralization of EEG, reduced hypertension, reduced medical care utilization, and increased longevity in the elderly (Alexander, Langer et al., in press; Bennett and Trinder, 1976; Cooper and Aygen, 1979; Dillbeck and Bronson, 1981; Orme-Johnson, 1987). Measured effects on mental functioning include broader comprehension along with finer focus of cognitive and perceptual processes, as indicated by improvements in perceptual and cognitive flexibility, field in-

dependence, memory, fluid intelligence, concept learning, academic achievement, moral reasoning, and figural creativity (Alexander, Langer et al., in press; Cranson, in press, Dillbeck, 1982; Dillbeck, Assimakis, Raimondi, Orme-Johnson, and Rowe, 1986; Dillbeck, Orme-Johnson, and Wallace, 1981; Kember, 1985; Miskiman, 1976; Pelletier, 1974; Shecter, 1978; Travis, 1979). Affective and personality changes include greater contentment and psychological stability, as measured by reduced negative personality characteristics and enhanced positive characteristics across a wide range of measures, and a stronger and more secure sense of self, as indicated by improved self concept and increased self actualization (Dillbeck, 1977; Ferguson and Gowan, 1976; Nidich, Seeman, and Dreskin, 1973; Shecter, 1978; Turnbull and Norris, 1982). Behavioral changes resulting from the practice include more effective activity, as indicated by improved family life, job satisfaction, and reduced drug and alcohol use (Aron and Aron, 1982; Bräutigam, 1976; Brooks and Scarano, 1985; Frew, 1974; Shafii, Lavely, and Jaffe, 1974). Longitudinal research on the effects of the advanced TM-Sidhi program indicated an increased rate of development even in comparison to control groups of TM participants in terms of neurophysiological, endocrine, and cognitive efficiency (e.g., Dillbeck et al., 1981; Orme-Johnson, Wallace, Dillbeck, Alexander, and Ball, in press; Wallace, Mills, Orme-Johnson, Dillbeck, and Jacobe, 1983; Werner, Wallace, Charles, Janssen, Stryker, and Chalmers, 1986).

A meta-analysis of research on the TM technique related to psychological outcomes, which assessed the results of the 25 controlled studies performed until 1980 on the kinds of affective and personality changes reported above, found a mean size effect of .82 in control group standard deviation units (Ferguson, 1981). Ferguson (1981) also found that there was a significant positive correlation between duration of TM practice and effect size among studies with an experimental design. A subsequent meta-analysis of all controlled studies of the effects of the TM program, other meditation procedures, and relaxation procedures in reducing trait anxiety (99 independent outcomes) showed a significantly greater effect of the TM program, which has an average effect size of .70 in control group standard deviation units; none of the other procedures differed significantly from one another on effect size (Eppley, Abrams, and Shear, in press).

It is useful to consider alternative explanations for these findings, such as subject self-selection or subject bias. Cross-sectional and longitudinal comparisons employing a wait-list control group of prospective TM participants with comparable demographic and pretest characteristics do not support a subject selection explanation. In addition, the numerous longitudinal studies involving random assignment designs give strong evidence that results are due to the practice rather than to subject selection factors (e.g., Alexander, Langer et al., in press; Ballou, 1976; Bräutigam, 1976; Brooks and Scarano,

1985; Dillbeck, 1977, 1982; Pelletier, 1974; Shecter, 1978). With regard to subject bias effects such as placebo or expectation effects, several studies found longitudinal improvement to be uncorrelated with subjects' prior expectations for change. Also, in contrast to placebo effects, the effects of the practice are found to be large and also to be stable or cumulative (e.g., Eppley et al., in press; Ferguson, 1981). One final point regarding the general quality of this body of research is that the effect size of the TM technique did not diminish as experimental design became more rigorous (Eppley et al., in press; Ferguson, 1981). These considerations suggest that the reported effects of the practice are not convincingly explained by subject selection, expectation effects, or weakness of design.

Other approaches to determine the influence of the TM technique on development are either to study children or to study adults whose development has been prematurely halted or "frozen" at a level less than that usually found in the normal adult population. For example, two studies found a more advanced pattern of cognitive development among children practicing the TM tehcnique than among control children matched for age, gender, grade, and parental socioeconomic status, as indicated by performance on Piagetian "conservation" tasks (Alexander, Kurth, Warner, and Travis, in press; Warner, 1986). Children participating in the TM program also show longitudinal improvements in educational competencies, in contrast to test norms (Nidich, Nidich, and Rainforth, 1986). In addition, the general pattern of increased cognitive, affective, and behavioral competencies also has been documented among adults participating in the technique while in prison, in care facilities, or in outpatient rehabilitation programs (e.g., Abrams and Siegel, 1978; Alexander, 1982; Alexander, Langer et al., in press; Ballou, 1976; Bleick and Abrams, 1987; Bräutigam, 1976; Brooks and Scarano, 1985; Dillbeck and Abrams, 1987). These results indicate that the effects of the TM technique are not limited to a narrow range of the population; rather, the general direction of development toward the first stage of enlightenment seems to be experienced by diverse groups irrespective of the level of personal development at which they start.

A final consideration on research relating to cosmic consciousness is whether evidence exists for the specific state itself. The most unambiguous criterion for distinguishing this state for the purpose of relating such experience to psychophysiological parameters is the subjective report of pure consciousness during deep sleep, dream sleep, and daily activity. Orme-Johnson and Haynes (1981) reported high and significant correlations between degree of self-reported experience of pure consciousness during night sleep and the following variables: alpha coherence over a .95 threshold in frontal and central brain areas, performance on all subscales of the Torrance creativity test (Verbal), subjective reports of clarity of transcendental or pure consciousness during

the TM technique, and clarity of experiences during the TM-Sidhi program. Clarity of experience of transcendental consciousness during the TM technique was also significantly correlated with recovery of the paired Hoffman reflex, a measure of flexibility of the central nervous system (Haynes, Hebert, Reber, and Orme-Johnson, 1976). There is also a report of evidence of inner "restful alertness" during night sleep in a pilot study of sleep among TM participants, as indicated by the following: simultaneous alpha and delta activity during sleep; ability to press a button indicating the onset of K complexes or the delta trains of stage III sleep; capacity for voluntary action, as indicated by extreme lateral eye movement during stage 1, stage 2, and REM sleep; and lower heart rate and breath rate than sleeping control subjects (Banquet and Sailhan, 1976; Gackenbach, Moorecroft, Alexander, and LaBerge, 1987). A recent study has also found that in contrast to control subjects, long-term participants in the Transcendental Meditation and TM-Sidhi program displayed a higher ratio of high frequency REMs to low frequency REMs in sleep (found by previous research to be indicative of a high order/noise ratio and a more developed style of brain functioning during sleep), as well as more differentiated REMs, shorter time of REM sleep, and shorter time of total sleep (Meirsman, 1989). This area of the psychophysiology of the development of cosmic consciousness will be an important area for future research.

Alexander (1982) developed a questionnaire to assess experiences of cosmic consciousness, as well as the two higher states described below. In a study of personality and ego development among Massachusetts inmates (Alexander, 1982), he found that not only did inmates who began TM show increased ego development (Loevinger's scale), and reduced aggression, anxiety, psychopathology, and recidivism in comparison to control treatments (cf., Bleick and Abrams, 1987), but they also showed increased frequency of temporary experiences of higher states of consciousness. Frequency of higher state experiences was significantly correlated in the overall sample (meditating and non-meditating) with capacity for absorption, lower anxiety, lower aggression, lower depression, lower introversion, and greater participation in constructive social and work activities. Among non-inmate "normal" samples, frequency of reported experiences of higher states of consciousness have also been found to be significantly correlated with self-actualization, creativity, behavioral flexibility, choice reaction time, fluid intelligence, field independence, and capacity for absorption, but not associated with hypnotizability (Alexander, Boyer, and Alexander, 1987; Cranson, in press). Surveys of advanced participants in the TM program have found over 80% reporting the experience of pure consciousness during dreaming or deep sleep on at least an occasional basis, indicating that the subjective attributes of the development of cosmic consciousness are common among this group (Gackenbach, Cranson, and Alexander, 1986; Orme-Johnson and Edwards, 1982).

The Sixth and Seventh States of Consciousness

The sixth state of consciousness in Maharishi's Vedic psychology of development, termed "refined cosmic consciousness," is a further stable stage which expands upon the stage of cosmic consciousness. In the growth of this second stage of enlightenment, pure consciousness remains as a permanent background to the daily cycle of waking, dreaming, and deep sleep states of consciousness, while the primary arena for continued development is in terms of perception of the environment.

The development within perception that occurs with refined cosmic consciousness corresponds, phenomenologically, with a closing of the gap between the "Self" (pure consciousness) and the object of perception (Maharishi Mahesh Yogi, 1972). In cosmic consciousness, the "Self" (pure consciousness) was experienced as separate from the activity of thought and perception. As the gap between Self and object begins to close with the development of refined cosmic consciousness, the affective experience of the person is said to be dominated by the most refined emotional qualities, such as service, reverence, and love (Maharishi Mahesh Yogi, 1969, pp. 314–315). On this basis, the individual gains a more profoundly positive influence on the environment. This quality of experience is also predicted to be accompanied by a further refinement of neurophysiological functioning.

The final stage of development of consciousness, according to Maharishi's Vedic psychology, is again a stable stage which builds upon the structure of the previous stage. In this third stage of enlightenment, termed "unity consciousness," the gap between the knower and the object known is said to be completely bridged (Maharishi Mahesh Yogi, 1972). In this final stage, pure consciousness is said to be directly experienced as a field which is not only the basic constituent of the knower (experienced in cosmic consciousness) but the object of knowledge as well. Every object of perception is said to be cognized in terms of the "Self," or pure consciousness. In this state, one is said to fully realize one's own nature and also all of physical existence as expressions of an underlying unified field, the field of pure consciousness.

Experiences characteristic of the sixth and seventh stages of consciousness have been reported by participants in the TM and TM-Sidhi program (e.g., Maharishi European Research University, 1976, pp. 75–85), but these states have not yet been the topic of systematic psychophysiological or psychological research. There is, however, one interesting area of research offering empirical evidence for the characteristic of pure consciousness that becomes fully experienced in unity consciousness—that it is an unbounded field. One of the defining features of all physical fields is the propagation of influences at a distance; similarly, individuals experiencing pure consciousness are hypothesized to create an influence of coherence or integration in the "collective con-

sciousness" of the whole social system of which they are a part (Maharishi Mahesh Yogi, 1986). An extended series of research studies at the city, state, national, and international levels, using time series analysis and causal analysis procedures, has given consistent evidence of measurable improvements in social indicators when as few as one percent of a social system are instructed in Transcendental Meditation, or only the square root of that number participate in the group practice of the TM-Sidhi program (Cavanaugh, 1987; Davies, 1988; Dillbeck, in press; Dillbeck, Banus, Polanzi, and Landrith, 1988; Dillbeck, Cavanaugh, Glenn, Orme-Johnson, and Mittlefehldt, 1987; Dillbeck, Landrith, and Orme-Johnson, 1981; Orme-Johsnon, Alexander, Davies, Chandler, and Larimore, 1988; Orme-Johnson, Gelderloos, and Dillbeck, 1988). The small number of participants necessary for this effect, termed the Maharishi Effect (Borland and Landrith, 1976), strongly suggests a field mechanism associated with the experience of pure consciousness rather than an explanation based on behavioral interactions.

Maharishi's Vedic Psychology of Development and Contemporary Developmental Theory

Having outlined Maharishi's Vedic psychology of development, it is useful to consider its relation to current models of development. Maharishi's Vedic psychology explicitly applies to development beginning in late childhood. That is, children can only begin the practice of the TM technique at age ten (although there is a children's version of the TM technique that can be practiced beginning at age five). We briefly consider here the relationship between the Vedic perspective and both childhood and adult theories of development, respectively (cf., Alexander, Davies, Dixon, Dillbeck, Druker, Oetzel, Muehlman, and Orme-Johnson, 1990).

Development of Enlightenment in Relation to Childhood Development

Maharishi's Vedic psychology describes the development of higher states of consciousness as a natural progression beyond the usual range of development; thus, it should be possible to conceptualize the higher states as extending the development studied by psychologists throughout childhood and adolescence. In our opinion, this can most clearly be done by discussing consciousness as a "level" of organization of experience separate from action (sensorimotor schemes) and thought (cognitive representation). There is agreement among various theorists that the first 18 months of life are primarily associated with the development of sensory and motor competencies, and formation of inital affective bonds (Ainsworth, 1973; Gesell, 1940; Piaget, 1952;

Stone, Smith, and Murphy, 1973). Thus the primary locus of development is mastery on the level of "action."

Beginning between the first and second years, and as most distinctly displayed with the onset of language capability, the child develops symbolic or representational capacity, which underlies mental operations and which also reorganizes all other areas of experience (Brown, 1973; Bruner, Olver, and Greenfield, 1966; Garvey, 1977; Harris, 1983; Piaget, 1952). This is a transition from a level associated mainly with action (sensorimotor competencies) to a more abstract level of "thought" (representation and mental operations). The continuing unfoldment of the child's cognitive abilities leads in adolescence to the capacity for fully logical or formal operational thought (Bruner, 1973; Keating, 1980; Neimark, 1975; Piaget and Inhelder, 1969). Even though mental operations have become more abstract throughout this development to adolescence or early adulthood, they are still representational in nature, completing the representational structures by providing the set of all possible objects. After reviewing the growing body of research in cognitive development, Flavell (1985, pp. 82–85). similarly concludes that the single clear stage-like transition in childhood cognitive development comes with the onset of cognitive representation (i.e., in the transition from action to thought), with the subsequent symbolic development from early childhood through adolescence being less qualitatively distinct.

In contrast, what distinguishes pure consciousness as the basis of a third level of cognitive organization distinct from action (sensorimotor competencies) or thought (mental operations) is that while the sensorimotor level is largely pre-representational, pure consciousness is a level of experience beyond representational thought.[1] In the experience of pure consciousness, not only the process of perception but all propositional activity of thought is said to be naturally "transcended": a purely self-referral state of consciousness is experienced, with consciousness awake to itself alone without conceptual mediation. In addition, just as thought is less restricted than sensorimotor activity, pure consciousness is described as less "restricted" or bound than thought. Whereas the faculty for internal representation "makes thought possible by providing it with an unlimited field of application, in contrast to the restricted boundaries of sensorimotor action and perception" (Piaget and Inhelder, 1969, p. 91), the experience of pure consciousness makes possible the permanent stages of enlightenment in which consciousness is not bounded by the activity of thought, and is ultimately experienced as the basic field of existence.

[1]The reader should recall, however, that a child can begin the TM program at age 10 and will naturally experience pure consciousness during the practice. Thus, although the experience of pure consciousness fosters cognitive development in children (see previous research review), the ability to experience pure consciousness does not in itself depend upon any level of conceptual or intellectual ability other than the degree of neurophysiological maturation occurring by age 10.

The development from cosmic consciousness to unity consciousness, on the foundation of the permanent experience of the level of pure consciousness, can also be viewed as parallel in its direction of development to that which took place within the earlier levels of action and thought. That is, development within the levels of action, thought, and pure consciousness may be conceptualized as proceeding in the direction of greater integration, from being at first centered on the individual to being "objectively" or externally established in relation to the whole environment. The infant progresses from isolated neonate sensorimotor reflexes to develop patterns of action that are embedded in an objective spatio-temporal framework of objects and their relations (Flavell, 1985, pp. 20–22). On the level of thought a similar progression is found, from the acquisition of fragile mental schemes or "frames," which are at first concrete, limited to a few dimensions of a situation and subjectively centered (egocentric), to fully stable mental operations, in which logical possibilities have an objective status and can be integrated within a coherent logical framework (Flavell, 1985; Piaget and Inhelder, 1969) [see Table 1].

In a similar manner, the first stage of enlightenment, cosmic consciousness, is described as a stage in which pure consciousness is only a subjective reality, permanently established as the "Self" which is separate from all thought, action, and objects of perception. As the stage of refined cosmic consciousness develops, the gap between the Self and the objects of perception is progressively bridged, and this process finds completion in the stage of unity consciousness (Maharishi Mahesh Yogi, 1972). In this final stage, pure consciousness is experienced as a universal or "external" reality in the sense that

Table 1

Relationship of Levels of Child Development
to Higher States of Consciousness of Maharishi's Vedic Psychology

Level of Organization	Individually Established (the Knower)	Transition Stage	Universally Established (the Known)
Level of Action	*Early Infancy* Coordination of Innate Reflexes	*Middle Infancy* Intercoordination of Perceptual and Motor Schemes in Assessing External Environment	*Late Infancy* Development of Inner Representation of Permanent Object and Inventive Means of Problem Solving
Level of Thought	*Early Childhood* Simple Knowledge Structures	*Middle Childhood* Developing Logical Skills	*Adolescence* Fully Logical Thought
Level of Pure Consciousness	Cosmic Consciousness	Refined Cosmic Consciousness	Unity Consciousness

it is found to be the basic constituent of all existence. It is important to realize that although the stage of cosmic consciousness is described as a stage in which pure consciousness is only a subjective reality, thought and action in this stage are in no way egocentric. As a structurally higher level than abstract logical thought (such as formal operations), cosmic consciousness is defined as a stage in which individual awareness is permanently identified with the underlying unbounded and universal field of pure consciousness; this is seen as a prerequisite for a truly objective, comprehensive internal frame of reference not distorted by limited subjective needs or biases (Maharishi Mahesh Yogi, 1969, p. 342).

Table 1 summarizes our description of three developmental levels in the organization of experience. The time periods listed for the first two levels are a general characterization; the possibility of more rapid development, particularly among children regularly experiencing pure consciousness, cannot be excluded.

Development of Enlightenment in Relation to Models of Adult Development

For Piaget (1972), the potential achievement of formal operational thought between 15–20 years of age marked the endpoint of cognitive development. More recently, some theorists have begun to postulate the capacity for "post-formal" operational development (Commons, Armon, Kohlberg, Richards, Grotzer, and Sinnott, 1989; Commons, Richards, and Armon, 1984; Commons, Sinott, Richards, and Armon, 1988). However, according to Richards and Commons (1990), while these models propose more complex patterns of operational thought – like formal operations – they are still "hypothetico-deductive" in nature. Similarly, Fischer, Kenny, and Pipp (1990) suggest that these stages simply complete the "tier of abstraction" begun with formal operational-type thought. Also these proposed stages do not appear to require further development of the nervous system beyond late adolescence or early adulthood, and instead are based in optimizing use of available biological and corresponding cognitive resources. Furthermore, even the status of Piaget's formal operations as a qualitatively distinct, universal late-adolescent cognitive stage is being challenged (e.g., Brainerd, 1978; Super, 1980). Indeed, if Flavell (1985) is correct, a metamorphosis-like hierarchical change does not typically occur after the shift from the sensory-motor level to representational thought.

Alternatively, we propose that the higher stages of consciousness described in Maharishi's Vedic psychology constitute a *post*-representational tier of development as far beyond the representational tier (from early representational thought through possible "postformal" representational thought) as representation is beyond the sensory-motor domain (for an elaborated descrip-

tion, see Alexander, Davies et al., 1989; Alexander, Druker, and Langer, 1989). Just as the semiotic processing mode of the representational tier superceded the earlier sensory-motor mode, we suggest that the purely self-referral mode of pure consciousness, beginning even at age ten, provides the foundation for growth beyond the limitations of representational thought. In accordance with Werner's (1948) classic orthogenetic principle of development, even the first stage of enlightenment clearly reflects a "hierarchical" stage beyond representation. In cosmic consciousness, pure consciousness has become fully differentiated from and hierarchically integrated (co-existing) with even the most abstract representational functions. Thus, while development of higher states of consciousness may be described as growth beyond the representational period, this does not imply that symbolic processes are not utilized. Rather, as noted in the previous research review, the degree of comprehension of thought and the effectiveness of cognitive processes becomes enriched by being integrated from the level of pure consciousness in the development of higher states of consciousness, just as the range and effectiveness of action is enriched by being coordinated from the level of thought in the transition from the prerepresentational to the representational level. Finally, as in the preceding major developmental advances (cf. Epstein, 1974), the experience and stabilization of pure consciousness appears to involve fundamental neurophysiological change (refer to earlier sections), providing a foundation for an entirely new level of growth in the higher states of consciousness (Wallace, 1986).

Several theorists, who question whether hierarchical cognitive development typically occurs in adulthood, suggest that meaningful adult growth does occur in other domains—particularly in the area of "self" development (e.g., Loevinger, 1976; Maslow, 1968). Accumulation of rich experience and adjustment to new societal demands can result in a more horizontal increase in "wisdom" across the life span (e.g., Clayton, 1982; Dittman-Kohli and Baltes, 1990; Eriksen, 1963; Levinson, 1990; Sternberg, in press). Maharishi's Vedic psychology extends such conceptions of self-development by offering a further qualitatively distinct endpoint described classically as "Self-realization." In higher states of consciousness, beginning in cosmic consciousness, the "Self" is directly experienced as an unbounded field of pure consciousness that is a permanent feature of experience along with the changing states of waking, dreaming, and deep sleep. This purely self-referral experience of one's own existence as a field of pure "being" appears to resolve the fundamental epistemological and ontological constraint of the representational level of development—that the "I" of experience cannot be directly known but only inferred through representational processes (Chandler, 1975; Russell, 1977).

Research with young adults and the elderly indicates that in the growth toward Self-realization, individuals develop a more mature self-concept and

are better able to proceed through the challenges posed by the various periods of life (e.g., Alexander, Langer et al., in press; Brooks and Scarano, 1985; Turnbull and Norris, 1982). It also appears clear that the forms of growth outlined by various developmental theorists can not only be extended theoretically by Maharishi's Vedic psychology, but directly stimulated through the regular experience of pure consciousness. Evidence for this is found in the fact that ego development (Loevinger, 1976), self-actualization (Maslow, 1968), field independence (Witkin, Dyk, Faterson, Goodenough, and Karp, 1962), moral development (Kohlberg, 1969), fluid intelligence (Horn and Cattell, 1966), and other development-related factors that typically become "fixed" in adolescence or early adulthood are found to undergo further development through regular practice of the TM technique (Alexander, 1982; Cranson, in press; Dillbeck, Assimakis, Raimondi, Orme-Johnson, and Rowe, 1986; Nidich et al., 1973; Nidich, 1976; Pelletier, 1974).

General Issues in Development in Relation to the Vedic Perspective

This final section addresses a number of general issues concerning human development from the perspective of Maharishi's Vedic psychology.

Factors Affecting Development

Among the most commonly identified factors influencing development are physiological maturation, experience in exercising capacities, and interaction and transmission of knowledge with the larger social and symbolic environment (e.g., Piaget and Inhelder, 1969). Maharishi has similarly described the relevance of each of these factors for the development of the stages of enlightenment. The first of these, physiological maturation, was addressed earlier in that a refinement of the nervous and endocrine systems is said to accompany the growth of enlightenment; relevant research was reviewed in that context.

Secondly, the exercise of a specific capacity—the experience of pure consciousness on a regular basis—is described as necessary for this development. Thus, while the potential for development through the stages of enlightenment is said to be inherent in the human nervous system, specific experiences are required to unfold this potential (e.g., Maharishi Mahesh Yogi, 1969, p. 1973). The degree of refinement of functioning of the nervous system necessary to sustain the permanent experience of pure consciousness is said to be based on the physiological changes which occur naturally as a result of alternating the temporary experience of pure consciousness with normal activity.

Thirdly, social interaction is described as necessary for the delicate process

of instruction in procedures that allow the awareness to experience pure consciousness (Maharishi Mahesh Yogi, 1969, p. 470). Social interaction is also described as influencing the rate of progress to enlightenment. Maharishi identifies "collective consciousness" as the holistic quality of consciousness characteristic of a social system. Further, he suggests that individual and collective consciousness have a reciprocal relationship; not only is the collective consciousness of a family or society influenced by the level of individual consciousness of its members, but the collective consciousness in turn influences the individuals (Maharishi European Research University, 1976, pp. 123–124). In an environment of greater harmony, less stress, and more developed consciousness of the individuals, development is predicted to be faster.

Several theorists have also emphasized the importance of exposure to the larger cultural/symbolic environment as a catalyst for development. For example, Bruner (1972) refers to the role of "cultural amplifiers" in promoting cognitive growth (cf., Vygotsky, 1962). During the representational level of development, the most fundamental cultural amplifier would be exposure to language, or more broadly, symbol use. Though the capacity for language is inherent (e.g., Fodor, 1975), informal and formal instruction in language plays a major role in its development from soon after birth to adulthood. Indeed, our entire formal educational system appears to be devoted to amplifying language and symbolic skills—reading, writing, and mathematics—in the service of conceptual development.

Just as language learning is fundamental for promoting development beyond the sensory-motor (action) level, Maharishi's Vedic psychology states that the experience of pure consciousness through the Transcendental Meditation and TM-Sidhi program is equally fundamental to facilitating development beyond the representational level to higher states of consciousness (Maharishi Mahesh Yogi, 1986). This program can be understood as a postlanguage or postrepresentational technology of consciousness in that it allows one to transcend language-based symbolic thought, or mental activity (Alexander, Davies et al., 1990). Language acquisition frees attention from the control of immediate stimuli (Bruner et al., 1966), and in the same way the process of transcending during the TM technique frees attention from the habitual domination of symbolic thought. As the inherent capacity for language is actualized through language learning, the capacity to transcend the thinking process and experience pure consciousness also is identified by Maharishi's Vedic psychology as inherent but developed through the Transcendental Meditation and TM-Sidhi program. In the absence of this technology for the experience of pure consciousness, psychological and corresponding physiological development typically appears to halt during adolescence or early adulthood. However, just as earlier stages of development appear inevitable given exposure to appropriate environmental conditions, higher states of con-

sciousness are said to naturally unfold given exposure to the regular experience of pure consciousness through this technology of consciousness (Maharishi Mahesh Yogi, 1969). (For additional discussion of the potential mechanisms of adult development, see Alexander, Druker, and Langer, 1990).

From this more comprehensive perspective on human development, the role of education is not only to foster conceptual skills but to foster total human development to higher states of consciousness (Maharishi Mahesh Yogi, 1986). In fact, based on the previous discussion of higher states of consciousness, it could be predicted that education that includes the TM and TM-Sidhi program for the systematic experience of pure consciousness should be uniquely effective in fostering cognitive development in ways that education has typically been unable to achieve. This prediction has been supported by empirical research on these educational institutions, indicating increased field intelligence, field independence, efficiency of concept learning, and academic performance, as well as personality development (Aron, Orme-Johnson, and Brubaker, 1981; Cranson, in press, Dillbeck et al., 1986; Dillbeck, Orme-Johnson, and Wallace, 1981; Gelderloos, 1987; Nidich, Nidich, and Rainforth, 1986).

Development as Unitary and Continuous

Maharishi's Vedic psychology of development proposes that all aspects of individual experience—affective, social and behavioral as well as cognitive—develop as a whole (Maharishi Mahesh Yogi, 1972). The integrated nature of the development toward cosmic consciousness and the higher stages has been suggested earlier in the context of the descriptions of the stages of enlightenment; it is also strongly supported by the research described above relating to the development toward cosmic consciousness.

With regard to the issue of continuity or discontinuity of development (cf., Flavell, 1982, 1985), Maharishi's Vedic psychology posits that under optimal conditions, adolescent and adult development is marked by unfoldment of an invariant sequence of stages of enlightenment in which the structure of knowledge and experience is qualitatively different, as previously described. However, it also proposes that this development is a continuous process from the beginning of the regular experience of pure consciousness, and that effects can be found almost immediately and cumulatively with practice (Maharishi Mahesh Yogi, 1969, pp. 117–120). This is consistent with the results of research on the TM technique reviewed above.

Development of Consciousness and Knowledge

A final consideration to be discussed briefly is the relationship of the development of consciousness, as described by Maharishi's Vedic psychology,

and the development of knowledge. One point which is useful to clarify here is that according to Maharishi's Vedic psychology, as noted at the beginning of this article, the field of pure consciousness is not just a subjective reality but is the unified field of natural law at the basis of all objective existence (Maharishi Mahesh Yogi, 1986). Thus, at the level of the field of pure consciousness, the intelligence of humans and of nature are fundamentally unified. Although the experience of pure consciousness transcends conceptual representation, the field of pure consciousness nevertheless has an intrinsic structure and dynamics, identified as a universal reality that becomes clearly experienced as enlightenment develops to its highest state (Maharishi Mahesh Yogi, 1986). Maharishi's Vedic psychology also asserts that the internal structure and dynamics of pure consciousness are the dynamics of natural law within the unified field; this is known as *Veda* or *Ved* (Maharishi Mahesh Yogi, 1980, 1986). The relationship between Ved ("pure knowledge") and pure consciousness is summarized in the Vedic literature as the principle "knowledge is structured in consciousness" (Maharishi Mahesh Yogi, 1980). This principle has two levels of meaning. The first is that the quality of knowledge one gains is based on the degree of development of the structure of consciousness of the knower. This meaning is comparable, on the level of conscousness, to the description of knowledge (on the levels of thought and action) as assimilation of the object to schema (e.g., Piaget, 1952, p. 42). A more profound level of meaning, in the context of the Vedic framework of development of higher states of consciousness, is that knowledge of the dynamics of the laws of nature is inherent within the structure of pure consciousness, and the development of full enlightenment is the uncovering of this structure.

The Vedic approach to knowledge of natural law in enlightenment is a systematic subjective means of gaining knowledge, in contrast to the systematic objective means of the scientific method (Maharishi Mahesh Yogi, 1972). The objective approach seeks to represent the laws of nature by logico-mathematical structures, in a form which can be intersubjectively verified by anyone at the usual adult or "formal operational" level of cognitive development. Scientific knowledge progresses by elaborating abstract structures of thought and exploring their relation to objective reality. In contrast, the subjective approach develops the consciousness of the knower to provide direct knowledge of the dynamics of natural law within the field of pure consciousness, the unified source of objective and subjective existence.

Maharishi proposes that both approaches are useful and necessary, and are complementary to one another (Maharishi Mahesh Yogi, 1972). The value of the objective approach, and its technological benefits for society, are obvious to anyone in our culture. He states, however, that the knowledge gained through the subjective approach is more practical and fulfilling because it represents a process of development of the nervous system itself as the main

observational tool, a development through the stages of enlightenment in which the quality of life is directly enriched. Further, the development of consciousness, as noted earlier, is found to facilitate the logico-mathematical development which, when coupled with experiment, is the core of science.

Maharishi's Vedic psychology offers a broader perspective on the relationship between consciousness and nature than has previously been considered. The question of the correspondence between the logico-mathematical structures of thought and the functioning of nature, which makes science possible, has been raised eloquently by scientists (e.g., Wigner, 1960). One developmental mechanism proposed as an answer to this question is that a structural isomorphism between systems of consciousness implication and of organic causality is generated in the process of development by the reflective abstraction of the coordinations of actions affecting objects (Piaget, 1970, pp. 98-99). However, rather than identifying a developmental mechanism in childhood, Vedic psychology locates a structural foundation inherent in consciousness as the basis of the ability of developmental mechanisms to generate an increasing correspondence between subjective and objective realms. Maharishi's Vedic psychology proposes that development to enlightenment is characterized by increasingly realizing the inherent integration—within pure consciousness— of the structure of mental life and the structure of objective reality. The ultimate goal of development, from this perspective, is the stage of unity consciousness, in which pure consciousness—the Self—is experienced as the ground of both subjective and objective existence.

Conclusion

Maharishi's Vedic psychology provides a comprehensive theory of adult development to higher states of consciousness, based on his revival of the knowledge found in ancient Vedic science. It describes seven major states of consciousness. These are the three changing states of waking, dreaming, and deep sleep, the state of transcendental or pure consciousness, experienced during the Transcendental Meditation and TM-Sidhi program, and three other states of consciousness, each of which forms a stable stage of development beyond the usually-conceived endpoint of adult development. The development of these higher stages—cosmic consciousness, refined cosmic consciousness, and unity consciousness— is based on a development of mind and body that spontaneously occurs through regular experience of transcendental consciousness in alteration with usual daily activity. Research conducted on the Transcendental Meditation and TM-Sidhi program supports the prediction that pure consciousness is a unique psychophysiological state of consciousness, and also gives evidence for the growth of the first of the higher states of consciousness, cosmic consciousness. In relation to current theories

of adult development, the development of the higher states of consciousness may be conceptualized as extending development by establishing pure consciousness as a new level of cognitive structure beyond the levels of action (sensorimotor competencies) and thought (mental operations and representational processes). Further longitudinal research directly focusing on the development of experiences of the higher states and their psychophysiological and cognitive-perceptual indicators will be particularly valuable. However, the research and theoretical understanding already available are sufficient to establish a broader horizon of human development.

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