Assessment and the Meditation Dynamic Self-Report Matrix

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Meditation transcends words. And yet we use words to define, describe, teach, and measure meditation. The scientific and wisdom literature alone contains ever growing mountains of word-based books, articles, stories, parables, chants, poems, and prayers. Words may well provide one of the best windows to the mysteries of meditation.

This is a chapter on one set of words, a tiny hill on the mountain range, the self-report of meditative states. Put technically, we will examine profound methodological challenges in the empirical verbal-based self-assessment of meditation.

Self-report is the easiest and most popular methodological tool for assessing meditation.[1] Whenever meditators contemplate, articulate, describe, and teach others about their experiences, they are using self-assessment. Scientists use self-report questionnaires to systematically tap such reports. What is the most effective way of using words for assessing meditation processes and outcomes? In this review we report on studies of mindfulness meditation, although I hypothesize our conclusions may well apply to the full spectrum of meditative techniques.

Part 1: Verbal Measures of Meditative State

We begin by noting currently popular definitions of mindfulness meditation and the 11 or so self-report measures they have inspired. Most are reviewed in Brown et al. (2015). Unexplained inconsistencies point to serious deficiencies in the current measurement and assessment of meditation. We begin with an augmented summary of definitions offered by Quaglia et al (2015). Mindfulness meditation is:

> *"… an alert but receptive equanimous observation."* Anālayo (2003, p. 60)

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[1] The most popular differentiation of meditation identifies focused attention (FA) meditation, open monitoring (OM) meditation (Lutz et al, 2015). Focused attention meditations involve restricting attention to a singular target stimulus, such as one's breath or a mantra. I further differentiate somatic focused attention meditation (FAs) that targets a somatic stimulus, such as body sensations or the breath and cognitive focused attention meditation (FAc) that targets a simple cognition such as a word, internally-generated sound, or syllable, or mantra. Open monitoring meditation involves opening awareness to all stimuli that come and go. Mindfulness is traditionally described as OM meditation. In addition to these restricted definitions, both "meditation" and "mindfulness" have been used loosely as umbrella terms for all forms of FA and OM meditation. This handbook, and the present chapter, uses "meditation" in such a generic way. Similarly, scholars of mindfulness frequently include types of FA meditation.

"... watchfulness, the lucid awareness of each event that presents itself on the successive occasions of experience. " Bhikkhu Bodhi (2011, p. 21)

"The mind's ability to keep the object in the ken [focus] of attention without losing it." Dreyfus (2011, p. 47)

"Paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally." Kabat-Zinn (1994, p. 4)

"A kind of lucid sustaining of attention on the object of awareness, in which the mind is both aware of the object and, in some sense, aware that it is aware ..." (Gethin, 2015)

"[A] kind of nonelaborative, nonjudgmental, present-centered awareness in which each thought, feeling, or sensation that arises in the attentional field is acknowledged and accepted as it is." Bishop et al. (2004, p. 232)

"...process of engaging a full, direct, and active awareness of experienced phenomena that is (i) spiritual in aspect, and (ii) maintained from one moment to the next" Shonin & Van Gordon (2015, p. 900).

"Open or receptive attention to and awareness of ongoing events and experience.", Brown & Ryan (2004, p. 245)

*"the defused, accepting [kindness, curiosity], open contact with the present moment and the private events it contains as a conscious human being experientially distinct from the content being noticed" (*Fletcher & Hayes, 2005, p. 322).

Scholars frequently lament the lack of agreement among such definitions, perhaps reflecting variability due to differences in tradition or secondary modifiers that elaborate a few central defining terms. My take is different. The l see it as a window into the untapped richness of meditative states. Consider a simple word count of the noted popular definitions (Table 1).

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Table 1
Frequency of words in popular definitions of mindfulness meditation

        Frequency      Term

            5          Attention
            5          Awareness
            4          Openness
            4          Present moment/ Present-centered
            3          Accepted
            2          Curiosity
            2          Experience
            2          Lucid
            2          Nonjudgmentally
            2          Receptive
            1          Alert
            1          Defused
            1          Equanimous
            1          Focus
            1          Kindness
            1          Observation
            1          On purpose
            1          Nonelaborative
            1          Watchfulness
            1          Spiritual
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Bishop and others have attempted a consensus definition that suggests such words form two core dimensions: sustained attention to present experience and an attitude of openness, curiosity, and acceptance (Bishop et al., 2004). I suggest a slight adjustment by labeling the definitional core of meditation as "attention/awareness/acceptance" definition. "Attention," "awareness," "openness," "present-centered," and "acceptance" are indeed the top five most commonly used words in this definition. But our wordlist contains additional words, an observation that becomes even more clear when we examine popular meditation questionnaires.

Table 2 presents the key content of 11 popular questionnaires. Again we see inconsistencies. All use words related to attention/awareness/acceptance. However additional words are revealing.

Table 2
Content (other than attention/awareness/acceptance) of popular measures of meditation

Applied Mindfulness Process Scale (Li et al, 2016)
      Relaxation
      Detached
      Calm
      Pleasant

Cognitive and Affective Mindfulness Scale – Revised (CAMS-R). (Feldman, et al, 2007)
      (Attention/Awareness/Acceptance)

Five Facet Mindfulness Questionnaire (Baer, et al. 2006)
      Calm
      Nonreactive
      Undistacted
      Labeling thoughts
      Focus/losing awareness
      Body awareness

Frieburg Mindfulness Inventory (Walach, et al, 2006)
      Inner Peace
      Ease

Kentucky Inventory of Mindfulness Skills (Baer, Smith & Allen, 2004)
      Absorbed
      Describe

Langer Mindfulness Scale (Pirson, Langer, Bodner, Zilcha-Mano,2012)
      Investigate
      Novel
      Involved
      Creative
      Curious

Mindful Attention Awareness Scale MAAS (Brown and Ryan 2003)
      All attention/awareness/acceptance related

Philadelphia Mindfulness Scale (PHLMS) Cardaciotto et al, 2008)
      All attention/awareness/acceptance related

Solloway Mindfulness Survey (Solloway and Fisher, 2007)
      Happiness,
      See things new way

Thankful

Southampton Mindfulness Questionnaire (SMQ) Chadwick et al (2008)
    Calm
    Lose myself

Toronto Mindfulnenss Scale (Lau et al, 2006)
    Curious (6 items)
    Receptive
    Invested

Table 3 presents a word count of words in in addition to attention/awareness/acceptance.

Table 3
Frequency of words (other than attention/awareness/acceptance) in popular measures of mindfulness meditation

Frequency	Term
3	Calm, Relaxed
4	Curious/ investigate
2	Describe and label
2	Ease
2	Happiness / thankful
1	Absence of worry
1	Absorbed
1	Concentration
1	Creative
1	Detached
1	Engagement
1	Investigate
1	Invested
1	Involved
1	Labeling
1	Losing oneself
1	Nonreactive
1	Novel
1	Peace
1	Pleasant
1	Receptive

1	Seeing things new way
1	Undistracted

To summarize, although mindfulness meditation is frequently defined and assessed in terms of attention/awareness/acceptance, content analysis of definitions and questionnaires reveals addidtional domains, most notably "calm/relaxed," "curious", "ease," "happy," "thankful," "peaceful," "losing oneself."   Although similar analyses of definition of FA meditation (such as mantra meditation) have yet to emerge, I hypothesize a similar pattern of descriptors.

Part 2: Positive Emotions and Transcendent States

Our word counts show that meditation is more than attention/awareness/acceptance. I see two additional dimensions: positive emotion and transcendent states. Both are in fact long-standing areas of study in their own right that have yielded valuable assessments. What can we glean from this literature?

Positive Emotion

Positive emotions all have a "pleasant subjective feel" (Cohn & Fredrickson, 2012), and include (Gillham et al, 2001; Keltner & Haidt, 2003; Scheler & Carver, 1987; Yaden, 2017):

> Admiration,
> Awe
> Compassion,
> Elevation,
> Gratitude,
> Happiness
> Love,
> Optimism

Fredrickson has proposed a ""broaden-and-build hypothesis," Positive emotions broad ones "though-action repertoire" build one's personal resources, whether physical, intellectual, or social They "prompt individuals to discard time-tested or automatic (everyday) behavioral scripts and to pursue novel, creative, and often unscripted paths of thought and action." (Friedrickson, 1998).

Negative emotions narrow one's attentional focus (Easterbrook 1959). Positive emotions have an opposite focus, expansion of attentional focus, enabling one to see both the forest and trees, figure and ground. Increases creativity and flexibility. Positive emotions counter the aftereffects of negative emotion, enabling one to "loosen the hold that (no-longer-relevant) negative emotions gain on an individuals mind, a notion similar to meditation letting go. It is not surprising that Fredrickson proposes that positive emotion may well be one mechanism underlying meditation (Friedrickson, et al., 2008). Specifically they help channel or focus attention, help one put aside distraction and mind wandering, and provide motivation to continue

practicing.   Indeed, we have just noted that current measures of meditation touch on positive state by including such terms as "happy," "thankful," and "pleasant." I propose that positive emotions are not incidental descriptors, triggers, or effects, but a part of what meditation is all about. The implication for meditation assessment is that a complete assessment should contain a measure of meditative positive emotion.

Transcendent Experiences

I loosely define transcendent experiences as a profound reduction in self-referential thinking and increased awareness of something larger or greater than oneself. This experience may be dualistic, in that it includes awareness of oneself and of something other ("I feel so small when gazing at the immense Grand Canyon"). At extreme levels, it can be non-dualistic, in which the sense of self dissolves or merges with the world, and all is seen as timeless, eternal, or "at one.". This conceptualization is somewhat similar to what Yaden et al (2017) term *self-transcendence*: "the subjective sense of one's self as an isolated entity can temporarily fade into an experience of unity with other people or one's surroundings, involving the dissolution of boundaries between the sense of self and "other." (p143)

Such experiences are an important part of meditation and often provide a defining or guiding context. One can argue that like positive emotion they enhance singular meditative focus, reduced self-referential mind wandering, and provide motivation to practice.

Maslow is noted for providing long unorganized lists of related "peak experiences" (Maslow, 1964). More systematic accounts can be found in the scientific literature of mystical states (Maclean et al, 2012; Pahnke, 1963, 1969; Stace, 1960). This literature articulates the following facets:

> Unity (oneness, internal and external merging of self),
> Transcendence of time and space,
> Noetic quality (deep understanding of hidden mysteries),
> Sacredness,
> Positive mood, and
> Ineffability.

Given their centrality in most definitions of meditation, any assessment of meditation should also measure transcendent meditative states. At best, current inventories hint at this dimension by occasionally including such terms as "spiritual" and "losing oneself."

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Part 3: The Meditative State vs. Meditation Matrix

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I propose that a self-report assessments of meditation measure more than attention / awareness / acceptance. Meditative states are depicted by a rich assortment of words and phrases related to positive emotion and transcendent states. These are not simply incidental descriptors, effects, or triggers, of meditation, but a part of what the experience of meditation is all about.

Going deeper, it is a mistake to think a singular meditative state. Instead, it is a cluster or complex of experiences all related to attention/awareness/acceptance. Recently, Lutz and his colleagues (Lutz, et al., 2015) recognized this and have suggested we define meditation in terms of a *phenomenological matrix* to convey the interrelatedness of different dimensions. His schema identifies different aspects of the meditative experience that may help understand differences and similarities among approaches. It targets experiences trainers frequently speak of when teaching experience:

> Object orientation (the sense that one has directed experience towards a chosen object or class of objects)
> Meta-awareness (aware of being aware, aware that one is sustaining focus, has been distracted, is engaged in mind wandering),
> Dereification (experiencing mental events as thoughts rather than accurate depections of reality),
> Effort (difficulty of maintaining experience),
> Aperture (scope of meditation target; FA vs OM),"
> Clarity (vividness of experience), and
> Stability (persistence of experience over time).

The phenomenal matrix is a highly technical schema heavily informed by neurophysiological research. It calls for multidimensional assessment and has been used to compare approaches, specifically hypnosis and mindfulness. It provides a potential for differentiating the attention/awareness dimension of meditation. However it is highly abstract and for the most part does not directly depict meditation self-report (with the exception of the words "effort," "clarity," and "stability"). In addition, it does not tap expressions of positive emotion or transcendent state.

Part 4: The Meditation Dynamic Self-Report Matrix

Since 1999 I have embarked on something of a quest for a comprehensive natural language of meditation consisting one the words practitioners actually use to describe their experiences. Although it is perhaps premature to assume the products are reflective of experiences across traditions, techniques, and individuals, they do reflect a truly broad-based and accessible lexicon of self-report words and phrases. Importantly they flesh out not only our understanding and assessment of attention/awareness/acceptance, but also meditative positive emotion and meditative transcendent states. They serve as a methodological challenge on how researchers construct and use self-report measures of meditation.

I began by studying the basic instructional texts of yoga, progressive muscle relaxation, breathing, prayer, meditation, mindfulness, tai chi, imagery, self-hypnosis, and autogenic training. This search included ancient approaches as well as those that are new, approaches from the East and West, and approaches from spiritual and secular traditions. I reasoned such manuals were likely to include words accessible to and used by actual practitioners, rather than mystics, philosophers, or theologians. What words do teachers use when talking to their students? In all I came up with an initial dictionary of over 200 words.

Over the years, my colleagues and I have used two methodological tools for screening and organizing our list. First, we applied factor analysis to successively screened items lists to over 6000 participants reporting over 40 types of meditation and meditation-related disciplines (Borgogna &Smith, 2016, 2016a; Smith, 1986, 1988, 1999, 2001, 2005, 2007, 2012, 2015; Smith, Amutio et al., 1996). Factor analysis is an ideal tool for identifying which word items are accessible and which are not. Factors, of course, are groups of correlated items. Factors showhow many diverse items may be grouped and structured. Equally, important, the loading of an item on a factor is its correlation with the factor. An item that loads highly on a factor shares much of the factor's variance. For example, the words "at ease," "peace," "contented," "rested," "soothed," "laid back," "relaxed," and calm" consistently form a single factor. They correlate with the same abstract factor and can be presumed to measure the same thing. The highest loading words are "at ease" and "peace." These are the best words for describing what the remaining words may depict. We can delete the remaining words on our initial list confident that "at ease" and "peace" do the best job of communicating their general meaning.

Second, over the past 33 years I have taught over 150 classes of over 4,000 students. Each student learns and practices a complete menu of exercises, including yoga, breathing exercises, muscle relaxation autogenic self-suggestion, imagery, mantra meditation, and mindfulness. Students take shortened versions of my meditation word list to track progress and make technique comparisons. Each week I conduct focus groups in which students explain how they interpret the meditation words they have selected to describe their experience. I used focus group explanations to clarify the best words for expressing the meditative experience.

From these sources of data I have constructed a dynamic matrix of five levels of 25 self-report meditation states, which I term "R/M (Relaxation/Meditation) States" (Smith, 2017). Some reflect factors. Some reflect my experiences as a trainer. I present all as an experimental tool. Together this matrix helps us more deeply understand what current meditation inventories tap and miss, and the role of positive emotions and transcendent states. They provide a serious challenge for the measurement of meditation. Here is a brief summary of what I describe more extensively elsewhere (Smith, 2017)

Level 1: Basic Relaxation

We have seen that meditation definitions and inventory contain some words that reflect relaxation, including "calm," "relaxed," and "peace." This is paltry list, but typical of how psychologists measure relaxation. Typically it is seen as a physical or psychological state that is the opposite of arousal or anxiety. If you are not tense or anxious, you are by definition relaxed. Perhaps the most important challenge of researchers of positive emotion is that psychology has be burdened with a negative bias, with highly differentiated measures of pathology, and few of human strengths and potentials. I have found the same to be true for relaxation. Put simply the world of relaxation is rich and complex, and goes far beyond an absence of tension or anxiety.

Perhaps the major finding of decades of study is the across the board the major experience of practitioners of meditative techniques is a cluster of six R/M states I term **basic relaxation**. Basic Relaxation is the most frequently reported group of R/M state by practitioners of all relaxation and meditation techniques. It consists of six R/M states:

R/M State 1: Far Away (Disengagement). One of the first achievements of training in relaxation, meditation, and mindfulness is simply getting away (or "letting go") from the day's stressors. When we experience R/M State Disengagement we feel distant and far away, indifferent to our cares and concerns, and nicely detached from the surrounding world. We may even lose awareness of our relaxation trainer, or of parts of our body. All these words clump together as a unified "factor" group, defined by the words "far away."

R/M State 2: Physically Relaxed. As you disengage, you may feel R/M State Physical Relaxation. You let go of unnecessary muscle tension and your breathing becomes relaxed. This can be experienced in various ways. Often when our muscles are relaxed they feel nicely warm and heavy. This is a normal sign of muscle relaxation. You may feel tingling or heaviness. Your breathing may feel more even and effortless. There are many words we can use to describe when the body is relaxing, all of which form a unified "factor" group.

R/M State 3: At Ease, At Peace. Distress comes in many forms, including frustration, pain, worry, fear, concern, or conflict. When distress is eliminated, we feel mental relaxation, that is, R/M State At Ease, At Peace.

Mental relaxation is associated with how we cope with problems. Imagine something is creating fear for you. Perhaps your child has gone out for the evening and is late. You feel fear. You call, and discover she is one block down the street coming home with her friends. Suddenly your mind is relieved—mentally relaxed. Imagine you are driving home and haven't eaten for hours. There is no place to eat in sight. Suddenly a favorite restaurant appears, and you quickly go for a delicious meal. Your hunger turns to contented satisfaction—again you are mentally relaxed. Maybe you are having an argument with your boss over her unfair demands. She realizes she has been pushing too hard, and agrees with your request for an easier schedule. The conflict is resolved, and you are mentally relaxed. Or you have burned your foot and are in pain. You apply a soothing lotion, and you feel soothing relief, mentally relaxed.

The dictionary reveals that all of these experiences have one thing in common, the relief of psychological tension, whether it be fear, craving, conflict, pain, and so on. Interestingly, such worlds clump into a factor group, an R/M State best described by the words *At Ease / Peace*, or mental relaxation.

The absence of mental relaxation can be a barrier to growth in relaxation and mindfulness. It can suggest unfinished business requiring attention. If one is filled with fear that needs to be resolved, that needs to be dealt with.. Get out of the thunderstorm before meditating. If you are hungry, eat a banana. If one is in conflict, it needs to be confronted.. In pain, try to relieve it, and so on. If actions to relieve psychological distress fail, then relaxation and mindfulness may be your last, best solution. Or try active coping supplemented by relaxation and mindfulness.

R/M State 4: Refreshed. One type of mental relaxation we have just described is the simple feeling of being refreshed and energized, R/M State Refreshed.

R/M State 5: Pleasant Mind Wandering. My students have taught me one type of basic

relaxation rarely noted by experts. Sometimes when people relax, they simply let go of deliberately planning and doing things, and enjoy the pleasures of undirected fantasy and random mind wandering. This is both relaxing and possibly an easy type of mindfulness as long as one does not get caught up in planning, analyzing, or reacting to one's fantasy. I have found that R/M State Pleasant Mind Wandering is experienced by most practitioners of relaxation and mindfulness. Indeed, some practitioners identify it as a sign that their practice is working. Researches need to identify the role this R/M State plays in mindfulness.

   R/M State 6: Fantasy, Daydreaming. Sometimes mind wandering becomes more directed, perhaps with a plot or story. Here it becomes a pleasant fantasy or daydream. Unlike pleasant mind wandering, fantasy and daydreaming are somewhat more coherent and directed and less random. Most of my trainees find R/M State Fantasy, Daydreaming to be a distraction to mindfulness. It is less likely to be reported by advanced practitioners. However, the role of this R/M State in mindfulness training is an interesting empirical question.

   Note on Basic Relaxation: I suspect that Basic Relaxation is meditative, reflecting attention/awareness/acceptance and positive emotion. However, the focal task or stimulus may not be particularly simple. A practitioner of yoga may focus on a sequence of 15 stretches. A relaxing daydream may involve a complex setting of a peaceful church. However, even when complex, the focal task or stimulus serves to assist other components of mindfulness. Yoga, spiritual fantasy, breathing exercises, and the like may serve to reduce unnecessary judgment, effort, and perhaps stimulus complexity. We can term simple relaxation exercises activities done in the spirit of meditation as *meditation preparations or assists*.

Level 2: Basic Meditation.

In addition to Basic Relaxation, most practitioners of meditative disciplines experience a degree of Basic Meditation. Our research and student experiences suggest a natural language that expands on *attention/awareness/acceptance.* We consider five R/M States:

   R/M State 7: Focus, Absorption. Attention is directed to a target stimulus or task. One can sustain such focus for a period of time. When this attention is completely engaged to the exclusion of competing stimuli, one is absorbed.

   R/M State 8: Centered, Grounded. Here sustained focus and absorption is comfortably stable like a rock or tree firmly planted in the ground.

   R/M State 9: Quiet. One experiences a reduction of thought and emotional activity. The mind is quiet and still. Even feelings of peace and serenity are absent.

   R/M State 10: Unbothered. One is accepting. Negative thoughts or feelings might emerge, however one is not "caught up" in them. They may be seen as simple thoughts rather than final realities. Formally this is "dereification," or in terms of our guiding definition, reduced judgment.

   R/M State 11: Easy, Effortless. It is easy to let go of mind wandering and distraction, return

to task, and sustain focus. It is easy to let things be, accept what is, and go on. The task at hand, whether it be relaxation, mindfulness, or even work or recreation feels effortless.

Level 3: Meditative Awakening

Once one has acquired the brain-based skill of sustaining attention/awareness/acceptance, new experiences may emerge. These generally reflect an increased awareness of oneself and the world. This reflects the beginning of a *dynamic, other-directed orientation Smith, 2017a)* in which one is less aware of or concerned with oneself and aware of a changing and expanding outside world. We can consider four R/M States:

   R/M State 12: Observer. Here one simply stands aside and watches things come and go, as a neutral and objective witness.

   R/M State 13: Clear, Awake, Aware. As an observer one may have a sense of experiencing things as they really are. Things may seem "vivid" or particularly "real." One's mantra may cease to be a mechanical chant, but a sound with a life and direction of its own. A prayer may become more than a mechanical chant, but words from god. The flow of the present moment may be seen clearly, as for the first time, perhaps as seen by a child.

   R/M State 14: Interested, Curious, Fascinated. When one is interested, curious, or fascinated in a task, whether it be mindfulness, yoga, relaxation, or even work or recreation, one is displaying a type of meditative focus. Perhaps this is a step beyond simple awareness as an objective observer. It is more than viewing a stimulus vividly as "really real." An important new dimension is added: There is more than first appeared. The deeper reality of breath is more than the inflow and outflow of air. The deeper reality of the mantra is not just a repeated sound or syllable. The reality of the present moment is more than a series of events. What is this more? We experience R/M State Interest, Curiosity, and Fascination.

   R/M State 15: Beautiful. Things seem beautiful, harmonious.

Level 4: Meditative Deepening

I hypothesize that when mindfulness develops, R/M States emerge that reflect a slightly different facet of meditation. In Mindful Deepening, one sustains attention/awareness/acceptance and discovers a new feature, the potential for more. As described in Level 3 we discover a new feature of such quiet focus and openness to the potential of something more. In Level 4 another feature emerges: Our focal target is no longer a static state but one that is dynamic and changes and evolves in a way as experienced as increasingly deep. Here we can consider four R/M States:

   R/M State 16: Going Deeper. Things are unexpected, new, interesting. Things are changing, opening up, being revealed. It may feel like one is in a different place or space.

   R/M State 17: Spaciousness, Expansiveness. One has a sense of spaciousness and expansiveness.

R/M State 18: Sense of Something Greater. One may feel the sense of something greater than oneself (God, a higher power, spirit, energy, love, or consciousness). If religiously inclined, you may feel that God is with you.

R/M State 19: Meaning, Purpose, Direction.

Level 5: Meditative Transcendence

In rare and special moments of relaxation the relaxer comes in touch with the deeper side of life. Transcendent states reflect awareness of a world larger or greater than oneself. These are often noted in the literature on mystical literature and transcendence. Our research identifies the following:

R/M State 20: Reverent,Prayerful. Feelings of reverence and prayerfulness reflect an emotional response to something larger or greater than oneself. These are expressive states, coming from oneself. One "reveres," one "prays."

R/M State 21: Awe/Wonder, Deep Mystery. R/M State Awe and Wonder reflects a nonanalytic and goal-less awareness of a larger and greater reality that is new, awesome, beyond ordinary familiar comprehension and expectations. We don't have words for "it." Our language provides many phrases that convey this notion: "shock of the new," "blinding truth," "dumbstruck," "speechless," "far out," "mindblowing," "knocks one's socks off," or simply "Wow!" or "Amazing!" However expressed, one's adult, verbal, analytic thinking cap has been knocked askew; one is temporarily freed or released from these constraints and sees things anew.

R/M State Deep Mystery is somewhat familiar to most people. We all have discovered things we do not understand, and sometimes we encounter profound questions and mysteries that seem to transcend any possibility of understanding.

There is a subtle difference between Awe/Wonder and Deep Mystery. R/M State Awe/Wonder suggests we simply do not have the words to describe what we experience. Deep Mystery implies we do not understand it. We may understand the geology of the Grand Canyon, but experience it with awe and wonder. We may have words to describe the complex constellations in the sky, but recognize the mysteries of the expanding university, the big bang, dark matter, and so on.

R/M State 22: Spiritual, Mystical. A profound and personal meaningful experience—a sudden awakening or insight.

- This might include feelings of an underlying hidden truth. One might feel as if one has special and important insightful and intuitive knowledge. There is a sense of certainty of encounter with ultimate reality, a sense of seeing or knowing what is "really real," ultimate reality.
- One might have feelings of being "at one" with the universe or others, a sense of selflessness.

- One common feature of transcendent experiences is that they are difficult to describe or communicate to others. One feels unable to justify the experience by simply putting it into words. This goes beyond the R/M State of awe and wonder, which reflects more an emotional experience that is ineffable.

Meditative Positive Emotions

Many strong positive emotions can emerge in relaxation and mindfulness. Such emotions can help one sustain simple focus, reduce needless e ort and judgment, and let go of self-referential thinking and mind wandering.   We note three:

R/M State 23: Happy, Optimistic, Trusting.

R/M State 24: Loving, Caring.

R/M State 25: Thankful.

In my experience as a trainer, all 25 R/M States emerge in some practitioners during the first month or two of meditation training. As part of course assessment, students report which states they experience in practice, and which are good indicators that meditation is working for them. Although I have not subjected these student observations to rigorous statistical analysis, I can provide an anecdotal report from four classes of over 200 practitioners. I invite researchers to systematically explore these dimensions further. See Table 4.

Table 4
R/M States: Frequency of Experience and Indicators of Meditation Working

R/M State	Once a Week*	Indicator**
LEVEL 1: BASIC RELAXATION		
1: Far Away	68%	53%
2: Physically Relaxed	84	82
3. At Ease, At Peace	85	71
4. Refreshed	80	68
5. Pleasant Mind Wandering	69	34
6. Fantasy, Daydreaming	55	18
LEVEL 2: BASIC MEDITATION		
7. Focus, Absorption	65	51
8. Centered, Grounded	65	44
9. Quiet	60	37
10. Unbothered	52	40
11. Easy, effortless	52	43

LEVEL 3: MEDITATIVE AWAKENING

12. Observer	25	25
13. Clear, Awake, Aware	40	22
14. Interested, Curious, Fascinated	41	18
15. Beautiful	46	17

LEVEL 4: MEDITATIVE DEEPENING

16. Going Deeper	34	29
17. Spaciousness, Expansiveness	33	25
18. Sense of Something Greater	17	18
19. Meaning, Purpose, Direction	33	21

LEVEL 5: MEDITATIVE TRANSCENDENCE

20. Reverent, Prayerful	21	14
21. Awe/Wonder, Deep Mystery	14	13
22. Spiritual, Mystical	20	11

MEDITATIVE POSITIVE EMOTIONS

23. Happy, Optimistic, Trusting	54	32
24. Loving, Caring	65	27
25. Thankful	64	38

*Percent of Practitioners reporting at least once a week during meditation
**Percent of practitioners reporting state was a very good or excellent indicator that meditation is working.

N = 150, 25% male, 75% Female

This anecdotal data of course awaits systematic replication.   However, even at this point it raises important questions for the assessment of meditation. First, r*elaxation* is a central part of the self-report of meditation.   For the first three months it may be the most important part, perhaps factorially indistinguishable for attention/awareness/acceptance (Borgogna & Smith, 2016, 2016a; Corbeil, et al, 2015). Incidentally, I propose that one important question for meditation researchers is at what point does self-reported Basic Relaxation emerge as a factor distinct from Basic Meditation? Second, early on expressions of attention/awareness/acceptance are not experienced as the best indicators of meditative effectiveness.. When, if ever, so such self-reports become primary indicators? Generally, indicators of efficacy appear to be highly individualized, different practitioners report different states at different times. One meditator may say she knows her meditation was working well because she felt "physically relaxed," another may

report feeling "awe," and still another "love." Such questions lead to a new model for the measurement and assessment of meditation: the self-report matrix.

Part 5: The Dynamic Self-Report Matrix and the Assessment of Meditation

What's the ideal way of using self-report to assess meditation? One could use a popular self-report questionnaire, a strategy that would produce a narrow focus snapshot of one facet of the matrix, attention/awareness/acceptance. One could measure all five levels as well as positive emotion. This would be more akin to a wide-angle portrait of meditation as a whole. Should the Thanksgiving family portrait include only a close-up of grandmother, or a wide-angle panorama of the grandparents, mom and dad, the six children, and fido? Better yet, why not take a small video vignette of the entire extended family interacting?

The diversity of descriptors in current meditation definitions and self-report inventories is not incidental, but points to the basic nature of meditation, how it might be operationalized and assessed. I propose that meditation is not a unitary construct, but concept cluster or complex of concepts, all organized around attention/awareness/acceptance. As such, the construct of "meditation" is analogous to the construct of "stress." How this construct dramatically changed over the century provides scholars of meditation an important lesson.

    The great stress revolution and the dynamic stress assessment matrix. For much of the 20th century, stress was defined as a unitary construct, for example the sum total of self-reported life change events (Holmes & Rahe, 1967) or the fight or flight response (Cannon, 1929). If you said you were "stressed" that meant you had experienced many life change events, or chronic levels of stress arousal.   Richard Lazarus (Lazarus & Folkman (1984) transformed the field by arguing that stress is not a single thing, but a "rubric," umbrella term, or complex interacting construct including a wide range of emotions, feelings of physiological arousal, and appraised threats, resources, and coping options. I would call it a dynamic matrix. To properly define and measure stress one must include the changing matrix of variables and describe how they interrelate. Thus, under earlier static single-construct, a distressed student might score high on the Social Readjustment Rating Scale (Holmes & Rahe, 1967) , a single-dimension of stress. Reflecting on their score, they may elaborate:

> *I'm stressed out! What does this mean? So much has happened to me over the past three months. And everything has to be done at once. Work, school, family. Too much!"*

However, using Lazarus' transactional definition, the student's self-report would be more informative:

> *"I'm stressed out! What does this mean? I have to take a serious exam tomorrow, which is causing me anxiety. Last week I had to work overtime every day, so I didn't have time to study. I'm so anxious I'm finding it difficult to focus on my readings. There's no one around to help me, and I simply don't know what I can do. I'm afraid I simply don't have what it takes.*

Notice this is not a static snapshot. It is a rich panoramic portrait, a narrative or motion picture vignette. The Lazarus approach has now become the norm in the conceptualization and measurement of stress.

The dynamic self-report matrix of meditation.   Our approach to defining and assessing meditation is directly analogous to prevailing definitions and assessments of stress.   Let me illustrate by describing how I use the matrix in meditation class. Each week after group meditation I have students complete a self-report questionnaire based on the Matrix. My "R/M Tracker" (Smith, 2017a) assesses all 25 R/M States in the context of the completed meditation session.   The meditator describes, on a 4-point scale, the extent the experienced each. For example, a student might have felt "Far Away," "Physically Relaxed," "Clear," Reverent," and so on. A traditional self-report questionnaire might show that our student was indeed experiencing attention/awareness/acceptance. Their simple self-report might be summarized:

"I'm focused on my mantra and can accept distractions as they come and go."

In contrast, the R/M Tracker might reveal elevated scores on a variety of R/M States, reflecting this narrative (R/M STATES are in ALL CAPS):

"At the beginning of the session, I let go and began to feel FAR AWAY from my troubles and concerns. This led to feelings of PHYSICAL RELAXATION and peace.   Having put aside my outside troubles, and am no longer bothered by distracting physical tension, I could FOCUS and QUIET. In time this became EASY AND EFFORTNESS and I found myself GOING DEEPER sensing SOMETHING GREATER. Near the end of the session I felt CLEAR and AWARE, with a touch of AWE AND WONDER and THANKFULNESS for what meditation has done."

I have my students complete R/M Trackers over 15 weeks of training, during which they are taught a rich assortment of exerises, including: chair yoga, active breathing, passive breathing, progressive muscle relaxation, autogenic training, deepening imagery, and metta meditation. In addition, they regularly practice their preferred meditation, chosen from four options: body scanning meditation, breath scanning meditation, FAc meditation, or OM meditation. Students complete an R/M Tracker after each new approach. Comparing Trackers enables students to discover:

- What R/M States are the best indicators meditation effectiveness? (attention/awareness/acceptance is typically not the best indicator of effectiveness, at least for the first 15 weeks)
- Which exercises work best? (Different techniques clearly work for different students at different times in training. Early on, meditation is often not preferred, even when it is emphasized. Progressive muscle relaxation and yoga and initial preferences.
- Which exercises are the best warmup preparations for meditation?
- How does the experience of meditation evolve over time?
- How does meditation impact life at large?

Clearly, popular inventories of meditation cannot provide such a rich portrait of the experience of meditation. This is the promise of a dynamic, self-assessment matrix.

Part 6: Methodological Issues

States, Traits, Situational States

Meditation can be described as a state, situational state, or trait. A state is what one experiences here and now, the present moment. A situational state is what one consistently experiences in specific situations. For example, one might consistently feel relaxed whenever one enters a meditation temple. A trait refers to a general predisposition to experience a particular state across situations. Traits are enduring dispositions. Of these, states are most central, and form the defining core of situational states and traits. However, states are not traits. Just because one may feel focused or accepting during a particular meditation session does not mean this state has generalized, or will be consistently reported over time across situations.

Three issues challenge self-report research Self-report questionnaires are at times ambiguous as to whether they are measuring states or traits. The statement "I am focused" could be a state or trait. It would be a mistake to assume either. With ambiguous statements, perhaps the default interpretation should be that is how one feels at the time one is completing the self-report questionnaire. Second, I find state measures of meditation to be more precise and yield clearer results. This is perhaps when assessing a state, the respondent has access to immediate data (one's present experience), whereas when assessing a trait, one's responses are influenced by the limitations and distortions of memory. I typically find meditative states and traits are highly correlated, which is understandable. By definition, an individual high in a particular trait is more likely to experience it at an particular time. Third, it is risky to assume that simply asking an individual a trait question "How focused to you generally feel?" that one is actually measuring a trait. I consistently find that increases in meditative state will highly influence trait reports, although in definition traits are in theory stable. Self-reported traits are actually "claimed traits."

Self-reported meditative states require a defining context. For example, the statement "I am focused on what I am doing" could mean nearly anything, focused on a worry, a negative emotion, a pleasure, a sensation, a thought. However, a statement of focus becomes meditative when a context is provided. This can be achieved in several ways. First, the content of an item might provide a context. "I am quietly focused on the in and out flow of breath." Second, surrounding defining items can define a context. An item on depression scales, "feeling suicidal" is different depending on whether the surrounding items are "feeling blue and down," or "wanting to make a political point." In the R/M Matrix, the R/M State Focused is partly defined by the context of surrounding R/M States. Third, the situation in which a questionnaire is taken may provide a context. For example, one might be instructed to describe how they feel while practicing a meditation breathing focus exercise. Here the item "I am focused on the task at hand" is defined by the prescribed exercise.

The Paranormal Caveat

The possible emergence of paranormal phenomena in meditation poses many serious questions concerning assessment. By far, the most frequent type of evidence is indeed self-report, claims of phenomena beyond current science. We find such claims in millennia of meditation texts, testimonials of holy men and women, and current practitioners. The validity of self-reports of meditative paranormal phenomena is beyond the scope of this chapter (See Smith, 2017a). However, we can address what I see is the most basic issue facing serious researchers.

If there is evidence that a meditation technique evokes a paranormal effect (see Chapter 52, this volume), intellectual honesty obligates future studies of this technique to note this effect as a conceivable confound. If a claimed paranormal finding is likely a statistical artifact, then it does not merit serious review in prestigious journals and textbooks. However, if it survives methodologically rigorous scrutiny, it passes a "threshold of fact" and needs to be treated like any other discovered phenomena or potential confound. I invite my paranormal research colleagues to take their conclusions seriously and fully confront their implications.

To illustrate, Transcendental Meditation has published a frequently-cited peer-reviewed journal study on the effects of group meditation on crime behavior hundreds of miles away (Hagelin, et al., 1999). The study involved up to 4000 advanced TM-Sidhi meditators, participants in a program which among other things, teaches paranormal powers including their widely publicized "yogic flying" ability (levitation). During the two-month duration of the study, TMers meditated in Iowa and violent crime in Washington DC declined. TM researchers concluded that the meditators' combined coherent brainwaves produced a "super radiance effect"extending all the way nonmeditating criminals in Washington, thereby reducing criminal behavior. TM researchers clearly consider this phenomenon to be real and not an artifact. I argue that future research on group TM should honestly confront the implications of this claim and note the possibility that paranormal Sidhi powers were responsible for obtained results.. Imagine a study comparing TM and nonmeditating basketball teams. Let's say the meditating teams score higher. Of course, perhaps meditation helped the TM players play with greater focus and energy. However, the researchers would be obligated to provide a paranormal alternative interpretation: combined brain waves altered various physical parameters (floor slipperiness, basketball spin, sneaker springiness, yogic flying) to favor their win.

Leonard Leibovici (2001), a highly respected medical researcher, conducted and published in a major medical journal a novel study on the effects of retroactive intercessory prayer, praying for a change to take place in the past (before the prayer was uttered). Specifically he wondered if prayer could retroactively influence the course of blood infections years *earlier* (before the prayer intervention). He obtained the medical files of patients hospitalized 4-10 years earlier, and randomly divided them into two groups. Then he uttered a short prayer requesting recovery and well-heing for one group. Analyses comparing the two files reveiled that the patients receiving the prayer indeed spent less time in the hospital and had shorter infections. This might be interpreted as a type of time-traveling psychokinesis. It suggests that future studies on prayer as a health intervention should offer as an alternative hypothesis that some researcher in the future intervened with prayer producing a retroactive effect.

Given the range of published paranormal effects of meditation (Chapter 52, this volume), I recommend that all meditation researchers to routinely offer this general paranormal caveat as a standard footnote:

> *The design of this study does not rule out the possibility that the obtained results were due to mediating paranormal processes. Specifically, our findings could conceivably be attributed to the interference of: mind-reading; manipulation of physical and biological processes directly through thought; the super radiance effect; perception of the future; ghosts; anomalous energies; invisible beings; aliens from the past, future, or another dimension; retroactive prayers from the future; or supernatural entities or deity/deities.. Future research is recommended to control for these possible paranormal confounds. See Smith (2017)*

Suggestion, Expectation, and the Placebo Effect

To what extent are self-reports of meditation effects of meditation the result of suggestion, expectation, or the placebo effect? Are these confounds? How might they be controlled or eliminated in research? A trainer, book, or video instruction may communicate that an effect will occur ("You will feel sleepy." "You feel refreshed and alert."). This is suggestion, the communication of an intended effect. A suggestion can be direct ("You will feel sleepy") or mediated through a suggested agent ("This potion will make you feel sleepy") Similar to suggestion, expectation is an individual's belief that an effect will emerge ("I expect I will feel sleepy. I believe I will feel refreshed and alert").

Most experts define a **placebo** as a physiologically or psychologically inactive substance, treatment, procedure, or activity that can have a therapeutic physiological and psychological effect if administered to a patient who is not only conscious of the agent, but has the expectation that it is effective (Smith, 2017) A placebo works soley through expectation. A placebo has two crucial ingredients: expectation and an inactive agent claimed to produce an effect. Note that if a trainer suggests that a worthless activity (chewing gum) has an effect (increases intelligence), we might have either a placebo or suggestion effect. If the gum chewer expects gum chewing will increase intelligence, we have a placebo effect. If the gum chewer does not expect this effect, but is told chewing gum will still work, we have a suggestion effect (no expectation). And if the chewer is told gum increases IQ, and believes it, we have both a suggestion and expection-based placebo effect. Perhaps such distinctions border on nit-picking. At the very least, suggestion, expectation, and the placebo effect can have a powerful influence, and may well evoke many R/M States and even some neurophisological changes associated with meditation (Raz & Lifschitz, 2016; Smith, 2017).

Is it possible to control for or eliminate suggestion, meditation, and placebo effects? Might one might design a study comparing a pure suggestion, expectation, or placebo with meditation? Prominent meditation researchers Davidson and Kasniak (2015) are pessimistic:

Unfortunately, this kind of design simply is not possible with meditation-based interventions because of the obvious fact that participants will know if they are assigned to a meditation condition and thus cannot possibly be kept blind to the nature of the intervention. (p. 583)

I disagree. One could create an elaborate sham meditation that includes suggestions and placebo expectations of specific effects. The sham would have to be credible, truly innocuous, but not truly meditative, perhaps listening to motivational lectures while performing meaningless game-like tasks, or letting one's mind wander while sitting or reading poetry while listening to military music. However invented, placebo treatments must be matched for such expectation-fostering features as procedural complexity and credibility, sophistication of rationale, belief of treatment administrator, and presence of possible negative side effects. Elsewhere I have offered a "Placebo Checklist" listing features such a treatment might include (Smith, 2017) Alternatively, one could compare meditation and an innocuous nonmeditation control in which suggestion and expectation are equally absent. Both interventions could be described as "non-meditative control treatments shown to have no effect."

However, there is a risk in denigrating suggestion, expectation, and the placebo effect as nuisance variables. Perhaps they play an important role in making meditation work. At the very least, I suggest assessing these variables carefully, and incorporate them into a discussion of the narrative of meditation. One can then consider under what conditions are suggestion and expectation important? When are they irrelevant? When are they a part of distraction and mind wandering?. What role do they play during the course of meditation? Perhaps at the onset of training, high levels of suggestion and expectation facilitate growth in meditation, whereas later in training they are distracting impediments. Perhaps under certain circumstances, suggestion or expectation are sufficient to evoke a desired effect, say pain relief or relaxation, whether or not meditation is incorporated. Perhaps in other circumstances, meditation instructions are crucial.

Such questions lead us again to the importance of not defining and assessing meditation as a single static thing but as a dynamic matrix of variables, analogous to current conceptualizations of stress. A true assessment of meditation is not so much a snapshot as it is a rich and evolving narrative (Smith, 2017a).

References

Anālayo, B. (2003). *Satipaṭṭhāna: The direct path to realization*. Birmingham, UK: Windhorse.

Baer, R. A., Smith G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment, 11,* 191-206

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13,* 27– 45.

Bhikkhu Bodhi. (2011). *What does mindfulness really mean?: A canonical perspective.* Contemporary Buddhism, 12(1), 19– 39.

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., et al. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11*(3), 230– 241.

Borgogna, N. & Smith., J.C. (2016). Effects of Yoga and Meditation on Mindfulness States. Poster presented at the 2016 Annual Midwestern Psychological Association Conference, Chicago, IL.

Borgogna, N. & Smith, J.C. (2016a). The Factor Structure of Relaxation and Mindfulness: Two States or One? Poster presented at the Association For Contextual Behavioral Science Annual World Conference 14, Seattle, WA.

Brown, K.W. & Ryan, R.M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84,* 822-848.

Brown, K. W., J. David Creswell, and Richard M. Ryan (2015*). Handbook of Mindfulness: Theory, Research, and Practic*e. New York: Guilford Publications.

Cannon, W. B. (1929). *Bodily changes in pain, hunger, fear, and rage*. New York: Appleton-Century-Crofts.

Cardaciotto, L., Herbert, J. D., Forman, E. M., Moitra, E., Farrow, V. (2008) The assessment of present-moment awareness and acceptance: The Philadelphia Mindfulness Scale. *Assessment. 15* 204

Cardeña, E., Lynn, S. J., & Krippner, S. (Eds.). (2014*). Varieties of Anomalous Experience: Examining the scientific evidence. 2nd ed.* Washington, DC: American Psychological Association.

Chadwick P, Hember M, Symes J, Peters E, Kuipers E, Dagnan D. (2008) Responding mindfully to unpleasant thoughts and images: Reliability and validity of the Southampton Mindfulness questionnaire (SMQ) *The British Journal of Clinical Psychology / the British Psychological Society. 47*. 451–455.

Cohn, M. A. & Fredrickson, B. L. (2012). Positive Emotions. In S. J. Lopez and C. R. Snyder, *The Oxford handbook of Positive Psychology (2 ed.)* , New York: Oxford University Press

Corbeil, M. E., Marcaurell, R., & Belanger, B. (2015). Adaptaion française et validaion du Smith *Relaxaion States Inventory 3. Revue Francophone de Clinique Comportementale et Cogni6ve, 20 (1)*, 15-34.

Davidson, R. J., & Kaszniak, A. W. (2015). Conceptual and methodological issues in research on mindfulness and meditation. *American Psychologist, 70*(7), 581–592.

Dreyfus, G. (2011). Is mindfulness present-centred and non-judgmental?: A discussion of the cognitive dimensions of mindfulness. *Contemporary Buddhism, 12*(1), 41– 54.

Feldman, G., Hayes, A., Kumar, S., Greeson, J., & Laurenceau, J. P. (2007). Mindfulness and emotion regulation: The development and initial validation of the Cognitive and Affective Mindfulness Scale— Revised (CAMS-R). *Journal of Psychopathology and Behavioral Assessment, 29(3)*, 177– 190.

Gethin, R. (2011). On some definitions of mindfulness. *Contemporary Buddhism, 12*(01), 263– 279.

Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life.* New York: Hyperion.

Easterbrook JA. (1959) The effect of emotion on cue utilization and the organization of behavior. *Psychological Review. 66*:183–201.

Ekman P (1992) . An argument for basic emotions. *Cognition and Emotion. 6*:169–200.

Ellsworth P.C., Smith C.A. (1988). Shades of joy: Patterns of appraisal differentiating pleasant emotions. *Cognition and Emotion. 2*:301–331.

Feldman, G., Hayes, A., Kuman, S., Greeson, J. Laurence, J-P (2007). Mindfulness and emotion regulation: The development and initial validation of the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R). *Journal of Psychopathology and Behavioral Assessment, 29*, 177

Fletcher, L., & Hayes, S. C. (2005). Relational Frame Theory, Acceptance and Commitment Therapy, and a functional analytic definition of mindfulness. *Journal of Rational-Emotive and Cognitive-Behavioral Therapy, 23*(4), 315-336.

Fredrickson, B. L. (1998) What Good are Positive Emotions? *Review of General Psychology.* Sep; 2(3): 300–319.

Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., & Finkel, S. M. (2008). Open hearts build lives: Positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of Personality and Social Psychology, 95*(5), 1045-1062.

Gethin, R. (2015) Buddhist conceptualizations of mindfulness. In K. W. Brown, D. Creswell, and R. M. Ryan (2015). *Handbook of Mindfulness: Theory, Research, and Practice*. New York: Guilford Publications.

Gillham, Jane E.; Shatté, Andrew J.; Reivich, Karen J.; Seligman, Martin E. P. (2001). "Optimism, Pessimism, and Explanatory Style". In Chang, Edward C. *Optimism and Pessimism: Implications for Theory, Research, and Practice*. Washington, DC: American Psychological Association. pp. 53–75

Hagelin, J. S.; Rainforth, Maxwell V.; Orme-Johnson, D. W.; Cavanaugh, K. L.; Alexander, C. N.; Shatkin, S. F.; Davies, J. L.; Hughes, A. O.; & Ross, E.. (1999). Effects of group practice of the Transcendental Meditation program on preventing violent crime in Washington, D.C.:

Results of the National Demonstration Project, June-July, 1993. *Social Indicators Research, 47.* 153-201

Hilgard E. R. (1965). *Hypnotic susceptibility.* New York: Harcourt, Brace & World.

Holmes, T. H. & Rahe, R. H. (1967). The social readjustment rating scale. *Journal of Psychosomatic Research, 11,* 213-218.

Keltner, D. & Haidt, J. (2003).. Approaching awe, a moral, spiritual, and aesthetic emotion.. *Cognition and Emotion, 17*, 303.

Lazarus, R. S. & Folkman, S. (1984) *Stress, appraisal, and coping.* New York: Springer

Lau, M. A., Bishop, S. R., Segal, Z. V., Buis, T., Anderson, N. D., Carlson, L, Shapiro, S., Carmody, J., Abbgey, S., Devins, G. (2006). The Toronto Mindfulness Scale: development and validation. *Journal of Clinical Psychology, 62,* 1445-1462.

Leibovici, L. (2001). Effects of remote, retroactife intercessory prayer on outcomes in patients with bloodstream infection: Randomized controlled trial. *British Medical Journal, 323.* 1450-1451.

Li, M. J., Black, D. D., & Garland, E. L. (2016) The Applied Mindfulness Process Scale: A process measure for evaluating mindfulness-based interventions. *Personality and Individual Differences. 96.* 6-15.

Lutz, A., Jha, A. P., Dunne, J. D., Saron, C. D. (2015). Investigating the phenomenological matrix of mindfulness-related practices from a neurocogmitive perspective. *American Psychologist, 70 (7)*, 632-658.

Maclean, K. A., Leoutsakos, J-M S., Johnson, M. W., Griffiths, R. R. (2012). Factor analysis of the Mystical Experience Questionnaire: A study of experiences occasioned by the hallucinogen psilocybin. *Journal for the Scientifc Study of Religion, 51*, 721-737.

Maslow, A. H. (1964). *Religions, values, and peak-experiences.* Columbus, OH: Ohio State University Press.

Pahnke, W. N. (1963) *Drugs and mysticism: An analysis of the relationship between psychedelic drugs and the mystical consciousness.* Cambridge, MA: Harvard University Press.

Pahnke, W. N. (1969). Psychedelic drugs and mystical experience. *International Psychiatry Clinics. 5(*4):149–62.

Raz, A. & Lifschitz, M. (2016). *Hyponosis and meditation: Towards an integrative science of conscious planes.* New York: Oxford University Press

Quaglia, J. T., Brown, K. W., Lindsay, E. K., Creswell, J. D., , and Goodmann, R. J. .   In K. W. Brown, J. D. Creswell, and R. M. Ryan. *Handbook of Mindfulness: Theory, Research, and Practice*. New York: Guilford Publications.

Rudd, M., Vohs, K. D., & Aaker, J. (2012). Awe expands people's perception of time, alters decision making, and enhances well-being. *Psychological Science, 23*, 1130–1136. doi:

Scheier, M. F.; Carver, C. S. (1987). "Dispositional optimism and physical well-being: the influence of generalized outcome expectancies on health". *Journal of Personality*. **55**: 169–210.

Schmeidler, G. R. (1945). Separating the sheep from the goats. *Journal of the American Society for Psychical Research, 39*, 47-50.

Shonin, E., & Van Gordon, W. (2015). Managers' experiences of meditation awareness training. *Mindfulness, 4*, 899–909.

Smith, J. C. (1985*). Relaxation dynamics: Nine world approaches to self-relaxation*. Champaign, IL: Research Press. 375 p.

Smith, J. C. (1986). *Meditation: A sensible guide to a timeless discipline*. Champaign-Urbana, IL: Research Press. 219 pp.

Smith, J. C. (1988). Steps toward a cognitive-behavioral model of relaxation. *Biofeedback and Self Regulation, Vol 13(4),* 307-329.

Smith, J. C. (1999). *ABC Relaxation Theory*. New York: Springer

Smith, J. C.)2001) *Advances in ABC Relaxation: Applications and inventories*. New York, NY, US: Springer Publishing Co. 300 pp.

Smith, J. C. (2005) *Relaxation, meditation, and mindfulness: A mental health practitioner's guide to new and traditional approaches*. New York, NY, Springer Publishing Co.

Smith, J. C. (2007) The psychology of relaxation. Lehrer, Paul M. (Ed); Woolfolk, Robert L. (Ed); Sime, Wesley E. (Ed), (2007).   *Principles and Practice of Stress Management (3rd ed.),* (pp. 38-52). New York, NY, US: Guilford Press, xvii, 734 pp.

Smith, J. C. (2012). Relaxation. in ED: Ramachandran, V. S *Encyclopedia of Human Behavior*. New York: Elsevier. pp. 23-45

Smith, J. C. (2015). Relaxation. In M. S. Schwartz and F. Andrasik (Eds), *Biofeedback: A Practitioner's Guide (4th Edition)*. New York: Guilford.

Smith, J. C. (2017). *Critical thinking: Pseudoscience and the paranormal.* New York: Wiley.

Smith, J. C. (2017a). *Stress and coping: The eye of mindfulness*. Dubuque, IA: Kendall Hunt.

Smith, J. C., Amutio, A., Anderson, J. P., Aria, L. A. (1996). Relaxation: Mapping and uncharted world. *Biofeedback and Self-Regulation, 21 (1)*, 63-90

Stace, W. T. (1960). *Mysticism and philosophy*. New York: The MacMillan Press.

Walach, H., Buchheld, N., Buttenmuller, V., Kleinknecht, N., & Schmidt, S. (2006). Measuring mindfulness— the Freiburg Mindfulness Inventory (FMI). *Personality and Individual Differences, 40*(8), 1543– 1555.

Yaden, D. B.; Haidt, J.; Hood, R. W. Jr.; Vago, D. R.; Newberg, A. B. (2017) The Varieties of self-transcendent experience. *Review of general psychology, 21*, 143-160.

Raz, A. & Lifshitz, M. (Eds. 2016) *Hypnosis and Meditation Towards an Integrative Science of Conscious Planes* New York: Oxford University Press

Dynamic meditation was first created by Indian guru and mystic Osho (or Bhagwan Shree Rajneesh). It's a full body catharsis that involves sporadic and spontaneous movements and noises that are aimed to increase alertness, and purify the body of toxic, repressed emotions. The whole point of dynamic meditation is to become more open, aware and embracing of life, in the present moment. For your entertainment, I've included a fascinating video below. Try to watch this video in a state of open-mindedness. Although dynamic meditation may not be for everyone, it's one superb way to let go of all the poisonous emotions that we carry within ourselves, sometimes for years. These emotions make us sick both in body, and in mind. Osho Dynamic Meditation is a formatted meditation technique of 5 stages, first of which is chaotic breathing for 10 minutes, followed by 10 minutes of catharsis, 10 minutes of shouting a mantra "hoo", 15 minutes of silence, and finally 15 minutes of celebration through dance (Osho, 1988a). This report revealed that teacher stress caused poor morale, job dissatisfaction, lowered productivity, and high medical costs. Meditation, along with other physiological coping strategies, has been used in stress prevention programs. Osho Dynamic Meditation, Page 7. clinical and corporate measurements taken prior to the onset of the study (baseline), at the end of the 7 days of meditation, and on Day 12 for follow up measurements. This study investigated meditation as a family treatment method for children with ADHD, using the techniques of Sahaja Yoga Meditation (SYM). Parents and children participated in a 6-week programme of twice-weekly clinic sessions and regular meditation at home. Pre- and post-treatment assessments included parent ratings of children's ADHD symptoms, self-esteem and child–parent relationship quality. Perceptions of the programme were collected via parent questionnaires and child interviews. Results showed improvements in children's ADHD behaviour, self-esteem and relationship quality. Children described benets at home (better sleep patterns, less anxiety) and at school (more able to concentrate, less conict).