

SPECIAL ISSUE

The New Psychology of Relaxation and Renewal

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Relaxation involves both the body and the mind. Research on words used by relaxers of diverse traditions to describe their experience suggests a universal lexicon of 12 relaxation states (R-states) organized into four groups: basic relaxation, core mindfulness, positive energy, and transcendence. Psychological relaxation theory proposes that psychological relaxation states more accurately depict the experience of relaxation and renewal, as distinct from neurophysiological tension reduction.

People generally relax in two ways. Sports, recreation, and leisure are active pursuits that involve a degree of goal-directed engagement with the world. Stress management trainers use relatively passive approaches that are either (a) assisted or initially guided by an agent or external equipment (massage or biofeedback) or (b) unassisted forms of self-relaxation.

Self-relaxation is the oldest and most popular tool in stress management. Its diverse forms have evolved over millennia from magic, religion, and science and include progressive muscle relaxation, breathing exercises, autogenic training, imagery, visualization, prayer, meditation, mindfulness, and a burgeoning catalog of yogas. Since 1975, I have attempted to make sense of this bewildering landscape. We begin with a simple question: What is relaxation?

The Neurophysiology of Relaxation

Early hypnosis researchers provided what can be viewed as the earliest scientific definition of relaxation. In 1843, James Braid, the father of hypnosis, defined neurohypnotism as a neurophysiological body process, a "sleep of the nerves" (Gauld, 1972). For more than a century, the scientific study of relaxation has continued to focus on neurophysiology (Smith, 1999). In stark contrast, other areas of psychological study, including grieving, learning, childhood development, psychopathology, and personality, are grounded in psychological constructs. For example, consider the field of stress. Once defined in terms of a neurophysiological flight-or-fight response (Cannon, 1914, 1929) or general adaptation syndrome (Selye, 1956), stress is now seen as a complex transaction (Lazarus & Folkman, 1984)

of psychological and neurophysiological variables including life-change events, cognitive appraisals, coping resources, social supports, and spiritual assets. The study of stress has evolved beyond a strictly neurophysiological focus. Not so for the study of relaxation.

What is the neurophysiological perspective of relaxation? Put simply, relaxation is the generalized reduction of neurophysiological arousal, the relaxation response (Benson, 1975). This approach continues to be very popular, although it does not help us understand differences among various types of self-relaxation. Various specificity models acknowledge a psychological dimension of relaxation and suggest that different techniques may have different effects. For example, physical exercises such as progressive muscle relaxation may reduce somatic stress, whereas mental exercises such as meditation may reduce worry or cognitive stress (Davidson & Schwartz, 1976).

Recently, Smith (2005) suggested a complex specificity model that elaborates physical and mental self-stressing processes. Through self-stressing, one evokes, augments, and sustains neurophysiological arousal. Each of six types of self-stressing suggests a parallel family of self-relaxation techniques.

Stressed posture and position. When confronting a stressor, people often respond by taking various defensive or aggressive postures or positions (standing, crouching, bending over a desk) for an extended time. Eventually, one experiences joint stress, which indirectly contributes to skeletal muscle tension as well as muscle and nerve fatigue and decreased energy. Stretching exercises, as found in hatha yoga, initially target stressed posture and position.

Stressed skeletal muscles. Under threat, people frequently clench, grip, and tighten muscles for attack or escape. Sustained over time, tightened skeletal muscles contribute to pain and fatigue. Progressive muscle relaxation initially targets stressed muscle tension.

Stressed breathing. Stressed breathing is shallow, uneven, and rapid, deploying less use of the diaphragm. Breathing exercises, as found in prana yoga, focus on stressed breathing.

Stressed body focus. Attention to and imagery about a specific body part or process can evoke specific symptoms. Someone worrying about his or her heart might experience heart palpitations. Autogenic training involves attending to and evoking relaxing thoughts and images about specific body parts and processes (“My hands and arms, warm and heavy”).

Stressed emotion. Affect-arousing negative cognitions (thoughts and images) can energize and motivate us under stress. Such stressed emotion often takes the form of angry, anxious, or depressed fantasies or self-statements. In contrast, imagery and visualization relaxation exercises evoke positive emotions.

Stressed attention. When under stress, we focus and often divide our attention with effort among multiple targets and competing tasks. Meditation and mindfulness initially reduce such stressed attention through a calm focus on a simple stimulus or target task.

The field of relaxation provides an abundance of approaches. My self-stressing model appears to simplify a chaotic field by suggesting that most, if not all, approaches sort into six family groups. This model is consistent with where the field of stress management has been moving. A decade ago, a stress textbook might have described relaxation solely in terms of one approach (usually progressive muscle relaxation). In contrast, most contemporary texts identify about a half dozen types of techniques, parallel to the family groups I have identified. However, for the first time, the self-stressing perspective offers an explanation as to why there are a half dozen approaches.

A Psychology of Relaxation

My self-stressing model of self-relaxation is grounded in neurophysiology. I propose that a true psychology of relaxation must consider what relaxers think about while practicing. To answer this question, we start with the basic operational units of thoughts: words. What words best describe what happens in relaxation?

I began by examining more than 200 texts and manuals of a wide range of techniques frequently identified as approaches to relaxation. These included progressive muscle relaxation, all forms of yoga, breathing exercises, imagery and visualization, tai chi, self-hypnosis, meditation, contemplation, and prayer. I eventually created a relaxation dictionary of 230 words (Smith, 1990).

Two hundred thirty words is an unwieldy list for questionnaire and theory development. One way of reducing this list would be to have a handful of experts identify 12 or so items as worthy of consideration. This strategy has been used often in the development of stress, anxiety, and relaxation

TRANSCENDENCE Timeless / Boundless / Infinite / At One Mystery Prayerful / Reverent <i>Awe and Wonder*</i>	
MINDFULNESS Quiet Aware / Focused / Clear Accepting <i>Innocent*</i> <i>Centering*</i> <i>Awakening*</i>	POSITIVE ENERGY Joyful (Happy) Optimistic <i>Energized*</i> <i>Thankful / Loving*</i>
BASIC RELAXATION Mentally Relaxed (At Ease / Peace) Physically Relaxed Disengaged (“Far Away, Indifferent”) Sleepy <i>Rested/Refreshed*</i>	

Figure. The Window of Renewal: categories of relaxation states. *These are hypothesized R-states yet to be identified as separate factors. I find them to be clinically useful. All R-states are measured by the Smith Relaxation States Inventory-3 (Smith, 2007).

questionnaires. However, it relies on the judgment of the experts (usually the primary investigator and assistants). The world literature on relaxation, meditation, and mindfulness is replete with a priori lists of favored relaxation words, all generated by self-defined experts. We chose a different and more conservative strategy.

The Window of Renewal

Over the years, researchers at the Roosevelt University Stress Institute have subjected relaxation words to nine published factor analyses. We asked 6,077 people what they did to relax and what words best described their relaxation experiences. Twelve types of relaxation-related experiences (which I call relaxation states, or R-states) emerged. These clearly sort into four categories, which I call the Window of Renewal (see the Figure).

Basic Relaxation

Our first set of R-states refers to simple experiences practitioners are likely to experience when they begin practicing a relaxation technique. These are also experiences often reported in causal relaxation activities. Basic relaxation can be seen as reduced tension, fatigue, or distress. It is the absence of a negative.

R-state sleepy. Sleep in itself is complex, involving various stages and levels, a topic beyond the scope of this article. Suffice it to say that after a good rest or nap, higher levels of renewal become possible. And when one is in need of sleep, almost any relaxation exercise will become a needed nap.

R-state disengaged. R-state disengaged appears to involve withdrawal from and reduced awareness of the world. This

Table. Number of relaxation technique citations in journals (1920–2006)

	1920–1990	1991–1996	1997–2000	2001–2006
Autogenic training	453	60	54	65
Biofeedback (and relaxation or stress management)	897	127	64	102
Breathing exercises	95	21	10	32
Guided imagery	328	16	14	29
Massage	17	20	19	39
Meditation (not mindfulness, not Zen, TM)	838	182	143	320
Core Mindfulness (Zen meditation)	267	33	52	377
Progressive muscle relaxation	450	86	49	82
Tai chi	4	4	9	46
Transcendental meditation	225	45	20	39
Yoga stretching (hatha)	12	6	1	9
Yoga (and practice, exercises)	71	19	15	62

Note. PsycLIT search conducted January 1, 2007.

experience can be spatial, attitudinal, or somatic, all highly correlated. Spatial states include feeling distant, far away, or “in my own world.” Feeling detached, indifferent, not caring about anything, or unmoved or unbothered represent an attitude of withdrawal. Finally, as relaxation progresses, one may display a type of somatic disengagement characterized by reduced awareness of one’s limbs and parts of one’s body or the presence of out-of-body experiences in which one feels as though, or hallucinates that he or she is, floating above and observing the physical body.

R-state physically relaxed. One becomes physically relaxed by letting go of body tension. The full lexicon of words that load on this factor include dissolving, elastic, listless, limp, light, liquid, heavy, massaged, melting, motionless, sensual, sinking, slack, slow, supple, throbbing, tingling, and warm. Of these, physically relaxed, warm, heavy, and limp load most highly.

R-state mentally relaxed (at ease/peace). The full content of this factor includes calm, at ease, carefree, contented, laid back, peaceful, relaxed, restored, and soothed. Of these, at ease and peaceful consistently load most highly. One might

think of mentally relaxed as having at least two sources. First, it can be a psychological product of sleep, disengaged, and physically relaxed. Second, dictionary definitions of the items that define R-state mentally relaxed also depict a reduction of some form of psychological stress, including tension (calm, relaxed), conflict (peaceful), threat (carefree), desire and frustration (contented), fatigue (rested, restored), pain (soothed), or effort (at ease, laid back).

When assessing relaxation, I find it useful to consider R-state rested/refreshed, a state yet to be identified in research.

Core Mindfulness

Mindfulness is currently the most widely researched approach to relaxation, attracting more studies than even yoga or progressive muscle relaxation (see the Table). Mindfulness is typically defined in terms of three variables that closely parallel three R-states (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006): awareness and focused attention, absence of elaborative thought, and nonjudgmental acceptance. These correspond to the following R-states:

- R-state aware/focused/clear,
- R-state quiet, and
- R-state accepting.

To these I add three hypothesized R-states yet to be identified in research:

- R-state innocent,
- R-state centering, and
- R-state awakening.

Positive Energy

R-states joyful and optimistic. Positive energy is primarily defined by two R-states: joyful and optimistic. Both joy and optimism have been the attention of much research outside of relaxation and have been found to be associated with increased health, immune system functioning, and longevity (Pressman & Cohen, 2005).

In addition, I have found two hypothesized R-states with considerable research and clinical promise:

- R-state energized and
- R-state thankful/loving.

Transcendence

Transcendent R-states appear to reflect a radical reduction in self-referent thinking. They are states of intense selflessness in which one's primary concern is a larger, greater other:

- R-state prayerful/reverent,
- R-state mystery, and
- R-state timeless/boundless/infinite/at one.

In addition, I hypothesize a fourth transcendent R-state:

- R-state awe and wonder.

Conclusion

For thousands of years, world religions have offered libraries of psychological states claimed to be linked with relaxation (generally prayer, breathing exercises, yoga stretching, visualization, meditation, mindfulness). One might pray to express joy and thankfulness. One might cultivate feelings of detachment and awareness in meditation. A sense of compassion might be a prerequisite for transcendence. Loss of self may be a requirement for inner peace. The list goes on. Starting in 1902 with William James, secular scholars fearlessly stepped in, offering speculations of characteristics of religious states, peak experiences, and relaxation (James, 1997). As noted earlier, the complete lexicon of relaxation is vast, including at least 230 words.

For all such approaches, answers have come top down from divine revelation, religious dogma, personal insight, expert speculation, and theory-driven deductive reasoning. In contrast, my approach has been from the ground up. Through inductive empiricism, our researchers have simply asked practitioners of diverse approaches what they experience in relaxation. Such inductive empiricism is more likely to be theoretically, philosophically, and theologically neutral and broadly applicable to many schools of relaxation. In sum, the present tentative catalogue of 12 R-states is unique in the field of relaxation and may represent the beginnings of a universal natural lexicon of relaxation.

Does any of this matter? Or are relaxation states to be discounted as curiosities of practice, like the occasional smile or tear? We have conducted more than 40 studies on R-states in relaxation (Smith, 1999, 2001), and each one has yielded a goldmine of meaningful, consistent, and potentially useful findings. It is beyond the scope of this article to provide a review. However, here is a sampling:

1. Different approaches to relaxation have different effects. For example, progressive muscle relaxation evokes R-states disengagement and physical relaxation; breathing exercises evoke energy. It can take up to five sessions of practice before differences emerge, and often the most important appear as relaxation after effects (reported minutes after the termination of an exercise).
2. People who score high on virtually any form of psychopathology report R-state disengagement as most characteristic of their best and most effective relaxation activity.
3. Women are more likely to report positive energy when practicing relaxation, whereas men report basic relaxation.
4. Health status correlates positively with R-states mentally relaxed and optimism. (Mindfulness was not considered in this research.)

Psychological relaxation theory provides a rich source of ideas for teaching and enhancing relaxation (Smith, 2005, 2006a, 2006b). Neuropsychological models suggest that training is over once arousal-based symptoms are gone. I propose that it is here that relaxation training begins. The lexicon of R-states enables us to individualize exercises to personal needs and goals. R-states serve as powerful reinforcements to maintain practice and minimize dropout. Most important, they facilitate the process generalizing the benefits of relaxation and integrating relaxation to all of life. For further ideas, see Smith (2006a and 2006b) or check my Web site (www.lulu.com/stress).

In 1996, I published in *Biofeedback and Self Regulation* the first comprehensive study on the psychology of relaxation (Smith, Amutio, Anderson, & Aria, 1996). I suggested that relaxation states might be central to the process of relaxation. Ten years, 40 studies, and more than 6,000 participants later, it is clear that the psychology of relaxation is worthy of exploration. As we first concluded, we are on the shores of a promising new land.

Note

For reprints and permission to use the Smith Mindfulness, Meditation, and Relaxation Inventory (State, Trait, Situational formats), please contact Jonathan C. Smith, PhD. For inventories measuring stress and R-States, and a free downloadable library of audio instructions for the six family groups of relaxation, see www.lulu.com/stress.

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