

Protocol updates

## Meditation in health: an operational definition

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### Abstract

Despite its evergrowing use in health-related areas, procedures characterized as meditation have been little or not at all defined operationally, which hinders its use in a standardized manner. In the present study, the authors present a possible operational definition of meditation, which has been used in social and academic projects, developed in Universidade Federal de São Paulo. In this proposal, it is emphasized that, in order to be characterized as meditation, the procedure should encompass the following requirements: (1) the use of a specific technique (clearly defined), (2) muscle relaxation in some moment of the process and (3) “logic relaxation”; (4) it must necessarily be a self-induced state, and (5) use of “self-focus” skill (coined “anchor”).

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In the last years, meditation turned from a solely mystic process of spiritual quest to a complementary effective method in several health situations. The first scientific studies focused on physiological alterations induced by the process; gradually, however, meditation came to deserve attention from journals and researchers, giving place to its assessment in different indications. Curiously, this interest, though crescent, was not done with the same care in regard to an operational definition of meditation. Publications, even in more judicious journals, were remiss for not defining the method, or presented a general definition, usually inaccurate and inadequate [1–3,5,8,10–12,].

Working in one of the major study groups, Wallace et al. [10] suggest the label “Awakefull Hypometabolic Physiologic State” to designate the meditative process. Despite

being considered a synonymous of meditation, this term only describes some of the physiological characteristics reached by the meditative practice, but does not mention the operational method employed in the technique. At that moment, the authors initiated their studies using the process known as Transcendental Meditation. Later on, the same group presented new publications involving another meditative technique, resulting from the association of other existing techniques, which was precisely described in regard to its technical aspects and its effects were designated “Relaxation Response” [2,4,6,7,9]. Still, a definition capable of encompassing other effective meditative techniques was lacking; a definition that included characteristics common to all techniques.

In a historical work in 1975, Woolfolk [12] reported some psychophysiological variables of three meditative techniques: Dhyana Yoga, Transcendental Meditation and Zazen and also reviewed innumerable previous publications. Electroencephalographic alterations, skin electrical resistance, breathing alterations and cardiovascular responses

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were assessed in each one of the techniques. Nonetheless, no effort was made toward an operational definition of the meditation technique.

In 1979, West [11] presented a review paper about this subject. The author then defined meditation as "... an exercise, which usually involves training the individual to focus the attention or consciousness in a single object, sound, concept or experience..." Such definition could not be considered sufficiently broad, since it did not include active techniques, nor even passive techniques known as perceptive; it is limited to the techniques recognized as passive concentration, i.e., those involving a positive attention focus (self-focus skill) and excluding perceptive modalities. In addition, it does not mention the necessary "logic relaxation", thus hindering the analysis, judgement and expectation, during the meditative exercise. It also does not emphasize that meditation involves psychophysical relaxation intrinsically to the process, favoring what Johnson [8] designates as "non sensorial self-perception".

In the same year, Goleman [5] conceptualized meditation as "... a consistent attempt to reach a specific attention position...". The author even divides meditative techniques in concentration and insight techniques. The former "... sustaining the attention directly to a single object, point or focus...". The latter, "...maintaining a specific cognitive perception related to the contents that would spontaneously come to mind...". The author even recalled that meditation involves altered states of consciousness. Such definition, despite including perceptive variations not mentioned in West's text, does not highlight the importance of self-induction nor the "logic relaxation".

In 1989, Craven [3] established the relationship between meditation and psychotherapy. In that occasion, he tried to describe meditation as something involving five basic components: "... relaxation, concentration, altered state of consciousness, 'logic relaxation' and self-observation attitude...". Although this definition could be considered as being more complete than those presented by West and Goleman, it does not include perceptive techniques, does not reinforce that meditation is self-induced and does not emphasize the importance of self-focus skill (this last aspect was adequately recalled by both West and Goleman).

Overall, we can conclude that the specialized literature remains limited—over the years—in regard to an adequate concept of meditative exercise [1,2,10–12].

In 1998, with the help of Indian instructors, the Department of Psychobiology of Universidade Federal de São Paulo-Escola Paulista de Medicina initiated systematic studies of meditation procedures. The rationale for the study was the relevance of complementary techniques in health, especially behavioral ones, taking into consideration the side effects of meditation, the pathogenic aspects of the stress response and its preventive aspects. The first difficulty of the study was trying to

characterize operationally the definition of meditation, considering broadness of the above mentioned aspects that would make the definition more accurate. The following concept was structured in order to make this project viable and to qualify instructors for application of an objective procedure.

## 1. The concept of meditation

To be characterized as meditation, the procedure must contain the following operational parameters: Utilizes a (1) specific technique (clearly defined), involving (2) muscle relaxation somewhere during the process and (3) "logic relaxation": a necessarily (4) self-induced state, using a (5) self-focus skill (coined "anchor").

Thus put, let us consider this operational definition item by item.

### 1.1. Specific technique

A technique procedure, clearly defined and regularly practiced is necessary. It is not the case, for instance, of simply telling the pupil to "sit down and start to meditate". The instructor must present the technique to be used, explaining it clearly and urging the pupil to follow it carefully. The effects and future evolution may be different from person to person, but, as some say, the initial technique must be transmitted as if it were a "recipe".

### 1.2. Muscle relaxation

Throughout the process, or in some point of it, a state of psychophysical relaxation is installed. Operationally, we can state that such state will always involve muscle relaxation, hereby mentioned for being an easier scientific measurement during this type of body response.

### 1.3. Logic relaxation

Basically, the so-called "logic relaxation" would involve:

- (a) Not "to intend" to analyzing (not trying to explain) the possible psychophysical effects;
- (b) Not "to intend" to judging (good, bad, right, wrong) the possible psychophysical
- (c) Not "to intend" to creating any type of expectation regarding the process.

### 1.4. Self-induced state

Refers to a therapeutic method taught by the instructor, but self-applied by the individual him/herself. It must, for instance, be perfectly feasible to be done at home, without the presence of the instructor. There must not be any relationship of dependence. It does not include

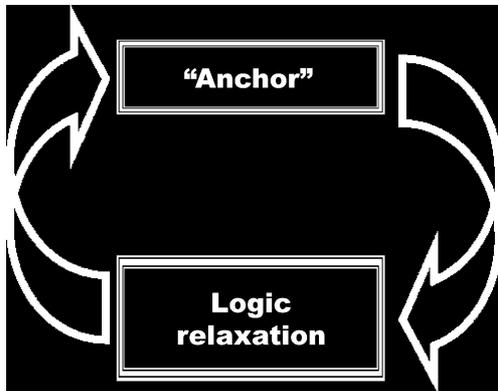


Fig. 1. The use of the anchor. During the meditation, all the attention must be kept in self-focus skill, so-called anchor. This artifice allows so-called "relaxation of the logic". At the very moment the apprentice perceives himself involved in any kind of thoughts, he will immediately return to be "focused in the anchor". This exercise, repeated successively, seems to constitute the base of the meditation.

previous induction, installing "induction triggers" of the sign-signal type. No dependence on the instructor is stimulated.

### 1.5. Self-focus skill ("anchor")

Despite being a component of the technique, this topic seems so important to us that we have chosen to present it as an item.

A concentration ("positive anchor") or a turning off ("negative anchor") focus is used, in order to avoid sequels of undesirable thinking, torpor, sleep, state of trance, etc. Positive anchors may focus on one point of the body, a physical point on the wall, a sound, and respiration, among others. Negative anchors are used in the perceptive-like techniques, being called "anchor of anchor absence".

At first, it seems paradoxical when we say that in order to obtain "logic relaxation" we should not to "intend to" analyse or not to "intend to" judge or not to "intend to" expect. However, this is a very—probably the most—subtle aspect of meditation. In a very basic view, meditation is a simple duet, that involves the "anchor" (self-focus skill) and the "logic relaxation". The individual will gradually exercise his capacity of being "focused in the anchor". At the very moment he perceives himself involved in any kind of thoughts, he will immediately return to be "focused in the anchor". But if he, at any moment, despite his "intention to" maintain the so-called "logic relaxation", he perceives himself thinking continuously about it, he will—once again and again—"return to the anchor" (Fig. 1). Many mystical traditions and many

individuals utilize meditation techniques through multiple—and sometimes confused—definitions, and we believe that these seem to be the common essential items to almost all of them. This intricate aspect may be the major difficulty faced for decades by other authors in order to define meditation [1–3,5,8,10–12] and seems to be absolutely relevant to standardize this procedure. Naturally, we must to recognize that the term "logic relaxation" is referring to a technical stratagem and not yet to a well-recognized pattern of cerebral function.

Inevitably, our definition will exclude some modalities of psychoactive exercise, presented as meditation by some philosophical trends. We could not enlist some of the methods used by Tibetan Buddhism as meditation, for they consist of "meditating (to ponder) about the virtues of doing good things". Nor would some active techniques that do not involve psychophysical relaxation in any moment of the process be enlisted as meditation, as is the case of "Dynamic Meditation" (practiced by Poona sanyasins, in India).

With this paper, we trust to have contributed to future studies on meditation in health, providing a basic ingredient to any scientific protocol: the operational definition of the method used.

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