

CONSTRUCTION AND PRELIMINARY VALIDATION OF HOLOTROPIC WORK SHORT AND LONG-TERM CHANGES SURVEY

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Abstract

This paper explains objectives for construction and presents the validation of Holotropic Work Short and Long-Term Changes Survey (HWSLCS), which monitors short- and long-term psychological changes after *holotropic self-exploratory work and holotropic psychotherapies* (holotropic work).

The whole survey is congruent with the theoretical frame of S. Grof and his extended cartography of the psyche (Grof, S. 1975, 2000). The primary purpose of HWSLCS is to inexpensively and relatively quickly collect a large amount of relevant phenomenological data through which the comprehensive validation of holotropic work can be done. Direct correlations between different aspects of holotropic work can be obtained, the importance of these aspects and flow of the whole holotropic process caused by the particular holotropic event can be monitored.

Keywords: holotropic states, holotropic breathwork, measurement, survey design, holotropic work

Holotropic states of consciousness (HS) are the subgroup of non-ordinary states of consciousness (NOSC) which have healing or/and transformative potential (Grof S., 1975). The term holotropic was introduced by S. Grof to distinguish between NOSC that have pathological origin and NOSC that carry healing potential. In its broadest sense, the term NOSC also includes pathological changes in consciousness caused by neurological diseases, degradation, or injuries, such as dementia, delirium tremens, or encephalitis, for example, or they can be the consequence of severe mental disorders such as schizophrenia or bipolar disorder psychoses. *Holos trepein*, on the other hand, means moving toward

wholeness – a search we undertake, each in our own unique way, throughout our whole life.

According to this terminology, I will use the term *holotropic work* for the therapies and procedures that use HS as support or catalyst for healing or transformative therapeutic process. *Holotropic experience* for particular NOSC experience within the frame of holotropic work, and *holotropic process* for the whole holotropic work plus integration process after the particular holotropic work.

Short Overview of Research that Led to Grof's Cartography of Psyche and A New Understanding of The Psychotherapeutic Process

Clinical research on the therapeutic potential of psychedelic substances noticed the healing potential of holotropic states of consciousness already in the early fifties (Dyck, 2005). From this research, it was evident that healing potential is not only held in blissful mystical states (Stace, 1987) or peak experiences (Maslow, 1964) but that in the healing process, a person must often (first) go through “hell.”

Clinical research with psychedelics that emphasized the significant healing potential of mystical experiences started in Canada on alcoholism patients (Dyck, 2005, Mangini, 1998). Similar clinical research in the USA included alcoholics first, but later also persons with severe personality disorders, primarily borderline, and in 1967 the research broadened to cancer patients to relieve pain, anxiety, and fear of death (Yensen & Dryer, 1992).

In Europe, the approach to psychedelics in therapy was different. Low-dose LSD sessions were conducted on a weekly basis and were seen as supporting therapy to the psychoanalytic treatment. This approach was named the psycholytic approach. The psycholytic approach clearly showed that all rainbow of psychedelic experiences could be conductive and supportive to conventional psychotherapy (Grof S., 1975).

S. Grof carried this knowledge to the USA, where he later proposed a mixed type of therapy, so-called psychodelitic therapy, with a mixture of low- and high-dose therapy as support to

psychotherapeutic work (Yensen & Dryer, 1992).

S. Grof documented a broad spectrum of possible experiences during LSD sessions conducted by himself or his colleagues. LSD reaction was particular for the personality of the subject. LSD turned out to be a catalyst for activating unconscious material that could be understood in psychodynamic terms. Grof also observed that in consecutive sessions of the same person there was a continuity between the sessions in terms of psychodynamic terms and unfolding of deeper and deeper levels of the unconscious (Grof S., 2009; 19). As a true scientist, he documented all psychedelic reports, without censorship or prejudice of psychoanalytic theory. Even if some of these reports of holotropic experiences sounded very improbable and mere delusions or imaginations of the clients, such as birth reliving and various transpersonal experiences, such as becoming somebody or something else, remembering ancestry woundedness, past-life experiences, identifying with a group of people, the whole humanity or with figures such as Christ, Buda, mystical experiences... This research was the basis for his theory of new cartography of psyche (Grof S., 1975, p. 14) and the concept of Systems of Condensed Experience – COEX (Grof S., 1975, p. 46-60).

He developed an expanded theory of consciousnesses, based on his research, which included Freud's biographical part, Jung's collective unconscious with the considerable expansion of transpersonal domain and additional perinatal domain.

The clinical research on psychedelics was also able to emphasize the non-drug effect; the set and setting of the therapy (Fisher, 1963; Pahnke, 1963; Mangini, 1998; Yensen & Dryer, 1992). The consequence of this finding was the inclusion of careful preparation and careful psychotherapeutic support after the single high-dose psychedelic or psycholytic therapy. The importance of initial intent and mindset of the subject, and importance of preparation of subject was clearly shown; the importance of how the therapeutic alliance was built and how safe, supported and, accepted the subject felt during the whole therapeutic work was clearly shown through this research.

According to these findings, HWSLTC is designed to measure different aspects; preparation, holotropic process and, integration of holotropic work separately. The aim is to gather information on

different aspects of holotropic work and to be able to compare and correlate them with each other.

HWSLCS is designed so that relevant phenomenological data about holotropic work can be obtained and then used for varieties of statistical interpretations or as an illustrative part of a case study. From the knowledge that every measurement or observation changes the observed object, we can anticipate that HWSLCS will help volunteers be more conscious about their holotropic work and integration, namely the whole holotropic process.

In the validation process of HWSLCS, some of the volunteers have been monitored through more than one holotropic process over as much as four years, which can serve as an example of monitoring the longitudinal holotropic process of a selected individual through the use of HWSLCS.

Objectives for HWSLCS

We are in the renaissance of research and exploration of benefits of holotropic psychotherapies, particularly in the field of clinical research on therapies with psychedelics (for example Gasser, et al. (2014); MAPS; Roland R. Griffiths research on psilocybin, Research at Heffter Institute...) which demands more of scientific research and verification of benefits of other holotropic approaches to personal growth and healing. Meditation in the form of mindfulness approach (see, for example, Grosman et al, 2004), and hypnotherapy (f.e. Rotaru&Rusu, 2016; Mayor, 2016), managed to get into the mainstream psychotherapeutic practices since they have been well supported by scientific research. There are still quite a few transpersonal methods that use holotropic states of mind that need scientific verification. Phenomenological research might be justified in this respect since it was shown that the phenomenological aspects of experience directly reflect brain's operations (Winkelman, 1996, 2000).

The HWSLTC is designed to help validate and evaluate different psychotherapeutic techniques and methods that use holotropic states of consciousness and also other procedures that have the basic structure of good therapeutic practice, such as well-structured shamanic work, rites of passage (Winkelman, 2000, 2007), Holotropic Breathwork, Rebirthing, Process Work, Guided Imagery and Music, Authentic Movement, Key Method and so on.

So far, there has been no questionnaire that would follow Grof's theoretical frame and his extended cartography of psyche (Grof S., 1985, 2000), which are the most appropriate frames for phenomenological research of HS and holotropic work. From the research that proceeds his and from his research, he summarized the basic assumptions on which the holotropic work was developed: neuroticism or emotional/personal disorders or psychosomatic symptoms represent an inadequate attempt of the psyche to free itself from traumatic imprints (Grof S., 1985; 179).

The second assumption is that an average person in our culture lives a psychologically impoverished life far below his or her real potential. This false identification leads to an inauthentic life, which may again lead to the development of the above-mentioned symptoms (Grof S., 1985; 182). Therefore, symptoms are not a nuisance but a starting point and an opportunity for the psyche to heal. In the holotropic work, therefore, we meet the client in his territory and through the holotropic experience temporarily enhance and amplify the symptoms to bring the unconscious material into the client's awareness, where, through a safe environment and proper support of a skilled therapist, the second-order transformation of the psyche can happen (Grof S., 1985; 200). Grof summarized the stages in holotropic work with these words:

“The emotional and psychosomatic energies underlying psychopathology are so elemental that only direct, nonverbal experiential approaches have any chance of coping with them effectively. However, verbal exchange is essential for proper intellectual preparation for the experiential session and for the adequate integration. In a paradoxical way, cognitive work is probably more important in the cortex of experimental therapies than ever before.” (Grof S., 1985; p. 340)

According to Grof, experiential approaches (Grof S., 1985) to psychotherapy (including holotropic work) bring the client to perinatal and transpersonal experiences, which are not possible to incorporate into the client's conceptual framework if we do not prepare the client for such possibilities and make an effort to integrate them into a new understanding of the self and the world.

The HWSLCS is designed in such a way to cover each basic segment – preparation, holotropic experience, integration - of the holotropic work/process separately so that each segment can be

evaluated and then correlated to other segments. HWSLCS will measure how often the perinatal and transpersonal experiences occur in particular holotropic work and which holotropic experiences are most frequent. As a part of HWSLCS, a follow-up questionnaire measures long-term changes for the whole holotropic process.

The HWSLCS is intended for participants of holotropic therapies, where holotropic states of mind are temporarily induced therapeutically. Someone who is already in a spiritual emergency (Grof C., Grof S., 1989) does not need such therapy but needs acceptance and, understanding of the situation and then stabilization and integration of the psychic changes, knowledge and insights gained through the whole process. Therefore, this survey is not intended for people in spiritual emergency.

I can only speculate that a short-term questionnaire, which measures temporary consciousness changes during the holotropic process, would be able to detect a persons already in spiritual emergency since spiritual emergency can be seen as an acute, spontaneous, often overwhelming emergence of holotropic process. However, considering spiritual emergency is beyond the scope of this paper.

The Outline of the HWLTCS and Pilot Study design

The questionnaires are congruent with the theory of Stanislav Grof. Through systematic classification of holotropic experiences of several thousand psychedelic sessions, he developed new cartography of the psyche which, can be a helpful guide and theoretical frame for holotropic work (1975, 1984, 2000). Together with his wife Christina Grof, they developed Holotropic Breathwork (Grof, C. & Grof, S. 2010) as an alternative non-drug method to psychedelic psychotherapy with a very similar structure.

The HWLTCS includes three separate parts; each covers different aspects of the holotropic work. In addition, the volunteers can write a short report about the holotropic experience (h.r.) and send a photo of expressive work (mandala f.e.) done during the holotropic work. Holotropic reports (h.r.) are to be done after the workshop or session within a couple of weeks.

The main questionnaires of HWLTCS are:

1. Questionnaires about the states of consciousness right before (SCQ) and during the holotropic work (HSCQ). HSCQ aims to subjective assessment of the particular holotropic state of mind and a corresponding experience category during the holotropic experience. SCQ is meant to be used in terms of baseline for HSCQ.

2. Questionnaire about safety and confidence issues (SCQ) measures how safe, accepted and, supported participant felt during particular holotropic work. Questionnaire about integration process after the workshop (IPQ). These two questionnaires are coupled into Safety and Integration Questionnaire (STIQ), which is sent to participants within two weeks after the holotropic work.

3. Holotropic Work Long-Term Changes Questionnaire (HWLTCQ). HWLTCQ is a subjective assessment of long-term changes perceived as a consequence of particular or several particular holotropic works.

The written Consent Form, General Information Section, States of Consciousness Questionnaire (SCQ) and, Holotropic State of Consciousness Questionnaire (HSCQ) are all coupled together into the single Survey: Holotropic State of Consciousness Survey (HSCS). HSCS is the part of HWLTCS handed out during the holotropic work. The volunteers can fill the General Information Section when they feel it like during or before the workshop/session. We ask the participants to use the same name or nickname if they participate more than once in the Survey so that next time, they can skip General Information Section. On the other hand, with the consistent use of name or nickname, we can also gain additional information about holotropic work: longitudinal development and healing of a person; do the persons have similar holotropic experiences, or the experiences vary, how they vary and, so on.

Time-sensitive steps in filling HSCS are the following:

- one hour to half an hour before the holotropic session, the volunteers are asked to fill the State of Consciousness Questionnaire (SCQ),

- after holotropic work and first expressive integration work (mandala drawing, for example), participants fill the Holotropic State of Consciousness Questionnaire (HSCQ) when the memory of the

holotropic experience is still fresh. A week after the holotropic work, each volunteer is asked to send the researcher his/her report of holotropic experience (h.r.) and mandala photos. Since the survey is quite demanding, I suggest that this step is optional.

Within two weeks up to one month after the holotropic work, the volunteers get the STIQ via e-mail. HWLTCQ is sent between eight months to one year after selected holotropic work or more selected holotropic works through e-mail and can be returned in the same way or as a hard copy. In the future, STIQ and HWLTCQ can also be available as online questionnaires.

Ethics

At the beginning of this pilot study, I used the ARECCI Ethics Screening Tool, which indicated on all levels that the pilot study falls under the purpose of Quality Improvement or Program Evaluation and that there is no potential risk for the project participants; therefore, I did not need to seek approval of Ethical Board. During the pilot study itself, the ethical requirements were tightened, so I subsequently obtained the approval of the Ethical Board at Sigmund Freud University, Vienna.

Informed Consent of Subject: from each participant, informed consent was obtained prior to entering the participant into the HWLTCS. The informed consent states and lets participants understand the purpose of the research, the duration of the research and the conducting of acquiring the information from the participant, and the possible risks and consequences involved. Participants were also informed of their right to decline or discontinue participation at any time without any need of clarification for their decision.

The information about the pilot study and the description of HWLTCS were given orally and in an understandable form. Written information about the trial was also provided. The participants had the opportunity to inquire about the pilot study details and to consider participation. The subject signed and dated the informed consent. The informed consent was countersigned by the person who conducted the informed consent discussion. The investigator provided a copy of the signed informed consent was

given to the participant.

Construction of the Questionnaires

I decided on self-administered, closed-ended questionnaires with well-defined response categories. Close-ended questionnaires have their well-known limitations. In HWSLCS, these limitations are partially overcome by the holotropic reports and photos of expressive work. In STIQ and HWLTCQ, participants also can comment or write a more extended explanation if they feel that closed-ended question does not (entirely) match their opinion or if they feel they need to add a comment for clarification.

Construction of Holotropic State of Consciousness Survey

Objectives for HSCS:

- Construction of questionnaire that will assess both: content and quality of holotropic experience.
- HSCS will allow the comparison of the state of mind before and during the holotropic experience. The differences between these two states of mind would allow us to evaluate the holotropic state of consciousness for a particular person, how the consciousness changed during the holotropic experience, how it differs from a person's usual or “normal” state of mind. The questionnaire can be used on different levels. The highest level would measure a general qualitative change of consciousness. On the lower level, there is an apparent division between pleasant, unpleasant and, neutral holotropic states. On a still lower level, I used the factors proposed by Studerus at. al. (2010) plus factors that will measure emotional arousal or affect.

I aimed to construct as thorough, comprehensive, and as short a questionnaire as possible, which would:

- assess subjective experience in all relevant dimensions in order to be phenomenologically quantified,
- be congruent with Grof's (1975, 1985) cartography of psyche.

In the process of constructing the HSCQ, I decided to separate statements that refer to the content of

holotropic experience that can be quantified and statements that refer to the qualitative property (categories) of holotropic experience. I constructed these two categories for more comprehensive data processing – this would yield a more comprehensive presentation of results, classifications of experiences, and exploration of different correlations between, for example, qualitative and quantitative aspects of HSC or between long-term changes and qualitative properties of HSC and so on. The last four questions of HSCQ measure the quality of satisfactory conclusion and integration of holotropic experience after each session (if there are more than one) and at the end of the holotropic work.

Description

Holotropic State of Consciousness Survey (HSCS) has two main parts: State of Consciousness Questionnaire (SCQ) and Holotropic State of Consciousness Questionnaire (HSCQ). SCQ and HSCQ have the same hundred statements for assessing the current state of consciousness. The only difference between these hundred statements in SCQ and HSCQ is the formulation in the present tense for SCQ and past tense for HSCQ since it is the assessment of the state of consciousness during the holotropic experience is done after the holotropic experience. SCQ must be filled at least half an hour before the holotropic session and HSCQ after expressive work, as shortly as possible after the holotropic experience.

At the beginning of HSCQ, there is an additional part in which volunteers can choose from 30 possible contents of holotropic experiences as classified by S. Grof (2000).

The last four questions of HSCQ measure the quality of integration (feeling resolved and insights) after each session and at the end of the workshop and should be viewed as a part of the integration process.

First two sections of HSCS are Informed Consent (signed after the explanation about the whole Survey) and General Information Questionnaire which can be filled before, during or after the holotropic work.

The Aim of HSCS

SCQ/HSCQ combined are designed in such a way as to be invariant to different holotropic works and methods of induction of holotropic states of consciousness (HSC). It can be used as a separate tool for measuring the qualitative and quantitative changes in HSC and to detect possible variations of HSC among different therapeutic methods and methods of induction holotropic states.

The primary aim of SCQ and HSCQ is to extract differences between the state of consciousness before and during the holotropic work session and, through this difference, evaluate HSC during the holotropic experience. This comparison of the state of mind before and during the holotropic experience, together with the holotropic report (h.r.), assess the quality, depth, and content of the holotropic experience.

The assessment of the state of mind before (first) holotropic experience - SCQ - is supposed to measure the so-called “normal” or ordinary waking state of consciousness, which would provide the baseline for evaluating the HSC during the holotropic experience.

For the state of mind before holotropic work, I will use the term usual state of consciousness (USC) either for a particular person or as an average across the scores in HSCS. I also included at the beginning of HSCQ the two questions below in order to monitor how the states of mind, both USC and holotropic state (HSC), are changing during the holotropic work, if there are several holotropic sessions. These two questions are to some extent specific to Holotropic Breathwork Workshops (HBW) but can be used or reformulated according to the specificity of other holotropic approaches. This information can help to monitor influence on USC and HS of HBW participants if they have already been in the role of the sitter, or have first, second, ... holotropic experience:

Have you already been sitter today? YES_____ NO_____

Circle for which session of holotropic experience your answers apply: first second third

Construction of the Quantitative Part of HSCS:

The structure of W. Pahnke's Good Friday Experiment was the starting point for planning the structure and scope of HBLSC.

For the development of HSC, I used characterization of LSD induced phenomena as characterized by Grof (S. Grof, LSD 2009, 8-14) from his experiences from both psycholytic, psychedelic, and psychodelytic research:

- Physical symptoms can be explained in terms of stimulation or inhibition of the part of the autonomic, motor, or sensitive nerves, such as heightened or retarded pulse rate, increase or decrease of blood pulse, sweating or feelings of coldness, excessive salivation tears, and so on. A person can also feel pain, or fatigue, a surge of energy, sexual feelings...
- Perceptual changes can occur in any sensory area.
- Distortions in the perception of time and space.
- Emotional changes: from euphoria to despair or feelings of joy, peace, serenity, relaxation, pleasure, sensuality...
- Changes in thinking, intellect, and memory.
- Psychomotor changes can vary from motor inhibition or psychomotor excitement with acting out of various impulses.
- Changes of consciousness: S. Grof reports that typically there is none of the confusion or distortion of personality identity time and place of the session. After the ingestion of LSD, consciousness typically has the qualitative transformation of a dream-like nature.
- Sexuality can be inhibited, or dominate long episodes in the session.
- The experience of art with unique perception of colors and forms or a piece of music can yield a new understanding of art.
- Religious and mystical experiences: S. Grof observed that this kind of experiences are directly related to the dosage and number of previous sessions. (Grof S., 1975)

In construction HSCQ I used as a reference and source several similar questionnaires:

1. Hood's Mystical scale (1975),
2. Altered States of Consciousness Rating Scale (OAV, 1994) / 5D-ASC (Dittrich A., Lamparter D., Maurer M., 1999)
3. Phenomenology of Consciousness Inventory: Hypnotic Assessment Procedure (PCI-HAP) (Author: Ronald J. Pekala, Ph.D., private correspondence).
4. The Mystical Experience Questionnaire (MEQ) (Pahnke, 1963)

As a primary source for constructing the part of the HSCS that measures quantitative changes of state of consciousness during the holotropic process, I used OAV since OAV was designed to measure most relevant properties of NOSC. NOSC, researched through OAV by Dittrich, Bodmer, and other researchers, corresponds to holotropic states of consciousness as defined by Stanislov Grof.

Dittrich (1999) the author of the first version of AOV, constructed the questionnaire to find etiology-independent questions and dimensions that would as parsimoniously as possibly describe features of NOSC. His research (Dittrich, 1999) tested his hypothesis on eleven different induction methods on 259 volunteers and 134 controls. He identified 72 etiology-independent items from original 158 items. Based on factor and cluster analysis, he determined three primary dimensions: “oceanic boundlessness”, “dread of ego dissolution” and “visionary restructuring”. An in-depth examination, the process of formation of final OAV, comment, usefulness, and critic of OAV are presented in Studerus, Gamma, and Vollenweider (2010) and in Studerus (2012): they performed the new psychometric evaluation of the OAV, on NOSC induced by psilocybin, ketamine, and MDMA, by pooling data from 43 experimental studies. They did a thorough factorial analysis, through which they extracted 11 new factors that were highly invariant across drugs, settings, questionnaire versions, and sex. These new factors also have better reliability and homogeneity and can differentiate among induction drugs better than originally chosen factors by Dittrich.

I retained in HSCS all eleven factors but excluded, substituted, or added some statements. In doing this, I followed the idea that the participants should be able to evaluate their holotropic experience as thoroughly as possible and that the questionnaire would be as parsimonious as possible, with no redundant items.

Category of Unpleasant Experiences:

In *The Anxiety* factor, statements no. 22, 35, 54, 84 in HSCS are the same as in *The Anxiety* factor of OAV. I excluded the following statement: “I experienced my surroundings as strange and weird.” since this statement does not necessarily express anxiety feelings. Volunteers who experienced the HSCs for the first time or who feel the need to control their experience or are scared of going insane are more

likely to feel anxious when surroundings and perception lose their usual form. Volunteers who can surrender to the experience or have more experiences in HSCs are not necessarily anxious that their surrounding or perceptions becomes strange. Statement no. 79. and 46. express these fears. The most crucial reason excluding the item “I experienced my surroundings as strange and weird.” was that usually, in holotropic work, we encourage participants to go “vertically” - to stay with the internal process. To help them achieve this, we ask participants to have their eyes closed throughout the holotropic experience if this is possible for them. Therefore, the above statement does not apply to most of the participants.

I added statements that are typical for difficult experiences in BPMs as described by Grof (1985): no. 3, 4, (3 and 4 were excluded from final OAV items in Studerus 2010), 22 correspond to BPM II no. 46. and 57. (item excluded in final OAV items in Studerus 2010) correspond to BPM III.

I retained the factor Unnamed (Studerus 2010), which correspond to additional unpleasant aspects of BPM II, III or biographical events: items 2, 5, 21, 15, 45. Statements no. 1 can also be attributed to the general phenomenon of trans or hypnosis.

Impaired Control and Cognition – I retained statements directly linked to the objective diminishing of control and cognitive impairment: items no. 6, 19, 39, 86, which are the same as items 16, 24, 45, and 62 in OAV (Studerus 2010). The statement “At one point I felt as though I was paralyzed.” was first moved to *Unpleasant Body Sensations*, but it was dropped to *Residual Statements* after the test of the scale reliability. I kept this item since it can detect reliving of processes and events such as anesthesia, past injury, severe fright, or memories of general feelings of mental rigidity and procrastination. On the other hand, this statement can be the expression of the feelings in the deep relaxed trans state. The statement “I felt like a marionette.” was also moved from *Impaired Cognition* to *Residual Statement*. This statement is quite typical for reliving BPM II or feelings of hopelessness and no exit situation when people during the holotropic experience find themselves in the grotesque world, for example. The statement “I felt all alone, unsupported, isolated from everything and everyone.” was moved to *Basic Fears* and it was also identified as one of the items in *The Unresolved BPM IV* dimension.

Factors of OAV which fall under the category of **Neutral or Experiences Which Can Have Either Pleasant or Unpleasant Connotation:**

Disembodiment has the same items as in final confirmatory factor analysis of OAV (Studerus 2010).

Audio-Other Sense Synesthesiae has only item no. 49. “Noises or sounds (music) seemed to influence what I experienced.”

Elementary Visual Alterations has two items (no. 36 and 73). Items 20 and 13 from OAV are combined into item 73 in HSCS.

Vivid Imagery or *Complex Imagination* has four items (no. 13, 31, 59, 68). I excluded the statement: “I saw things that I knew were not real.” since this sentiment is expressed already with the statement: “My imagination was extremely vivid.” which does not discriminate experiences with closed or open eyes. I included one additional statement that correlated with the other three statements: “Everything around me seemed animated, alive.”

The next dimension is the composite dimension: *Changed Meaning of Percepts & Sense Distortion & Hallucinations – Changed Meaning of Percepts* has three items describing unusual emotions or cognition about the usual environment (statements 30 and 60) or distorted perception of the passage of time. *Sense Distortion* has three items describing unusual sensations about the self and the environment (no. 28, 62, 74). *Hallucinations* (most of the time, these are really pseudo-hallucinations, where the person still knows that the experience, although it is very vivid and realistic, is a subjective experience) has two items 81 and 88.

I combined these three sub-dimensions together since all three subcategories describe distortion of perception and cognition, where the person is still aware of the fact that it is a temporary distortion of the reality.

Insightfulness has seven items. I excluded the statement “I felt very profound.”, which is in the original three-item factor in OAV since I felt that the statement “I gained a clarity into connections that puzzled me before.” expresses a similar experience of insightfulness. I added statements: “Worries, anxieties of everyday life seemed unimportant to me.” “I felt totally free and released from old responsibilities.” “Everyday things gained a special meaning.” and “I had an experience of silent knowing, knowing without thoughts.” which are often expressed by the HB participants and help them understand themselves better.

I also added the statement: “I had a convincing feeling that I possess extrasensory powers (telepathy, clairvoyance, precognition, ...).” which would probably better fit into the sub-dimension of *Changed percepts*.

Religious/Mystical Experiences has the same three items as *Spiritual Experience* in OAV.

- *Residual Statements*: statements that had low correlation and Cronbach α . in original factors. Items 96, 20 and 34 were removed from *Impaired Cognition* and 65 and 97 from *Changed Meaning of Perception*. I kept these items since they often occur in holotropic experiences.

Category of Pleasant Experiences:

Experience of Unity has the same items as OAV; I only reformulated item 21 from OAV into “The boundaries between myself and my surroundings seemed to blur.” The score on the scale expresses the intensity and completeness of this blurring or oneness.

Blissful State: I moved the OAV statement “Everything around me seemed animated.” to *Vivid Imagery* since imagining that an inanimate object suddenly possesses aliveness is not always blissful. It can also be grotesque or frightening. I substituted this statement with more appropriate: “I had an experience in which I felt nothing is ever dead.” “Many things appeared to be breathtakingly beautiful.” and I retained all other four items from OAV and added, “I felt I was being transformed in a marvelous way. “

The item: “I had an experience in which I felt nothing is ever dead.” was taken from M-Hood Scale.

In constructing HSCS, I also followed the logic of Ron Pekala's Phenomenology Consciousness Inventory (PCI) (Pekala, 1982, 1991b), which is a retrospective self-report questionnaire completed in reference to a preceding stimulus condition (hypnotic induction and suggestions, for example) for phenomenological quantification. PCI consists of 53 items with 12 dimensions which are measuring subjective conscious experience as thoroughly as possible, also including items that are present also in the usual state of consciousness, such as “normal” sensations, perceptions, feelings, emotions, thoughts, imagination, not just phenomena typically observed in NOSC. Following the idea of PCI to measure various aspects of the experience of an individual, I also included the following dimensions:

- *Basic Fears*: during my practice, I notice that basic fears of my clients present in the usual state of consciousness can diminish or even be replaced by other basic fears during the holotropic experience.

- *Bodily sensation*: divided into unpleasant and pleasant dimensions.
- *Simple and Complex Negative Emotions and Feelings* containing items such as anger, aggression sadness, grief, guilt, shame, disappointment, hatred. (See Table 5)
- *Positive Emotions and Feelings*: items 14 and 100. (See Table 5)
- *Regression, Recapitulation*: items no. 8 and 80 (see Table 5)
- *Amnesia or No Self-Awareness*: items no. 50 and 76 (see Table 5) to detect deep holotropic states such as so-called Yogic sleep or simply amnesia as part of hypnotic phenomena.
- *Ineffability* as one item (no 41) dimension, since it is often reported the feeling of holotropic experience and defined as such already by William James (James, 1902). The item was taken from M-Hood scale.
- *Internal dialog* is also one item dimension which can to some extent measure how much we were able to stop our usual idle thought process – item 67 taken directly from PCI (item 20, 44 in PCI form 2).

The inclusion of this additional dimension will enable a more complete picture of the HSC and can lead to new insights about holotropic experiences and their healing potentials when compared to long-term changes.

Construction of Factors That Measure BPMs:

I further classified the statements that match reported typical experiences of reliving Basic Perinatal Matrices (BPMs) (Grof, S., 1985). In 1924, Otto Rank (1998) concluded that pre-Oedipal wounds exist and that our first significant trauma of life, the birth, set the basis for the basic mold or structure of our psyche. Based on observations in psychedelic therapies and later on Holotropic Breathwork, S. Grof further developed the idea of Otto Rank and divided birth into four main stages - BPMs. Each of these stages, and how each of these stages is experienced, has important consequences in which direction our psyche will develop. With the HSCQ and h.r. it would also be possible to identify and extract holotropic experiences related to BPMs.

In constructing factors that would detect BPM experiences, I used Grof's reports and descriptions (Grof, 1985) and descriptions of BPMs of my clients. I constructed factors that would measure more problematic/difficult experiences of BPM II and BPM III and unresolved BPM IV (Table 5.).

The most distinctive properties of psychologically non-resolved BPM II are feelings of being in very tight spaces, unable to move, no-exit situations, or absurd, grotesque situations, existential despair, feelings of being a hopeless victim or suffer in deprivation, time becomes a torturing slow or even stands still, it can include unpleasant physical manifestations such as suffocation, there might also be feelings of uselessness and incapability and guilt. (Grof S., 1985, p. 111-113)

Factor *BPM III* (Table 6) contains specific challenging difficult aspects of BPM III: feelings of demonic possession (item no. 5), feelings where the role of victim and perpetrator oscillate or is felt at the same time feelings of sadomasochistic sexuality (item no. 45, 85), which can later in life develop in feelings of guilt (item no. 48), feelings of anger and aggression (items no. 66 and 95), feelings of imminent death (in terms of death/rebirth process), brutal sacrifice (item no. 57), feelings of suffering and violation (item no. 91 and 56) (Grof S., 1985, p. 116- 122).

BPM I and BPM IV with no complications can be experientially and descriptively quite similar to mystical experience; BPM I or experiencing Neptunian ecstasy in the "good womb" is marked by feelings of unity, bliss, and boundary dissolution, while in BPM IV or in Apollonian ecstasy there are feelings of empowerment, ineffability, insightfulness and also feelings of bliss (Grof S., 1985, pp 102-111 and 122-127). I did not construct separate dimensions for these two types of experiences since there was not enough conclusive data. I constructed the *Unresolved BPM IV* factor in order to spot reliving of incorrect handling of the newborn in terms of neglect and abandonment, which also includes unfortunate events of complications right after the birth where the child and the mother must be separated for a certain period of time.

I also did not attempt to make a construct that would satisfactorily describe Cesarean birth since there is a difference between elected and emergency Cesarean section and an obvious lack of relevant

data.

Further validation (e.g., confirmatory factor analysis) should be used for these constructs when the data pool will be larger.

Detecting the Mystical Experiences:

In the late 1950' and early 1960' researchers in Canada used the psychedelic approach (one high dose psychedelic session), which started with the therapy of treating alcoholics (Sherwood, Stolaroff & Harman 1962). This research was then followed, also in the USA, by research on heroin addicts, inpatient neurotics, outpatient neurotics, and program for professionals (Yensen and Dryer, 1992).

The main objective of the psychedelic approach was to trigger mystical experiences (Stace, 1960) that might have therapeutic significance for psychiatric treatment (Pahnke, 1963, 1969). The mystical experience was characterized by several typical properties (James, 1902; Stace, 1960; Pahnke, 1969): ineffability, noetic quality, passivity, transiency (James, 1902), unity, sense of sacredness, dissolution of the self, feeling of veracity, long-term positive changes (Stace, 1960), the transience of time and space, paradoxicality, deeply felt positive mood (Pahnke, 1969) that yield long- term positive changes in person having such experience.

The presence or degree of mystical experience can be measured by combining the following factors:
Ineffability, Insightfulness, Religious/Mystical Experience, Experience of Unity, Blissful State

Since these two questionnaires must be filled on the workshop where participants are fully occupied with their inner processes, I decided for simple, close-ended statements whit no option for additional comments.

Construction of the Qualitative Part of HSCS:

Qualitative part of HSC contains 31 items describing possible holotropic categories of experience as defined by S. Grof (Grof S., 2000, p. 29-68). Possible experiences in HSCs are divided into biographical domain, perinatal domain (relieving or remembering events around the birth process, and

pregnancy) and the transpersonal domain, which is further divided into the following major categories: Experiential Extension with Space-Time and Consensus Reality, Experiential Extension beyond Space-Time and Consensus Reality, Transpersonal Experiences of Psychoid Nature. The last item allows the participant to enter his/her own category if he/she cannot find the appropriate among the thirty one categories.

Volunteers can select more than one category that best fits the selected holotropic experience. As is often the case, the participants travel from one to the other holotropic category during the holotropic experience.

Holotropic Reports

I intend to use holotropic reports (h.r.) in a hermeneutic fashion to clarify further and illuminate answers in HSCS. In the pilot study h.r. and additional comments proved very valuable, especially in tracking the unfolding of holotropic experiences of a particular person through time.

Description, Construction, and Aim of Short-Term Integration Questionnaire

The second part of the survey - Short-Term Integration Questionnaire (STIQ) - is dedicated to a short reflection on the feelings of safety and confidence and reflection on integration activities within one month after the holotropic work - it monitors the feelings and activities that might aid and are specifically recommended for the integration of holotropic work. At the moment, the STIQ is adapted to the specific features of Holotropic Breathwork but can be generalized or adapted to other approaches to holotropic work.

STIQ contains two parts:

1. **Subjective Confidence and Safety Rating** in retrospect: The volunteers express their trust in facilitators and their professional capabilities, next if they feel welcomed at the workshop/session, their capability to surrender to the holotropic experience, feeling of fellowship... Except for the first question, which asks, specifically if participants know any of the facilitators prior to specific holotropic work, all

the rest of the questions have five close-ended options: *Completely true, True, Neutral, No, Not at all*.

Objectives for STIQ

The important and necessary part of the preparation for the safety of the particular holotropic work is screening. In Holotropic Breathwork and psycholytic/psychedelic research (see for example: <https://maps.org/research>, <https://heffter.org/>,) prior to enrollment, participants have to fill the Medical Form which contains major medical counter-indications. Subsequently, a formal/ informal interview is done based on the Medical Form. The interview includes screens for current and prior history of severe mental or physical illness or spiritual emergencies and to gauge the appropriateness of the particular holotropic work for a particular participant. The initial interview or meetings before holotropic work also serve for developing the basis for good rapport and trust (<https://heffter.org/>, Grof C., Grof S., 2010, Grof S., 1975). A further strong therapeutic alliance is typically built in the preparation phase within the particular holotropic work and throughout the holotropic work. The satisfactory outcome with the favorable resolution of the holotropic experience and its integration depends, I dare to say also from my own experiences, heavily on set and setting. STIQ is supposed to detect this aspect of holotropic work and will confirm/override the above assumption. In the pilot study, all the participants' rates in STIQ were high, which indicates good therapeutic alliance. So far, no volunteers have participated in HWSLTC that could not feel trust and safety during the holotropic work.

2. Questions about additional integration after the holotropic work relate to the time frame within one month after the holotropic work. These questions are meant to monitor how well and to what extent did people manage to follow recommendations shortly after the holotropic work and which additional activity they did for further integration of holotropic experience into everyday life. This part of STIQ can help us validate and determine the need for and importance of practicing the activities that foster integration when we return to our usual environment and schedule. The last question is assessing

the general feelings, sensations, unusual discomfort, or well-being in the period shortly after the holotropic work that might be the consequence of selected holotropic work.

The assumption that could be tested through this part of the HWLTCS is that without thorough integration and practicing transfer of holotropic experience into everyday reality, the holotropic experience becomes just another escape from the self or even false ego inflation (Maslow, 1994) - healing can happen only through a thorough integration.

Construction and Scope of Holotropic Work Long-term Changes Questionnaire

Holotropic Work Long-term Changes Questionnaire (HWLCQ) is self-reporting inventory, that is designed to measure long-term effect of a holotropic process initiated by the selected holotropic event or events.

HWLCQ is covering possible changes in following areas of holotropic process/individuation:

1. self-acceptance and autonomy,
2. well-being, positive self-image
3. flexibility, capability in coping with everyday challenges (behavioral, affective, cognitive dimension) (Primary source: Items of the Ego-Resiliency Scale (ER89) as in Block J., Kremen M. A. (1996))
4. purpose in life, anticipating (Primary source: Items of the Ego-Resiliency Scale (ER89) as in Block J., Kremen M. A. (1996))
5. savoring life (Source for selecting items: Bryant (2003))
6. awareness of personal problems
7. behavioral changes
8. dealing with stress and trauma (including birth trauma and traumas in transpersonal domain)
9. relationships to other people
10. personal growth
11. the relationship to environment/nature

12. spiritual growth, aesthetic experiencing, worldview

13. synchronicities

14. physical health issues

I constructed these dimensions to capture, as thoroughly and as concisely as possible, possible areas in formation of fully functional human being (Fromm, 1962, 1973), or areas of individuation (Jung, 1990), through the holotropic process (Grof, S., 2000). I used as a source, several other theories about human woundedness, healing, and health: Alport (1955), Rogers (in Shultz, 1977, 26-27), Horney (1950), Naranjo (1994) and Maslow (1954, 1971, 2012) in order to embrace spectrum of possible changes in human psyche as broadly as possible.

In the final construction of HWLCQ, I also used Ryff's Scales of Psychological Well-Being (RPWB) (Ryff 1989a; Ryff 1989b; Springer & Hauser, 2003) as a reference for the selection of items for corresponding dimensions which will measure long-term changes which are the consequence of the holotropic process. To eudaimonic well-being dimensions in RPWB, I also added the hedonic dimension of *savoring life*. Since I wanted to observe the economy of each questionnaire, in order not to burden the volunteers too much, I used in Savoring *life* dimension only one factor; *Savoring the Moment*, since all three temporal-oriented factors were (strongly) positively related to each other (Bryant, 2003).

I feel it necessary to add statements about *awareness of personal problems* (a measure of self-reflection ability as a prerequisite to healing and personal growth), *behavioral changes* (dealing with bad habits, addictions, and unhealthy dependencies), and *dealing with stress and trauma* (Grof S., 2000, 74 – 136 and 293-321, for example). These dimensions measure the most common psychotherapeutic effects that foster the process of individuation.

Physical health issues measure possible changes/improvements in psychosomatic symptoms or illnesses.

Transpersonal dimensions of individuation are covered in *relation to the environment/nature* (Bateson 1979, Capra 1996), *spiritual growth, aesthetic experiencing, and world view* (Maslow, 1964;

Grof S., 2000; Huxley, 1993), and *synchronicities* (Jung, 1952).

HWLCQ is designed so that participants can also report negative changes in psychological well-being and mental functions. The assigned ordinal scores (for researchers) for the statements *Completely true, I agree, Partly true, No change, Not really, Mostly not true, The opposite is true* are 3, 2, 1, 0, -1, -2, -3 respectively. For evaluation of potential changes, volunteers are given detailed explanations of the meaning of each evaluating statement, with no numeric equivalents. Every statement allows participants to add additional comments.

A long-term follow-up questionnaire, HWLCQ, were e-mailed to the survey participants between eight to twelve months after completing their selected holotropic work or more selected holotropic works.

Validation of HWLTCS

Face validation was done first by expert examination: by S. Grof. The last correction in 2013 was done to The Long-Term Changes Questionnaire after S. Grof suggested adding a question about the fear of death since he observed that consistent holotropic work diminishes the fear of death; in some cases, the fear of death even vanishes. This item was added to *spiritual growth, aesthetic experiencing, worldview* dimension.

Readability Test

First, the questionnaires were tested for their readability and comprehensibility. Different grammar and styles were tested. I was careful to write short and simple sentences, especially for the SCQ/HSCQ, which has to be filled during the holotropic work since there is a possibility of a lot of different distractions. SCQ/HSCQ has to require the least effort and time to fill it. People from different walks of life were asked to participate in research and comment on it if they find ambiguities, typing/grammar mistakes, or statements that were difficult to understand. I also ask them to give me the feedback about the length and structure of the questionnaires. Statements and instructions were corrected accordingly.

So far, only English and Slovenian versions of HWSLCS were monitored. The outcomes of the readability test for the English version of hundred statements in SCQ/HSCQ are in Table 1. I did not include the rest (Instructions and General Information section) of the HSCS in the readability test since volunteers get oral instructions from facilitators beforehand, and volunteers can get additional information from facilitators/therapists if they need to.

I have been testing HWSLCS in my Holotropic Breathwork Workshops for the last four years, and although the Survey is quite extensive, more than 85 % rate of successful completion of the entire Survey was reached.

Readability Grade Levels for HSCQ statements	
Readability Formula	Score
Flesch-Kincaid Grade Level	3.4
Gunning-Fog Score	7.2
SMOG Index	7.6
Automated Readability Index	3.5
Readability Scores for HSCQ statements	
Readability Formula	Score
Flesch-Kincaid Reading Ease	77.8
New Dale-Chall Score	6.7

Table 1: Readability statistic for HSCQ.

The reading time for HSCQ statements was estimated between 3 and 5 minutes. STIQ and HWLTCQ include sentences that are more complex, but on the other hand, volunteers can choose the time and place to fill the questionnaires, and they can take as much time as they need.

Readability Grade Levels		
Readability Formula	Score STIQ	Score HWLTCQ
Flesch-Kincaid Grade Level	7.2	5.7
Gunning-Fog Score	9.9	10.2
SMOG Index	7.7	8.1

Automated Readability Index	5.2	4
Readability Scores		
Readability Formula	Score STIQ	Score HWLTCQ
Flesch-Kincaid Reading Ease	61	60
New Dale-Chall Score	4.8	5.1

Table 2: Readability statistic for STIQ and LTHWQ.

The readability statistics (Table 2) indicates that the reading level of STIQ and HWLTCQ should be fairly easy for the grown-up person with the basic education. Time needed for STIQ was estimated to 5 minutes and for HWLTQ up to 20 minutes.

Pilot Study for Further Validation of HWLTCS

I further validated all the questionnaires by conducting the pilot study on Holotropic Breathwork sessions. Therefore, most of the volunteers are participants of Holotropic Breathwork Workshops (HBW). Some volunteers were also from one of Grof's Transpersonal Training modules where I was allowed to conduct the survey.

Each volunteer from our HBW (but not from Module) got 10 € discount for workshop payment if they decided to participate in the survey. This discount was meant as encouragement for participating in the survey. All volunteers were informed that the survey was in no way obligatory and that they could stop participating at any point if they wished so.

Since most of the participants were from central Europe, there is not much variation in race or ethnicity, but there is greater variation in age, education, and religious beliefs (Table 3).

Characteristic	# of partic.	Characteristic	# of partic.
<i>Gender</i>		<i>Ethnicity</i>	
Male	19	European	27
Female	11	Biracial	1
<i>Age group</i>		Brazilian	1
16-25	1	American	1
26-35	7	<i>Education level</i>	
36-45	9	College Coursework	1
46-55	10	High School Diploma	2
56-65	3	College Degree	3
Average age: 42		Graduate Coursework	8
<i>Marital status</i>		Master's degree	7
single	8	Doctoral Degree	3
married/partnered	18	<i>Religious Belief</i>	
divorced	4	atheist/non	11
<i>Breathwork statistic</i>		cannot be determined	14
# Double Breathwork HBW	17	Christian	2
# Single Breathwork HBW	35	Buddhist	3

Table 3: Descriptive statistic.

Validation of HSCS

Spearman Rank-order Correlation Coefficient ρ

AVERAGE $ \rho $	
0.35	SCQ1, HSCQ1 (double breathworks)
0.43	SCQ2, HSCQ2 (double breathworks)
0.40	SCQ2, HSCQ1 (double breathworks)
0.46	SCQ1, SCQ2 (double breathworks)
0.38	SCQ, HSCQ (all breathworks)
0.59	HCQ1, HSCQ2 (double breathworks)

Table 4: Average absolute correlation coefficient (Average $|\rho|$) for different combinations of HSCQ and SCQ scores.

The first row in Table 4 is the average of absolute Spearman rank-order correlation coefficient ρ between the scores for first breathwork (SCQ1 and HSCQ1) of double breathwork HBW. Only in 17% value of ρ is greater than 0.4. The correlation between SCQ1 and SCQ2 is low (in 46% greater than 0.4 and in 11% greater than 0.6). On average, there is low to no correlation between SCQ and HSCQ.

The Spearman correlation coefficient ρ between breathwork (HSCQ1,2) scores for double breathwork HBW (Table 4), shows that there is an almost always significant correlation between first and second breathwork: $\rho = 0.59$ (in 94%, $\rho > 0.4$, and in 41%, $\rho > 0.6$) - the values of p ($p < 10^{-3}$) show that these results are very unlikely to be coincidental.

The low correlation between SCQs in double breathwork can be explained as follows: after the first breathwork, participants allow themselves to partially stay in a non-ordinary state of consciousness. From my observations, I can confirm that typically the feelings of interconnectedness, empathy, unconditional acceptance become stronger and stronger during the workshop.

Reliability Test

I used Cronbach's α for the measure the reliability of SCQ/HSCQ. The short comments of results are below, results for α and Cronbach's α if the item dropped α_{ex} and corresponding correlation corrected for item overlap r_{cor} are presented in Table 5.

Comments about the Table 5: Cronbach's α for the scale that measures the underlying construct of challenging aspects of birth: BPM II and III (Unnamed in AOV, Studerus 2010) has the same value when statement #1 is dropped. I maintained statement #1 under this scale since it provides much information, not contained in the other items. Reliability test and theoretical considerations show that construct BPM II, III, or *Unnamed* has its limitations since it tries to measure aspects of birth or other holotropic experiences that can be qualitatively quite different. To overcome this limitation, I constructed different scales to measure relieving of different aspects of birth and corresponding holotropic experiences (Table 6). The *Anxiety scale* has two problematic items: statements 4 and 35, but I did not want to omit them since they can carry much information. By moving statement #13 from *Bliss scale* to *Vivid Imagery scale*, both scales improve in both reliability statistic and meaningfulness. I concluded from theoretical considerations and reliability tests that the *Changed Meaning scale* ($\alpha = 0.51$) *Sense distortion scale* ($\alpha = 0.50$), and *Hallucination scale* ($\alpha = 0.51$) (Studerus, 2010) could be combined in a single scale since these three scales are correlated and overlapping. By combining them, we get much higher reliability statistics, as shown in Table 5. Statement no. 88 has a low correlation, and when excluded from reliability statistic the reliability does not change: this might be a consequence of the fact that in HBW, we encourage people to do holotropic work with closed eyes. This statement might be more relevant for other holotropic work, where closed ayes are not so emphasized. Statement # 47 (empty mind) has a very low corrected correlation $r_{\text{cor}}=0.18$ and lowers the Cronbach α for 0.03. I moved it to *Bliss* construct. Further research and validation are needed to justify the above-mentioned changes.

UNPLEASANT EXPERIENCES			
	ANXIETY AND FEAR		Corresponding BPM
		ANXIETY ($\alpha=0.79$)	
		3. I felt tormented. ($\alpha_{ex} = 0.78, r_{cor} = 0.49$)	BPM II
		4. Time passed tormentingly slow. ($\alpha_{ex} = 0.8, r_{cor} = 0.28$)	BPM II
		22. I was afraid that the state I was in would last forever. ($\alpha_{ex} = 0.75, r_{cor} = 0.67$)	BPM II
		35. I experienced everything terrifyingly distorted. ($\alpha_{ex} = 0.80, r_{cor} = 0.23$)	
		46. I was afraid to lose my self-control. ($\alpha_{ex} = 0.78, r_{cor} = 0.58$)	BPM III
		54. I was afraid without being able to say exactly why. ($\alpha_{ex} = 0.75, r_{cor} = 0.68$)	
		57. I had the feeling something horrible would happen. ($\alpha_{ex} = 0.77, r_{cor} = 0.79$)	
		79. At one point I feared that I might lose my mind or go insane. ($\alpha_{ex} = 0.78, r_{cor} = 0.60$)	BPM II
		84. I felt threatened. ($\alpha_{ex} = 0.75, r_{cor} = 0.73$)	BPM II
		UNNAMED or unpleasant aspects of BPM II,3 ($\alpha=0.75$)	
		1. I stayed frozen in a very unnatural position for quite a long time. ($\alpha_{ex} = 0.75, r_{cor} = 0.39$)	BPM II
		2. I experienced an unbearable emptiness. ($\alpha_{ex} = 0.74, r_{cor} = 0.41$)	BPM II
		5. I felt surrendered to dark powers. ($\alpha_{ex} = 0.74, r_{cor} = 0.42$)	BPM III
		21. I had experience of abuse and rejection. ($\alpha_{ex} = 0.74, r_{cor} = 0.37$)	BPM III
		15. I felt like a helpless victim. ($\alpha_{ex} = 0.69, r_{cor} = 0.75$)	BPM II
		45. I felt like aggressor / perpetrator. ($\alpha_{ex} = 0.68, r_{cor} = 0.76$)	BPM III
		55. I felt that life is totally meaningless and absurd. ($\alpha_{ex} = 0.75, r_{cor} = 0.34$)	BPM II

		56. I had a feeling like I was in a very narrow and tight space. ($\alpha_{ex} = 0.71$, $r_{cor} = 0.57$)	BPM II, 3
		85. I felt both: as perpetrator and as victim. ($\alpha_{ex} = 0.71$, $r_{cor} = 0.63$)	BPM III
		BASIC FEARS ($\alpha = 0.81$)	
		23. I felt worthless. ($\alpha_{ex} = 0.79$, $r_{cor} = 0.67$)	unsfact. conclud. BPM IV
		43. I felt trapped in pain and deprivation. ($\alpha_{ex} = 0.77$, $r_{cor} = 0.62$)	BPM II
		53. I felt insignificant. ($\alpha_{ex} = 0.78$, $r_{cor} = 0.65$)	BPM i (bad womb)
		63. I felt unloved, unappreciated, and unwanted. ($\alpha_{ex} = 0.78$, $r_{cor} = 0.74$)	BPM i (bad womb)
		78. I felt helpless, useless, or incapable. ($\alpha_{ex} = 0.80$, $r_{cor} = 0.50$)	BPM II
		90. I felt all alone, unsupported, isolated from everything and everyone. ($\alpha_{ex} = 0.79$, $r_{cor} = 0.66$)	unsfact. conclud. BPM IV
		91. At one point I felt as being controlled or violated. ($\alpha_{ex} = 0.80$, $r_{cor} = 0.51$)	BPM III
		94. At one point I felt pain of loss and separation. ($\alpha_{ex} = 0.79$, $r_{cor} = 0.59$)	BPM III, 4
		IMPARED CONTROL & COGNITION ($\alpha = 0.74$)	
		6. Everything around me was happening so fast that I could no longer follow what was going on. ($\alpha_{ex} = 0.67$, $r_{cor} = 0.66$)	
		19. I had difficulty making even the smallest decision. ($\alpha_{ex} = 0.71$, $r_{cor} = 0.56$)	
		39. I had difficulty in distinguishing important from unimportant things. ($\alpha_{ex} = 0.61$, $r_{cor} = 0.81$)	
		86. I was not able to complete my thought, my thought became disconnected. ($\alpha_{ex} = 0.73$, $r_{cor} = 0.58$)	
		BODILY SENSATIONS ($\alpha = 0.82$)	
		18. I felt as if I were poisoned. ($\alpha_{ex} = 0.83$, $r_{cor} = 0.52$)	BPM I (bad womb)
		32. I felt pain in some part(s) of my body. ($\alpha_{ex} = 0.76$, $r_{cor} = 0.65$)	

		58. I felt tense and tight. ($\alpha_{ex} = 0.74, r_{cor} = 0.78$)	
		72. I felt physical distress (e.g. nausea, vomiting, excessive sweating, rapid heartbeat, coldness, cramps, headache...). ($\alpha_{ex} = 0.71, r_{cor} = 0.75$)	
	SIMPLE AND COMPLEX EMOTIONS AND FEELINGS ($\alpha=0.80$)		
		16. I felt grief. ($\alpha_{ex} = 0.78, r_{cor} = 0.62$)	
		33. I felt sad. ($\alpha_{ex} = 0.77, r_{cor} = 0.69$)	
		48. I felt guilt. ($\alpha_{ex} = 0.79, r_{cor} = 0.57$)	
		66. I felt angry. ($\alpha_{ex} = 0.75, r_{cor} = 0.78$)	
		71. I felt shame. ($\alpha_{ex} = 0.79, r_{cor} = 0.58$)	
		75. I had experience of dissatisfaction and disappointment. ($\alpha_{ex} = 0.80, r_{cor} = 0.39$)	
		87. I felt a lot of hatred toward myself and the world. ($\alpha_{ex} = 0.80, r_{cor} = 0.44$)	BPM III
		95. I felt a lot of aggressive feelings. ($\alpha_{ex} = 0.77, r_{cor} = 0.61$)	BPM III
	NEUTRAL OR EXPERIENCES WHICH CAN HAVE EITHER PLEASANT OR UNPLEASANT CONNOTATION		
	BODILY SENSATIONS (77. and 61. should be used as separate one-item scale)		
		77. I felt as if some kind of energy would flow through my body or part of my body.	
		61. At one point I became aware of my sexual feelings/arousal.	BPM III
	DISEMBODIMENT ($\alpha=0.77$)		
		7. I had the feeling of being outside of my body. ($\alpha_{ex} = 0.60, r_{cor} = 0.85$)	
		29. I felt as though I was floating. ($\alpha_{ex} = 0.72, r_{cor} = 0.74$)	BPM I
		83. It seemed to me as though I did not have a body anymore. ($\alpha_{ex} = 0.78, r_{cor} = 0.62$)	
	REGRESSION, RECAPITULATION ($\alpha=0.64$)		
		8. Things came to my mind, which I thought I had forgotten long ago. ($\alpha_{ex} = 0.47, r_{cor} = 0.59$)	
		80. I was able to remember certain past events unusually clear. ($\alpha_{ex} = 0.47, r_{cor} = 0.59$)	

		$r_{\text{cor}} = 0.59$)	
	AUDIO-OTHER SENSE SYNESTHESIAE		
		49. Noises or sounds (music) seemed to influence what I experienced.	
	ELEMENTARY VISUAL ALTERATIONS ($\alpha=0.80$)		
		36. I saw regular patterns in complete darkness or with closed eyes. ($\alpha_{\text{ex}} = 0.67, r_{\text{cor}} = 0.75$)	
		73. I saw lights or flashes of light or colors in total darkness or with closed eyes. ($\alpha_{\text{ex}} = 0.67, r_{\text{cor}} = 0.75$)	
	VIVID IMAGERY (COMPLEX IMAGINATION) ($\alpha=0.76$)		
		13. Everything around me seemed animated, alive. ($\alpha_{\text{ex}} = 0.74, r_{\text{cor}} = 0.59$)	
		31. My imagination was extremely vivid. ($\alpha_{\text{ex}} = 0.66, r_{\text{cor}} = 0.75$)	
		59. I could see pictures from my past or fantasy extremely clear. ($\alpha_{\text{ex}} = 0.72, r_{\text{cor}} = 0.63$)	
		68. I saw scenes rolling by in total darkness or with my eyes closed. ($\alpha_{\text{ex}} = 0.72, r_{\text{cor}} = 0.63$)	
	CHANGED MEANING OF PERCEPTS & SENSE DISTORTION & HALLUCINATIONS ($\alpha=0.80$)		
		CHANGED MEANING OF PERCEPTS	
		30. Objects around me engaged me emotionally much more than usual. ($\alpha_{\text{ex}} = 0.79, r_{\text{cor}} = 0.52$)	
		44. Time stood still; there was no movement of time at all. ($\alpha_{\text{ex}} = 0.78, r_{\text{cor}} = 0.61$)	BPM II or bliss
		60. Things around me had new and strange meaning for me. ($\alpha_{\text{ex}} = 0.79, r_{\text{cor}} = 0.55$)	
		SENSE DISTORTION	
		28. I felt unusual powers in myself. ($\alpha_{\text{ex}} = 0.79, r_{\text{cor}} = 0.51$)	
		62. I felt like in a dream, time and space were changed. ($\alpha_{\text{ex}} = 0.76, r_{\text{cor}} = 0.74$)	

		74. Things around me appeared smaller or larger. ($\alpha_{ex} = 0.79, r_{cor} = 0.55$)	
		HALLUCINATIONS	
		81. I felt like I was in a fantastic other world. ($\alpha_{ex} = 0.74, r_{cor} = 0.85$)	
		88. I saw things that I knew were not real even with open eyes. ($\alpha_{ex} = 0.80, r_{cor} = 0.35$)	
		INSIGHTFULNESS ($\alpha = 0.76$)	
		25. I gained clarity into connections that puzzled me before. ($\alpha_{ex} = 0.75, r_{cor} = 0.48$)	
		38. I had very original thoughts. ($\alpha_{ex} = 0.72, r_{cor} = 0.66$)	
		51. I had convincing feeling that I possess extrasensory powers (telepathy, clairvoyance, precognition, ...) ($\alpha_{ex} = 0.76, r_{cor} = 0.38$)	
		64. Worries, anxieties of everyday life seemed unimportant to me. ($\alpha_{ex} = 0.73, r_{cor} = 0.60$)	
		70. I felt totally free and released from old responsibilities. ($\alpha_{ex} = 0.71, r_{cor} = 0.67$)	
		82. Everyday things gained a special meaning. ($\alpha_{ex} = 0.75, r_{cor} = 0.42$)	
		92. I had an experience of silent knowing, knowing without thoughts. ($\alpha_{ex} = 0.70, r_{cor} = 0.71$)	
		AMNESIA OR NO SELF-AWARENESS ($\alpha = 0.76$)	
		50. I cannot remember what I experienced. ($\alpha_{ex} = 0.59, r_{cor} = 0.68$)	
		76. I was not aware of being aware of myself at all; I had no self-awareness. ($\alpha_{ex} = 0.59, r_{cor} = 0.68$)	
		RELIGIOUS/MISTICAL EXPERIENCES ($\alpha = 0.75$)	
		12. I experienced a kind of awe. ($\alpha_{ex} = 0.76, r_{cor} = 0.56$)	
		26. My experience had religious or sacred aspects, I felt reverence. ($\alpha_{ex} = 0.66, r_{cor} = 0.70$)	

		98. I had the feeling of being connected to a superior power. ($\alpha_{ex} = 0.56$, $r_{cor} = 0.77$)	
	INEFFABILITY		
		41. I had an experience which cannot be described adequately in words.	
	INTERNAL DIALOG		
		67. I was silently talking to myself a great deal.	USC
	PLEASANT EXPERIENCES		
	EXPERIENCE OF UNITY ($\alpha = 0.90$)		
		10. The world appeared to me beyond good and evil. ($\alpha_{ex} = 0.87$, $r_{cor} = 0.83$)	
		11. The boundaries between myself and my surroundings seemed to blur. ($\alpha_{ex} = 0.88$, $r_{cor} = 0.78$)	BPM I (good womb)
		27. Everything seemed to unify into a oneness. ($\alpha_{ex} = 0.87$, $r_{cor} = 0.83$)	BPM I (good womb)
		37. I experienced a touch of eternity. ($\alpha_{ex} = 0.87$, $r_{cor} = 0.80$)	
		69. I experienced past, present and future as oneness. ($\alpha_{ex} = 0.87$, $r_{cor} = 0.83$)	BPM I (good womb)
		89. Conflicts and contradictions seemed to dissolve. ($\alpha_{ex} = 0.90$, $r_{cor} = 0.55$)	
	BLISSFUL STATE ($\alpha = 0.87$)		
		17. I experienced a profound peace in myself. ($\alpha_{ex} = 0.86$, $r_{cor} = 0.65$)	
		24. I experienced a whole embracing love. ($\alpha_{ex} = 0.84$, $r_{cor} = 0.78$)	
		40. I felt that everything is perfect just as it is. ($\alpha_{ex} = 0.84$, $r_{cor} = 0.75$)	
		42. I enjoyed boundless pleasure and/or joy. ($\alpha_{ex} = 0.84$, $r_{cor} = 0.82$)	BPM I (good womb)
		47. I experienced pristine empty space of mind. ($\alpha_{ex} = 0.88$, $r_{cor} = 0.40$)	moved from Insightfulness
		52. I had an experience in which I felt nothing is ever dead. ($\alpha_{ex} = 0.87$, $r_{cor} = 0.55$)	
		93. Many things appeared to be breathtakingly beautiful. ($\alpha_{ex} = 0.84$, $r_{cor} = 0.55$)	

		$r_{cor} = 0.82$)	
		99. I felt I was being transformed in a marvelous way. ($\alpha_{ex} = 0.85, r_{cor} = 0.63$)	
	POSITIVE EMOTIONS, FEELINGS (14. and 100. should be used as separate items)		
		14. Many things seemed unbelievably funny to me.	
		100. I felt content and happy.	
	BODELY SENSATIONS		
		9. Body sensations were very delightful.	
	RESIDUAL STATEMENTS ($\alpha = 0.53$)		Removed from:
		96. I felt like a marionette. ($\alpha_{ex} = 0.55, r_{cor} = 0.30$)	Impaired cognition
		20. My body seemed to me numb, dead and weird. ($\alpha_{ex} = 0.47, r_{cor} = 0.41$)	Impaired cognition
		34. I had the feeling that I no longer have the will of my own. ($\alpha_{ex} = 0.40, r_{cor} = 0.57$)	Impaired cognition
		65. At one point I felt as though I was paralyzed. ($\alpha_{ex} = 0.45, r_{cor} = 0.52$)	Unpleasant body sensations
		97. At one point I felt as being fragmented. ($\alpha_{ex} = 0.49, r_{cor} = 0.36$)	Changed meaning of perception

Table 5: Scales and items of HSCQ with outcomes of reliability test; α is Cronbach's alpha, α_{ex} , Cronbach's α if particular item is being removed, r_{cor} measures item whole correlation corrected for item overlap and scale reliability.

		SCALES FOR BPMn CONSTRUCTS	
		BPM II ($\alpha=0.88$)	
		15. I felt like a helpless victim. ($\alpha_{ex}=0.86, r_{cor}=0.68$)	
		22. I was afraid that the state I was in would last forever. ($\alpha_{ex}=0.87, r_{cor}=0.63$)	
		43. I felt trapped in pain and deprivation. ($\alpha_{ex}=0.85, r_{cor}=0.78$)	
		55. I felt that life is totally meaningless and absurd. ($\alpha_{ex}=0.88, r_{cor}=0.49$)	
		56. I had a feeling as if I was in a very narrow and tight space. ($\alpha_{ex}=0.86, r_{cor}=0.70$)	
		58. I felt tense and tight. ($\alpha_{ex}=0.84, r_{cor}=0.83$)	
		72. I felt physical distress (e.g. nausea, vomiting, excessive sweating, rapid heartbeat, coldness, cramps, headache...). ($\alpha_{ex}=0.85, r_{cor}=0.75$)	
		78. I felt helpless, useless or incapable. ($\alpha_{ex}=0.86, r_{cor}=0.69$)	
		BPM III ($\alpha=0.85$)	
		5. I felt surrendered to dark powers. ($\alpha_{ex}=0.85, r_{cor}=0.51$)	
		45. I felt like aggressor / perpetrator. ($\alpha_{ex}=0.82, r_{cor}=0.78$)	
		48. I felt guilt. ($\alpha_{ex}=0.85, r_{cor}=0.46$)	
		56. I'm having a feeling as if I'm in a very narrow and tight space. ($\alpha_{ex}=0.84, r_{cor}=0.55$)	
		57. I had a feeling that something horrible will happen. ($\alpha_{ex}=0.84, r_{cor}=0.65$)	
		66. I felt angry. ($\alpha_{ex}=0.83, r_{cor}=0.71$)	
		85. I felt both: as perpetrator and as victim. ($\alpha_{ex}=0.83, r_{cor}=0.75$)	
		91. I felt as being controlled or violated. ($\alpha_{ex}=0.84, r_{cor}=0.64$)	
		95. I felt many aggressive feelings. ($\alpha_{ex}=0.83, r_{cor}=0.70$)	
		Unresolved BPM IV ($\alpha=0.86$)	
		16. I felt grief. ($\alpha_{ex}=0.83, r_{cor}=0.72$)	

		21. I had experience of abuse and rejection. ($\alpha_{ex}=0.83, r_{cor}=0.78$)	
		23. I felt worthless. ($\alpha_{ex}=0.85, r_{cor}=0.58$)	
		33. I felt sad. ($\alpha_{ex}=0.83, r_{cor}=0.73$)	
		63. I felt unloved, unappreciated and unwanted. ($\alpha_{ex}=0.84, r_{cor}=0.75$)	
		90. I felt all alone, unsupported, isolated from everything and everyone. ($\alpha_{ex}=0.84, r_{cor}=0.75$)	
		94. At one point I felt pain of loss and separation. ($\alpha_{ex}=0.83, r_{cor}=0.71$)	

Table 6: Purposed factors (scales) of HSCQ for BPMs.

Unity scale can also be interpreted as a description of Neptunian ecstasy or as relieving good womb or non-problematic BPM i. *Bliss*, on the other hand, describes Promethean ecstasy or satisfactory concluded birth – empowering – BPM IV.

HWLTCQ Reliability

The scales and items in HWLTCQ and the reliability test results are shown in Table 7. Scales *Awareness of personal problems* and *Behavioral changes* are coupled into one scale. Reliability also improved considerably when scales *Self-acceptance and autonomy* and *Purpose in life and anticipating* have been coupled.

WELL BEING, POSITIVE SELF-IMAGE ($\alpha=0.80$)	
	1. After the selected holotropic work(s) (sHW) in general I feel better. ($\alpha_{ex} = 0.77, r_{cor} = 0.81$)
	2. After the sHW in general I feel more confident and positive about myself. ($\alpha_{ex} = 0.55, r_{cor} = 0.91$)
	6. After the sHW I feel more energetic person. ($\alpha_{ex} = 0.85, r_{cor} = 0.83$)
FLEXIBILITY, CAPABILITY IN COPING WITH EVERYDAY CHALLENGES ($\alpha=0.81$)	
	5. After the sHW I get more quickly over and recover from being startled. ($\alpha_{ex} = 0.78, r_{cor} = 0.72$)
	7. After the sHW I become more curious. ($\alpha_{ex} = 0.81, r_{cor} = 0.39$)
	8. After the sHW I enjoy more to take different paths to familiar places. ($\alpha_{ex} = 0.81, r_{cor} = 0.51$)
	9. After the sHW most people I meet are likable. I can accept people more. ($\alpha_{ex} = 0.79, r_{cor} = 0.6$)
	10. After the sHW I more like and do new and different things. ($\alpha_{ex} = 0.80, r_{cor} = 0.61$)
	11. After the sHW I would be willing to describe myself as more „strong“ personality. ($\alpha_{ex} = 0.77, r_{cor} = 0.72$)
	12. After the sHW I get over my unwanted emotions and feelings (anger, sadness, resentment, disappointment, shame...) more quickly. ($\alpha_{ex} = 0.79, r_{cor} = 0.62$)
	13. After the sHW I have more confidence in my own opinions, even if they are different from the way most other people think. ($\alpha_{ex} = 0.78, r_{cor} = 0.67$)
	14. After the sHW I am better at managing the responsibilities of daily life. ($\alpha_{ex} = 0.80, r_{cor} = 0.52$)
SAVORING LIFE ($\alpha=0.85$)	
	17. After the sHW I feel more able to appreciate good things. ($\alpha_{ex} = 0.74, r_{cor} = 0.80$)
	18. After the sHW I find it easier to enjoy and appreciate simple, commonplace / everyday experiences. ($\alpha_{ex} = 0.74, r_{cor} = 0.80$)
AWARENESS OF PERSONAL PROBLEMS + BEHAVIORAL CHANGES ($\alpha=0.85$)	
	19. After the sHW I have overcome unwanted habit /addiction. ($\alpha_{ex} = 0.93, r_{cor} = 0.60$)
	20. Following the sHW I started to be aware of the habits/ addiction that hindered me. ($\alpha_{ex} = 0.68, r_{cor} = 0.94$)
	21. After the sHW I notice better my negative patterns that hindered me in my everyday life. ($\alpha_{ex} = 0.75, r_{cor} = 0.90$)
DEALING WITH STRESS AND TRAUMA ($\alpha=0.79$)	
	22. After the sHW I am more aware of the stress and/or trauma that I experienced in childhood. ($\alpha_{ex} = 0.75, r_{cor} = 0.70$)
	23. After the sHW I become more aware of the consequences of experienced stress and/or trauma. ($\alpha_{ex} = 0.63, r_{cor} = 0.52$)

	$r_{\text{cor}} = 0.93$)
	24. The sHW helped me to resolve my problems that were tied to a specific traumatic/stressful experience. ($\alpha_{\text{ex}} = 0.78, r_{\text{cor}} = 0.62$)
	25. The sHW helped me to understand the trauma experienced at birth. ($\alpha_{\text{ex}} = 0.78, r_{\text{cor}} = 0.58$)
RELATIONSHIPS TO SIGNIFICANT OTHERS ($\alpha=0.86$)	
	4. After the sHW I am more generous with my friends. ($\alpha_{\text{ex}} = 0.84, r_{\text{cor}} = 0.57$)
	27. After the sHW my partner /marital relations improved. ($\alpha_{\text{ex}} = 0.86, r_{\text{cor}} = 0.45$)
	28. After the sHW I am able to feel more compassionate for the family members. ($\alpha_{\text{ex}} = 0.81, r_{\text{cor}} = 0.93$)
	29. After the sHW I understand better the relationship with my (adoptive)parents. ($\alpha_{\text{ex}} = 0.84, r_{\text{cor}} = 0.70$)
	30. After the sHW better understand my relationship with my brothers /sisters or stepbrother/ stepsister... ($\alpha_{\text{ex}} = 0.84, r_{\text{cor}} = 0.70$)
	31. After the sHW most people see me as loving and affectionate. ($\alpha_{\text{ex}} = 0.84, r_{\text{cor}} = 0.67$)
	32. After the sHW I am surer that I can trust my friends, and they know they can trust me. ($\alpha_{\text{ex}} = 0.84, r_{\text{cor}} = 0.66$)
	33. After the sHW I can more easily forgive others. ($\alpha_{\text{ex}} = 0.82, r_{\text{cor}} = 0.81$)
SELF ACCEPTANCE AND AUTONOMY & PURPOSE IN LIFE AND ANTICIPATING ($\alpha=0.76$)	
	3. After the sHW when I look at the story of my life, I am more pleased with how things have turned out. ($\alpha_{\text{ex}} = 0.72, r_{\text{cor}} = 0.64$)
	15. After the sHW I enjoy more making plans for the future and working to make them a reality. ($\alpha_{\text{ex}} = 0.72, r_{\text{cor}} = 0.64$)
	16. After the sHW I can feel good by imagining outcome of my plans. ($\alpha_{\text{ex}} = 0.74, r_{\text{cor}} = 0.52$)
	26. After the sHW I understand myself better. ($\alpha_{\text{ex}} = 0.71, r_{\text{cor}} = 0.64$)
	34. After the sHW I can more easily forgive myself. ($\alpha_{\text{ex}} = 0.74, r_{\text{cor}} = 0.55$)
	36. After the sHW I am more aware of the present moment. ($\alpha_{\text{ex}} = 0.74, r_{\text{cor}} = 0.55$)
PERSONAL GROWTH	
	35. After the sHW I have the sense that I have developed as a person.
SPIRITUAL GROWTH ($\alpha=0.87$)	
	37. After the sHW I am more aware that I am connected with all creation. ($\alpha_{\text{ex}} = 0.84, r_{\text{cor}} = 0.78$)
	38. After the sHW I am more aware of the urgency of ecological aspects of my life, work and actions.

	($\alpha_{ex}=0.84$, $r_{cor}=0.78$)
	39. After the sHW I feel a greater need for integration and functioning in the wider community. ($\alpha_{ex}=0.86$, $r_{cor}=0.63$)
	40. After the sHW my view of reality and the structure of the world has changed. ($\alpha_{ex}=0.86$, $r_{cor}=0.63$)
	41. After the sHW a new perspective of reality, which was previously unknown to me, opened up. ($\alpha_{ex}=0.86$, $r_{cor}=0.58$)
	42. After the sHW the happy coincidences start to appear (synchronicity). ($\alpha_{ex}=0.84$, $r_{cor}=0.78$)
	48. After the sHW my fear of death reduced. ($\alpha_{ex}=0.84$, $r_{cor}=0.77$)
PHYSICAL HEALTH ($\alpha=0.92$)	
	43. After the sHW, my general health condition improved. ($\alpha_{ex}=0.93$, $r_{cor}=0.73$)
	44. After the sHW the chronic pain (back pain, headaches, migraine, arthritis..) decreased. ($\alpha_{ex}=0.91$, $r_{cor}=0.83$)
	45. After the sHW my chronic pain disappeared. ($\alpha_{ex}=0.91$, $r_{cor}=0.87$)
	46. After the sHW the status of chronic condition/ disease improved. ($\alpha_{ex}=0.90$, $r_{cor}=0.83$)
	47. After the sHW the chronic condition/ disease disappeared. ($\alpha_{ex}=0.91$, $r_{cor}=0.96$)

Table 7: Scales and items in HWLTCQ and Cronbach's α for scales with Cronbach's alpha when item dropped α_{ex} ; r_{cor} is corresponding correlation corrected for item overlap. sHB stands for selected Holotropic work

Short Presentation of Several Statistical Result of Pilot Study

Statistics of Categories of Holotropic Experiences

In the first part of the HSCQ the volunteers choose relevant holotropic categories of particular holotropic experience. There are 30 categories, the 31st option is intended for a category that might not be covered in the other categories (31. (Please, add the additional description, if none or too few of the above categories match your experience.)).

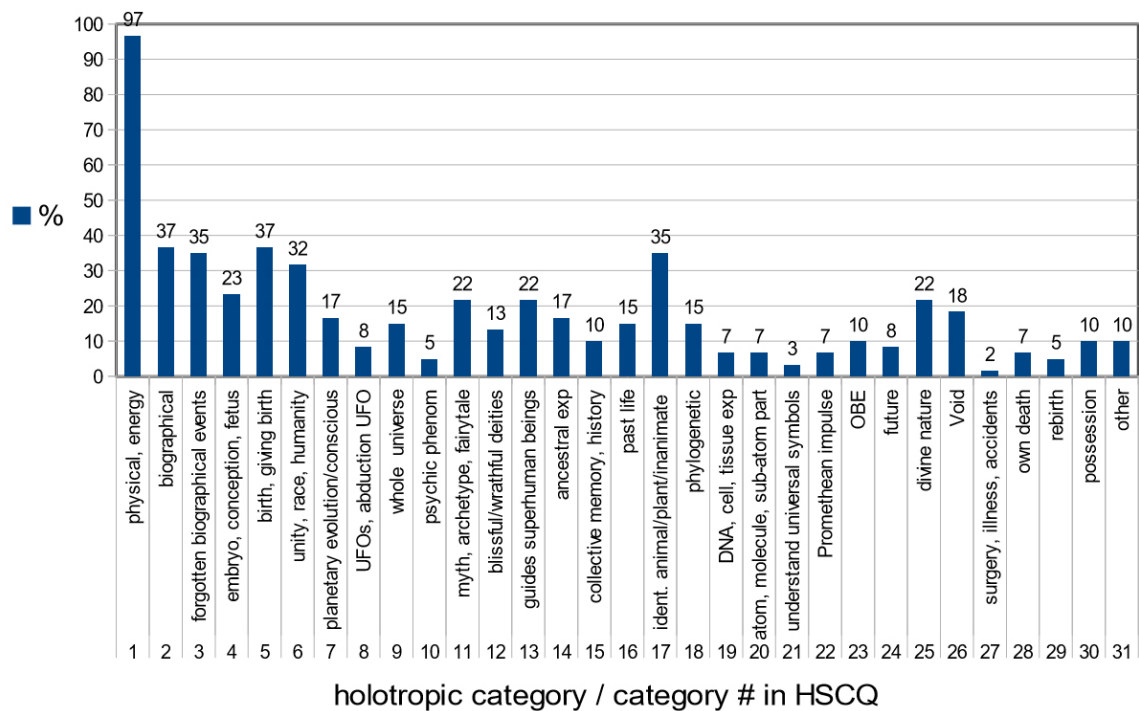


Figure 1: Frequency (in percentage) of holotropic categories chosen in HSCQ

Volunteers most often choose (in 97%) first statement: *“Experiencing mostly on a physical level: physical, energetic, Subtle Body, Kundalini phenomena.”* Participants are choosing additional (on average 5) statements for the description of categories of their particular holotropic experience. Only in one holotropic experience, only the first statement was chosen.

Statements selected by volunteers in approximately one-third of cases:

2. Processing/reliving biographical content: events of childhood or later. (37%)

3. Processing/reliving biographical events, that before the session, were not available to memory. (35%)

5. Reliving birth or/and reliving giving birth. (37%)

6. Unity or identification with significant other, group of people, race or all humanity. (32%)

17. Identification with animal, plant, or inanimate matter. (35%)

I noticed from shearing, h.r., and the combination of chosen categories in HSCQ that biographical

content is often coupled with archetypal content.

Since 97% of participants are reporting that experience was mainly on a physical level, we can conclude that healing or processing in Holotropic Breathwork is done mostly through this channel. The next channel of change, healing, and growth is offered through remembering/relieving biographical events, including birth, and through becoming something else (statement 17).

Comparison of Average Intensity of Scores in SCQ and HSCQ: Measuring Average Changes in Consciousness During Holotropic Event

Since scores in SCQ are meant to represent the baseline for determining HSCQ, we can study differences between USC and HS. If an item is scored zero in SCQ (HSCQ) it can be interpreted as absence of this item in USC (HS) experience. Therefore, I took into account only nonzero items in averaging intensity of an item in SCQ (HSCQ):

$$intensity(x_j) = \frac{\sum_{i=1}^N x_{ji}}{N - n_j}; \quad \begin{array}{l} N - \text{number of scores,} \\ x_i - i^{th} \text{ score for } j^{th} \text{ item,} \\ n_j - \text{number of zero scores for } j^{th} \text{ item.} \end{array}$$

In addition, I drew a lot of information about differences between USC and HS from the difference between a number of nonzero items in SCQ and HSCQ for example, as illustrated in Figure 2.

For measuring the average differences in intensity between HS and USC we need to consider number of zero differences since zero difference of an item means that there was no change in this item before and during the holotropic event:

$$intensity(y_j - x_j) = \frac{\sum_{i=1}^N y_{ji} - x_{ji}}{N - z_j}; \quad \begin{array}{l} N - \text{number of scores,} \\ x_i - i^{th} \text{ score for } j^{th} \text{ item} \\ z_j - \text{number of zero scores for } j^{th} \text{ difference} \end{array}$$

Figure 3 represents average difference intensity between SCQ and HSCQ in percent, with average

absolute deviation. I assumed, that each score represents 20% increase in intensity.

In scale *Unnamed/BPM II, III* (first nine items in Graphs 2,3) five answers out of 9: frozen (1), dark powers (5), victim (15), aggressor/perpetrator (45), tight space (56) tend to be experienced more frequently (Figure 2) and with larger amplitude in HS (Graph3). In particular, the feeling of being frozen (1) is on average 43% more expressed in HS than in the USC. According to volunteers' reports, it can be partially attributed to general phenomena of trance states (disembodiment, feeling of no body control...) and partially to specific experience of relieving the birth process. The feeling of being in tight spaces (item #56) is 36% more in HS than in USC.

Feelings of emptiness (2) and absurdness (55) are more frequent in USC but felt almost with equal intensity in HS. Abuse/rejection (21) is also felt more frequently in USC, intensity is the same as in HS.

The feelings, perceptions, and sensations that are typical for BPMs are much more pronounced in holotropic experiences (items #: 1, 5, 45, 16, 33, 66, 95, 34, 32, 65, 72, 43, 11, 27, 58 and 15 slightly more) than in USC.

Time distortion can also be attributed to general trance phenomena. In the same category of general trance, phenomena also fall into visual alteration, complex imagery, regression, disembodiment, insightfulness, and amnesia.

Negative emotions and sensations: Unloved - in 39 cases, volunteers feel unloved in USC, but the feeling remains only in 24 holotropic experiences. The average intensity of being unloved is 19% more intense in USC than in HS.

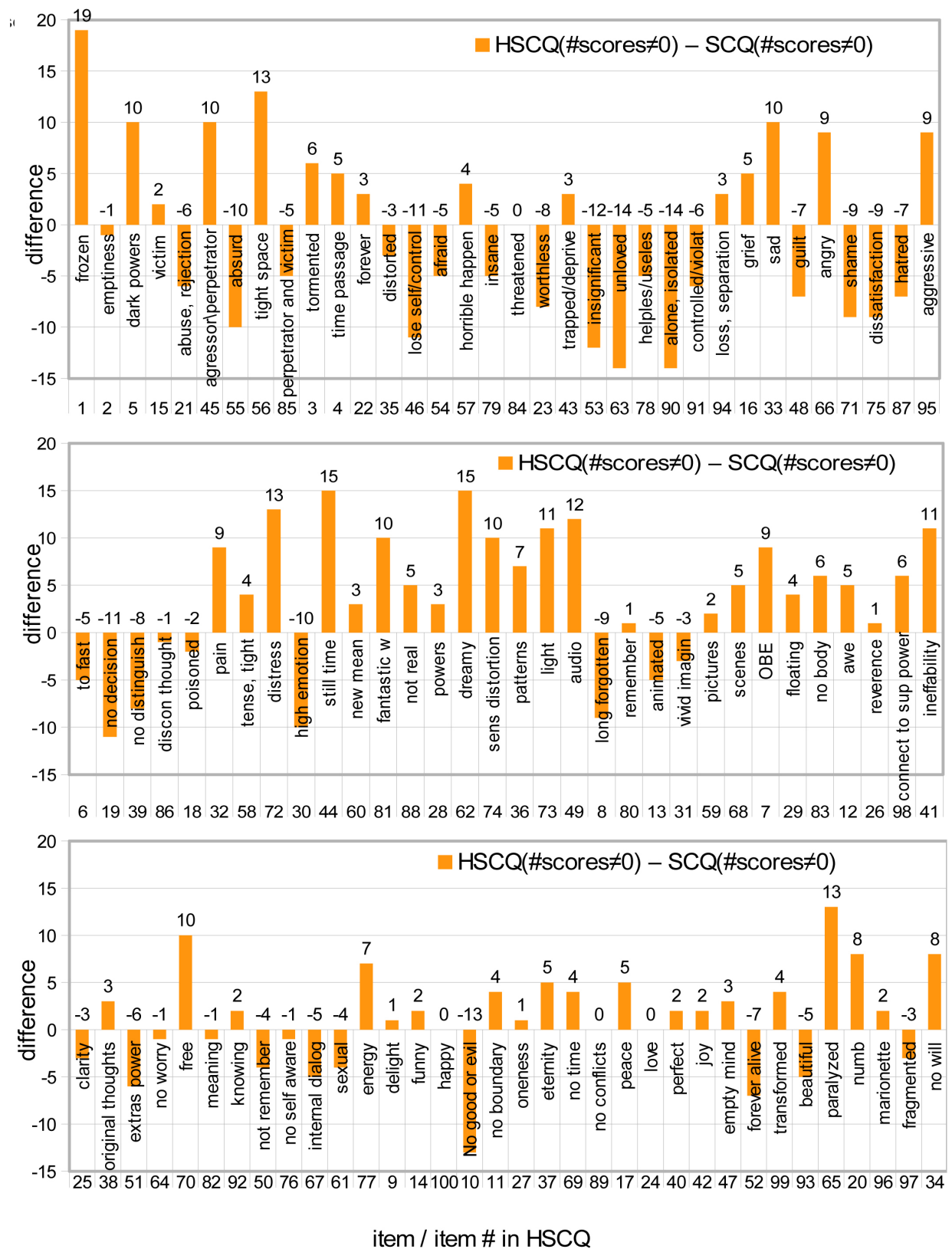


Figure 2: Difference in nonzero scores for each item between HSCQ and SCQ. Total number of scores for each item is 59.

Complex negative emotions: guilt, shame, dissatisfaction, and hatred are felt more often in USC than in HS and have greater average intensity in USC. Most of the *basic fears* (worthless, insignificant, unloved, helpless, useless, alone, isolated, controlled, violated) have much higher frequencies in USC. Only feelings of being trapped, deprived, and feelings of loss and separation are felt more often in holotropic experience. These feelings are often present during the holotropic experience as part of relieving birth experience and corresponding COEX (Grof S., 1985) or archetypal match.

The need for control and fear of losing it or even going insane (statements no. 54, 46, and 79) are typically more pronounced before holotropic experience, probably as part of anticipation and fear of the unknown.

The concepts of the world being beyond good, and evil, of extrasensory powers and that everything is forever alive are more present in USC and might be attributed to generally accepted paradigms in spiritual circles.

In HS, there are more often feelings of bliss, mystical feelings, feeling of ineffability, unity, and insightfulness than in USC. As shown in the third part of Figure 3. there is moderate to strong (up to 37% for *ineffability* item) change in perceiving these dimensions in HS compared to USC.

Further observation, obtained from data in HSCQ: In many of the HSCQ and holotropic reports, we see difficult feelings, emotions, memories, or relieving and experience of physical pain in the first to the second third of the holotropic session. As in all good therapeutic environments, the last part of the holotropic experience is dedicated to satisfactory closure: the client might overcome the difficult situation through new insights, new feelings, and hope for the future. These insights are then reinforced after the holotropic work with appropriate integration activities, during the session or workshop, and most importantly in everyday life.

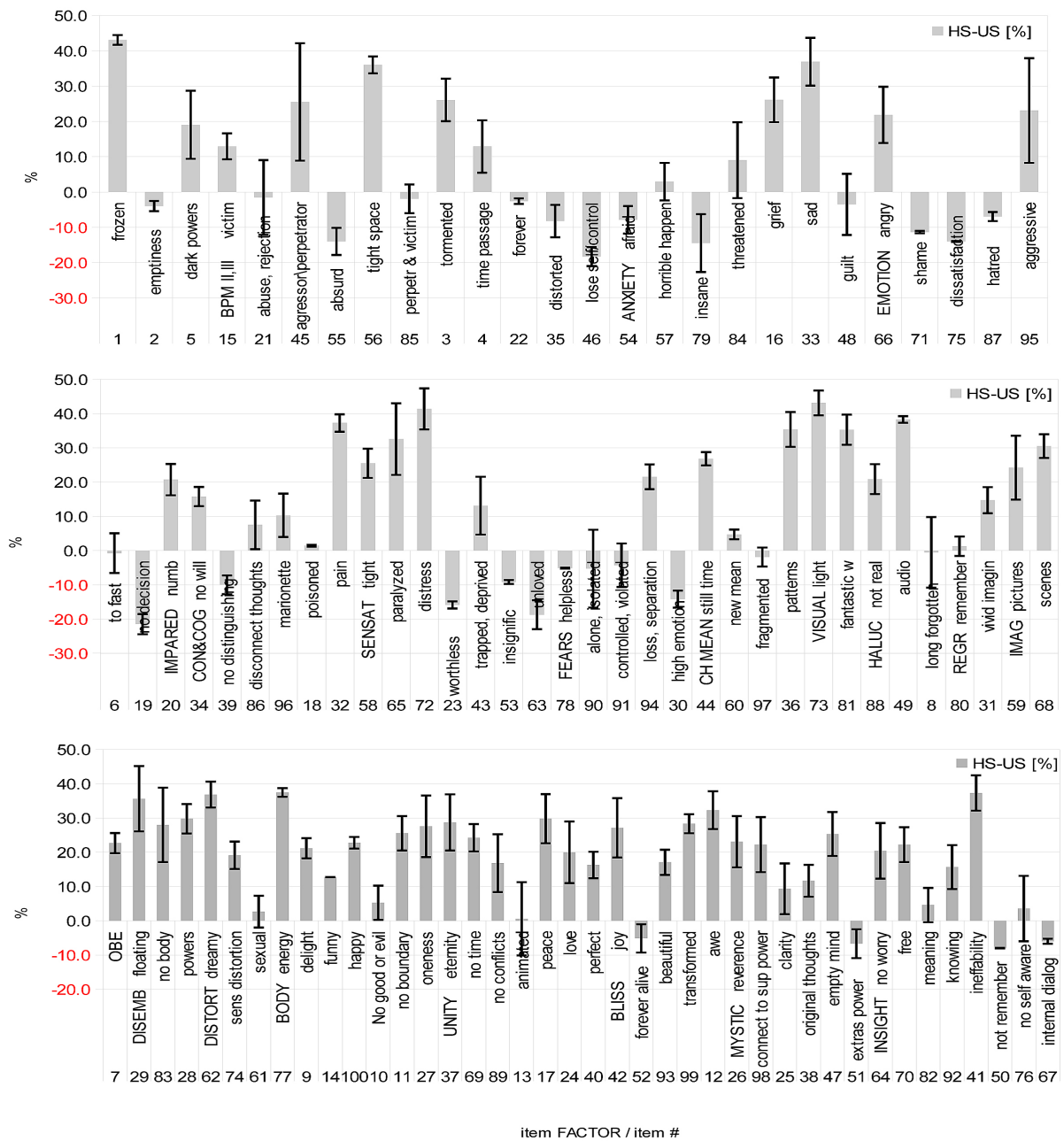


Figure 3: Average difference of nonzero scores in intensity between HSCQ and SCQ scores for each item. Bars represent absolute deviation, expressed in percentage.

I participated in several HBW also in Estonia. I was surprised that there were more frequent reports of strong sexual feelings that participants experienced during the holotropic event than in our workshop held in Slovenia. I discussed this issue with a Danish colleague who frequently facilitated in Estonia.

He confirmed that he observed this also on other HBWs in Estonia; he also evaluated Estonians to be sexually less blocked and have fewer prejudices about sexuality than Danish or Slovene people. In HSCS, participants from our HBWs, mostly Slovenes, rarely felt strong sexual feelings in USC and HS. However there are much more frequent feelings of aggression in USC and HS and with much greater intensity in HS. This might indicate unresolved suppression and repression of sexuality which is then projected into aggression. I mentioned this example since it could be tested through HSCS.

The table below shows the average scores of completions of the holotropic process and the assessment of how much insight volunteers got after Integration Circle and at the end of the HBW. Score values are from 0 to 5, zero representing no completion or insight, and five feeling complete and having a lot of new insights.

<i>Answer after the Integration Circle:</i>	<i>Average score</i>
<i>After/during the session, expressive work and sharing I felt resolved and well.</i>	3.6 ± 0.8
<i>After/during the session, expressive work and sharing I got new insights.</i>	3.2 ± 1.1
<i>Answer at the end of the Workshop:</i>	<i>Average score</i>
<i>At the end of the workshop/session I felt resolved.</i>	3.7 ± 0.8
<i>At this particular workshop/session I got new insights.</i>	3.8 ± 1.1

Average Scores in STIQ

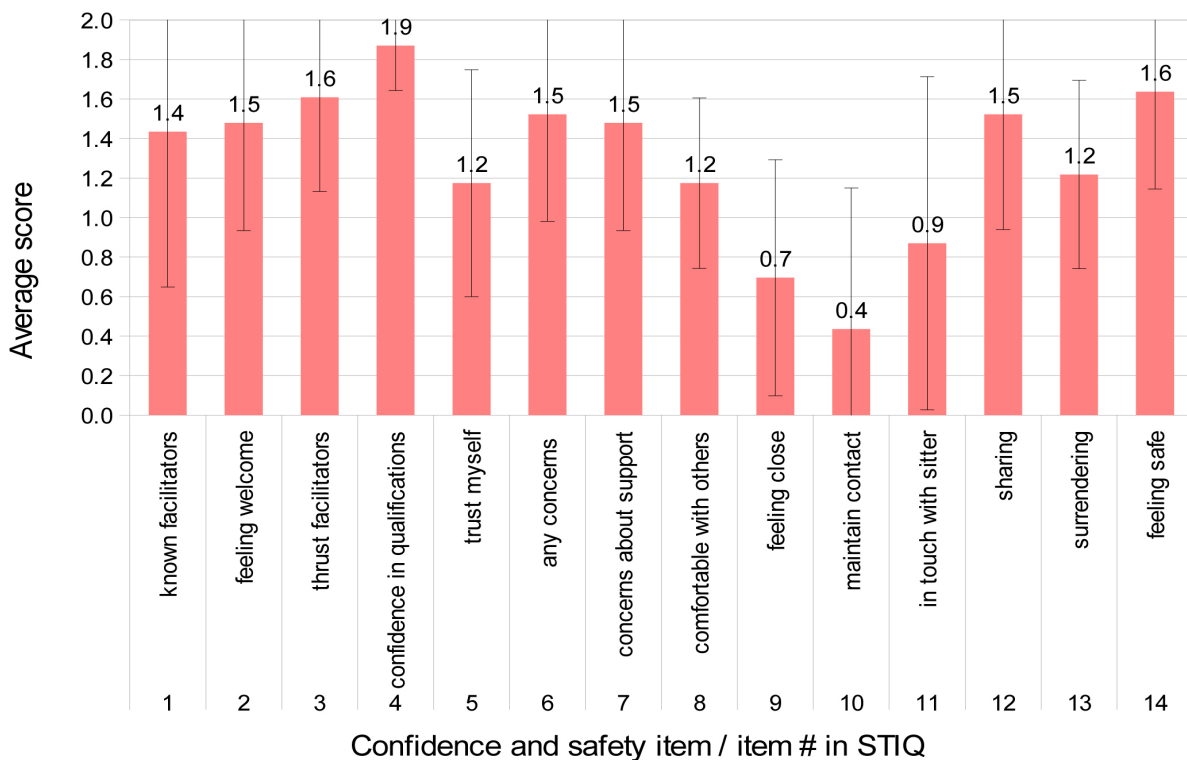


Figure 4: The average scores with average absolute deviation for confidence and safety assessment.

Since holotropic work is usually very demanding and participants do not have much time or energy for additional work, I placed the questionnaire about confidence and safety in STIQ, which is sent to participants in the second week after the HBW. Volunteers reported that they had no problem recalling and assessing the feelings of confidence and safety in the HBW. For the sake of simplicity of presentation, I treated scores as equidistant ordinal variables, with scores: -2, -1, 0, 1, 2. The average scores of items with the average absolute deviation are shown in Figure 3. The result shows good therapeutic alliance (trust and safety) between facilitators and volunteers. On the other hand, volunteers have less thrust in themselves and could not completely surrender to the holotropic experience. Volunteers additionally assessed the connectedness with other participants and sitters as low, although they were comfortable with each other.

Most of the volunteers did take some time for further integration after the HBW. Most often, they used mandalas, took some time for suggested activities and time for self-reflection. Most reported that they also take care and pamper themselves with healthy food (Figure 5).

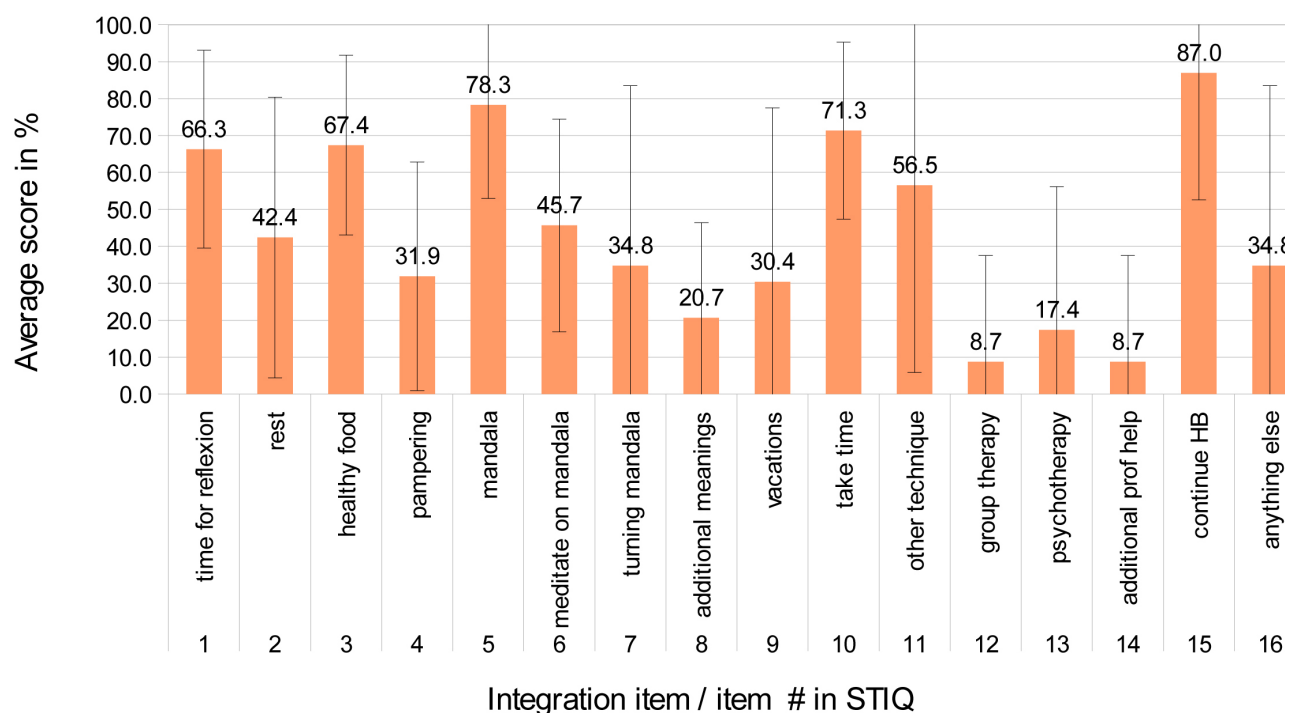


Figure 5: The average scores and average absolute deviation, expressed in percentage, for integration assessment.

One of the participant's intentions were to "see what her mind can experience." After the holotropic experience, she was satisfied with the experience, scored high on the confidence and safety assessment but did not care or feel necessary to do some further integration after the HBW. In HWLTCQ, she scored all items as No change with the additional comment: "I did not notice anything different, as prior to participation in the HBW. I'm interested in HB solely out of curiosity, what could happen to me, what I could find in myself, etc." This example suggest that it might be important what is our intent for doing the holotropic work and how much effort and time are we prepared to invest in integrating the experience if we want to facilitate qualitative change in ourselves.

Average Scores in HWLTCS

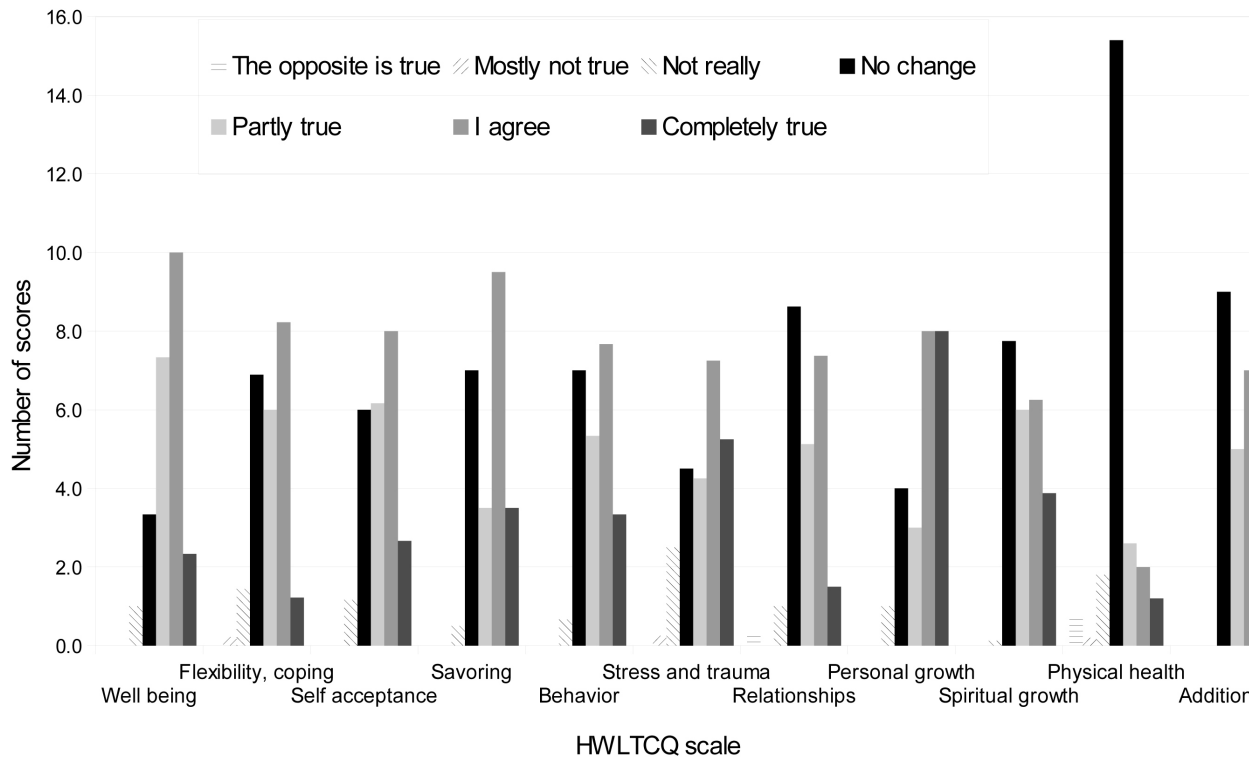


Figure 6: Number of scores for each scale in HWLTCQ.

Most of the volunteers feel long-term positive changes in the area of *Well-being* and *positive self-image* (82% positive, 1% negative change) and *Personal growth* (79% positive, 1% negative change). 67% of volunteers feel positive changes in the area of *Spiritual growth*, none of the volunteers feels any adverse changes in this area. 70% of volunteers feel they can *accept themselves more and have more autonomy* (5% feel they have less of these two characteristic), and they can deal better with *stress and trauma* (there is 11% who feel the opposite). Approximately 68% feel improvements in *Savoring* (2% negative assessments) and *Behavioral changes* (3% negative assessments). *Flexibility and coping* improved in 64% and worsened in 7%. In *Relationship, to other people*, volunteers feel positive changes in 58%.

In particular, 88% of volunteers, in general, feel better (statement # 1), and are more aware of their

personal problems (# 21), and have a better relationship with the partner (#27, with 0% of negative evaluation). None of the volunteers feel being less aware of personal problems after HBW. 83% noticed more confidence and are more positive about themselves (#2), are more aware of the stress and/or trauma and constituencies of these situations (#22, #23). 79% experience personal growth (#35) and have a better relationship with their family (#28). Three-quarters of volunteers can recover more quickly from being startled (#5), get over unwanted emotions and feelings (#5, 12: with 13 % negative assessments), have feeling to be more energetic, and are more aware of the present moment (#6, 36: all answers are positive).

Volunteers estimate that the most significant change occurred in the understanding of themselves (statement #26). Next, they can enjoy and appreciate simple, everyday experiences (#18), have developed as persons (#35), and are more aware of the connection with all creation (#37). On average, they also *agree* that HB helped them to start to be aware of the habits/ addiction that hindered them (#20) and to become more aware of the consequences of experienced stress or trauma (#23).

The least perceived changes are in *Physical health* (24% positive and 12% negative changes). Positive changes are in the area of chronic rhinitis and recurrent flu (“in this year after HBW the condition disappeared completely”). Volunteers reports about the decrease in nausea, a disappearance of lower and upper back pain, a disappearance of the strange feeling in the neck (as somebody would try to strangle the person), generally fewer health issues, stopped using the medication, less pain in shoulders.

For additional changes (item no. 49), people report less need for control, capability to follow own desires, distinguishing what is “my problem and what are other peoples' problems”, less in the role of the victim, feeling more grown-up (to start to deal with or to manage in facing life’s challenges), more robust and better experience of body's borders, “awareness of the impact of feelings and memories of my own reality and limitations”, “no more anxiety and related stomach pain”.

The h.r. and follow-up with the clients after the HBW is important to understand and adequately

evaluate specific changes. For example, some negatively assessed changes turned out to be actually positive in the volunteer's eyes: all of the negative answers (6%) in *The Relationship scale* are, according to volunteers' reports, consequences of positive changes – terminating unhealthy relationships. One volunteer reported that she rated the relationship with other people as negative because she no longer feels the need to please them for all costs. Two volunteers reported worsening of physical health, but after interviewing them, they explained that they felt a psychosomatic reaction after the HBW. After additional time this reaction disappeared, but they still felt important to assess this reaction in HWLTCQ.

The results suggest that HB can be beneficial in many areas of personal and spiritual development. The method is also safe since there is a small percent of relevant negative changes (2% of volunteers reported transitory worsening of psychosomatic symptoms, which might be part of the holotropic process).

Discussion

The primary motivation for this work was the need to construct a questionnaire that would be capable of detecting and distinguishing among different holotropic experiences as classified by S. Grof (Grof S., 2000) and monitor different stages and aspects of holotropic work with possible long-term changes. Since different aspects of holotropic work and long-term changes are all included in HWSLCS, we can also study correlations between all these variables and their importance for long-term benefits.

Testing separate parts of HWSLCS showed that each part contributes meaningful information about different aspects and stages of holotropic work. The test showed that HWLTCQ could measure the effectiveness of the whole holotropic work and its integration process and its long-term successfulness.

Separation of the holotropic experience content from its quality proved justifiable since it provided clarity and consistency in research of holotropic experiences.

Testing of HSCQ showed that it could provide a relevant evaluation of HS and corresponding

holotropic categories of holotropic experience.

HSCQ is designed to be invariant to different holotropic work and HSs, regardless of induction methods. Questions about safety and confidence in STIQ are generic and can apply to different holotropic work.

The long-term aim of HWSLCS is that it will provide relevant information about differences among different holotropic works. It might help decide which holotropic work is most relevant for different human woundedness or personal/spiritual growth.

On the level of individual experiences, there are many interesting questions that can be answered through HWSLCS: how the particular feelings in USC are predicting particular HS, how does the correlation of USC and HS change through time, how do the categories of holotropic experiences change through time and how are these variables correlated with long term changes, etc.

Limitations of HWSLCS

I described the disadvantages of close-ended questionnaires already in The Construction section. The holotropic report has partially alleviated this shortcoming. Participants have the possibility in STIQ and HWSLTCQ to write comments to each statement or question.

I knew some of the volunteers well (they are my clients in my psychotherapy practice) and a few through meeting them more or less regularly on HBWs. It is possible that these relationships could have influenced, to some degree, the way these participants responded in the HWLTES, especially in the STIQ and HWLTCQ. The statements in SCQ and HSQ, I believe, are less sensitive to this issue.

In a one-year period, some of the participants did additional holotropic breathworks or other holotropic work (ayahuasca sessions, for example), which were not included in HSCQ, and could also have an influence on the answers in HWLTCQ. It was also impossible to provide complete control for factors for significant life-changing events such as change of job, separation, and other potentially powerful life events that could have, and likely did have, influences on the lives of the volunteers in a

developmentally relevant way. There is the question about possible significant life changes in HWLTCQ, which can at least partially predict and take into account these influences.

After testing HWSLCQ, I think that data about long-term changes through time would be more relevant if HWSLCQ would be sent to participants twice (or even three times) for each selected holotropic work/s: after four months and then after eight or twelve months.

The adequacy, reliability, and validity of the whole HWSLCS will have to be evaluated through subsequent research.

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