Article

Cognitive-Perceptual Features Associated With Nonconventional Healing Practices

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Abstract

Healers not only experience somatic sensations during practices related to their spiritual beliefs, but they also evidence related cognitive-perceptual and personality characteristics. The main aim was to evaluate sensory-perceptual traits involved in healers' spiritual healing practices. We recruited a sample of 190 practitioners, who completed 5 instruments to evaluate the sensory phenomenology of experiences of healing, interoceptive awareness, and absorption. Significant differences were found in two groups, Practitioners ($n = 71$) and Newly Initiated ($n = 119$), divided by their practice experience length. Practitioners scored higher on interoceptive body awareness (both emotional and body) and absorption than the newly initiated. An exploratory analysis also showed positive correlations between the total score of sensory healing modalities and the intensity of visualization, body awareness, and absorption scores, as well as higher spirituality and training in various healing techniques. Thus, it is possible to build a personality profile of healers characterized by a combination of interoceptive awareness, ability to focus attention, hypersensitivity and kinetic synesthesia, and ease of mental imagery.

Keywords

healing, imagery, interoceptive body awareness, absorption, spirituality

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Healers are found in all cultural traditions, represented by shamans, spiritual healers, and folk healers in complementary or integrative medicine (Benor, 2001a, 2001b; Krippner & Welch, 1992). Many of them believe that some type of power or energy is involved in the healing process (Irwin, 2003), hence the growing acceptance of energy-based healing modalities such as Reiki, Therapeutic Touch, Magnified Healing, Pranic Healing, and Qigong (Wisneski & Anderson, 2009). A number of exceptional experiences are associated with healing (Benor, 2001b; Krippner & Achterberg, 2000), such as seeing an aura or lights around a patient's body and interacting with their spiritual guides (Krippner et al., 2002). These experiences are common among healers, but due to the complexity of the healing process, they largely lack study by the medical academic community, which usually attributes their impact to the placebo effect or to the power of suggestion (Dossey, 2006).

A previous study of a sample of 404 Argentine healers found that the most frequently used techniques were Reiki and the imposition of hands (Giudici, 2019). The sensory modalities perceived by healers in their practices were *Kinetic*—that is, a feeling of movement and flow–plus a feeling of release, or relief of the client. Other sensory modalities are the vision of lights, colors, and flashes of light; listening to words or phrases; or listening to music or songs. Trained practitioners ($<$11 years) tended to be, first, predominantly more visual and auditory and, second, kinesthetic/olfactory, compared with a group of newly initiated ($>$ 5 years), which allows for the inference that regular practice and experience increase the multisensory character in the practice of healing techniques. These experiences also contain a transpersonal quality, capable of changing the sense of identity and worldview in the practitioner's experience. The present study of a subsample of healers, an extension of an earlier one (Giudici, 2019), aimed to compare trained practitioners with a group of the Newly Initiated in the degree of their interoceptive body perception and the intensity of their mental images.

Mental imagery is defined as an experience of perception in the absence of sensory input (Kosslyn et al., 2001). Given its proximity to authentic perception, imagery is a sensory experience that involves all five senses of sight, hearing, smell, taste, and touch (Betts, 1909). Several earlier researchers have been interested in understanding the mechanisms that underlie the evocation processes or that generate mental imagery that is not seen directly and for which there is no retinal stimulation (mainly with neuronal bases; see Bartolomeo, 2002; Kaski, 2002; Kerr, 2000).

Some healers say that they enter into an altered reality during their practices, where temporal, spatial, physical, and personal boundaries appear to be permeable (van Dragt, 1980) so that healers create an impression of intimate unity with their clients (Benor, 1992; van Dragt, 1980). Some healers—but not all—experience feeling exhausted at the end of a healing session (Harvey, 1983). This seems to be related to the healers' belief and confidence in the source of their

healing energy—whether self-generated or channeled from an external, divine, or cosmic source (see, e.g., Reiki).

In a study by Wilson and Barber (1983) based on imagery techniques, many participants in the general population believed in a certain ability to heal others, and some were actively involved in healing practices, which is consistent with the idea that trained healers are able to achieve high concentration on their own mental images. Snel and van der Sijde (1997) also found that healers have an external locus of control—that is, they believe they are under the control of external agents rather than having control of their own capacity. In fact, we find that the most frequent visual modality is the visual perception of lights, colors, and light flashes (61%); colors and lights (56%); and halos or mists (50%) around the patient/client, such as the attributed ability to visualize mentally, in addition to other sensory modalities such as kinesthesia and the feeling of liberation (Giudici, 2019, p. 18).

Terms such as *body awareness*, *somatic awareness*, or *interoceptive awareness* are used in different ways in medicine, psychology, and neuroscience (Farb et al., 2015). Several authors consider paying attention to body symptoms as an expression of anxiety, depression, or somatization (Abdi, 2007; Ainley et al., 2013), as a result of which the number of body sensations perceived may serve as markers of anxiety and maladaptive somatization, essentially because the terms *body awareness* and *somatic awareness* are used as synonyms (Allen et al., 2009).

When this construct is applied to healers and their practices, the concept of body awareness is particularly relevant. It is possible for healers to increase interoceptive sensitivity in their domain of meditative practice, such as breathing awareness (Daubenmier et al., 2011), or signals that indicate the presence of subtle reactive patterns, such as increased tactile acuity related to Tai Chi practices based on movement (Kerr et al., 2008). In addition, training in Reiki or Qigong practices can alter interoceptive attention, focusing on related sensations rather than on a cognitive evaluation of such sensations (Garland et al., 2012). In fact, many healers show greater accuracy in their body sensitivity—an index relative to different regions of the body (Fox et al., 2012)—and a coherence between physiological and subjective states (Sze et al., 2010). For example, Maher et al. (1996) found a reduction in the tactile sensitivity of some healers at the end of a healing session. In addition, because interoception involves the same neural pathways as such prosocial emotions as empathy, it is reasonable to think that greater interoceptive sensitivity can lead to better social functioning in healing practices (Singer & Benassi, 1981).

Absorption is defined as the use of all perceptual, motor, imaginative and conceptual resources available for a unified representation of the object of attention (Tellegen & Atkinson, 1974, p. 274). It is measured by a scale developed by Tellegen that refers to the cognitive resources used by the information processing system to maintain attention on specific tasks or percepts (Frischholz et al., 1991; Norton et al., 1990) and openness to experience (Wild

et al., 1995). Many people experience high commitment to attentional objects, as well as moments of intense experience in participation. When these episodes occur, individuals are immersed in their activities, captured by their feelings, absorbed in images and dreams, nailed by their interactions with others, and so on.

Absorption is an excellent candidate for understanding various manifestations of experiential participation, such as aesthetic experience, flow, intrinsic motivation, and peak experiences, especially in spiritual healing practices (e.g., the laying on of hands). Cooperstein (1992) found a tendency to use mental images and psychological absorption in the process. Before applying their techniques, some healers often enter what appears to be a state of strong psychological absorption—that is, a high level of intentional concentration on the content of their experience. Healers use relaxation, meditation, prayer, or some centralization technique to induce a low level of excitation in the heart rate, thereby reducing muscle tension and breathing. According to Benor (1994), these exercises are not absolutely necessary, but they are able to induce a state of absorption quickly (e.g., a trance) and allow healers to remain in that state during their healing practices.

Most healers use mental imagery and concentrate on the process, sometimes to the point of achieving a feeling of unity with the patient. Such images may include mythical symbols, reinforcing the belief system of the healer, the diagnosis, and the treatment. Healing practitioners who treat their patients through contact or touch tend to show expansiveness, grandiosity, and (exaggerated) belief in their capacities. These healers enjoy being the center of attention and have great confidence in their abilities (Krippner & Villoldo, 1986). They also have a lot of self-confidence . . . and consider themselves –really or in their fantasies– the center of the scene. Some of these healers say they are the representatives of the healing power of God, while others say they are only the channels to transfer energy to their patients (Benor, 1994).

Healers say that initially, and with some effort, they focus their attention, which is described as a physical sensation, or process, or a cognitive representation of health. These metaphorical (that is, symbolic) constructs are used to increase the concept of the healer's reality (Levin, 1996), beyond conditioned cultural and social definitions and limits. These processes are part of a transition that reaches from one's personal attention to one's ego, leading toward a less focused and more impersonal transpersonal consciousness (George & Krippner,1984).

Healers describe how their attention moves away from the cognitive systems of their ordinary consciousness (or state of identity), including the physical and personal (or biographical self, according to Grof, 1985), while existential changes occur through the healer's absorption of a metaphorical or mythical reality that is the sine qua non condition of healing (Harner, 1982).

Aims and Predictions

The question here is, to what extent do the healing experiences of practitioners relate to cognitive-perceptual traits? We predicted that practitioners would score high on (H1) visual imagery, (H2) interoceptive awareness (the ability to perceive body signals), and (H3) absorption capacity, compared with the newly initiated. We also predicted a positive and significative correlation between the experience as a healer with (H4) vividness of visual imagery, (H5) interoceptive awareness, and (H6) absorption, in both practitioners and the newly initiated.

Method

Participants

The total sample consisted of 190 practitioners of energy healing techniques, 63 (33%) men and 127 (67%) women, with an age range of 18 to 79 years ($M = 44.54$ years, $SD = 13.25$ years). The sample came from a wide variety of institutes, centers, and foundations specializing in esoteric and New Age activities; meditation and wellness centers; individuals who practice spiritual healing (whether professionals or amateurs); Yoga centers; and alternatives therapies and medicines. Participants were also solicited through advertisements on the web (via social networks, e.g., Facebook, Twitter, and Instagram) and through magazines and online newsletters specializing in spiritual practices (Buddhist and nonreligious), bioenergetics, and complementary medicines. This variety of contacts was guaranteed to recruit a sufficiently representative sample of a wide diversity of practitioners and initiates in healing.

Procedure

A nonprobabilistic sampling technique of practitioners trained in one or more healing techniques was used. All participants completed the scales individually. Although they received information about the general objectives of the study and were invited to participate anonymously and voluntarily, to avoid bias in their responses, they were not informed of the study hypotheses. All participants completed the scales as unpaid volunteers, together with an Consent Form to participate in the study.

Inclusion/Exclusion Criteria

After briefly defining *healing practices*, we specifically included individuals who attend to their clients either free of charge or for fees and whose healing procedures are limited to (a) the laying on hands without physical contact with the client or patient (e.g., massage), kinetic activities, or therapies (e.g., dance

therapy or involving client movement); (b) group treatments (e.g., healing in groups or masses); (c) healing interventions mediated by religious contexts (e.g., evangelical, African-American, or cult groups); and/or (d) distance healing techniques or prayers for intercession without eye contact with the client. Questionnaires that were incomplete, were incorrectly completed, were defective, or included insurmountable errors or omissions were also ruled out based on the original instructions given to the healers.

Measures

Survey of Healing Experiences–Revised (Moga, 2017). This is a self-administered scale of 22 items with a 3-point response scale (0 = *Never*, 1 = *Once*, and 2 = *Multiple times*). It contains eight subscales: (1) Technique (e.g., Reiki, Magnified Healing, Imposition of Hands, Johrei, etc.); (2) Seniority as a healer or practitioner (e.g., 0–2 years until More than 20 years); (3) Visual experiences (e.g., Colors or lights); (4) Auditory experiences (e.g., Voices or Music); (5) Tactile sensations (e.g., Electric current, static, or sparks); (6) Kinetic experiences (e.g., Heat or tingling in my hands); (7) Olfactory/Gustative experiences (e.g., Roses and floral aromas or Smelly smells, stale, flatulent or putrid); and (8) Changes in the client or patient during healing sessions (e.g., feeling of liberation). The internal reliability of the Survey of Healing Experiences–Revised (*HES–R*) is good, with a Cronbach's alpha coefficient of .91 (for this sample) and high reliability in terms of test/retest (Moga, 2017).

Vividness of Visual Imagery Questionnaire-2 (Marks, 1973; Campos & Perez-Fabello, 2009). This is a questionnaire of 32 self-administrable items related to different situations in which the participants have to visualize and rate the vividness of their mental images under two conditions: with eyes open and with eyes closed, with respect to the same memory stimulus (e.g., visualize The exact contour of the face, head, shoulders and body or characteristic poses of the head, body attitudes, etc. of a friend or close relative) on a 5-point scale, where 5 indicates *Imagery is perfectly clear and as real as normal vision* and 1 represents *no image* (e.g., just knowing that you are thinking about the object). Both scores (with open and closed eyes) produce an average that represents the total score (Campos & Perez-Fabello, 2009). It offers high internal validity (Eyes Open, alpha = .93 and Eyes Closed, alpha = .94) and high test/retest reliability ($r = .82$; see Parra, 2015).

Multidimensional assessment of interoceptive awareness (Mehling et al., 2012, 2013). This scale is designed to assess interoceptive body awareness (e.g., When I am tense, I notice where the tension is located in my body). The 32-item multidimensional instrument consists of eight subscales: (1) Perception, which measures awareness of discomfort and neutral body sensations; (2) Distraction,

which measures the tendency to recognize or avoid being distracted from the sensation of pain or discomfort; (3) Restlessness, which measures the tendency not to worry or not to experience emotional stress along with feelings of pain or discomfort; (4) Attention Regulation, which measures the ability to sustain and control attention to bodily sensations; (5) Emotion, which measures the perception of connections between bodily sensations and emotional states; (6) Self-regulation, which measures the ability to regulate tension/distress/affliction and pay attention to bodily sensations; (7) Body Awareness, which evaluates the proprioceptive attention to the body, or body tuning; and (8) Confidence, which measures the confidence with which the body manifests itself safely and assertively. In turn, the multidimensional assessment of interoceptive awareness can be regrouped into two subdimensions: (1) Perceptual Consciousness (the sum of the scores for Perception, Distraction, Attention Regulation, and Body Awareness) and (2) Emotional Awareness (the sum of the scores for Restlessness, Emotion, Self-Regulation, and Confidence). The internal reliability of the multidimensional assessment of interoceptive awareness is very good, with a Cronbach's alpha coefficient of .93 (for this sample) and high test/retest reliability. For this study, the translated American version was used, adapted from the Chilean-Spanish version (Valenzuela-Moguillansky & Reyes-Reyes, 2015).

Tellegen Absorption Scale (Tellegen & Atkinson, 1974). It measures how often a person engages in activities that demand attention and concentration and is composed of 34 items of dichotomous response (True/False), broken down as follows: (1) Responsiveness to Engaging Stimuli (e.g., The crackling and the flames of a wooden fire stimulate my imagination); (2) Synesthesia (e.g., Textures like wool, sand, and wood sometimes remind me of colors and music); (3) Enhanced Cognition (e.g., If I want, I can imagine that my body is so heavy that I could not move it even if I wanted to); (4) Oblivious/Dissociative Involvement (e.g., When I listen to music I can get so involved with it that I don't realize anything else); (5) Vivid Reminiscence (e.g., I can remember some past experiences of my life as clearly and vividly as if I were living again or almost as if that were the case); and (6) Enhanced Awareness (e.g., Things that seem to make no sense to others make sense to me). The internal reliability of the Tellegen Absorption Scale is good, with a Cronbach's alpha coefficient of .84 (for this sample). The test/retest reliability of the Argentine-Spanish version has also been considered acceptable (Parra, 2006, 2010a, 2010b).

Data Analysis

The data were processed using the statistical package *SPSS 22* and were evaluated in a queue. An evaluation of the normality of the sample was also carried out. From the values obtained through the Kolmogorov-Smirnov (KS) test, an

asymmetric distribution was assumed for the scores of the three instruments. Consequently, nonparametric statistics were used to carry out the analysis, that is, tests using the Mann–Whitney *U* or the Kruskal–Wallis *H* analysis to compare, as appropriate, and Spearman's *Rho* coefficient to correlate. In addition, the Bonferroni correction was applied for multiple analysis where appropriate, as well as the estimation of the effect of magnitude using Cohen's coefficient *d*. The level of reliability of the scales was assessed using Cronbach's alpha (all higher than .70).

Results

Categorization Procedure

For analysis purpose, the sample was splitted into two groups according the length of time in practice of healing following the cluster criteria: *Newly initiates* or students ($n = 119$) involved on healing practices up to 10 years and other group of Practitioners ($n = 71$) who is involved on healing practices between 11 up to 20 years or more.

It was predicted that Practitioners would score higher than the Newly Initiated on (H1) vividness of visual imagery (confirmed for open eyes and closed eyes, both $p < .001$, $e_s = .70$, and $e_s = .75$); (H2) interoceptive body awareness (confirmed, also on Emotional Consciousness and Perceptual Consciousness, both $p < .001$, $e_s = .58$, and $e_s = .63$, respectively); and (H3) Absorption (confirmed, $p < .001$, $e_s = .61$; see Table 1).

A correlation was carried out using Spearman's *Rho* coefficient (r_s) between the frequency of sensory experiences in healing practices and the Visual Vividness, Interoceptive Body Awareness, and Absorption measures. A positive and significant correlation was predicted between healing practices and (H1) visual imagery (unconfirmed); (H2) Interoceptive Body Awareness (confirmed, $p = .02$, including Emotional, $p = .01$, but not Perceptual Consciousness); and (H3) Absorption (not confirmed). After a Bonferroni correction, Interoceptive Body Awareness (Emotional and Perceptual) and Absorption correlated significantly with the Visual, Auditory, and Tactile experiences of the HES–R (see Table 2).

A correlation was carried out using Spearman's *Rho* coefficient between *HES–R*, Vividness of Visual Imagery, Interoceptive Body Awareness, and Absorption as well as the Spirituality, Time Load, and Age. It was found that Spirituality correlated positively and significantly with Visual Vividness (Open eyes [OE] $r_s = 18$, $p = .01$, and Closed eyes [CE] $r_s = 29$, $p < .01$), *Interoceptive Body Awareness* ($r_s = .63$, $p < .001$), and Absorption ($r_s = 52$, $p < .001$); Time load (in hours) correlated positively and significantly with Sensory Modality ($r_s = .34$, $p < .001$), Visual Vividness (OE $r_s = 27$, $p < .001$, and CE $r_s = 30$, $p < .001$), Interoceptive Body Awareness ($r_s = .41$, $p < .001$), and Absorption ($r_s = 33$, $p < .001$), while Age correlated positively and significantly with Visual Vividness (OE $= r_s$ 23,

Table 1. Visual Vividness, Interoceptive Body Awareness, and Absorption.[a]

	Newly initiates ($n = 119$)		Practitioners ($n = 71$)				
Variables	*M*	*SD*	*M*	*SD*	z^b	*p*	e_s
Visual Vividness (open eyes)	54.03	14.43	63.66	12.72	4.48	<.001	.70
Visual Vividness (closed eyes)	55.18	15.84	66.30	13.49	5.09	<.001	.75
1. Perception	3.55	1.09	4.09	1.05	3.47	.001	.50
2. Distraction	3.09	0.66	3.13	0.67	0.30	n.s.	.06
3. Restlessness	3.12	0.71	3.28	0.76	1.32	n.s.	.21
4. Attention Regulation	3.47	0.90	4.03	0.81	4.00	<.001	.65
5. Emotional Awareness	3.73	0.95	4.16	0.89	2.75	.006	.46
6. Self-Regulation	3.64	0.94	4.19	0.98	3.85	<.001	.57
7. Body Awareness	3.39	1.05	3.62	1.01	1.48	n.s.	.22
8. Confidence	3.54	1.13	4.17	0.97	3.60	<.001	.59
F1. Emotional Consciousness	17.02	3.63	19.06	3.38	3.70	<.001	.58
F2. Perceptual Consciousness	10.50	1.82	11.64	1.87	4.02	<.001	.61
Interoceptive Body Awareness (MAIA)	27.53	5.15	30.70	4.90	3.96	<.001	.63
Responsiveness to Engaging Stimuli	4.92	1.53	5.54	1.42	2.74	.006	.42
Synesthesia	4.27	1.60	4.70	1.83	2.03	.04	.25
Enhanced Cognition	4.76	1.63	5.70	1.48	4.10	<.001	.60
Oblivious/Dissociative Involvement	3.06	1.34	3.69	1.30	3.19	.001	.47
Vivid Reminiscence	2.86	1.11	3.34	0.92	3.07	.002	.46
Enhanced Awareness	2.51	1.11	3.10	0.98	3.67	<.001	.56
Absorption (TAS)	22.38	5.51	26.07	6.45	4.16	<.001	.61

Note. MAIA = multidimensional assessment of interoceptive awareness; TAS = Tellegen Absorption Scale.
[a]Bonferroni correction, $p = .0012$, $df = 189$.
[b]Mann–Whitney *U* was used.

Table 2. Correlation Between Healing Practices With Visual Vividness, Interoceptive Body Awareness, and Absorption ($N = 190$).[a]

Measures	Visual	Auditory	Touch	Kinesthetic	Olfactory	Changes in the client	HES–R
Visual Vividness (Total)	.14	.17*	.07	–.07	–.07	–.13	–.01
1. Emotional Consciousness	.50***	.47***	.49***	–.13	–.09	–.21**	.18
2. Perceptual Consciousness	.36***	.43***	.34***	–.12	–.09	–.24***	.10
Interoceptive Body Awareness (MAIA)	.47***	.48***	.45***	–.13	–.09	–.24**	.16
Absorption (TAS)	.41***	.46***	.21**	–.06	–.03	–.24**	.12

Note. HES–R = Survey of Healing Experiences–Revised; MAIA = multidimensional assessment of interoceptive awareness; TAS = Tellegen Absorption Scale.
[a]Bonferroni correction, $p = .0006$, $df = 189$.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. Relation Between Visual Vividness, Interoceptive Body Awareness, and Absorption With Spirituality, Time Load, and Age ($N = 190$).[a]

Measures	Spirituality[b]	Time Load[c]	Age
Visual Vividness (EO)	.18*	.27***	.23***
Visual Vividness (EC)	.29***	.30***	.24***
1. Emotional Consciousness	.60***	.38***	.20**
2. Perceptual Consciousness	.60***	.41***	.29***
Interoceptive Body Awareness (MAIA)	.63***	.41***	.25***
Absorption (TAS)	.52***	.33***	.23***

Note. EO = eyes open; EC = eyes closed; MAIA = multidimensional assessment of interoceptive awareness; TAS = Tellegen Absorption Scale.
[a]Bonferroni correction, $p = .0012$, $df = 189$.
[b]Range = *I am not spiritual* (0) to *I am extremely spiritual* (4).
[c]Range = *0 to 5 hours per month* (1) to *More than 20 hours per month* (4).
*$p < .05$. **$p < .01$. ***$p < .001$.

$p = .01$ and CE $r_s = 24$, $p < .01$), Interoceptive Body Awareness ($r_s = .25$, $p < .001$), and Absorption ($r_s = 23$, $p = .001$; see Table 3).

The sample was divided into two groups from the Median ($Mdn = 33$) on the HES–R scale following the cutoff point: Low HES–R ($n = 116$) and High HES–R ($n = 74$) to determine healers with low/high scores on sensory healing experiences.

The results showed that the High HES–R group tended to show—except for visual imagery—greater Interoceptive Body Awareness (Sig. $<.001$; $e_s = .70$) as well as Emotional and Perceptual Consciousness ($p < .001$, $e_s = .77$, and $p = .006$, $e_s = .46$, respectively) and Absorption ($p = .004$, $e_s = .45$). After a Bonferroni correction, Interoceptive Body Awareness and Absorption were still significant (see Table 4).

Finally, a simple linear regression analysis (stepwise) was carried out to determine the most predictive variable(s). As independent variables, the model was entered into Visual Vividness, Interoceptive Body Awareness, and Absorption and, as a dependent variable, into the HES–R (range = 0–96). To reduce asymmetry and prevent distortions, 11 atypical cases (out of a total of 175) at the upper scores were eliminated. The results showed that the predictor variable was Absorption, $F(2, 175) = 22.42$; $p < .001$; $R^2 = .20$.

Discussion

The aim of this study was to compare the Newly Initiated with Practitioners to confirm the main hypotheses of the study, according to which Practitioners tended to show an increase in visual imagery, higher interoceptive body awareness scores, and higher absorption scores. An additional analysis explored the correlations between the frequency of healing experiences with variables

Table 4. Comparison Between High and Low HES–R, Visual Imagery (OE and CE), Body Consciousness, and Absorption.[a]

	Low HES–R ($n = 116$)		High HES–R ($n = 74$)				
Measures	*M*	*SD*	*M*	*SD*	z^b	*p*	e_s
Visual Vividness (OE)	58.20	13.64	56.74	15.73	0.28	n.s.	.09
Visual Vividness (OC)	59.89	15.00	58.36	17.33	0.34	n.s.	.08
1. Emotional Consciousness	16.77	3.72	19.37	2.98	4.67	<.001	.77
2. Perceptual Consciousness	10.60	2.07	11.44	1.52	2.75	.006	.46
Interoceptive Body Awareness (MAIA)	27.38	5.48	30.81	4.18	4.14	<.001	.70
1. Sensibility	4.92	1.53	5.50	1.43	2.61	.009	.39
2. Synesthesia	4.36	1.71	4.54	1.68	0.68	n.s.	.10
3. Expansion of Cognition	4.85	1.68	5.53	1.50	2.83	.005	.42
4. Forgetfulness/Dissociation	3.06	1.41	3.66	1.19	2.93	.003	.45
5. Vivid Memories	2.88	1.12	3.28	0.94	2.53	.01	.38
6. Expansion of Consciousness	2.65	1.15	2.86	0.98	1.13	n.s.	.19
Absorption (TAS)	22.72	6.39	25.38	5.35	2.91	.004	.45

Note. HES–R = Survey of Healing Experiences–Revised; MAIA = multidimensional assessment of interoceptive awareness; OE = Open eye; OC = Open close; TAS = Tellegen Absorption Scale.
[a]Bonferroni correction, $p = .004$, $df = 189$.
[b]Mann–Whitney *U* was used.

such as visual vividness, interoceptive body awareness, and the absorption on the healing practice.

The results showed that the vividness of the visual imagery was also a discriminator in the practice of healing techniques but not among individuals with greater indicators of sensory healing experiences (High HES–R). In fact, although the differences in the intensity of visual imagery between the newly initiated and practitioners were statistically significant, which could imply greater recognition and learning in mental visualization, the visual modality did not correlate with the mental imagery ability, as would have been expected (except in these items: See light filling or dissolving something in the client's body and Guides or spiritual beings). Perhaps healers come more readily to improve their mental imagery via learning rather than through a specialized sensory (visual) modality.

Through techniques such as Reiki, and meditation practices such as Mindfulness, there are different types of light-touch contact treatments and/or somatosensory care. These characteristics are key elements to understanding the mechanisms of neuronal plasticity in somatosensory maps, suggesting that sensory reorganization is an underlying mechanism in healing practices. The benefits of spiritual healing practices suggest that they allow the regulation of neural and

perceptual dynamics that provide continuous resistance to the development of maladaptive somatic representations (for more information, see Kerr et al., 2007.)

Finally, healers have high levels of absorption, a factor that discriminates between initiates and advanced practitioners. Previous studies have shown, in fact, that absorption can potentially make a difference in the effectiveness of therapeutic intervention (Buck et al., 2005; Caspi & Burleson, 2005; Wickramasekera, 2003). Healers who have a high level of involvement and/or concentration in their practices not only show greater interoceptive response but also greater capacity for internally focused interventions. Indeed, positive relationships have been found between the level of absorption and the greater benefit of relaxation with images, in contrast to those with low absorption capacity, synesthesia, and expansion of cognition (Qualls & Sheehan, 1981a, 1981b).

The influence of absorption could explain the differential responses to interventions based on mind–body modalities such as guided imagery (Menzies et al., 2006) or healing by imposition of hands. In a study that examined the relationship between absorption and interoceptive awareness of a healer, Schwartz et al. (2004) found that absorption capacity through the imposition of hands can improve the interoceptive awareness to capture the bioenergy of the client/patient and that absorption correlated significantly with the degree of certainty in the detection of the biofield. Healers who had high absorption scores at the beginning of their study had higher interoceptive awareness (Menzies et al., 2006).

Future studies should be the relation of the absorption to help identify in advance the therapeutic response to interventions based on learning mental imagery. Other studies also should be suggested that individuals with a high level of absorption are more prone to sensitivity—that is, it is possible that healers are more hypersensitive, sometimes negatively, to physiological responses and stressors (Flor & Turk, 1989; Shea et al., 1993). The consequence of such sensitivity can be the amplification of minimal unpleasant sensations in their bodies.

Critically, the healers recruited self-report practicing a range of therapies and modalities. However, the background presented was related only to biofield therapies. How does practicing Qigong equate to practicing Reiki? As Wickramasekera (2000, 2003) pointed out, absorption seems to be a personality characteristic. On one hand, healers can respond more quickly to mind–body interaction with their clients, but, on the other, it can be a risk factor, and such sensitization can predispose clients to a negative hypersensitivity.

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