**The development and validation of an outcome measure for Spiritual healing:**

**A mixed methods study**

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Running head: An outcome measure for spiritual healing

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Abstract

Background

Spiritual healing, probably the oldest documented paramedical intervention, is a neglected area of research. In order to conduct further research into the effects of healing, a valid and reliable outcome measure is needed that captures the experience of individuals receiving healing (healees) and is not burdensome to complete. We aimed to develop such a measure.

Methods

A mixed methods design was used. Focus groups and cognitive interviews were used to generate and refine questionnaire items grounded in healees' experiences and language (Study 1). The resulting questionnaire was tested and its formal psychometric properties were evaluated (Study 2). Participants were recruited from a Spiritual healing sanctuary and through individual healers (including registered Spiritual healers, Reiki practitioners, healers affiliated with churches).

Results

Study 1: 24 participants took part in 7 focus groups and 6 cognitive interviews. 29 common effects were identified and grouped into 7 discrete dimensions that appeared to characterize potentially sustainable effects reported by participants following their experiences of Spiritual healing.

Study 2: 393 participants returned completed baseline questionnaires, 243 of whom completed the questionnaire again 1-6 weeks later. Exploratory factor analysis generated five subscales, based on 20 of the items: outlook, energy, health, relationships, and emotional balance. These subscales demonstrated acceptable internal consistency, convergent validity, and test-retest reliability. Three of the subscales and the whole questionnaire demonstrated good sensitivity to change.

Conclusions

We have produced a psychometrically sound healing impact questionnaire that is acceptable to healees, healers and researchers for use in future evaluations of Spiritual healing.

## INTRODUCTION

Spiritual healing is probably one of the oldest paramedical treatments [1]. Within modern western societies, Spiritual healing is a complementary therapy and not part of mainstream medical care [2]. The term 'Spiritual healing' encompasses Reiki and Johrei healing, which are non-denominational, i.e. not associated with any particular religious beliefs. Whilst these healing modalities differ in their terminology and rituals, there is a common underlying belief that universal healing energy is available to all and can be channeled by healers to benefit others [3]. Spiritual healers seek to channel this universal energy to their clients ('healees'), and do so at a distance as well as through touch. They believe that this transfer of energy promotes self-healing in the healee [4]. Thus Spiritual healing is not linked to any particular religion and can involve hands-on (proximate) or distant healing.

Spiritual healing is used to complement conventional medical therapies by a substantial minority of the general public; many of whom have serious and chronic illnesses [5;6]. Whilst the exact mechanisms of Spiritual healing are not understood, investigations of this phenomenon have suggested that healing may be associated with changes in electro-magnetic fields [7;8], healees' hemoglobin and hematocrit levels [9] and increased relaxation and stress reduction [9-11]. A recent systematic review found religiosity/spirituality to be negatively associated with mortality (particularly that due to cardiovascular disease) [12] but the relationship between religiosity/spirituality and Spiritual healing practices is likely to be complex. While some studies suggest that healing may alleviate stress, anxiety, perceptions of pain, and promote feelings of well-being [13-15], other studies have been unable to confirm these observations [16]. In the past decade a number of systematic reviews have been published on various forms and aspects of Spiritual healing [e.g. 17;18;19;20;21;22;23;24;25]. The dominant conclusion across these reviews is that there is insufficient high quality evidence (and the evidence that does exist is too heterogeneous) to draw definitive conclusions as to the efficacy of Spiritual healing, and that more high quality studies are needed [17;18;20;21;23]. Researchers' choice of outcome measures has attracted particular criticism, with reviewers highlighting the need for measures with

established validity and reliability [20;24]. Some studies have focused on a single primary outcome related to a specific medical condition, thus assessing disease-specific outcomes that do not capture the broader impact of healing and cannot be compared directly across studies. For example, Vandervaart and colleagues found that 31 different (and mostly disease-specific) outcome measures were used across the 12 Reiki studies in their systematic review[21]. Furthermore, reliance on disease-specific outcomes is inconsistent with the non-diagnostic approach of many healers who focus on the whole person rather than any specific symptoms or conditions. Others have used batteries of questionnaires to attempt to capture the many potential impacts of Spiritual healing [e.g. 3;13;14], but it can be argued that the burden to the patient of answering multiple questionnaires, often repeatedly, is the antithesis of Spiritual healing.

Our initial exploration of standardized health, illness and quality of life measures, conducted in conjunction with healers and healees, confirmed that these fail to capture adequately the subjective outcomes of healing [26]. In order to conduct further research into the effects of healing, a valid and reliable outcome measure is needed that captures healees' experiences and is not burdensome to complete. The current lack of clearly defined appropriate outcome measures with good psychometric properties is limiting the quality of research that can be conducted to evaluate the impact of Spiritual healing.

*Aims*

We aimed to develop a new measure capable of assessing healing-specific outcomes in people with serious and/or chronic ill-health. Study one used qualitative methods to generate and refine questionnaire items that would reflect healees' and healers' experiences. The resulting questionnaire is the Harry Edwards Healing Impact Questionnaire (HEHIQ). Study two tested the psychometric properties of the HEHIQ.

## STUDY ONE

## METHODS

### *Design*

This qualitative study used focus groups to elicit discussion of the effects of Spiritual healing among people with various serious and chronic illnesses. Inductive analysis identified common outcomes and generated questionnaire items, which were refined through further focus groups and cognitive interviews. Ethical approval was gained from the Isle of Wight, Portsmouth and South East Hampshire Research Ethics Committee (06/Q1701/87).

### *Participants*

Our recruitment of healees was guided by a concern to include both male and female participants, and to include participants who had used healing for a range of different conditions. Healees (20 females, 4 males) were recruited from two sources: an ongoing study of Spiritual healing in breast cancer (all women in this ongoing study were invited to take part in a focus group) and a Spiritual healing sanctuary (healers at the sanctuary gave invitation packs to adult healees with serious/chronic conditions, which we defined as medical conditions that are that are either terminal or have a perceived significant and/or disabling impact on the individual's quality of life). They had sought healing for a range of conditions, including side-effects of ongoing treatments for breast cancer, depression, lung cancer, arthritis, ovarian cancer.

Our recruitment of healers was based on a desire to include healers with reasonably extensive experience of providing healing. Eligible individuals were practicing healers who were willing to contribute to discussions of the effects of Spiritual healing and able to attend a focus group or cognitive interview. Healers (8 females) were recruited from the same two sources as healees, which were easily accessible to us. They had at least 2 years experience as healers and were at 'practitioner level' as defined by the Healing Trust (formerly the National Federation of Spiritual Healers). Figure 1 depicts a typical healing

session for the healers and healees in the ongoing breast cancer study and the healing sanctuary.

*Focus Groups*

Five focus groups (2-5 healees per group), each lasting between 80 and 105 minutes, were conducted to elicit the effects of healing (see Figure 2). Two groups only contained participants recruited from the ongoing breast cancer study, the other three groups only contained participants recruited from the healing sanctuary; participants were separated in this way to facilitate open discussion of personal experiences of healing. Two further groups (one with 2 healees, one with 6 healers, 69 minutes each) were conducted in which participants were given drafts of the HEHIQ to review using prompts, where necessary, to focus on the instructions, item wording, response options, layout, length, suggestions for additional items. The participants in these final focus groups were all recruited from the healing sanctuary. All focus groups (and cognitive interviews) were audio-recorded, transcribed verbatim and anonymised.

*Cognitive Interviews*

Six cognitive interviews (35 - 45 minutes) were conducted with 4 healees and 2 healers (all recruited from the ongoing breast cancer study, although the healers brought their broad and extensive experience of healing to these interviews). Interviewees were shown drafts of the HEHIQ and asked to speak their thoughts as they completed them. Clarifications were sought as necessary, and comments invited at the end of the 'think aloud' task.

*Analysis*

Focus group transcripts were read and re-read by three researchers (FB, JW, FB), who identified potential outcomes of healing by grouping together similar reports of healing effects to form common themes. A chart containing all exemplars of each theme (labeled by focus group) was compiled. For inclusion in the HEHIQ, we selected potentially sustainable

outcomes which occurred in at least one group from the healing sanctuary and one group of women from the breast cancer study. We excluded immediate and/or transient outcomes (e.g. the feeling of deep relaxation during and immediately after healing).

## RESULTS

### *Main Themes*

Seven emergent themes characterized potentially sustainable changes attributed by participants to spiritual healing: existential outlook, overall health, energy levels, self perception, relationships with others, coping ability, emotional balance (see Table 1). Participants talked about how their outlook on life had changed as a result of having spiritual healing (**existential outlook** theme). They talked about feeling more positive about the future and life in general, and reported having an altered perspective on life which included feeling more joyful. Perhaps unsurprisingly, changes in **overall health** (predominantly physical) were important for healees. Few participants felt that their symptoms had been eliminated by healing, but many reported improvements in general health and wellbeing, and some emphasized an improved ability to cope with symptoms without changes in the symptoms themselves. **Energy levels** were important and participants reported sleeping better after healing (this was reiterated by healers as a common outcome), as well as having more energy to perform tasks of daily living and other valued activities. Participants discussed many features of **self-perception** and self-esteem, including enhanced inner strength, a new sense of calm and/or harmony, and increased self-confidence. They also reported greater acceptance of their current health and physical status, and a sense of inner-connectedness. Participants reported positive changes in **relationships** with family members or friends since having healing. They valued the empathy that they felt from their healers and described feeling more supported and cared for as a result of healing. Many participants reported an improved **ability to cope** in general with problems other than their health. This appeared to be related to both enhanced self-confidence and changes in perspective and outlook. All five focus groups discussed how healing influenced emotions

and **emotional balance**. Participants reported increased frequency or intensity of positive emotions (e.g. feeling 'happy' and 'uplifted'), decreased frequency or intensity of negative emotions, and greater overall stability and balance across emotions.

*Generating and Refining Questionnaire Items*

We generated questionnaire items that reflected all important aspects of each theme. We derived wording from participants' own terms, and designed response scales to match participants' language and constructs. Thirteen drafts of the HEHIQ were tested during the cognitive interviews and the final two focus groups. At each iterative stage, we drew on summaries of each cognitive interview and the original focus group transcripts to ensure that our questionnaire reflected the outcomes and perspectives of both sets of participants. We required the HEHIQ to conform to the properties identified in Figure 3 and made changes to achieve these (Table 2). A 29-item draft version of the HEHIQ, presented on one folded, double-sided A3 sheet, was thus developed. The instructions asked respondents to consider 'how you have been feeling, on average, during the past 2 weeks'. This is the timeframe used in the WHO quality of life assessments [27] and was considered acceptable by our participants. Items were presented in thematic groupings assessing existential outlook (5 items), overall health (4 items), energy levels (4 items), self perception (5 items), relationships with others (3 items), coping ability (3 items), emotional balance (5 items). Verbal response scales (5 options) were presented for each item, and space for written comments was provided immediately after each thematic grouping.

## STUDY TWO

### OBJECTIVES

The objectives were to examine the HEHIQ's:

1. Factor structure (to identify any subscales, and establish their internal consistency).
2. Convergent validity (between HEHIQ scores and socio-demographic characteristics and scores on well-validated quality of life measures).

3. Test re-test reliability (the stability of HEHIQ scores over time when overall health remains constant) and sensitivity to change (the extent to which HEHIQ scores change when overall health changes)
4. Content validity (whether all relevant and important outcomes are on the HEHIQ).

## METHODS

### *Design*

Study invitation packs were given or posted to individuals, inviting them to complete the questionnaire(s) in their own time and return it (them) by mail to the researchers. In order to test the HEHIQ against another questionnaire, whilst limiting participant burden, approximately one third of invitation packs included only the HEHIQ, one third also included the World Health Organisation Quality of Life BREF (WHOQOL BREF, an abbreviated version of the WHOQOL 100) [28], and one third contained the HEHIQ and the WHOQOL Spirituality, Religion and Personal Beliefs (SRPB) scale [29]. 1551 packs offered the option of completing a second copy of the HEHIQ one week later to test for test-retest reliability. 297 packs offered the invitation to complete a second questionnaire 6 weeks later in order to test for sensitivity to change. In all cases, supplementary questions were included to elicit subjective change or no-change. Ethical approval was granted by the host institution (SOMSEC018.07).

### *Participants and Procedure*

We wanted to test the HEHIQ in people who had experienced, were currently having, or were engaged in some way with Spiritual healing practices. All recipients of a regular newsletter from the healing sanctuary and attendees at the sanctuary were invited to take part (n=1120). To obtain a more representative sample, healers at Spiritualist churches were given 435 invitation packs and other healers (e.g. members of The Healing Trust) were given 293 invitation packs to distribute to their clients. Healers were recruited via Spiritualist

churches throughout southern England and The Healing Trust. They worked in diverse ways and in rural, suburban, and urban (including deprived inner-city) areas. Because of this diversity we cannot describe the healing that our participants had experienced, although Figure 1 provides an indication of a typical healing session as might have been received by healees who had attended the healing sanctuary. We required 300 participants to perform exploratory factor analysis [30;31].

Invitation packs included a covering letter, participant information sheet, and a copy of the HEHIQ (with or without one of the validated measures). Those who wanted to complete the initial questionnaire(s) only did so anonymously. Those who consented to complete a follow-up questionnaire supplied contact details and were later mailed the follow-up questionnaire.

*Measures*

The HEHIQ

The 29-item HEHIQ developed in Study 1 was used.

The WHOQOL Questionnaires

Two existing quality of life measures were used, the WHOQOL BREF [28] and the WHOQOL SRPB [29]. The 26-item BREF assesses quality of life across 4 domains (psychological, physical, social relationships, environment). The 32-item SRPB assesses 8 facets of quality of life related to spirituality, religious and personal beliefs (spiritual connection, meaning and purpose in life, experiences of awe and wonder, wholeness and integration, spiritual strength, inner peace, hope and optimism, faith). Both ask respondents about their quality of life within the last 2 weeks. These measures were chosen because they have established psychometric properties [28;29]. They are both short and offered the opportunity to test the convergent validity of the HEHIQ against both general quality of life and quality of life related to spirituality.

Additional Items

Single items assessed socio-demographic characteristics and previous experiences of spiritual healing. Self-reported health status was elicited using questions from the Health Survey for England [32]: overall subjective health was rated on a 5-point scale (Very Good, Good, Fair, Bad, Very Bad), any 'long-standing illness, disability or infirmity' is named, and respondents indicate whether such an illness limits their activities in any way. Those respondents who also completed a follow-up HEHIQ were asked to 'think about how you have been over the past 2 weeks, and compare it to how you were when you filled in the first copy of the questionnaire. Taking into account your mental, physical, spiritual and emotional state, would you say you are:' (options: Much better, A bit better, About the same, A bit worse, Much worse).

*Statistical Methods*

Data were entered into SPSS (version 16) and checked for accuracy. Cases with incomplete data (8 HEHIQ, 14 BREF, 18 SRPB) were excluded from relevant analyses. Scores on the HEHIQ's verbal rating scales were converted into scores on a 5 point numerical rating scale for statistical analyses. Items were reverse-scored where necessary (items 1, 3, 5, 7, 9, 10, 13, 15, 17, 18, 20, 24, 26, 27, 29) so that a high score on each item indicates a more positive state of health. Graphs and standard descriptive statistics explored the distributions of HEHIQ item scores. Specific techniques were used to address the objectives as follows.

1. Exploratory Factor Analysis using principal components analysis with oblique rotation (direct oblimin, allowing factors to be correlated) examined the factor structure of the HEHIQ. Factors with eigenvalues over 0.7 were retained, following Joliffe's criterion which is suitable for our dataset as there are over 250 cases and the average communality is over 0.6 [33]. The results were used to create subscales, scores on which were then used in subsequent analyses. Cronbach's alpha assessed the HEHIQ's internal consistency.

2. Convergent validity. We expected HEHIQ scores to correlate with BREF and SRPB scores (tested with correlations). We expected participants with a chronic illness to have lower scores on the HEHIQ than those without chronic illness but did not expect any gender or age effects (tested with T-tests and ANOVA). Bonferroni corrections were applied to each group of multiple significance tests in order to maintain an overall alpha level of 0.01. The resulting p values required for significance at this level are reported for each group of tests separately (see footnotes to Tables 4, 5, 6).
3. Test-retest reliability. A Bland and Altman analysis [34] examined the agreement, within individuals, of HEHIQ scores over time (for those who reported no overall health changes between baseline and follow-up). Raw difference scores are calculated (baseline – follow-up). The Bland and Altman range is the difference between the lower and upper limits of agreement, where limit of agreement = 0 ± two standard deviations of the difference score. Using 0 instead of the mean score allows an assessment how close difference scores are to 0 (representing absolute equivalence). In the Bland and Altman plot, individual participants' raw difference scores are plotted against their mean score, illustrating the effect of the mean score on the difference score.
4. Sensitivity to change. HEHIQ change scores were computed by calculating the absolute magnitude of difference in subscale scores between baseline and follow-up. T-tests assessed whether participants who report change (on the explicit change item) had significantly higher change scores than those reporting no change.
5. Content validity. Respondents provided written comments in the spaces provided after each thematic group of items on the HEHIQ. These comments were subjected to content analysis [35] to examine whether HEHIQ items are necessary, sufficient, and relevant.

## RESULTS

*Participants*

Two thousand and fifty study packs were distributed, but because we depended on healers to distribute packs to their healees we do not know how many reached individuals. Three hundred and ninety three baseline questionnaires were completed and returned. Assuming all 2050 packs were distributed, our estimated response rate is 19% however this is likely to be a conservative estimate. Two hundred and ninety nine respondents (76%) consented to and were sent follow-up questionnaires, and 81% (243) completed and returned them (213 at one week post-baseline and 30 at six weeks post-baseline). Participants were aged between 16 and 90 (median = 61) and reported up to 5 chronic conditions (further characteristics are summarized in Table 3).

*Factor Structure*

The exploratory factor analysis identified 8 factors which together accounted for 75% of the variance in item scores (Table 4). Five subscales were identified based on these factors: outlook (factor 1), energy (factor 2), health (factor 3), relationships (factor 5), and emotional balance (factor 8). Factors 4, 6 and 7 were not interpreted: only one item had its highest loading on these factors (items 20, 10 and 15, respectively). Items 20 and 15 were removed but item 10 was retained as a single item to maintain face validity (sleep was a valued outcome in Study 1). As can be seen in Table 4, the subscales approximately map onto the themes identified in Study 1, with two main areas of overlap. Firstly, items designed to assess the qualitative themes of Self-perception and General Outlook did not emerge as reflecting distinct underlying dimensions. All but one of these items loaded onto factor 1, which was dominated by the General Outlook items, and so the subscale was named simply outlook. Secondly, all but one of the items designed to assess Coping Ability and Emotional Balance loaded onto factor 8. Inspection of these items suggests that there are elements of emotional balance reflected in the items from the coping ability theme, hence the name of this subscale.

A long version of each subscale was computed by taking the mean score on each item with a loading >.4 on the corresponding factor (a loading of .4 indicates that the item explains 16% of the variance in the factor). Short versions of each subscale was computed by taking the mean score on each item with a loading >.5 on the corresponding factor (see Appendix for this version of the HEHIQ). Table 5 shows the distributions and internal consistency of these subscales. Inspection of histograms suggests that scores on the subscales, although slightly skewed, approximated to the normal distribution for the purpose of analysis. Subsequent analyses are based on the short subscales only, as these are more efficient for research purposes and reduce participant burden while demonstrating equivalent psychometric properties to the long subscales (data not shown).

*Convergent Validity*

There was no effect of age (as categorized into 4 groups based on interquartile range) on HEHIQ scores. Neither were there any significant gender differences in HEHIQ scores. As predicted, people reporting a chronic illness (n=264) had lower scores on all subscales than others (n=104), and this was significant for all subscales except relationships (Table 5).

Positive correlations between scores on the HEHIQ and on the WHOQOL BREF and WHOQOL SRPB were mostly medium to large in size and statistically significant (Table 6). This suggests that the HEHIQ measures similar but not identical constructs to those measured by the BREF and the SRPB.

*Test-retest Reliability and Sensitivity to Change*

Of the 213 participants who completed follow-up questionnaires one week post-baseline, 98 reported no subjective change on our single-item measure and the remainder reported some change. Of the 30 participants who completed follow-up questionnaires 6 weeks post-baseline, 13 reported no change. To enhance the power of our analyses we collapsed across follow-up periods and classified participants as reporting no change (n=111) or some change (n=132), according to scores on our single-item measure of subjective change.

For participants reporting no change, mean raw change scores on each of the HEHIQ subscales were close to zero: outlook (M = .06, SD = .42), energy (M = .05, SD = .50), health (M = -.04, SD = .50), relationships (M = .05, SD = .51), emotional balance (M = .00, SD = .41), all items (M = .00, SD = .29). The Bland and Altman range for each subscale was modest: outlook = 1.65, energy = 1.95, health = 1.95, relationships = 1.99, emotional balance = 1.60, all items = 1.14. Figure 4 shows the Bland and Altman plot for the overall HEHIQ score. Visual inspection of Figure 4 and additional Bland and Altman plots for each subscale suggested no relationship between mean score and score difference. Fewer than 10% of points lay outside the Bland and Altman range (consistent with baseline and follow-up scores being equivalent). Correlations between baseline and follow-up scores in this group were also high: outlook (r=.85, p=.00), energy (r=.80, p=.00), health (r=.87, p=.00), relationships (r=.79, p=.00), emotional balance (r=.87, p=.00), all items (r=.91, p=.00).

Compared to participants who reported no change in their health, those who reported some change in their health from baseline to follow-up had larger magnitude change scores on all HEHIQ subscales (Table 7). This was significant for all scales except outlook and relationships. There was also greater variance in HEHIQ change scores in participants who reported some health change compared to those who reported none.

*Indicators of Content Validity and Acceptability*

Participants wrote 1402 predominantly brief comments in the spaces made available for this purpose on the HEHIQ. Many comments (48%) were elaborations on or re-affirmations of responses, while a further 19% were explanations of the participants' responses. This suggests participants valued having the opportunity to provide further details on the outcomes assessed by the HEHIQ. Additional details described the participants' family, work, or otherwise general situation (10% of comments), and their specific diagnoses and/or symptoms (19%). This suggests that participants might value also completing a disease-specific measure and an assessment of their personal circumstances, in addition to an outcomes questionnaire. A small proportion of comments offered explicit feedback on the

items (3%) or reported quality of life dimensions that were not included on the HEHIQ (1%). Common feedback concerned the difficulty of considering and reporting 'average' outcomes over a 2 week period in the face of fluctuating outcomes; if anything this reinforces the need to assess outcomes over a 2 week period, as anything less might misrepresent outcomes. Additional outcome dimensions such as independent living and mobility were not added to the HEHIQ because they were mentioned by fewer than 5 participants each and were not reported to have been improved since healing. The lack of any consistent negative feedback, the small proportion of missing data and the high follow-up rate suggests the HEHIQ was acceptable to our participants.

## DISCUSSION

In study 1 we identified commonly described outcomes of Spiritual healing, grouped them into 7 themes, established the need for a new single measure to assess these outcomes, and developed questionnaire items grounded in healees' own language. In study 2 we tested our questionnaire in a larger, more representative, sample, and provided evidence of the HEHIQ's acceptable psychometric properties. The result is a rigorously developed and tested, concise outcome measure that is specific to Spiritual healing.

The HEHIQ assesses outcomes over 5 domains using items derived from healees' experiences. Existing questionnaires assess some of these domains, for example, scores on the BREF [28] and SRPB [29] were shown to correlate with scores on the HEHIQ in study 2 and there is some overlap in content with the SF-36 [36]. However, the HEHIQ evaluates all five domains using only 20 items.

Our use of mixed methods enabled the potential weaknesses of one study design to be complemented by the strengths of the other [37]. In study 1, our participants reflected a relatively narrow segment of the population of healees, coming from a single healing centre and an ongoing study of spiritual healing. Furthermore, we did not collect detailed demographic information about these participants' characteristics. While a small sample is

appropriate for qualitative work, it does limit the extent to which we could be confident our themes would be relevant to other healees (such as those receiving healing in a Spiritualist church). In Study 2 we were able to obtain a larger and more representative sample of healees by recruiting participants from a variety of different settings and involving a large number of healers in our recruitment efforts. These participants had received healing in religious and non-religious settings, and so the HEHIQ would appear to be acceptable to a broad range of people. Future work might explore the relationship between scores on the HEHIQ and religious affiliation or religiosity. In study 1 we could ensure that our questionnaire items were grounded in participants' own experiences and language and thus made sense to them, while in study 2 we were only able to gain cursory insight into the acceptability of the HEHIQ to respondents. Similarly, while study 1 was capable only of indicating the face validity of the HEHIQ, study 2 provided statistical evidence concerning other important psychometric properties.

Despite the complementary pattern of strengths and weaknesses just described, two important limitations of the HEHIQ remain. Firstly, two of the five subscales showed low sensitivity to change based on our single-item explicit change measure. It might be that these subscales, assessing outlook and relationships, are less likely to change than the other subscales, or that changes in these dimensions might make only a small contribution to participants' global change assessments. Our evaluation of sensitivity to change was itself somewhat limited as participants were not necessarily undergoing Spiritual healing in between baseline and follow-up assessments. Further work is needed to examine the HEHIQ's sensitivity to change in the context of a Spiritual healing intervention. Secondly, the HEHIQ has not been tested in a homogeneous population of people with the same condition. While we intend for the HEHIQ to be used to assess generic outcomes of Spiritual healing it might be useful to re-confirm the HEHIQ's validity in one (or more) illness-specific population.

We have developed a new measure, the HEHIQ, which can be used to assess outcomes of Spiritual healing in people with serious and chronic ill-health, and others who

seek spiritual healing. The HEHIQ meets an identified research need, is acceptable to healees and healers, and has good psychometric properties. Future trials should use the HEHIQ, in combination with a disease-specific outcome measure, to provide a comprehensive yet concise evaluation of the patient-centred outcomes that can result from Spiritual healing.

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Table 1. Quotes to illustrate the main themes from focus groups

| |
|---|
| Existential Outlook |
| ‘there is something to look forward to’ (G1); ‘not so negative about life’ (G2); ‘learning how to look at things differently’ (G4); ‘feeling a sense of upliftment’ (G2) |
| Overall Health |
| ‘The joints are looser, the joints are not so stiff, they’re not so swollen’; ‘after I started coming here, within a month or two it had gone down to 0.2 [from 11.6 – PSA levels]…I don’t regard it as a cure or a remedy I regard it as one of the group of many things including the offical medical treatment that I’m on, including the support of my family, friends.’ (G5); ‘I can deal with hot flushes better, they don’t make me feel so anxious and stressed. I deal with it better, calmer, much more calm with it.’ (G1); ‘My shoulder problem has definitely improved […] I managed to knit a cardigan for a 3-year old, I think it will fit her when she’s 6 […] which I haven’t done for years.’ (G3) |
| Energy Levels |
| ‘more energy’; ‘get up and go’; ‘able to get on and do things’; ‘[healing is] a bit like recharging your batteries really, you feel really restored after it’ (G4) |
| Self Perception |
| ‘gave me a sense of inner strength’ (G4) and how it made them feel ‘quiet and calm’ (G3) and gave them ‘stillness of mind’ (G4). ‘I’m much more relaxed and I think I get things more in perspective now rather than panic at stupid things. I mean what if it doesn’t get done today, well there’s tomorrow’ (G3). |
| Relationships with Others |
| ‘there’s times when I get wound up but nowhere near to the extent of what I used to, nowhere near it. I would be of the thinking well if you don’t like it bloody well stick it then. But now, you’d sit and listen to the person.’ (G2); ‘the healing has helped because it has calmed you right down and relaxed you and you’re not going to snap |

quite as quickly […] you're actually starting to analyse yourself and understand, rather than leaping feet first, you're actually sort of looking at things. So the children probably have got it calmer now.' (G4); 'I looked forward to being able to talk to someone other than my husband and, like I say, I've got my mother at home and she didn't cope with it very well at all […] it was nice to be able to say without someone being emotionally involved.' (G3)

Coping Ability

'I would say that people would perceive me as being strong, but possibly that was more of an external rather than an interior feeling. [...] I think the healing gave me an inner strength that maybe I hadn't had before and it is helping me now to cope with what I need to cope with on my own at the moment.' (G4); 'I felt as thought I could cope with anything' (G1); 'right now I can get on with things and sort things and things will be alright' (G4).

Emotional Balance

'if I come to one of these sessions and I'm feeling a little bit down as it were, you know, something has happened that's made me sort of unhappy or something like that, after one of these sessions I feel oh, that's not so bad then, it's a little bit back to normal as it were' (G5); 'With me it's helped with the […] depression. I don't think I've had the tears that I was having before, the quiet tears […] the tears and that aspect of depression has been a lot better.' (G3); 'I think I became more balanced as a person and I've become calmer and more patient, and more kind of balanced across the spectrum you're your life can take' (G2)

---

Note. These quotes have been selected for their typicality and to illustrate the range of outcomes present within each theme.

Table 2.

Key changes made to the questionnaire as a result of cognitive interviews

| Final version | Original drafts |
|---|---|
| *Key Changes to Content* | |
| • Items phrased in the 1st person | • Items phrased in the 2nd person |
| • Added more explicit items on meaning of life and perspective (items 1 & 3) | • No explicit items tapping existential effects of healing |
| • Added explicit item on self-confidence (item 17) | • No explicit item on self-confidence |
| • Removed repetitive and potentially redundant items | • Overlapping items (e.g. items on feeling calm, serene, inner peace, stillness of mind) |
| • Removed items that had a sense of finality about them and little sense of potential for change | • Poorly phrased items (feelings about one's life in general, ability to 'accept your life the way it is now') |
| • Added item on sleep quality (item 10) | • No item on sleep quality |
| • Added item 16 ('my mind body and spirit have felt in harmony') | • No item tapping this feeling of personal connectedness |
| • Added item 8 ('I have felt really well') | • No item tapping this positive, holistic, sense of wellbeing |
| • Added item 29 ('I have felt up and down') | • No item explicitly tapping variability in emotions |

*Key Changes to Response Scales*

| | |
|---|---|
| • Verbal rating scales | • Numerical and verbal rating scales |
| • Ensured extreme values at scale ends (e.g. all of the time/never) | • Some non-extreme values at scale ends (e.g. most of the time) |
| • Variable rating scales (appropriate to individual item) | • Consistent rating scales (identical for every item) |
| • Used 'weak' as the negative pole for item 14 ('my sense of inner strength has been') | • Negative pole for this item was 'fragile' |
| • Item assessing inner peace (item 18) | • Used two overlapping but potentially distinguishable labels ('calm and at peace') |

*Key changes to questionnaire format*

| | |
|---|---|
| • Small comments boxes for each group of questions | • Large comments box at the end |
| • Shading added to question groups to help break up the page | • No shading |
| • Arial font | • Times New Roman font |
| • No tables | • One draft used table layout |

Table 3.

Study 2 participants' characteristics (n=393)

| Characteristic | Percentage of participants (n) |
|---|---|
| Gender | |
| Female | 80% (302) |
| Working Status | |
| Retired | 46% (173) |
| Working full time | 16% (61) |
| Working part time | 17% (63) |
| Off work sick | 9% (33) |
| Ill Health | |
| One or more chronic condition(s) | 72% (270) |
| Musculoskeletal complaints | 21% (60) |
| Arthritis | 20% (54) |
| Heart or circulatory complaints | 14% (38) |
| Cancer | 12% (32) |
| Mental health complaints | 10% (28) |
| Experience of healing in past 6 months | |
| Received any | 87% (339) |
| Received at the healing sanctuary | 20% (80) |
| Received one-to-one healing | 57% (223) |
| Received distant healing | 33% (129) |
| Requested healing for another person | 17% (64) |

Note. Sub-categories are not mutually-exclusive and so percentages do not sum to 100%.

Table 4. Pattern Matrix from exploratory factor analysis: factor loadings of all HEHIQ items

| | Theme[1] | Factor | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 3. I have felt that my life is meaningful | EO | **.83** | | | | | | | |
| 4. I have been able to find joy in everyday things | EO | **.68** | | | | | | | |
| 1. On the whole my outlook has been | EO | **.59** | | | | | | | -.29 |
| 18. I have had a sense of inner peace | SP | **.50** | | | | | | | -.23 |
| 5. I have been able to keep things in perspective | EO | **.49** | | | | | | | -.21 |
| 17. I have had confidence in myself | SP | **.47** | | | | | | .39 | |
| 14. My sense of inner strength has been | SP | **.46** | | | | | | | -.22 |
| 16. My body mind and spirit have felt in harmony | SP | **.45** | | | | | | .38 | |
| 11. I have had the energy to do the things I need to do | EL | | **.64** | .24 | | | | | |
| 13. I have had get up and go | EL | .23 | **.64** | | | | | | |
| 12. I have felt tired during the day | EL | | **.53** | | | | .30 | .33 | |
| 6. I have been worried about my health | OH | | | **.87** | | | | | |
| 7. I have had symptoms that were | OH | | | **.81** | | | | | |
| 9. My general health has been | OH | | .37 | **.58** | | | | | |
| 2. My future has seemed scary or frightening | EO | | -.38 | **.56** | -.37 | | | | |
| 8. I have felt really well | OH | | .31 | **.43** | | .25 | | | |
| 19. My relationships with people who matter to me have been | RO | | | | | **.90** | | | |
| 21. I have felt cared for | RO | | | | -.52 | **.59** | | | |
| 28. I have been irritable | EB | | | | .20 | **.51** | | | -.46 |
| 10. I have had a good night's sleep | EL | | | | | | **.92** | | |
| 29. I have felt up and down | EB | | | | | | | | **-.67** |
| 27. I have felt low | EB | | | | | | | | **-.62** |
| 23. Things have been getting me down | CA | | | .21 | | | | | **-.60** |
| 24. I have been able to think clearly about things that matter to me | CA | | | | -.30 | | | | **-.54** |
| 26. I have felt relaxed | EB | | | | | | .34 | | **-.50** |
| 25. I have felt contented | EB | | | | -.26 | | | | **-.47** |
| 22. I have felt able to deal with challenges | CA | | .29 | | | | | | **-.44** |
| Initial eigenvalues | | *14.18* | *2.19* | *1.11* | *1.03* | *.94* | *.75* | *.73* | *.71* |
| % variance explained | | *48.91* | *7.54* | *3.81* | *3.55* | *3.24* | *2.59* | *2.51* | *2.45* |

| | | | |
|---|---|---|---|
| *Items removed from questionnaire* | | | |
| *20. I have felt alone* | RO | *-.70* | |
| *15. I have felt uncomfortable with my body the way it is* | SP | | *.84* |

Notes. Loadings <.2 not shown. Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. Bold indicates item is interpreted as loading on that factor. Items shaded in grey are included in the long version of the HEHIQ only.

[1] Theme from Study 1 that item was intended to tap. EO = existential outlook, SP = self perception; EL = energy levels; OH = overall health; RO = Relationships with others; EB = emotional balance; CA = coping ability

Table 5. Distributions and internal consistency of HEHIQ subscales.

| | | Whole sample (n=385) | | | | No chronic illness (n=104) | Chronic illness (n=264) | |
|---|---|---|---|---|---|---|---|---|
| Subscale | Version | Items (n) | Cronbach's Alpha | Mean | SD | Mean (SD) | Mean (SD) | T (df = 366) |
| Outlook | Brief | 4 | .83 | 3.65 | 0.80 | 3.96 (.71) | 3.55 (.79) | 4.69** |
| | Long | 8 | .91 | 3.6 | 0.77 | | | |
| Energy | Both[1] | 3 | .85 | 3.21 | 0.93 | 3.74 (.81) | 3.00 (.90) | 7.29** |
| Health | Brief | 4 | .82 | 3.52 | 0.87 | 4.12 (.72) | 3.29 (.83) | 8.98** |
| | Long | 5 | .85 | 3.47 | 0.86 | | | |
| Relationships | Both[1] | 3 | .73 | 3.84 | 0.82 | 4.04 (.77) | 3.79 (.81) | 2.70 |
| Emotional balance | Brief | 5 | .89 | 3.5 | 0.81 | 3.84 (.76) | 3.38 (.80) | 5.07** |
| | Long | 7 | .92 | 3.43 | 0.8 | | | |
| All items | Brief | 20 | .94 | 3.54 | 0.70 | 3.94 (.61) | 3.40 (.66) | 7.16** |
| | Long | 26 | .96 | 3.51 | 0.70 | | | |

[1] Brief and long versions are identical for these subscales

**p<.002 (for comparison between those with and without chronic illness)

Table 6. Pearson's correlations between the HEHIQ and the WHOQOL scales

| | HEHIQ Scales | | | | | |
|---|---|---|---|---|---|---|
| | Outlook | Energy | Health | Relationships | Emotional balance | All items |
| BREF Scales[1] | | | | | | |
| Physical | .53** | .76** | .70** | .51** | .55** | .72** |
| Psychological | .71** | .62** | .58** | .73** | .72** | .79** |
| Social | .55** | .46** | .30 | .67** | .53** | .58** |
| Environmental | .47** | .54** | .63** | .55** | .53** | .64** |
| SRPB Scales[2] | | | | | | |
| Spiritual connection | .43** | .26 | .29** | .38** | .36** | .42** |
| Meaning and purpose in life | .51** | .42** | .40** | .35** | .40** | .51** |
| Experiences of awe and wonder | .42** | .34** | .25 | .24 | .32** | .38** |
| Wholeness and integration | .70** | .48** | .46** | .46** | .58** | .65** |
| Spiritual strength | .65** | .35** | .34** | .45** | .52** | .57** |
| Inner peace | .74** | .43** | .52** | .45** | .64** | .69** |

| | | | | | | |
|---|---|---|---|---|---|---|
| Hope and optimism | .66** | .40** | .48** | .52** | .60** | .65** |
| Faith | .40** | .12 | .18 | .31** | .27** | .31** |
| HEHIQ Scales[3] | | | | | | |
| Outlook | --- | .55** | .58** | .58** | .77** | .86** |
| Energy | | --- | .63** | .35** | .60** | .76** |
| Health | | | --- | .39** | .66** | .82** |
| Relationships | | | | --- | .65** | .70** |
| Emotional balance | | | | | --- | .92** |

*p<.0008. [1] N = 100 [2] N = 94 [3] N = 385

Table 7

Magnitude of difference scores on HEHIQ scales across participants reporting some (n=132) and no (n=111) change.

| | Mean Magnitude of Difference (SD of difference) | | Levene's | | |
|---|---|---|---|---|---|
| HEHIQ Scale | No change | Any change | F | T | df |
| Outlook | .30 (.30) | .44 (.46) | 9.45** | -2.83 [1] | 227 |
| Energy | .34 (.37) | .54 (.53) | 17.28** | -3.53** [1] | 233 |
| Health | .32 (.32) | .52 (.45) | 12.94** | -4.10** [1] | 236 |
| Relationships | .35 (.37) | .46 (.44) | 4.45 | -2.09 [2] | 241 |
| Emotional balance | .30 (.27) | .55 (.54) | 31.63** | -4.67** [1] | 200 |
| All items | .21 (.18) | .39 (.36) | 32.94** | -5.04** [1] | 200 |

**p<.002

[1] Equal variances not assumed; [2] Equal variances assumed

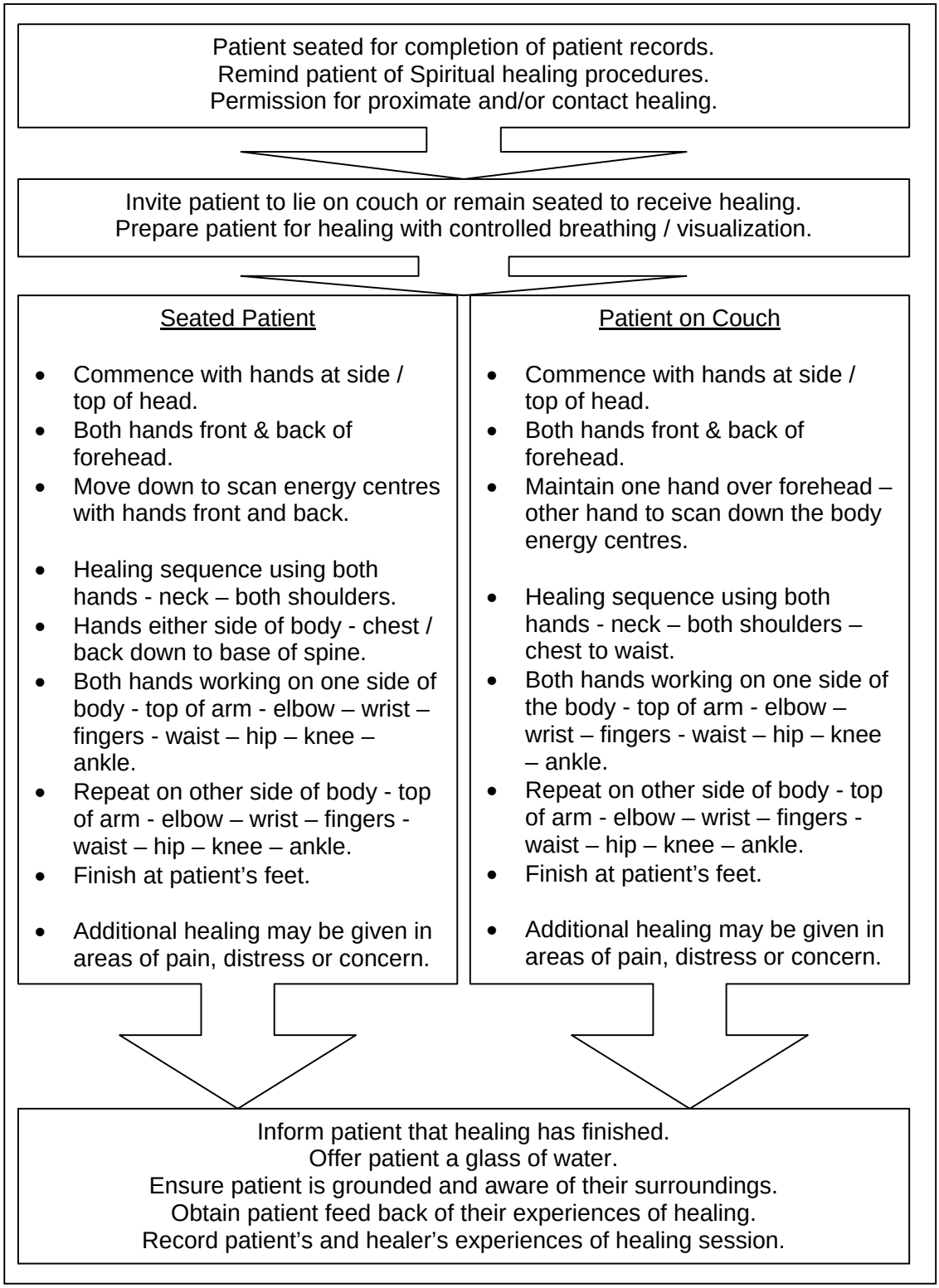


Figure 1. A typical healing session as experienced by the participants in the ongoing breast cancer study and based on typical healing sessions at the healing sanctuary

Participants were asked to hand a ball around the group and to say one idea or word each time the ball came to them. They were asked to think of words associated with different aspects of healing:

- Your idea of healing before you had healing
- Your hopes and expectations of healing
- Being in a healing session.
- The healers themselves.
- Your thoughts and feelings immediately after a healing session.
- The overall effect or impact of the course of healing you received.

Notes were made on a flip-chart, and used to prompt further details, discussions, elaborations and examples from participants.

(N.B. We derived aspects of healing for discussion from previous qualitative work, Barlow 2009 unpublished dissertation.)

Figure 2. Procedure for focus groups to identify common outcomes of spiritual healing

1. Coverage of all dimensions of outcomes that are not condition specific, that are commonly reported as a potentially sustained result of healing, and that are valued by healees (i.e. good content validity).
2. Potential to reliably measure different dimensions of outcomes (i.e. include more than one item per dimension).
3. Unambiguously worded items that do not lead the respondent and that assess one specific outcome each.
4. Items that can be completed both before and after having experienced healing, and that have the potential to be sensitive to changes experienced as a result of healing (i.e. suitable for use in a clinical trial).
5. Simple wording and clear presentation (of instructions, items, and response scales) that makes sense and is acceptable to users (both healees and healers)
6. A balance of positively and negatively worded items (to minimize the impact of any individual tendency to respond positively or negatively to items, and to encourage respondents to use both ends of the response scales).

Figure 3.

Target properties of our new questionnaire

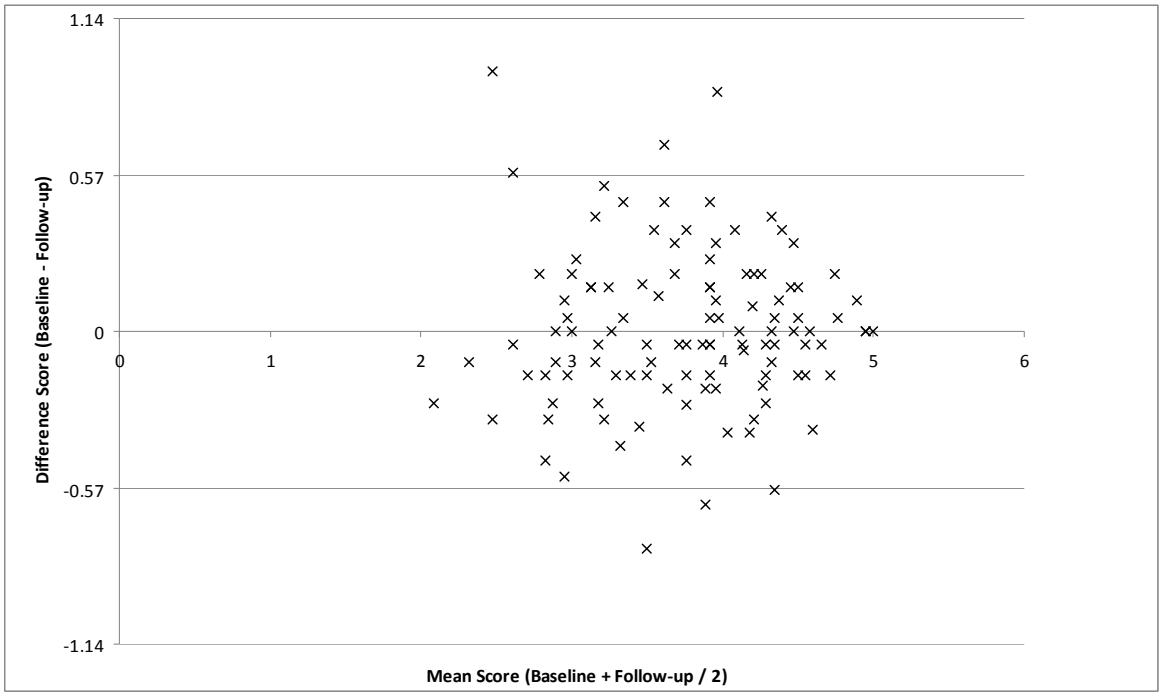


Figure 4. Bland and Altman plot showing equivalence of baseline and follow-up scores on the HEHIQ