Expectation and experience of the 'nonspecific' effects of acupuncture: Developing and piloting a set of questionnaires

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Abstract

32-item 'EXPectation of feelings' questionnaires were developed to explore the expected (EXPre) and reported (EXPost) incidence of 'nonspecific' (whole person) feelings in response to acupuncture-type interventions, in particular electroacupuncture (EA) and transcutaneous electrical acupoint stimulation (TEAS). They were tested on 204 participants, familiar with acupuncture, in three separate cohorts (Pilot, CPD, Students). Their validity and reliability were assessed, a cluster analysis conducted, and the association between expectation and experience analysed, along with those items most frequently found, association with other trait and state measures, and the influence of various aspects of treatment on experienced changes in feelings. Salient results are reported and discussed. Methods and further material are provided online at http://www.qeeg.co.uk/electroacupuncture/.

Table 1. 32 items used in EXPre ('I expect to experience a change in the feeling of …') and EXPost ('I experienced a change in the feeling of …')

Aliveness	Connectedness with others	Mental energy	Restlessness
Being at ease	Contentment	Mental focus	Sensory acuteness
Being blue	Excitement	Nervousness	Sleepiness
Being in control	Heaviness	Pain	Suppleness
Being spaced out	Hunger	Peacefulness	Tension
Calmness	Inner awareness	Physical vitality	Tingling
Cheerfulness	Inner flow	Receptivity	Warmth or coolness
Clarity	Intestinal rumblings	Relaxation	Worry

Some results (see Table 3)

Content validity was acceptable for only two items using Lawshe's and Lynn's methods,[1] and 'excellent' for nine items using Lynn's method but less stringent scoring (the two items not shown in Table 3 were 'Mental energy' and 'Sleepiness').

Inter-rater reliability was low, significant only for a few EXPost items in the Pilot cohort. In general, it was higher for EXPost than EXPre. Students demonstrated less EXPost agreement than experienced practitioners.

Test-retest reliability (1-7 wks) was significant for nine EXPost items. Of these, three ('Being at ease', 'Calmness' and 'Relaxation') were experienced (scored 'Yes') significantly more often than not (scored 'No'), and two scored 'No' significantly more often than 'Yes' ('Nervousness' and 'Restlessness').

Test-retest reliability (1 yr) was significant most often for EXPost 'Calmness', followed by 'Sleepiness'.

Split-half reliability for EXPre was > 0.8 for all except the CPD cohort, and consistently greater for EXPost than EXPre.

Cronbach's *alpha* was > 0.9 for all cohorts, and consistently higher for EXPost than EXPre in corresponding cohorts.

Cluster analysis. Whether clusters were developed from the data or from preconceived constructs, *alpha* and mean IIC for EXPost was consistently greater than for the same EXPre clusters.

Expectation and experience. For the CPD and Student cohorts, Y→Y or N→N occurred significantly more often than other combinations (Y→N, etc.). In other words, many of these participants **experienced what they expected** (whether positive or negative). This was also the case in the Pilot study, although here DK→N occurred significantly more frequently than either Y→Y or N→N (See **Figure 1**).

Responses on feelings experienced differed significantly from chance more than responses on feelings expected: EXPre Y and N scores occurred with similar frequency, but EXPost N scores occurred significantly more frequently than Y scores (**Table 2**).

Scoring

Items in both Expectation (EXPre) and Experience (EXPost) questionnaires (**Table 1**) were scored 'Yes' (Y), 'No' (N) or 'Don't know' (DK). Possible EXPre→EXPost combinations were thus N→DK, N→Y, Y→Y, etc. 'Most noticed' EXPost items were asterisked.

Fig 1. Numbers of EXPre→EXPost combinations in different cohorts.

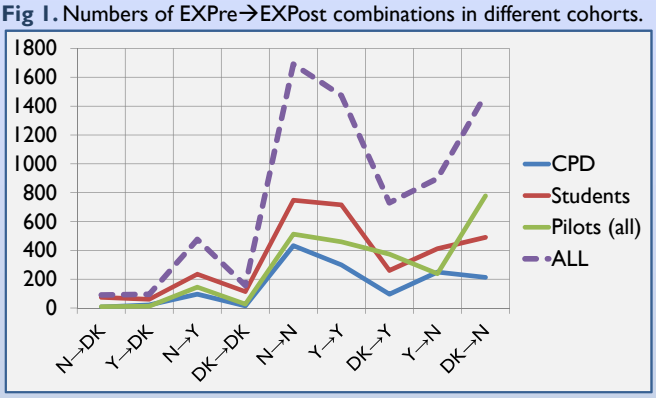

Table 2. EXPre and EXPost 'Yes' (Y) and 'No' (N) score counts and ratios.

Cohort	EXPre Y & N scores & ratios			EXPost Y & N scores & ratios			EXPost/EXPre ratios	
	Y	N	Y/N ratio	Y	N	Y/N ratio	Y Post/Pre	N Post/Pre
ALL	2466	2257	1.09	2679	4069	0.66	1.09	1.80
Pilots (*N*=21)	710	666	1.07	978	1528	0.64	1.38	2.29
CPD (*N*=54)	570	535	1.07	491	893	0.55	0.86	1.67
Students (*N*=129)	1186	1056	1.12	1210	1648	0.73	1.02	1.56

Table 3. Items most frequently scored 'Yes' in EXPre *or* EXPost, asterisked, or scored 'Yes' in both EXPre *and* EXPost.

Item	EXPre (Y)	EXPost (Y)	EXPost (*)	Y→Y
Aliveness	Y	Y	*	Y→Y
Being at ease[b]	–[d,e]	Y	*	–
Calmness[b]	Y[d,e]	Y[e]	*	Y→Y
Heaviness[b]	–	–	*	–
Inner bodily awareness	Y[c]	–	–	–
Inner bodily flow	Y	–	–	Y→Y
Mental focus[b]	–	Y	–	–
Pain[a,b]	–	–[f]	*	–
Relaxation[a,b]	Y[c,d,e]	Y	*	–
Tension	Y	Y[f]	*	–
Tingling	Y[e]	Y	*	Y→Y
Warmth or coolness[b]	–	–	*	–

Overlaps: a. Lawshe's Content Validity Ratio (CVR) and Lynn's Content Validity Index (CVI) acceptable; b. CVI 'excellent' when 'useful' items scored as Essential; c. Inter-rater reliability; d. Short-term test-retest reliability; e. Long-term test-retest reliability; f. Least variation between participants (*lambda* non-significant).

Discussion

Positive or negative expectation of acupuncture effects may correlate significantly with perceived or actual clinical outcome.[2-5]

- Our findings confirm this for a selection of nonspecific feelings expected and experienced with EA/TEAS.
- Furthermore, there is less variation in feelings experienced than in those expected, particularly among acupuncture practitioners (rather than students).

Some items in these questionnaires may reflect an embodied healing response, whether this is understood as 'placebo'[6,7] or in terms of a 'flow of *Qi*'.[8]

- The questionnaires may be useful to compare expectations and experiences of different treatments, such as manual acupuncture, EA and TEAS, as well as 'sham' versions of these.

References

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Detailed information available at www.qeeg.co.uk/electroacupuncture/eaq1.htm

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