Impact of Provider–Patient Communication on Patient-Reported Outcomes and Experiences in Periodontal Assessment: A Double-Blinded Randomized Clinical Trial

Running title: Benefits of Enhanced Provider–Patient Communication in Periodontal Examination

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Abstract

Objectives This study aimed to evaluate the individual and combined effects of expectation manipulation and empathy manipulation on patient-reported outcome measures (PROMs) and patient-reported experience measures (PREMs) in adults undergoing a periodontal clinical examination.

Materials and Methods Participants were randomized into four groups: (i) Control (CTRL) – standard care; (ii) Expectation manipulation; (iii) Empathy manipulation; and (iv) Combined expectation and empathy manipulation. Outcomes included pain perception and pain expectation, anxiety, mood, empathy, and satisfaction, assessed using validated instruments such as the State-Trait Anxiety Inventory (STAI-state), Positive and Negative Affect Schedule (PANAS), CQ-index, and Interpersonal Reactivity Index (IRI).

Results A total of 24 patients were included, the majority being women, with no significant differences in age or gender across groups. No participants were diagnosed with periodontitis. Empathy manipulation significantly reduced fear of the periodontal clinical examination ($p = 0.034$) and increased patient satisfaction. However, participants exposed to both expectation and empathy manipulation reported higher pain perception during/after the clinical examination. Overall, empathy-enhanced communication demonstrated clinically relevant benefits, including reduced fear, improved satisfaction, and increased engagement in periodontal care. Expectation manipulation alone appeared to stimulate greater patient interest in the clinical examination but was also associated with heightened anticipation of pain.

Conclusions Empathy manipulation exerted a potential placebo-like effect, reducing fear, overcoming objections, increasing patient interest and active participation in care, and improving satisfaction with the periodontal clinical examination.

Clinical relevance Incorporating empathetic communication strategies into routine periodontal examinations may improve patient experiences and foster greater trust and engagement in dental care.

Keywords Periodontal disease, patient-reported experience measures, patient reported outcome measures, periodontitis, periodontal examination.

Introduction

Daily contact with patients is a cornerstone of medical and dental practice, and effective communication represents a critical determinant of care quality. Establishing strong provider–patient communication not only builds trust but also improves treatment adherence and health outcomes. Despite its recognized value, communication is often underestimated in clinical contexts, where it is still perceived more as an "art" than a measurable scientific tool in the professional–patient relationship [1].

One of the mechanisms through which communication may exert clinical effects is the placebo effect, which extends beyond pharmacological interventions and can be elicited through verbal and non-verbal interactions. Placebo effects are well-documented, real, and robust phenomena, traditionally studied under laboratory conditions. They have been demonstrated both in association with sham treatments and in the enhancement of genuine therapeutic interventions [2-5]. Among the different placebo mechanisms, expectancy manipulation has received particular attention. For example, verbally suggesting that a treatment is an active analgesic has been shown to increase its perceived effectiveness compared to administering the same treatment without such suggestions [6, 7]. Similarly, expectancy manipulation underlies the positive effects reported with open-label placebos, where patients knowingly receive inert treatments but still experience measurable improvements [8].

A second, less explored mechanism relates to empathy in provider–patient encounters. The communication of empathy, through attentive listening, validation of concerns, and supportive verbal cues may also activate placebo-like responses. Although only a few researchers have investigated this pathway, growing evidence suggests that empathy has a significant impact on patient-reported outcomes [9-11]. A recent systematic review indicated that empathy may exert weaker effects on pain compared with expectancy manipulation; however, this conclusion is limited by methodological shortcomings in the primary studies reviewed [6]. Thus, the distinct and combined contributions of empathy and expectancy manipulation to clinical outcomes remain insufficiently understood.

Despite accumulating experimental evidence, communication strategies and placebo-related mechanisms have rarely been integrated into routine clinical practice [9]. In biomedical research, communication tends to be relegated to the domain of subjective "soft skills," whereas placebo effects are often dismissed as confounders in randomized controlled trials rather than being investigated as clinically relevant phenomena [1]. Consequently, the verbal, relational, and psychological dimensions of care remain underutilized as potential therapeutic tools.

In periodontology, the relevance of patient-centered outcomes has gained increasing recognition. Recent consensus reports on the treatment of stages I–III [12] and stage IV periodontitis [13] have highlighted the importance of incorporating patient-reported outcome measures (PROMs) into both diagnosis and therapy. Periodontal care frequently faces the challenge of patient adherence to preventive, diagnostic, and therapeutic regimens. Understanding how patients perceive clinical procedures, and whether communication strategies can influence their experiences and willingness to engage in treatment, is of paramount importance for both science and practice.

The present study addresses this gap by evaluating the separate and combined effects of expectancy and empathy manipulation on PROMs and patient-reported experience measures (PREMs) in adults undergoing clinical periodontal examination. By investigating these mechanisms within a real clinical setting, this trial seeks to clarify the potential role of communication as a therapeutic tool in dentistry and to provide new insights into strategies for improving patient engagement and experience in periodontal care.

Materials and Methods

Study design

This randomized, controlled, parallel-arm clinical trial followed a two-by-two factorial design, resulting in four comparison arms. The trial was designed to investigate whether manipulating patients' expectations and the expression of empathy during a periodontal clinical examination could improve patient-reported outcomes. The study protocol was reviewed and approved by the Research Ethics Committee (protocol number: 7.278.969, CAAE: 83405224.5.0000.5569) and conducted in accordance with the Declaration of Helsinki (1964) and its subsequent revisions,

most recently in 2013. All participants provided written informed consent prior to inclusion, following the requirements of Brazilian National Health Council Resolution 466/2012 .

This trial adhered to the CONSORT 2025 reporting guidelines [14], and the protocol was prospectively registered in the Brazilian Clinical Trials Registry (ReBEC). The central hypothesis was that enhanced provider–patient communication, achieved through expectancy and empathy manipulation, would make patients feel more confident and comfortable during the periodontal examination and potentially more receptive to subsequent treatment.

Participants

Participants were recruited from the Pernambuco Faculty of Health in Brazil. Eligible participants were adults aged 18 to 65 years with at least 20 natural teeth and classified as ASA I or II according to the American Society of Anesthesiologists, indicating no complex systemic comorbidities. Additional inclusion criteria required that patients be able to hear, speak, and understand Portuguese.

Exclusion criteria were defined to minimize potential confounding factors. Patients were excluded if they had prediabetes, type 1 or type 2 diabetes, a history of cognitive decline, dementia, or chronic pain, or if they had previously undergone a periodontal examination. Other exclusion criteria included receipt of periodontal treatment in the preceding six months, use of anti-inflammatory drugs or antibiotics within the last three months, and use of medications known to induce plaque-related gingival hyperplasia. Individuals requiring antibiotic prophylaxis prior to periodontal examination were also excluded. Data from participants who withdrew were retained in the analysis up to the point of exclusion, unless participants explicitly declined this option.

Randomization and study groups

A total of 24 participants were enrolled and randomly allocated into four equal groups (n = 6 per group). The groups included: (i) a control group, which underwent the periodontal examination without expectancy or empathy manipulation (standard care); (ii) an expectancy manipulation group; (iii) an empathy manipulation group; and (iv) a combined group that received both expectancy and empathy manipulation. Randomization was conducted using block randomization,

ensuring balanced allocation, and the sequence was generated in groups of up to three participants using the Jamovi software (https://www.jamovi.org). Patient scheduling was performed by clinic staff, and allocation concealment was maintained to minimize bias.

Intervention protocols

Expectancy manipulation consisted of providing participants with structured verbal information designed to shape their expectations of the periodontal examination. Patients were informed that the examination was important for detecting conditions such as gingivitis and periodontitis, that it lasted approximately 15–20 minutes, and that it was painless, did not require anesthesia, and would be immediately followed by the communication of results and treatment planning. Participants were also asked whether they were familiar with the procedure, and emphasis was placed on the clinical relevance of the exam for both oral and systemic health.

Empathy manipulation involved both verbal and non-verbal communication strategies aimed at creating a supportive and reassuring environment. Clinicians engaged in active listening, maintained eye contact, and avoided judgmental or interpretive comments. Empathic statements were used to normalize patient fears and reinforce reassurance, for example: "I understand your anxiety, but this procedure is simple and painless" or "I would feel the same way in your position, but there is no reason to worry today." Non-verbal communication included appropriate facial expressions, gentle touch on the forearm when explaining procedures, and the modulation of voice tone to convey calmness and warmth. The use of smiles, nods, and a welcoming demeanor were also integrated into the protocol. Consistency between verbal and non-verbal cues was emphasized to strengthen the empathic experience.

Blinding

The study design ensured that interventions and data collection were performed by separate researchers to maintain blinding. One researcher (P.E.B.S.G.) conducted the interventions, while another (J.M.S.) was responsible for outcome assessment. Calibration and oversight of blinding procedures were performed by a third researcher (D.S.B.), ensuring intra-examiner reliability.

Clinical and demographic data

Sociodemographic data were retrieved from participants' dental records. Periodontal clinical parameters included plaque index, calculus, probing depth, clinical attachment level, bleeding on probing, gingival recession, furcation involvement, tooth mobility, and suppuration. These were measured at six sites per tooth, following the current classification system of the American Academy of Periodontology and the European Federation of Periodontology [15].

Outcomes

The primary outcomes were patient-reported outcome measures (PROMs) and patient-reported experience measures (PREMs). PROMs included perceived and actual pain, discomfort, and anxiety, while PREMs focused on perceived empathy, satisfaction, mood, and overall experience. Patient expectations of pain or discomfort were recorded using a visual analogue scale (VAS) [16] before the examination, and post-exam pain intensity was measured with a numeric rating scale (NRS, 0–10) ranging from no pain to worst pain [17]. Anxiety was assessed immediately before and after the examination using the Dutch 10-item State subscale of the State-Trait Anxiety Inventory (STAI-state) [18] (scale from 1 to 4 ranging from not at all to very much).

Empathy was evaluated using the Consultation and Relational Empathy (CARE) measure [19], adapted by replacing "doctor" with "dentist." Perceived expectancy was assessed through a single-item VAS [1], while mood changes were measured pre- and post-examination using the Positive and Negative Affect Schedule (PANAS) (20 items, 1-5 scale ranging from not at all to very much) [20]. Patient satisfaction, overall pain assessment, perceived fear, and the likelihood of recommending the procedure or professional were also recorded using VAS or adapted items from the Consumer Quality Index (CQ-index) [21] (not at all to very much, range 0–10).

To validate the consistency of the interventions, the researcher's empathic personality trait was assessed using the Interpersonal Reactivity Index (IRI) [1], which evaluates four components of empathy: empathic concern, perspective-taking, fantasy, and personal distress.

Statistical analysis

Descriptive statistics included absolute and relative frequencies for categorical variables, and means with standard deviations for continuous variables. Sex was analyzed dichotomously, and

questionnaire responses were treated as ordinal or quantitative variables, depending on scale structure. Between-group comparisons for categorical data were performed using Pearson's chi-square test. Continuous or ordinal variables across three or more groups were compared using the Kruskal–Wallis test, while pairwise comparisons were conducted with the Mann–Whitney U test. Correlations between baseline (T0) and post-intervention (T1) measures were examined using Spearman's rank correlation coefficient. Statistical significance was set at $p \leq 0.05$. All analyses were performed using SPSS® (IBM Corp., Armonk, NY, USA).

Results

A total of 24 individuals aged between 19 and 62 years were enrolled in the study and distributed equally across the four experimental groups. The majority of participants were women; however, no significant differences in age or gender distribution were observed between groups (Tables 1 and 2). Clinically, none of the participants were diagnosed with periodontitis. Instead, all individuals exhibited bleeding on probing in less than 10% of periodontal sites, which was consistent with a diagnosis of periodontal health. This homogeneity in periodontal status minimized the risk of disease-related bias and allowed clearer interpretation of the communication-focused interventions.

When comparing psychological and experiential outcomes across groups, the Consultation and Relational Empathy (CARE) questionnaire revealed significant between-group differences ($p = 0.009$), particularly favoring the groups that received empathy-enhanced communication (Tables 2 and 5). Participants in these groups consistently reported higher levels of perceived empathy and a more positive evaluation of the professional-patient relationship. This finding reinforces the impact of empathy on PREMs.

Analysis of fear, satisfaction, and pain perception highlighted important patterns (Tables 3 and 4). Before the start of the periodontal examination, participants in groups 2 (expectancy manipulation) and 4 (combined intervention) reported greater anticipatory fear of the examination compared to groups 1 and 3. However, empathy-based communication appeared to counteract this effect. Indeed, fear measured after the periodontal examination was significantly reduced in the empathy manipulation group ($p = 0.034$), suggesting that empathic interaction effectively alleviated patient

anxiety associated with the examination. Satisfaction with the periodontal examination was also higher among patients exposed to empathy-enhanced communication, although this trend did not always reach statistical significance.

Interestingly, pain perception during or after the periogram showed a more complex pattern. Participants in the empathy manipulation group reported higher pain ratings compared to those in other groups. While empathy reduced fear and improved satisfaction, its combination with expectancy manipulation may have inadvertently heightened patients' sensitivity or awareness of the procedure, leading to a paradoxical increase in reported pain intensity. This underscores the complexity of psychological mechanisms influencing pain perception.

The likelihood of recommending the procedure or the professional was generally high across all groups, with median ratings close to the upper limit of the scale. These results indicate that, regardless of group allocation, participants recognized the value of the examination and expressed confidence in the professional delivering care. However, empathy manipulation again showed a positive trend, reinforcing the role of provider–patient communication in shaping patient loyalty and perceived quality of care.

Further descriptive analyses (Tables 5–7) confirmed that empathy-driven communication generated clinically relevant improvements across several PROMs and PREMs domains. Specifically, patients exposed to empathy reported lower fear, greater comfort, and higher satisfaction compared with those in the control or expectancy-only groups. The CQ-index and IRI questionnaires further supported these findings, demonstrating that patients perceived greater attentiveness, care, and interpersonal engagement when empathy protocols were applied.

Finally, within-group Spearman correlation analyses (Table 8) provided additional insight into the dynamic changes in patients' psychological states before (T0) and after (T1) the periodontal examination. Significant positive correlations were observed in several domains, indicating consistency in participant responses over time. However, negative correlations also emerged, particularly in groups exposed to expectancy manipulation, suggesting that positive anticipatory statements sometimes conflicted with actual procedural experiences. These discrepancies may help

explain the heightened pain ratings in the combined intervention group, as unmet expectations could exacerbate discomfort.

Overall, the findings demonstrate that empathy manipulation exerted the most robust and clinically relevant effects, particularly in reducing fear and enhancing satisfaction with periodontal examinations. Expectancy manipulation increased patient interest and engagement with the procedure but also carried the risk of intensifying perceived pain. The combination of both approaches highlighted the complex interplay between cognitive expectations and emotional reassurance in shaping patient-reported outcomes.

Discussion

This randomized clinical trial investigated whether manipulating communication through expectation management and empathy could generate placebo-like effects and improve the experience of patients undergoing periodontal examination. Our central aim was to evaluate how such communication strategies influence PROMs and PREMs, including fear, pain, discomfort, satisfaction, and acceptance of the clinical procedure. The results demonstrated that empathy-based communication significantly reduced fear and enhanced satisfaction, while expectation manipulation had more complex and sometimes counterproductive effects, underscoring the importance of adopting empathy-driven approaches in clinical practice.

The importance of communication as a core instrument in healthcare cannot be overstated. In dentistry, daily contact with patients involves not only technical procedures but also the establishment of trust, reassurance, and emotional support. Effective communication contributes to stronger professional–patient relationships, which in turn are closely linked to treatment adherence and patient well-being [1]. In the specific context of periodontal care, clinical examinations such as the periogram can provoke discomfort or anxiety. Previous studies have shown that the degree of gingival inflammation directly influences pain during probing: the greater the inflammation, the more discomfort patients experience [22]. However, in this study, all groups had comparable periodontal conditions, thereby allowing us to isolate the effect of communication strategies from clinical variability.

Pain and discomfort are inherently subjective, and their measurement presents methodological challenges. Tools such as the VAS or numerical rating scales are widely used to assess pain after surgical procedures, root sensitivity, or probing. Yet, variability in the design of these scales between studies often complicates data comparison. In addition, pain sensitivity can be influenced by age, with younger patients frequently reporting greater discomfort than older ones [22]. Given the necessity of periodic periodontal assessments for preventive and therapeutic purposes, strategies that minimize patients' discomfort and encourage their continued adherence are highly valuable.

The design of this study also emphasized the ethical challenges of manipulating communication in clinical research. While communication styles were intentionally varied between groups, all participants received care that respected ethical boundaries and avoided suboptimal interaction. Thus, the effects observed may represent an underestimation of the true potential of empathy- and expectation-based strategies, since no patient was deprived of basic standards of professional communication.

Our findings must also be considered in light of the placebo and nocebo phenomena. Placebo effects occur when positive expectations generate beneficial outcomes, while nocebo effects emerge when negative expectations induce harm or amplify discomfort [23-25]. These effects are mediated by verbal and non-verbal cues and can significantly shape patients' perception of pain, fear, and satisfaction. In the present trial, expectation manipulation alone did not reduce fear; in fact, it appeared to increase anticipatory anxiety and the perception that the exam might be painful. This suggests that overly detailed or anticipatory communication about possible discomfort can inadvertently activate nocebo responses. Conversely, empathy-based communication reduced fear and improved satisfaction, suggesting that reassurance, validation, and emotional connection may be more effective in mitigating anxiety than explicit expectation management.

Interestingly, although empathy reduced fear, it was also associated with higher pain reports during or after the periodontal examination. This apparent paradox may be explained by the heightened attentional focus that empathy generates. Patients who feel genuinely listened to and validated may become more self-aware and attuned to their bodily sensations, which could amplify the reporting

of discomfort. This finding aligns with previous evidence suggesting that empathy manipulation has a weaker impact on pain perception compared with expectation manipulation [6]. Nonetheless, the broader benefits of empathy, including reduced fear, increased satisfaction, and stronger engagement, suggest that it remains a more clinically advantageous strategy in patient care.

The concept of empathy itself is multifaceted and lacks full consensus in the scientific literature. Some scholars view it primarily as a cognitive attribute, the ability to adopt another person's perspective, while others emphasize its affective dimensions, such as sharing and validating emotions. Regardless of definition, empathy is widely recognized as a trainable skill that can reduce patients' emotional distress during appointments and foster better adherence to dental treatment [26]. In the present study, empathy proved to be a powerful mechanism for overcoming negative expectations and building trust, highlighting its clinical importance.

Placebo mechanisms resulting from communication are rarely explored in routine dental care and remain insufficiently studied in clinical trials [9]. Meanwhile, consensus reports on the treatment of stages I–IV periodontitis have underscored the urgent need for more research on PROMs in periodontal diagnosis and therapy [12, 13]. Since adherence to diagnostic and therapeutic regimens remains a significant challenge in periodontics, integrating strategies that enhance patient comfort and trust could substantially improve long-term treatment outcomes. This study contributes to filling that gap by demonstrating how simple, low-cost, and ethically acceptable communication strategies can meaningfully influence patients' experience of periodontal examinations.

As with all studies, certain limitations must be acknowledged. The relatively small sample size, characteristic of a pilot study, limits the statistical power and generalizability of findings. Moreover, while communication was systematically manipulated, it is impossible to fully standardize the nuances of human interaction, which may introduce variability. Despite these constraints, the trial offers important preliminary insights and provides a foundation for designing larger, more definitive studies. Importantly, the data generated here can inform sample size calculations and methodological refinements for future randomized clinical trials.

Conclusions

Enhanced provider–patient communication demonstrated a clear potential to elicit placebo-like effects in the context of periodontal examinations. Empathy-driven communication, in particular, effectively reduced fear, increased satisfaction, and fostered active participation in care, reinforcing its pivotal role in improving patient-reported outcomes. Expectation manipulation, on the other hand, appeared to increase anticipatory fear and may inadvertently trigger nocebo effects. Collectively, these findings emphasize the need to integrate structured communication strategies, especially empathy, into routine periodontal practice to enhance patient experience and adherence.

Conflict of interest: The authors declare that they have no conflict of interest.

Availability of data and material: The results of descriptive and inferential statistics are available in the manuscript in the form of text, tables and figures. The databases owned by the responsible researcher are available to the Journal or readers for consultation, if necessary.

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Ethical approval: This study was approved by the Research Ethics Committee, under the protocol: 7.278.969 (CAAE: 83405224.5.0000.5569). The research followed the Declaration of

Helsinki adopted in 1964 and seven amended versions (current, 2013). The participants of this research signed the Informed Consent Form, based on the resolution CNS nº 466/2012. The participants agreed to participate in the research, as attested by their signature of the Free and Informed Consent Form.

Informed consent: Informed consent was obtained from all individual participants included in the study.

Consent to publish: Patients signed informed consent regarding publishing their data.

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Table 1: Distribution of male and female gender among experimental groups

Chi-Square Tests									
	Value	**df**	**Asymp. Sig. (2-sided)**	**Symmetric Measures**					
Pearson Chi-Square	2.218[a]	3	0.528			**Value**	**Asymp. Std. Error[a]**	**Approx. T[b]**	**Approx. Sig.**
Likelihood Ratio	2.205	3	0.531	**Interval by Interval**	**Pearson's R**	-0.123	0.221	-0.581	0.567[c]
Linear-by-Linear Association	0.348	1	0.555	**Ordinal by Ordinal**	**Spearman Correlation**	-0.123	0.225	-0.581	0.567[c]
N of Valid Cases	24			**N of Valid Cases**		24			
a. 8 cells (100,0%) have expected count less than 5.				a. Not assuming the null hypothesis.					
The minimum expected count is 1,75.				b. Using the asymptotic standard error assuming the null hypothesis.					
				c. Based on normal approximation.					

Table 2: Variations in age, pain expectation and mean value of questionnaires between the experimental groups

Test Statistics[a,b]										
	Age	**Expectation of pain/discomfort T0**	**STAIstate PartI T0**	**STAIstate PartII T0**	**PANAS T0**	**Expectation of pain/discomfort T1**	**STAIstate PartI T1**	**STAIstate PartII T1**	**PANAS T1**	**CARE T1**
Chi-Square	3.726	2.831	2.346	2.614	0.326	2.634	2.961	5.209	4.030	11.507
df	3	3	3	3	3	3	3	3	3	3
Asymp. Sig.	0.293	0.418	0.504	0.455	0.955	0.452	0.398	0.157	0.258	0.009
a. Kruskal Wallis Test										
b. Grouping Variable: Group										

Table 3: Descriptive and comparative analysis between experimental groups (Mann-Whitney U test: mean rank) for fear, pain, and satisfaction

Ranks			
	Group	**N**	**Mean Rank**
Fear of the periogram at T0	**CTRL**	6	8.17
	Group 1	6	12.50
	Group 2	6	11.92
	Group 3	6	17.42
	Total	24	
Satisfied with the periogram (T1)	**CTRL**	6	11.50
	Group 1	6	11.50
	Group 2	6	13.50
	Group 3	6	13.50
	Total	24	
Pain during/after the periogram (T1)	**CTRL**	6	11.17
	Group 1	6	12.42
	Group 2	6	16.00
	Group 3	6	10.42
	Total	24	
Fear during/after the periogram (T1)	**CTRL**	6	11.33
	Group 1	6	12.42
	Group 2	6	8.00
	Group 3	6	18.25
	Total	24	
Likelihood of recommending the periogram (T1)	**CTRL**	6	14.00
	Group 1	6	10.17
	Group 2	6	14.00
	Group 3	6	11.83
	Total	24	
Likelihood of recommending the professional (T1)	**CTRL**	6	12.50
	Group 1	6	12.50
	Group 2	6	12.50
	Group 3	6	12.50
	Total	24	
Mann-Whitney U test			

Table 4: Descriptive and comparative analysis (Kruskal Wallis test) between experimental groups for fear, pain and satisfaction.

Test Statistics[a,b]						
	Fear of the periogram at T0	**Satisfied with the periogram (T1)**	**Pain during/after the periogram (T1)**	**Fear during/after the periogram (T1)**	**Likelihood of recommending the periogram (T1)**	**Likelihood of recommending the professional (T1)**
Chi-Square	5.639	2.091	3.429	8.703	3.778	0.000
df	3	3	3	3	3	3
Asymp. Sig.	0.131	0.554	0.330	0.034	0.286	1.000
a. Kruskal Wallis Test						
b. Grouping Variable: Group						

Table 5: Descriptive statistics of age and questions (Q) applied in research questionnaires stratified by experimental groups

Descriptive Statistics																	
		Group 1				**Group 2**				**Group 3**				**Group 4**			
	N	**Min.**	**Max.**	**Mean**	**StD**	**Min.**	**Max.**	**Mean**	**StD**	**Min.**	**Max.**	**Mean**	**StD**	**Min.**	**Max.**	**Mean**	**StD**
Age	6	22	62	49.50	18.053	23	59	34.83	13.920	39	52	43.17	5.115	19	46	35.33	11.361
Expectation of pain/discomfort T0	6	0	8	3.17	3.920	0	8	4.17	2.787	0	8	3.00	2.757	2	8	5.67	2.066
STAIstate PartI T0 Q1	6	1	4	3.00	1.095	1	4	2.17	1.169	2	4	3.33	0.816	1	4	2.67	1.211
STAIstate PartI T0 Q2	6	1	4	2.17	1.472	1	4	1.67	1.211	1	2	1.33	0.516	1	3	1.67	0.816
STAIstate PartI T0 Q3	6	2	4	3.33	0.816	2	3	2.83	0.408	3	4	3.50	0.548	1	4	2.67	1.033
STAIstate PartI T0 Q4	6	1	4	1.67	1.211	1	4	2.00	1.265	1	3	1.33	0.816	1	3	2.00	0.632
STAIstate PartI T0 Q5	6	1	4	3.00	1.265	1	3	2.00	0.632	2	4	3.00	0.894	2	4	2.67	0.816
STAIstate PartI T0 Q6	6	1	2	1.33	0.516	1	4	1.50	1.225	1	3	1.83	0.983	1	4	2.17	1.329
STAIstate PartI T0 Total	6	2.00	4.00	2.722	0.735	2.00	3.17	2.473	0.415	2.00	3.33	2.582	0.468	2.33	3.50	2.888	0.469
STAIstate PartII T0 Q1	6	2	4	3.50	0.837	1	4	3.00	1.095	2	4	3.33	0.816	2	4	3.33	0.816
STAIstate PartII T0 Q2	6	1	4	2.50	1.643	1	4	2.67	1.211	2	2	2.00	0.000	1	3	2.17	0.753
STAIstate PartII T0 Q3	6	2	4	3.17	0.983	1	4	2.83	0.983	2	4	3.17	0.753	2	4	3.17	0.753
STAIstate PartII T0 Q4	6	2	4	3.00	0.894	2	4	2.83	0.983	2	4	2.50	0.837	1	3	2.50	0.837
STAIstate PartII T0 Q5	6	1	3	2.00	0.894	2	4	2.50	0.837	1	4	1.83	1.329	1	3	1.83	0.753
STAIstate Part II T0 Q6	6	1	4	3.00	1.095	1	4	2.67	1.366	2	4	3.17	0.983	1	4	2.50	1.049

STAIstate PartII T0 Total	6	2.50	3.50	2.862	0.356	2.50	3.33	2.748	0.328	2.17	3.33	2.667	0.392	2.33	2.83	2.583	0.176
PANAS T0 Q1	6	1	5	3.67	1.506	3	5	4.17	0.753	3	5	4.33	0.816	3	5	4.00	0.632
PANAS T0 Q2	6	1	3	2.17	.753	1	4	1.50	1.225	1	3	2.17	0.983	1	4	2.33	1.211
PANAS T0 Q3	6	1	5	3.00	1.549	2	4	3.00	0.894	3	5	4.17	0.753	3	5	3.67	1.033
PANAS T0 Q4	5	1	2	1.20	0.447	1	4	1.50	1.225	1	2	1.50	0.548	1	4	2.17	1.169
PANAS T0 Q5	6	1	4	2.50	1.049	1	4	2.33	1.366	2	3	2.67	0.516	1	3	2.17	0.753
PANAS T0 Q6	6	1	3	1.83	0.983	1	5	2.00	1.673	1	2	1.50	0.548	1	4	2.17	1.169
PANAS T0 Q7	6	1	3	2.00	0.632	1	5	2.50	1.975	1	3	1.67	1.033	1	2	1.50	0.548
PANAS T0 Q8	6	1	4	2.17	1.329	1	2	1.33	0.516	1	2	1.50	0.548	1	3	1.67	0.816
PANAS T0 Q9	6	1	5	3.50	1.643	2	5	3.33	1.033	2	5	3.50	1.049	2	5	3.50	1.049
PANAS T0 Q10	6	1	5	2.83	1.472	2	5	3.83	0.983	1	5	2.83	1.602	2	5	3.33	1.033
PANAS T0 Q11	6	1	4	2.50	1.225	1	5	2.83	1.329	1	4	2.17	0.983	1	4	2.17	1.169
PANAS T0 Q12	6	1	5	3.33	1.506	1	5	2.83	1.722	1	4	2.67	1.366	1	5	3.00	1.414
PANAS T0 Q13	6	1	5	2.00	1.549	1	5	2.00	1.549	1	5	2.17	1.472	1	3	1.83	0.753
PANAS T0 Q14	6	2	5	3.83	1.472	2	5	3.50	1.049	3	5	4.00	0.894	2	5	3.33	1.033
PANAS T0 Q15	6	2	4	2.67	1.033	1	5	2.50	1.517	1	5	1.83	1.602	1	4	2.17	1.329
PANAS T0 Q16	6	2	5	3.67	1.506	3	5	4.67	0.816	3	5	4.67	0.816	3	5	3.50	0.837
PANAS T0 Q17	6	1	3	1.67	1.033	1	4	1.83	1.169	1	4	1.50	1.225	1	2	1.33	0.516
PANAS T0 Q18	6	3	5	4.00	0.632	2	5	3.33	1.211	3	5	4.17	0.753	3	5	4.00	0.894
PANAS T0 Q19	6	1	3	1.67	0.816	1	5	2.33	1.751	1	1	1.00	0.000	1	2	1.83	0.408
PANAS T0 Total	6	1.55	3.20	2.542	0.595	2.05	3.85	2.683	0.694	1.95	3.20	2.550	0.417	2.00	3.10	2.658	0.364
Fear of the periogramat T0	6	0	5	0.83	2.041	0	9	2.33	3.502	0	2	1.00	0.632	0	7	3.50	2.429
Expectation of pain/discomfort T1	6	0	8	1.67	3.141	0	6	2.67	2.944	0	5	1.00	2.000	0	7	3.00	2.449
STAI-state PartI T1 Q1	6	3	4	3.67	0.516	2	4	3.50	0.837	3	4	3.67	0.516	2	4	3.17	0.753
STAI-state PartI T Q12	6	1	2	1.17	0.408	1	1	1.00	0.000	1	1	1.00	0.000	1	4	1.83	1.169
STAI-state PartI T1 Q3	6	3	4	3.83	0.408	3	4	3.33	0.516	3	4	3.50	0.548	1	4	3.33	1.211
STAI-state PartI T1 Q4	6	1	3	1.33	0.816	1	2	1.33	0.516	1	1	1.00	0.000	1	2	1.17	0.408
STAI-state PartI T1 Q5	6	1	4	3.17	1.169	2	4	3.00	0.632	2	4	3.00	0.632	2	4	3.17	0.753
STAI-state PartI T1 Q6	6	1	2	1.17	0.408	1	3	1.33	0.816	1	1	1.00	0.000	1	2	1.33	0.516
STAI-state PartI T1 Total	6	2.00	2.67	2.388	0.229	2.00	2.67	2.252	0.275	1.83	2.33	2.193	0.195	2.17	2.50	2.333	0.148
STAI-state PartII T1 Q1	6	2	4	3.33	0.816	2	4	3.17	0.753	2	4	2.83	0.753	3	4	3.33	0.516
STAI-state PartII T1 Q2	6	1	4	2.50	1.378	1	4	2.83	1.329	1	2	1.67	0.516	1	3	1.83	0.983
STAI-state PartII T1 Q3	6	2	4	2.83	0.753	1	4	3.17	1.169	2	4	3.17	0.983	2	4	3.17	0.753
STAI-state PartII T1 Q4	6	1	4	2.50	1.049	2	4	2.67	0.816	1	4	2.50	1.049	1	3	2.50	0.837
STAI-state PartII T1 Q5	6	1	4	2.17	1.169	1	4	2.33	1.033	1	3	1.33	0.816	1	3	2.00	0.632
STAI-state PartII T1 Q6	6	1	4	2.17	1.169	1	4	2.67	1.506	1	4	2.67	1.211	2	4	3.00	0.632

STAI-state PartII T1 Total	6	2.17	3.00	2.583	0.311	2.00	3.33	2.807	0.476	2.00	2.67	2.362	0.246	2.50	3.00	2.638	0.221
PANAS T1 Q1	6	1	5	3.17	1.472	3	4	3.67	0.516	3	5	4.00	0.632	3	5	3.83	0.753
PANAS T1 Q2	6	1	2	1.33	0.516	1	5	1.83	1.602	1	2	1.17	0.408	1	2	1.67	0.516
PANAS T1 Q3	6	2	5	3.67	1.033	2	4	3.50	0.837	3	4	3.83	0.408	3	5	3.83	0.983
PANAS T1 Q4	6	1	3	1.50	0.837	1	5	1.67	1.633	1	1	1.00	0.000	1	2	1.67	0.516
PANAS T1 Q5	6	1	4	2.50	1.378	1	3	1.83	0.983	1	4	2.67	1.033	1	4	2.67	1.366
PANAS T1 Q6	6	1	2	1.17	0.408	1	5	1.67	1.633	1	2	1.33	0.516	1	3	1.83	0.753
PANAS T1 Q7	6	1	2	1.33	0.516	1	5	2.50	1.975	1	2	1.17	0.408	1	2	1.50	0.548
PANAS T1 Q8	6	1	3	1.67	0.816	1	2	1.33	0.516	1	2	1.33	0.516	1	2	1.17	0.408
PANAS T1 Q9	6	2	5	3.83	1.472	1	5	3.50	1.643	3	4	3.50	0.548	2	5	3.33	1.366
PANAS T1 Q10	6	2	5	3.17	1.329	1	5	3.83	1.602	1	4	2.67	1.211	2	5	3.17	1.169
PANAS T1 Q11	6	1	5	2.17	1.602	1	4	2.33	1.211	1	2	1.17	0.408	1	4	1.83	1.169
PANAS T1 Q12	6	1	5	2.83	1.722	1	4	2.50	1.225	1	4	2.67	1.211	1	4	2.83	1.169
PANAS T1 Q13	6	1	4	1.83	1.169	1	5	1.83	1.602	1	2	1.17	0.408	1	2	1.50	0.548
PANAS T1 Q14	6	2	5	3.50	1.049	1	5	3.00	1.414	2	5	3.50	1.049	2	5	3.33	1.366
PANAS T1 Q15	6	1	5	2.33	1.633	1	3	2.00	0.894	1	2	1.17	0.408	1	11	3.50	3.782
PANAS T1 Q16	6	2	5	3.83	1.329	3	5	4.17	0.753	2	5	4.00	1.095	3	5	3.83	0.983
PANAS T1 Q17	6	1	2	1.33	0.516	1	3	1.67	0.816	1	1	1.00	0.000	1	2	1.33	0.516
PANAS T1 Q18	6	1	5	3.83	1.602	3	5	4.00	0.894	3	5	4.17	0.753	2	5	3.83	1.169
PANAS T1 Q19	6	1	2	1.33	0.516	1	4	1.83	1.169	1	1	1.00	0.000	1	2	1.17	0.408
PANAS T1 Total	6	3.13	4.25	3.542	0.402	3.08	4.13	3.737	0.413	3.17	3.67	3.440	0.168	3.46	4.13	3.775	0.284
Satisfied with the periogram	6	9	10	9.83	0.408	9	10	9.83	0.408	10	10	10.00	0.000	10	10	10.00	0.000
Pain during/after the periogram	6	0	10	7.83	4.021	8	10	9.50	0.837	10	10	10.00	0.000	8	10	9.17	0.983
Fear during/after the periogram	6	0	5	1.00	2.000	0	7	2.00	3.162	0	0	0.00	0.000	0	7	3.83	3.189
Likelihood of recommending the periogram	6	10	10	10.00	0.000	9	10	9.67	0.516	10	10	10.00	0.000	8	10	9.67	0.816
Likelihood of recommending the professional (T1)	6	10	10	10.00	0.000	10	10	10.00	0.000	10	10	10.00	0.000	10	10	10.00	0.000
CARE T1 Q1	6	3	4	3.83	0.408	3	4	3.67	0.516	4	4	4.00	0.000	4	4	4.00	0.000
CARE T1 Q2	6	3	4	3.83	0.408	3	4	3.50	0.548	4	4	4.00	0.000	4	4	4.00	0.000
CARE T1 Q3	6	3	4	3.83	0.408	3	4	3.50	0.548	4	4	4.00	0.000	3	4	3.83	0.408
CARE T1 Q4	6	2	4	3.67	0.816	3	4	3.50	0.548	4	4	4.00	0.000	3	4	3.83	0.408
CARE T1 Q5	6	2	4	3.67	0.816	3	4	3.67	0.516	4	4	4.00	0.000	4	4	4.00	0.000
CARE T1 Q6	6	3	4	3.83	0.408	4	4	4.00	0.000	4	4	4.00	0.000	4	4	4.00	0.000
CARE T1 Q7	6	3	4	3.83	0.408	3	4	3.83	0.408	4	4	4.00	0.000	4	4	4.00	0.000
CARE T1 Q8	6	3	4	3.83	0.408	2	4	3.50	0.837	4	4	4.00	0.000	4	4	4.00	0.000
CARE T1 Q9	6	2	4	3.50	0.837	2	4	3.50	0.837	4	4	4.00	0.000	4	4	4.00	0.000
CARE T1 Q10	6	3	4	3.83	0.408	3	4	3.67	0.516	4	4	4.00	0.000	4	4	4.00	0.000
CARE T1 Q11	6	0	0	0.00	0.000	0	1	0.17	0.408	0	0	0.00	0.000	0	5	2.17	2.401
CARE T1 Total	6	2.55	3.64	3.427	0.436	2.91	3.64	3.318	0.309	3.64	3.64	3.640	0.000	3.64	4.09	3.805	0.201

Legend: Max, maximum; Min, minimum; StD, standard deviation.

Table 6: Descriptive statistics of questions (Q) from the CQ-index tool stratified by experimental groups

	Group 1			Group 2			Group 3			Group 4		
		Frequency	Percent		Frequency	Percent		Frequency	Percent		Frequency	Percent
CQ-index Q1	A	1	16.7	A	1	16.7	A	1	16.7	B	4	66.7
	B	4	66.7	B	4	66.7	B	5	83.3	D	2	33.3
	E	1	16.7	C	1	16.7	Total	6	100	Total	6	100
	Total	6	100	Total	6	100						
CQ-index Q2	A	1	16.7	A	4	66.7	A	3	50	B	1	16.7
	B	3	50.0	B	1	16.7	B	3	50	C	4	66.7
	C	1	16.7	D	1	16.7	Total	6	100	D	1	16.7
	D	1	16.7	Total	6	100				Total	6	100
	Total	6	100									
CQ-index Q3	A	1	16.7	A	2	33.3	A	3	50	A	2	33.3
	B	4	66.7	B	3	50	B	3	50	B	3	50
	D	1	16.7	C	1	16.7	Total	6	100	D	1	16.7
	Total	6	100	Total	6	100				Total	6	100
CQ-index Q4	A	2	33.3	A	2	33.3	A	4	66.7	A	3	50
	B	3	50	B	2	33.3	B	2	33.3	B	3	50
	E	1	16.7	C	1	16.7	Total	6	100	Total	6	100
	Total	6	100	D	1	16.7						
				Total	6	100						
CQ-index Q5	A	1	16.7	A	1	16.7	A	1	16.7	B	6	100
	B	4	66.7	B	5	83.3	B	5	83.3			
	D	1	16.7	total	6	100	Total	6	100			
	Total	6	100									
CQ-index Q6	A	3	50	A	3	50	A	3	50	A	2	33.3
	B	2	33.3	B	2	33.3	B	2	33.3	B	2	33.3
	D	1	16.7	D	1	16.7	C	1	16.7	D	2	33.3
	Total	6	100	Total	6	100	Total	6	100	Total	6	100
CQ-index Q7	A	5	83.3	A	3	50	A	5	83.3	A	4	66.7
	D	1	16.7	B	1	16.7	B	1	16.7	C	1	16.7
	Total	6	100	D	2	33.3	Total	6	100	D	1	16.7
				Total	6	100				Total	6	100
CQ-index Q8	A	4	66.7	A	2	33.3	A	5	83.3	A	3	50
	D	2	33.3	B	2	33.3	C	1	16.7	D	3	50
	Total	6	100	C	1	16.7	Total	6	100	Total	6	100
				D	1	16.7						
				Total	6	100						
CQ-index Q9	A	4	66.7	A	4	66.7	A	5	83.3	A	5	83.3
	B	1	16.7	B	1	16.7	B	1	16.7	C	1	16.7
	D	1	16.7	D	1	16.7	Total	6	100	Total	6	100
	Total	6	100	Total	6	100						
CQ-index Q10	A	1	16.7	A	2	33.3	A	3	50	A	3	50
	B	4	66.7	B	3	50	B	3	50	B	2	33.3
	C	1	16.7	C	1	16.7	Total	6	100	D	1	16.7
	Total	6	100	Total	6	100				Total	6	100
CQ-index Q11	A	2	33.3	A	2	33.3	A	1	16.7	B	4	66.7
	B	3	50	B	2	33.3	B	5	83.3	C	2	33.3
	E	1	16.7	C	1	16.7	Total	6	100	Total	6	100
	Total	6	100	D	1	16.7						
				Total	6	100						

CQ-index Q12	A	2	33.3	A	1	16.7	A	4	66.7	A	3	50
	B	2	33.3	B	3	50	B	2	33.3	B	2	33.3
	C	2	33.3	C	1	16.7	Total	6	100	C	1	16.7
	Total	6	100	D	1	16.7				Total	6	100
				Total	6	100						
CQ-index Q13	A	1	16.7	A	2	33.3	A	4	66.7	A	3	50
	B	4	66.7	B	3	50	B	2	33.3	B	2	33.3
	C	1	16.7	C	1	16.7	Total	6	100	C	1	16.7
	Total	6	100	Total	6	100		4	66.7	Total	6	100
CQ-index Q14	A	5	83.3	A	3	50	A	4	66.7	A	5	83.3
	D	1	16.7	B	1	16.7	B	2	33.3	C	1	16.7
	Total	6	100	D	2	33.3	Total	6	100	Total	6	100
				Total	6	100						
CQ-index Q15	A	3	50	A	3	50						
	B	1	16.7	B	2	33.3				A	3	50
	C	1	16.7	C	1	16.7				B	1	16.7
	D	1	16.7	Total	6	100	A	6	100	C	1	16.7
	Total	6	100							D	1	16.7
										Total	6	100

Table 7: Descriptive statistics of questions (Q) from the IRI tool stratified by experimental groups.

	Group 1			Group 2			Group 3			Group 4		
		Frequency	**Percent**		**Frequency**	**Percent**		**Frequency**	**Percent**		**Frequency**	**Percent**
IRI Q1	A	2	33.3	A	1	16.7	A	2	33.3	A	1	16.7
	C	4	66.7	C	4	66.7	B	2	33.3	B	4	66.7
	Total	6	100	D	1	16.7	C	2	33.3	C	1	16.7
				Total	6	100	Total	6	100	Total	6	100
IRI Q2	A	4	66.7	A	3	50	A	3	50	A	2	33.3
	B	1	16.7	B	2	33.3	B	2	33.3	B	3	50
	D	1	16.7	D	1	16.7	C	1	16.7	C	1	16.7
	Total	6	100	Total	6	100	Total	6	100	Total	6	100
IRI Q3	A	2	33.3	A	4	66.7	A	1	16.7	B	4	66.7
	B	2	33.3	B	2	33.3	B	5	83.3	C	2	33.3
	C	1	16.7	Total	6	100	Total	6	100	Total	6	100
	E	1	16.7									
	Total	6	100									
IRI Q4	B	5	83.3	A	1	16.7	B	6	100	B	3	50
	E	1	16.7	B	5	83.3				C	2	33.3
	Total	6	100	Total	6	100				D	1	16.7
										Total	6	100
IRI Q5	B	4	66.7	A	2	33.3	A	3	50	A	1	16.7
	D	2	33.3	B	3	50	B	3	50	B	2	33.3
	Total	6	100	D	1	16.7	Total	6	100	C	1	16.7
				Total	6	100				D	2	33.3
										Total	6	100
IRI Q6	A	2	33.3	A	2	33.3	A	3	50	A	1	16.7
	B	3	50	B	2	33.3	B	3	50	B	3	50

	E	1	16.7	C	2	33.3	Total	6	100	C	1	16.7
	Total	6	100	Total	6	100				D	1	16.7
										Total	6	100
IRI Q7	A	1	16.7	A	1	16.7	A	1	16.7	B	4	66.7
	B	4	66.7	B	5	83.3	B	4	66.7	C	1	16.7
	E	1	16.7	Total	6	100	C	1	16.7	D	1	16.7
	Total	6	100				Total	6	100	Total	6	100
IRI Q8	A	4	66.7	A	3	50	A	5	83.3	A	2	33.3
	C	1	16.7	B	2	33.3	C	1	16.7	C	1	16.7
	D	1	16.7	D	1	16.7	Total	6	100	D	3	50
	Total	6	100	Total	6	100				Total	6	100
IRI Q9	A	5	83.3	A	4	66.7	A	6	100	A	2	33.3
	D	1	16.7	D	2	33.3				B	1	16.7
	Total	6	100	Total	6	100				D	3	50
										Total	6	100
IRI Q10	A	3	50	A	2	33.3	A	3	50	A	3	50
	B	2	33.3	B	1	16.7	B	3	50	B	3	50
	E	1	16.7	C	1	16.7	Total	6	100	Total	6	100
	Total	6	100	D	2	33.3						
				Total	6	100						
IRI Q11	A	5	83.3	A	3	50	A	5	83.3	A	4	66.7
	D	1	16.7	C	1	16.7	C	1	16.7	B	1	16.7
	Total	6	100	D	2	33.3	Total	6	100	C	1	16.7
				Total	6	100				Total	6	100
IRI Q12	A	2	33.3	A	4	66.7	A	1	16.7	A	2	33.3
	B	3	50	B	2	33.3	B	5	83.3	B	2	33.3
	E	1	16.7	Total	6	100	Total	6	100	C	1	16.7
	Total	6	100							D	1	16.7
										Total	6	100
IRI Q13	A	3	50	A	3	50	A	5	83.3	A	1	16.7
	B	2	33.3	B	3	50	B	1	16.7	B	3	50
	C	1	16.7	Total	6	100	Total	6	100	D	2	33.3
	Total	6	100							Total	6	100

Table 8: Significant correlations between questions answered before and after the periogram, stratified by experimental group.

		Positive and statistically significant Spearman correlation (T0-T1)	Negative and statistically significant Spearman correlation (T0-T1)
Group 1	**STAI-state Part I**	Q3-5; Q5-5	-
	STAI-state Part II	Q2-2; Q4-4	Q5-1; Q1-2
	PANAS	Q2-2; Q4-2; Q11-2; Q15-2; Q17-2; Q1-3; Q7-3; Q9-3; Q12-3; Q14-3; Q18-3; Q2-4; Q4-4; Q8-4; Q11-4; Q13-4; Q15-4; Q17-4; Q4-6; Q8-8; Q1-9; Q3-9; Q9-9; Q14-9; Q1-10; Q9-10; Q16-10; Q2-11; Q11-11; Q13-11; Q15-11; Q17-11; Q16-12; Q7-14; Q10-14; Q18-14; Q2-17; Q4-17; Q11-17; Q15-17; Q17-17; Q12-18; Q14-18	Q13-3; Q13-9; Q2-18; Q11-18; Q13-18; Q15-18; Q17-18
Group 2	**STAI-state Part I**	-	Q3-6
	STAI-state Part II	Q6-3; Q5-4	Q5-3; Q3-5; Q5-6
	PANAS	Q5-2; Q6-2; Q17-2; Q2-4; Q4-4; Q2-6; Q4-6; Q7-7; Q15-7; Q17-7; Q18-7; Q19-7; Q3-8; Q5-8; Q6-8; Q13-13; Q14-14; Q13-15; Q5-17; Q6-17; Q7-17; Q15-17; Q17-17; Q18-17; Q19-17; Q7-19; Q17-19; Q19-19	Q3-2; Q12-2; Q13-3; Q12-8; Q8-14; Q20-14; Q9-16; Q13-16
Group 3	**STAI-state Part I**	Q1-3; Q3-3	-
	STAI-state Part II	-	-
	PANAS	Q17-2; Q16-3; Q12-9; Q10-10; Q17-11; Q12-12;	Q14-6; Q10-8; Q6-9; Q4-10; Q8-10; Q6-12; Q16-13; Q6-14; Q5-16; Q5-18
Group 4	**STAI-state Part I**	-	Q2-2; Q6-1; Q5-2; Q6-2; Q6-6
	STAI-state Part II	Q2-2; Q5-4; Q2-5; Q6;6	Q3-4; Q3-5; Q2-6
	PANAS	Q1-1; Q2-2; Q4-4; Q13-2; Q3-3; Q9-3; Q10-3; Q14-3; Q16-3; Q2-4; Q4-4; Q13-4; Q17-5; Q6-6; Q3-9, Q9-9; Q10-9; Q13-9; Q15-9; Q3-10; Q9-10; Q11-10; Q13-10; Q15-10; Q11-11; Q15-11; Q3-12; Q10-12; Q12-12; Q14-12; Q16-12; Q7-13; Q3-14; Q9-14; Q10-14; Q14-14; Q16-14; Q20-15; Q3-16; Q9-16; Q10-16; Q14-16; Q16-16; Q5-17; Q20-18	Q18-7

Legend: Q, question; -, questions significantly correlated between T0 and T1. Bicaudal Spearman correlation test.