

**Supplementary Table A: Linear regression analysis of predictors of QST data.**

| QST predictor                              | Noxious stimulus |              |                |       |                |              | Innocuous stimulus |              |                |       |                |              |                |              |                |              |
|--|------------------|--------------|----------------|-------|----------------|--------------|--------------------|--------------|----------------|-------|----------------|--------------|----------------|--------------|----------------|--------------|
|  | MPT              |              | PPT            |       | CPT            |              | HPT                |              | MDT            |       | VDT            |              | CDT            |              | WDT            |              |
|  | r <sup>2</sup>   | p            | r <sup>2</sup> | p     | r <sup>2</sup> | p            | r <sup>2</sup>     | p            | r <sup>2</sup> | p     | r <sup>2</sup> | p            | r <sup>2</sup> | p            | r <sup>2</sup> | p            |
| <b>QST site</b>                            |                  |              |                |       |                |              |                    |              |                |       |                |              |                |              |                |              |
| Upper vs. lower extremities                | 0.014            | 0.363        | 0.044          | 0.114 | 0.007          | 0.530        | 0.087              | <b>0.028</b> | 0.515          | 0.081 | 0.351          | <b>0.000</b> | 0.225          | <b>0.000</b> | 0.168          | <b>0.002</b> |
| <b>Demographics</b>                        |                  |              |                |       |                |              |                    |              |                |       |                |              |                |              |                |              |
| Gender                                     | 0.016            | 0.767        | 0.058          | 0.363 | 0.215          | <b>0.000</b> | 0.115              | 0.194        | 0.085          | 0.156 | 0.352          | 0.794        | 0.229          | 0.749        | 0.170          | 0.733        |
| Age  | 0.065            | 0.100        | 0.121          | 0.032 | 0.050          | 0.129        | 0.088              | 0.809        | 0.078          | 0.202 | 0.384          | 0.110        | 0.228          | 0.848        | 0.177          | 0.438        |
| <b>Markers of disease activity</b>         |                  |              |                |       |                |              |                    |              |                |       |                |              |                |              |                |              |
| Duration of rheumatology clinic attendance | 0.030            | 0.342        | 0.108          | 0.052 | 0.009          | 0.300        | 0.102              | 0.352        | 0.517          | 0.915 | 0.368          | 0.252        | 0.230          | 0.681        | 0.188          | 0.252        |
| No. of active joints                       | 0.024            | 0.465        | 0.044          | 0.976 | 0.097          | 0.026        | 0.111              | 0.237        | 0.056          | 0.060 | 0.352          | 0.833        | 0.242          | 0.328        | 0.206          | 0.118        |
| Erythrocyte Sedimentation Rate             | 0.006            | 0.928        | 0.024          | 0.691 | 0.005          | 0.655        | 0.051              | 0.827        | 0.051          | 0.926 | 0.332          | 0.533        | 0.207          | 0.703        | 0.147          | 0.817        |
| C-HAQ score                                | 0.029            | 0.622        | 0.062          | 0.617 | 0.003          | 0.951        | 0.046              | 0.948        | 0.194          | 0.186 | 0.363          | 0.396        | 0.263          | 0.274        | 0.204          | 0.401        |
| <b>Pain</b>                                |                  |              |                |       |                |              |                    |              |                |       |                |              |                |              |                |              |
| Patient pain assessment                    | 0.047            | 0.199        | 0.050          | 0.305 | 0.009          | 0.573        | 0.073              | 0.761        | 0.132          | 0.706 | 0.347          | 0.657        | 0.236          | 0.790        | 0.162          | 0.833        |
| Pain Frequency                             | 0.026            | 0.476        | 0.080          | 0.102 | 0.007          | 0.634        | 0.095              | 0.267        | 0.133          | 0.636 | 0.345          | 0.789        | 0.246          | 0.420        | 0.169          | 0.510        |
| <b>Psychological Function</b>              |                  |              |                |       |                |              |                    |              |                |       |                |              |                |              |                |              |
| FDI  | 0.026            | 0.418        | 0.045          | 0.816 | 0.034          | 0.234        | 0.120              | 0.160        | 0.053          | 0.784 | 0.351          | 0.863        | 0.294          | 0.030        | 0.187          | 0.270        |
| PCS  | 0.033            | 0.302        | 0.085          | 0.121 | 0.010          | 0.704        | 0.131              | 0.106        | 0.062          | 0.138 | 0.361          | 0.378        | 0.231          | 0.654        | 0.170          | 0.716        |
| Pediatric Symptom Checklist                | 0.018            | 0.645        | 0.048          | 0.648 | 0.060          | 0.092        | 0.147              | 0.057        | 0.055          | 0.672 | 0.362          | 0.348        | 0.276          | 0.066        | 0.175          | 0.488        |
| T-STAI                                     | 0.117            | <b>0.013</b> | 0.046          | 0.720 | 0.030          | 0.277        | 0.148              | 0.055        | 0.115          | 0.048 | 0.351          | 0.943        | 0.244          | 0.298        | 0.177          | 0.438        |
| PedsQL                                     | 0.023            | 0.562        | 0.104          | 0.062 | 0.008          | 0.553        | 0.096              | 0.549        | 0.151          | 0.244 | 0.358          | 0.630        | 0.320          | <b>0.012</b> | 0.179          | 0.766        |

Individual linear regression analyses in the arthritic joint were applied for each QST measure to evaluate possible predictors. Results are expressed as estimated region coefficients (r<sup>2</sup>) in each predictor value, and significance level (p-value). Bonferroni correction was used and p-values equal or <0.01 were considered significant. Bold typeface indicates significant values.

CDT – Cold Detection Threshold; CPT – Cold Pain Threshold; FDI – Functional Disability Index; HPT – Heat Pain Threshold; JIA – Juvenile Idiopathic Arthritis; MDT – Mechanical Detection Threshold; MPT – Mechanical Pain Threshold; PedsQL – Pediatric Quality of Life inventory-Multidimensional Fatigue Scale; PCS – Pain Catastrophizing Scale; PPT – Pressure Pain Threshold; QST – Quantitative Sensory Testing; T-STAI – Trait portion of the State-Trait Anxiety Inventory; VDT – Vibration Detection Threshold; WDT- Warm Detection Threshold.