Appendix 2

There are two sample data. In the data1 (Figure A1) independent variable and dependent variable correlates intra-individually and the tendency is common. On the other hand, in the data2 (Figure A2), independent variable and dependent variable correlates intra-individually but tendency is not common among participants. We applied multiple regression analysis for these two data. For data1, estimated common coefficient $a$ is -0.937, and p-value for the null hypothesis $a = 0$ is $1.5 \times 10^{-5}$. For data2, estimated common coefficient $a$ is -0.04429, and p-value for the null hypothesis $a = 0$ is 0.871. These example show that if the common coefficient $a$ is non-zero, it means that the dependent variable $y$ and the independent variable $x$ are correlated intra-individually and that tendency is common among participants as described in the main manuscript.

Figure A1: In case tendency is common among participants
Figure A2: In case tendency is not common among participants