

Relating physical activity, pleasure, and daily satisfaction of older adults: a pilot study

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Background

Literature has shown the potential of physical exercise in promoting well-being in the older population. However, the relation between everyday physical activity (PA) and positive emotions is still unknown.

Objective

To analyze the relation between physical activity and positive emotions in the daily living of the 65+ population.

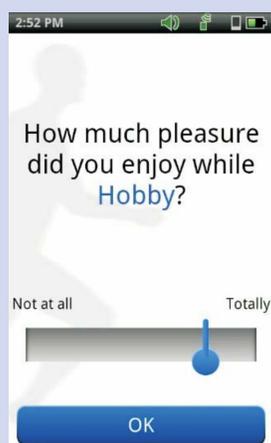


Fig. 1: Screenshot of smartphone application.

Methods

- 5 participants (67.4±2.19 yrs) monitored during 29±3 days
- **Objective measurements:** PA assessed with 3D accelerometer counting average IMA/min;
- **Subjective measurements:** Positive emotional factors (pleasure and daily satisfaction) assessed on smartphone (Fig. 1). Pleasure assessed by experience sampling (ES).

Results

- ES-level analysis: negative correlation between pleasure and PA ($r_{s_{all_sub}} = -.102^*$). Correlation within subject ranges from $r_{s_{max}} = 0.038$ to $r_{s_{min}} = -0.235^*$. (Fig. 2). Significant negative correlation between PA and hour of day ($r_{s_{all_sub}} = -.215^*$; $r_{s_{max}} = -0.135$; $r_{s_{min}} = -0.345^*$) (Fig. 3);
- Day-level analysis: average PA is not significantly related to pleasure or daily satisfaction.

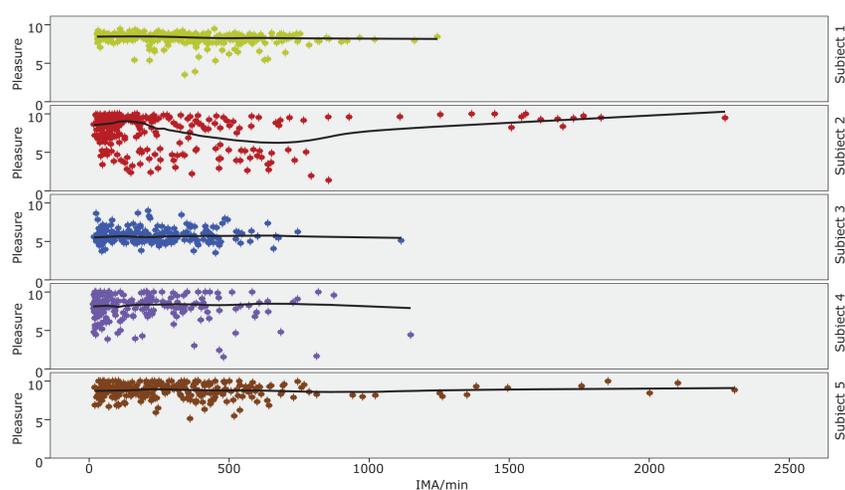


Fig. 2: Variation of pleasure with PA in each ES-event per subject and respective Loess fitting line. Physical activity calculated as the average IMA/min in a time window of 10 minutes centered in the moment of the answer in the smartphone.

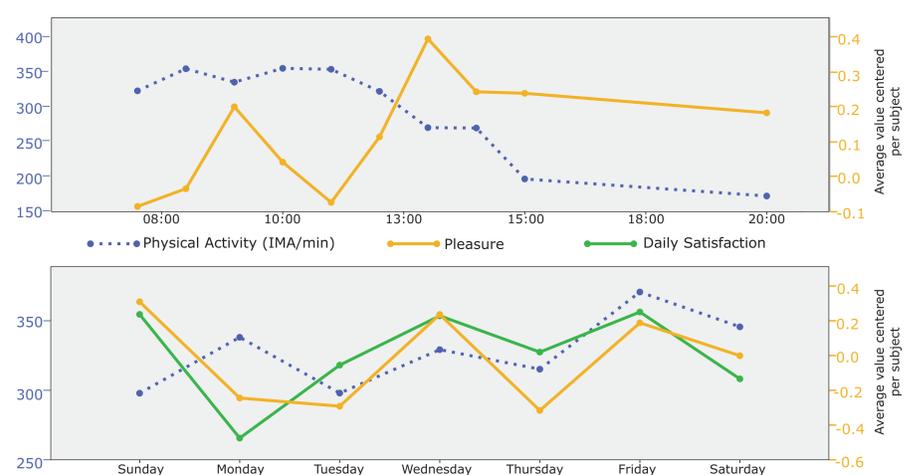


Fig. 3: Variation of objective- (PA) and subjective measurements (pleasure and daily satisfaction) within the day (top) and week (bottom) of all subjects. PA calculated as the average IMA/min per hour (top) and per day of the week (bottom).

Conclusion

Daily level of PA is not correlated with the two positive emotional factors chosen in our sample. We suggest analyze of other elements of daily living (e.g. location) as mediators when analyzing relation between PA and positive emotions within individuals. Interventions for promotion of physical activity based on positive emotions must be personalized.



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