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Objective measurement of the evolution of the distribution of physical activity in social times during lockdown against

COVID-19: a longitudinal follow-up of French adolescents

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BACKGROUND

Health crisis and lockdowns: life events disrupt physical activity (PA) lifestyles¹

Theoretical framework: ecological engagement in PA²

A new vision of time: chronological time (chronos) gives way to opportune time (kairos)³

PURPOSE & RESEARCH QUESTIONS

The aim of this study was to find out how temporal opportunities to practice a PA have evolved during lockdown.

What were the most opportune social times for the MVPA following lockdown?

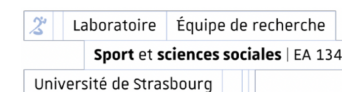
RESEARCH METHOD

Design: longitudinal follow-up of French adolescents between a normal (October 2020) and lockdown lifestyles (November 2020).

Population: before cleaning: 32 adolescents; after cleaning: 29 adolescents (age: 16.9±.59 y.o).

Measurements 1: adolescents worn an ActiGraph GT3X during on week and completed a daily digital diary to reconstruct the twelve social times³.

Data analysis: efficiency coefficients was calculated with the mean time in MVPA for each social time divided by time of each social time. A two way and repeated ANOVA was used in order to assess significant differences between each period. The threshold of significant was set at p<.05.



RESULTS

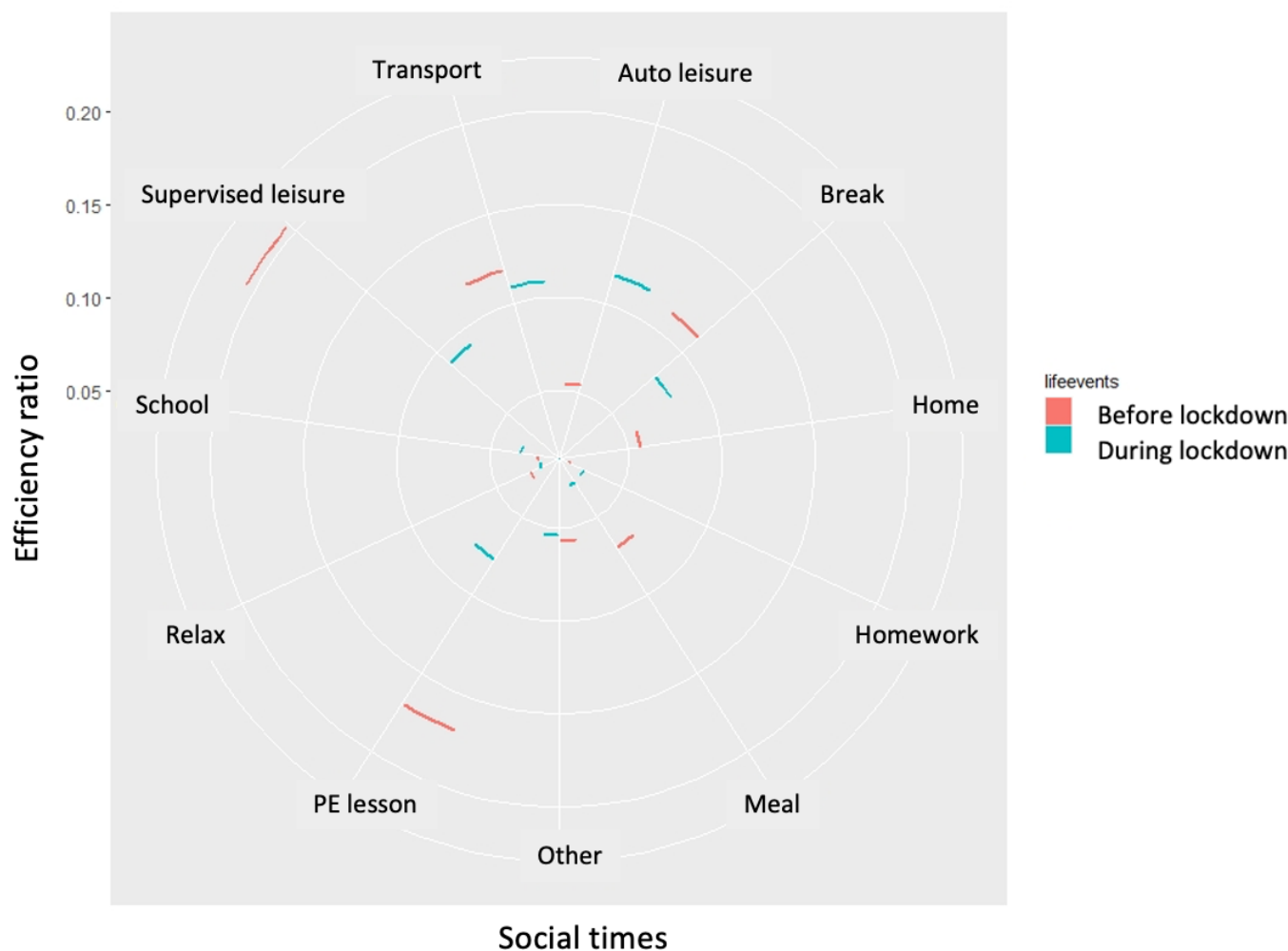


Table 1. Evolution of efficiency ratio (MVPA)

| Social times | Before lockdown | During lockdown | Lockdown effect |
|--------------------------------|--|-----------------|-------------------|
| Autonomous Leisure | .05±.06 | .12±.19 | NS |
| Break | .11±.08 | .08±.05 | NS |
| Home | .06±.06 | .01±.02 | NS |
| Homework | .02±.04 | .03±.03 | NS |
| Meal | .07±.05 | .03±.05 | NS |
| Other | .06±.09 | .05±.02 | NS |
| PE lesson | .17±.12 | .08±.14 | p<.05 [-.18;.0] |
| Relax | .03±.03 | .02±.02 | NS |
| School | .02±.02 | .03±.02 | NS |
| Supervised Leisure | .21±.21 | .09±.2 | p<.05 [-.21;-.02] |
| Transport | .12±.07 | .11±.06 | NS |
| Lockdown effect | p=.016 η ² _p =.02, small Pwr=.27 | | |
| Social times effect | p=5.38 ^{e-09} η ² _p =.17, medium Pwr=1 | | |
| Lockdown * social times effect | p=4.01 ^{e-03} η ² _p =.06, small Pwr=.77 | | |

CONCLUSION

We have shown that sanitary lockdown has reorganised the whole distribution of PA across social time, shifting the peak of PA from PE to autonomous leisure. However, the increase in autonomous leisure is not significant. On the basis of a temporal division, this study has highlighted which social times to target in order to reduce this loss of PA.

Rereferences

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