

Noção do tempo e parâmetros dos ritmos biológicos

Results:

In an experimental study, with 23 indifferent diurnal type *male students*, we tested the association between amplitude of the biological rhythms and the Time Awareness Questionnaire (TAQ) values.

The participants carried on a structured life time table during 13 days. On the 14th day they did not go to bed until 9h 30m of the 15th day (*phase inversion*).

Only core body temperature, heart rate and blood pressure show a relationship with time awareness: *the time awareness increases with the amplitudes of circadian rhythms of the core body temperature* ($r=0,66$; $p= .000$), *of the heart rate* ($r= 0,61$; $p= .000$) *and of the blood pressure* ($r= 0,51$; $p= .000$).

We found that only the sleep complaints ($t= -2,940$; $df= 21$; $p= .008$) and fatigue ($t= -3,886$; $df= 19$; $p= .001$) increase significantly after the night without sleep, and *it is the group with strong time awareness that show more increasing*.

The actigraph monitoring show that in the phase inversion, participants with *strong time awareness* presented poorer sleep quality than individuals with weak time awareness when they slept during the diurnal phase of the 15th day, and better wakefulness than the individuals with weak time awareness when they do not sleep during the night.

In an *ex post facto* study, with 100 Portuguese textile male shift workers, working in a weekly rotate system (00.00-08.00; 08.00-16.00; 16.00-00.00) during 20,97 years (mean; SD = 2,72), aged between 36 and 54 years ($M= 45$; $SD= 3,12$), we found that the participants with strong time awareness had less cardio-vascular and gastro-intestinal complaints, better physical and mental health, when compared with the participants with weak time awareness.

Published Work:

Allen-Gomes, A, Azevedo, MH, Folkard, S, Silva, C. (1998). Time awareness and biological rhythms. In Fundação Bial (Ed), *Aquém e além do cérebro*, Porto. Pág. 249-252.

Gomes A, Silva, C., Clemente V, Ferreira A, Coelho I, César H, Pissarra C, Azevedo M (1999). Reliability and factor analysis of the time awareness questionnaire (portuguese version). *Vigilia-Sueño, 11* (2), 105-110.

Queirós, A, Silva, C. & Silvério, JM (2000). Trabalho por turnos, diferenças individuais e ritmos circadianos cardiovasculares. *Psicologia: Teoria, Investigação e Prática, 5* (2), 313-328.

Silva, C., Rodrigues, PF, Klein, JM & Macedo, FB (2000). Investigação em cronobiologia. *Psicologia: Teoria, Investigação e Prática, 5* (2), 267-284.

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Silva, C., Santos, R, Silvério, JM, Macedo, FB, Losa, N & Pereira, AS (2000). Ritmos biológicos e tratamento da depressão: seguimento de doentes de consulta externa. *Psicologia: Teoria, Investigação e Prática*, 5 (2), 423-432.

Silva, C., Silvério, J., Rodrigues, P., Gomes, A., Macedo, F., Azevedo, M. & Moura, J. (**in revision**). Time awareness and amplitude of biological rhythms. *Chronobiology Internacyional - Marcel Decker, Inc, USA (ISSN: 0742-0528)*.

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