

# Time trends and inequalities of physical activity domains and sitting time in South America

- Werneck, André O.<sup>a</sup>;
- Araujo, Raphael HO<sup>b</sup>;
- Aguilar-Farias, Nicolas<sup>c</sup>;
- Ferrari, Gerson<sup>d</sup>;
- Brazo-Sayavera, Javier<sup>e, f</sup>;
- García-Witulski, Christian<sup>g, h</sup>;
- Dourado, Victor Z.<sup>i</sup>;
- Barboza, Luciana L.<sup>j</sup>;
- Silva, Ellen CM<sup>k</sup>;
- Sadarangani, Kabir P.<sup>l, m</sup>;
- Nieto-Martinez, Ramfis<sup>n, o, p</sup>;
- García-Hermoso, Antonio

## Abstract

**Background** We aimed to investigate time trends and inequalities of different physical activity (PA) domains and sitting time (ST) in adults from South American countries. **Methods** We included cross-sectional data of nationally representative surveys on adults ( $n = 597\,843$ ) from nine South American countries (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Peru, Uruguay, and Venezuela), with data collection time frames ranging from 2005 to 2020. Data on different PA domains (leisure-time, transport, and occupational) and ST were assessed through questionnaires. Trends according to education level (quintiles), gender (m/w), and age group (18-34 years, 35-49 years, 50-64 years) were estimated for the harmonized indicators of nonzero PA in the different domains,  $\geq 150$  min/week of total PA and  $\geq 8$  hours/d of ST. Results Chile (2009/2010 = 78.9% vs 2016/2017 = 70.5%), and Peru (2009/2010 = 78.6% vs 2011 = 69.6% reduced total PA, while Brazil (2013 = 57.3% vs 2019 = 67.0%) and Uruguay (2006 = 69.4% vs 2013 = 79.4%) increased, and Argentina and Venezuela maintained. There was an increasing trend for ST in Argentina, Peru, and Uruguay. Leisure-time PA increased in most countries (6/8 countries). Transport PA was relatively stable, while occupational PA presented mixed findings. Education inequalities increased over time for total and leisure-time PA, while age and gender inequalities were relatively constant. **Conclusions** Future South American countries' efforts may be warranted to promote PA and reduce ST in adults, while addressing inequalities when implementing actions. © 2022