VI Curso de Políticas y Programas para la Promoción de Hábitos y Estilos de Vida Saludable

28 de septiembre al 1 de octubre de 2017. Bogotá, Colombia

Medición de actividad física en acción

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GPAQ Grupo de Pesquisa em Atividade Física e Qualidade de Vida

SCIENTIA, VITA ET FIDES PUCPR

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Muchas gracias por la invitación

AGENDA

- Por qué evaluamos actividad física?
- Métodos utilizados en programas de promoción de actividad física
- Cuales métodos son utilizados para evaluar intervenciones?

Por qué evaluar actividad física?

Por qué evaluar actividad física?

Por qué evaluar actividad física?

- Validez
- Reproducibilidad
- Aplicabilidad
  - Facilidad del uso
  - Costo
- Reactividad
- Características de la población

Por qué evaluar actividad física?

Contexto

- Tempo libre
- Desplazamiento
- Hogar
- Trabajo

Dimensiones

- Tipo
- Frecuencia
- Intensidad
- Duración

Por qué evaluar actividad física?

Metodos utilizados

- IPAQ (corto y largo)
- GPAQ
- Recordatorios (Bouchard's PA Record)
- Monitor de la frecuencia cardiaca
- Monitores de actividad física
  - Podómetros y acelerómetros
- Observación sistemática

Cuales métodos son utilizados?

Caso 01

Un profesor de Educación Física quiere mirar la intensidad de una clase de rumba. La clase tiene 30 personas.

Cual método usted utilizaría para hacer la evaluación?

Cuales métodos son utilizados?

1) Escriba en su cuaderno cual método/instrumento
2) Cuales son sus ventajas y desventajas
3) Mire lo que su compañero escribió, intente descubrir el correcto
4) En su mesa discuta con su compañero cuales fueron las escogidas, intente descubrir el correcto

Cuales métodos son utilizados?

Caso 02

Un gestor necesita saber cuantas personas participan de una clase de rumba y el nivel de actividad física en el evento.

Cual método usted utilizaría para hacer la evaluación?

Cuales métodos son utilizados?

1) Escriba en su cuaderno cual método/instrumento
2) Cuales son sus ventajas y desventajas
3) Mire lo que su compañero escribió, intente descubrir el correcto
4) En su mesa discuta con su compañero cuales fueron las escogidas, intente descubrir el correcto

Cuales métodos son utilizados?

Caso 03

El Dr. Oscar Rojas necesitas saber los niveles de actividad física de la población adulta de un barrio que no tiene intervención del programa HEVS.

El quiere mirar cual es el grupo con mayor riesgo de inactividad física para poder determinar las prioridades.

Cual método usted utilizaría para hacer la evaluación?

Cuales métodos son utilizados?

1) Escriba en su cuaderno cual método/instrumento
2) Cuales son sus ventajas y desventajas
3) Mire lo que su compañero escribió, intente descubrir el correcto
4) En su mesa discuta con su compañero cuales fueron las escogidas, intente descubrir el correcto

Cuales métodos son utilizados?

Caso 04

Después de organizar un modelo lógico de evaluación, un profesor quiere mirar el efecto de intervenciones en clases de Educación Física en los niveles de actividad física durante las clases y en las actividades fuera de la escuela.

Cuales métodos son utilizados?

1) Escriba en su cuaderno cual método/instrumento
2) Cuales son sus ventajas y desventajas
3) Mire lo que su compañero escribió, intente descubrir el correcto
4) En su mesa discuta con su compañero cuales fueron las escogidas, intente descubrir el correcto

Cuales métodos son utilizados?

Motriz, Rio Claro, v.21 n.4, p.370-374, Oct./Dec. 2015 *DOI: http://dx.doi.org/10.1590/S1980-65742015000400005*

Original article (short paper)

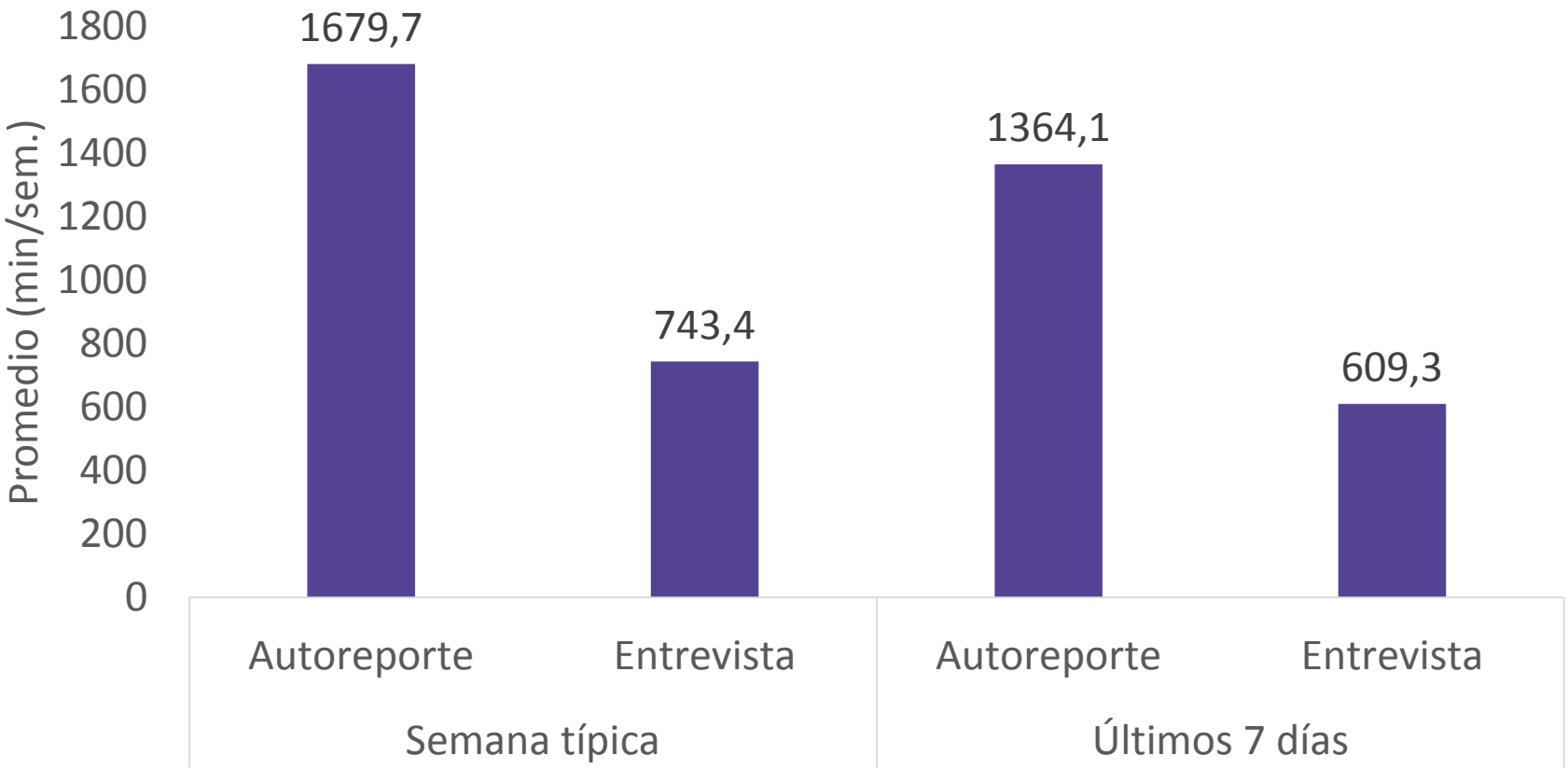
Mode of administration does matter: comparability study using IPAQ

Felipe de Magalhães Bandeira
Matheus Pintanel Freitas
Mitzi László
Marcelo Cozzensa da Silva
Pedro Curi Hallal
Airton José Rombaldi
Universidade Federal de Pelotas, Pelotas, RS, Brazil

Semana típica vs. Últimos 7 días vs. Auto-administrado vs. Entrevista

Cuales métodos son utilizados?

Promedio de tiempo de actividad física de acuerdo con la forma de aplicación (n=35)



Cuales métodos son utilizados?

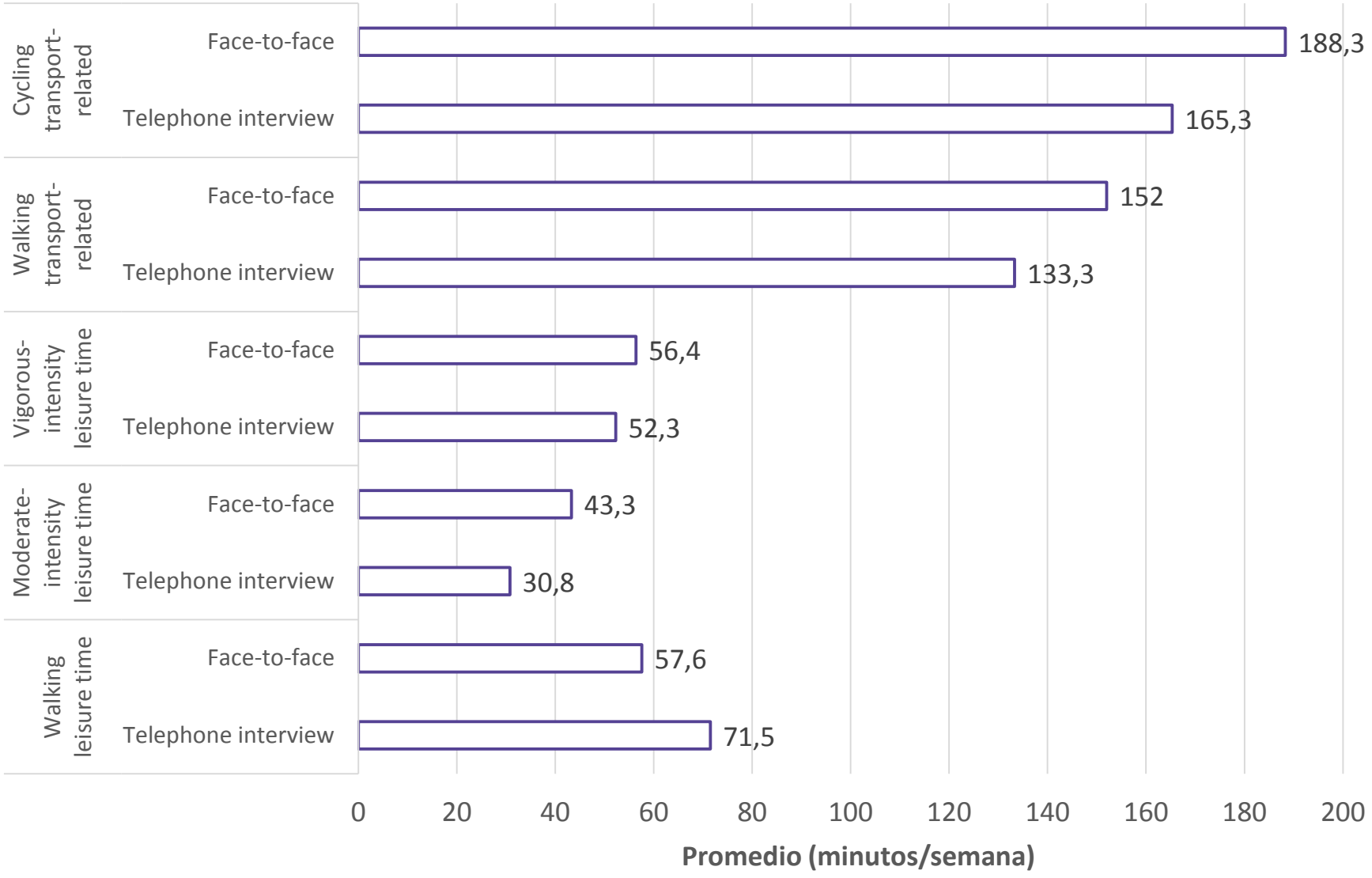
Validity and Reliability of the Telephone-Administered International Physical Activity Questionnaire in Brazil

Pedro C. Hallal, Eduardo Simoes, Felipe F. Reichert, Mario R. Azevedo, Luiz R. Ramos, Michael Pratt, and Ross C. Brownson

Purpose: To evaluate the validity and reliability of the telephone-administered long IPAQ version. ***Methods:*** The questionnaire was administered by telephone to adults on days 1 and 6. On day 1, the same questionnaire was administered by face-to-face interview, and accelerometers were delivered to subjects. Reliability was measured by comparing data collected using the telephone questionnaire on days 1 and 6. Validity was measured by comparing the telephone questionnaire data with (a) face-to-face questionnaire and (b) accelerometry. ***Results:*** Data from all instruments were available for 156 individuals. The Spearman correlation coefficient for telephone interview reliability was 0.92 for the leisure-time section of IPAQ, and 0.87 for the transport-related section of IPAQ. The telephone interview reliability kappa was 0.78. The Spearman correlation between the telephone-administered and the face-to-face questionnaire was 0.94 for the leisure-time and 0.82 for the transport-related section. The kappa was 0.69. There was a positive association between quartiles of accelerometer data and total telephone-administered IPAQ score ($P < .001$). The Spearman correlation was 0.22. ***Conclusions:*** The telephone-administered IPAQ presented almost perfect reliability and very high agreement with the face-to-face version. The agreement with accelerometer data were fair for the continuous score, but moderate for the categorical physical activity variables.

Keywords: accelerometry, measurement, physical activity, exercise, physical activity assessment

Cuales métodos son utilizados?



Cuales métodos son utilizados?

Comparison of Self-reported versus Accelerometer-Measured Physical Activity

SINDRE M. DYRSTAD[1], BJØRGE H. HANSEN[2], INGAR M. HOLME[2], and SIGMUND A. ANDERSSEN[2]

[1]Department of Education and Sport Science, University of Stavanger, Stavanger, NORWAY; and [2]Department of Sports Medicine, Norwegian School of Sport Sciences, Oslo, NORWAY

ABSTRACT

DYRSTAD, S. M., B. H. HANSEN, I. M. HOLME, and S. A. ANDERSSEN. Comparison of Self-reported versus Accelerometer-Measured Physical Activity. *Med. Sci. Sports Exerc.*, Vol. 46, No. 1, pp. 99–106, 2014. **Introduction**: The International Physical Activity Questionnaire (IPAQ) is one of the most widely used questionnaires to assess physical activity (PA). Validation studies for the IPAQ have been executed, but still there is a need for studies comparing absolute values between IPAQ and accelerometer in large population studies. **Purpose**: To compare PA and sedentary time from the self-administered, short version of the IPAQ with data from ActiGraph accelerometer in a large national sample. **Methods**: A total of 1751 adults (19–84 yr) wore an accelerometer (ActiGraph GT1M) for seven consecutive days and completed the IPAQ–Short Form. Sedentary time, total PA, and time spent in moderate to vigorous activity were compared in relation to sex, age, and education. **Results**: Men and women reported, on average, 131 $min \cdot d^{-1}$ (SE = 4 $min \cdot d^{-1}$) less sedentary time compared with the accelerometer measurements. The difference between self-reported and measured sedentary time and vigorous-intensity PA was greatest among men with a lower education level and for men 65 yr and older. Although men reported 47% more moderate to vigorous physical activity (MVPA) compared with women, there were no differences between sexes in accelerometer-determined MVPA. Accelerometer-determined moderate PA was reduced from 110 to 42 $min \cdot d^{-1}$ (62%) when analyzed in blocks of 10 min ($P < 0.0001$) compared with 1-min blocks. The main correlation coefficients between self-reported variables and accelerometer measures of physical activity were between 0.20 and 0.46. **Conclusions**: The participants report through IPAQ–Short Form more vigorous PA and less sedentary time compared with the accelerometer. The difference between self-reported and accelerometer-measured MVPA increased with higher activity and intensity levels. Associations between the methods were affected by sex, age, and education, but not body mass index. **Key Words:** IPAQ, ADULTS, MET-MINUTES, MONITORING, NATIONAL SAMPLE, PUBLIC HEALTH

Cuales métodos son utilizados?

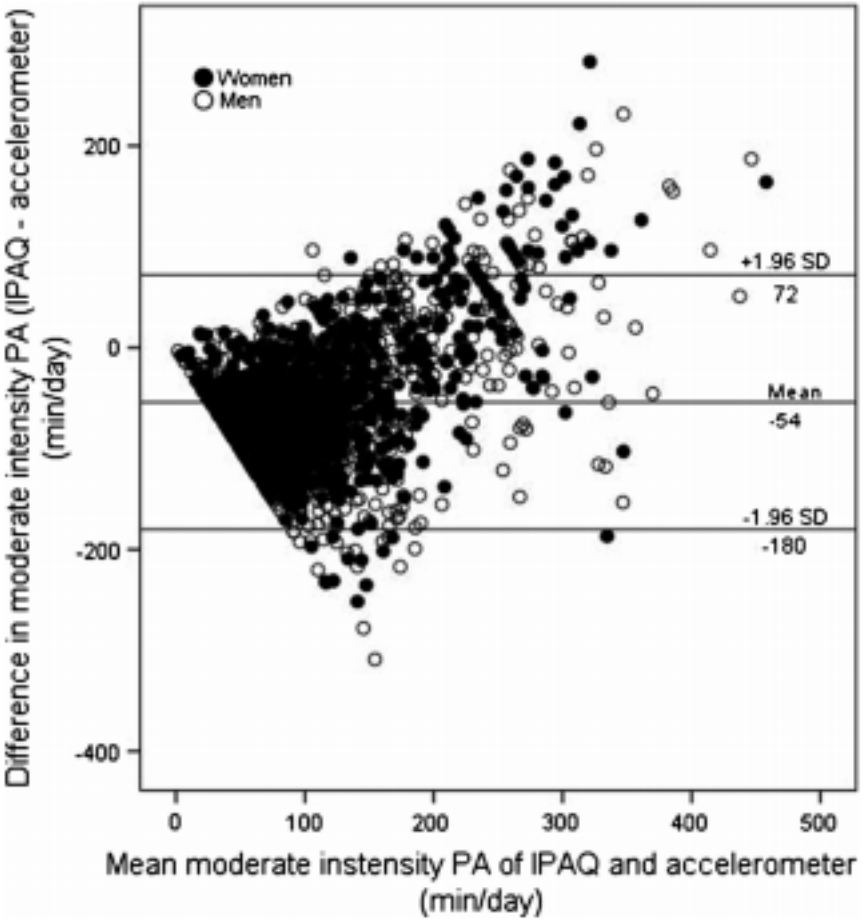


FIGURE 1—Bland–Altman plot for minutes per day of walking + moderate-intensity PA assessed by IPAQ and moderate-intensity PA from accelerometer, defined as 760–5998 cpm (N = 1751). The difference between the IPAQ and the accelerometer is plotted against the mean of the two estimates. Mean difference and limits of agreement (SD = 1.96) are shown in the figure.

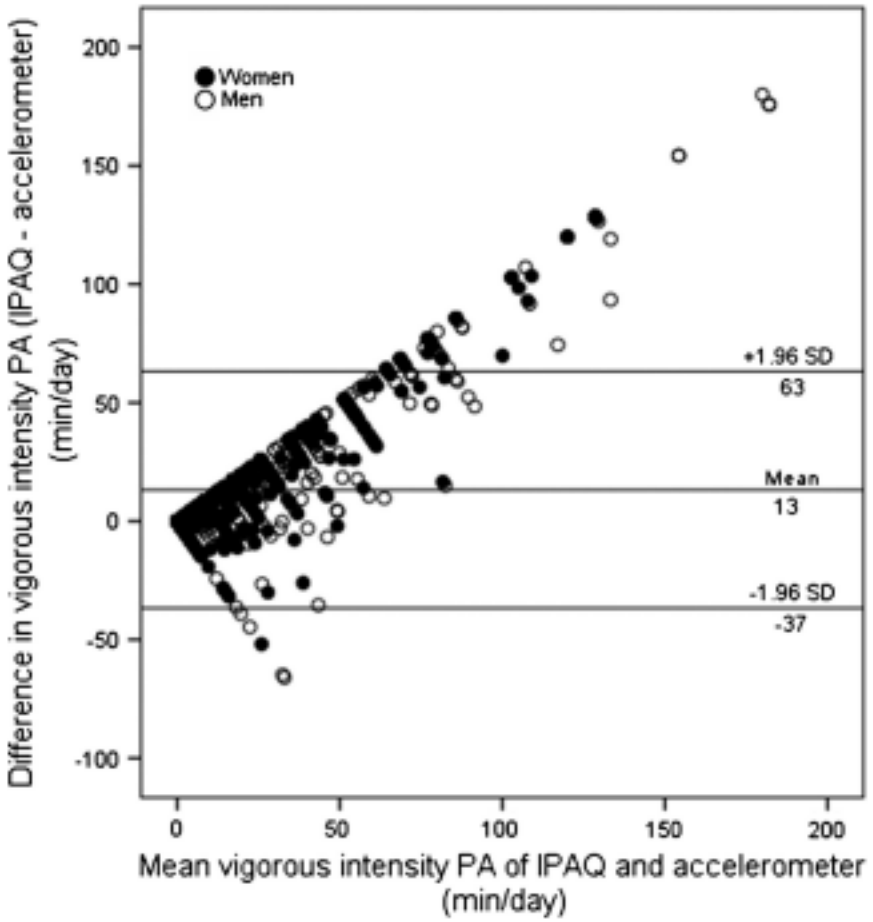


FIGURE 2—Bland–Altman plot for minutes per day of vigorous-intensity PA assessed by IPAQ and accelerometer, defined as >5998 cpm (N = 1751). The difference between the IPAQ and the accelerometer is plotted against the mean of the two estimates. Mean difference and limits of agreement (SD = 1.96) are shown in the figure.

Cuales métodos son utilizados?

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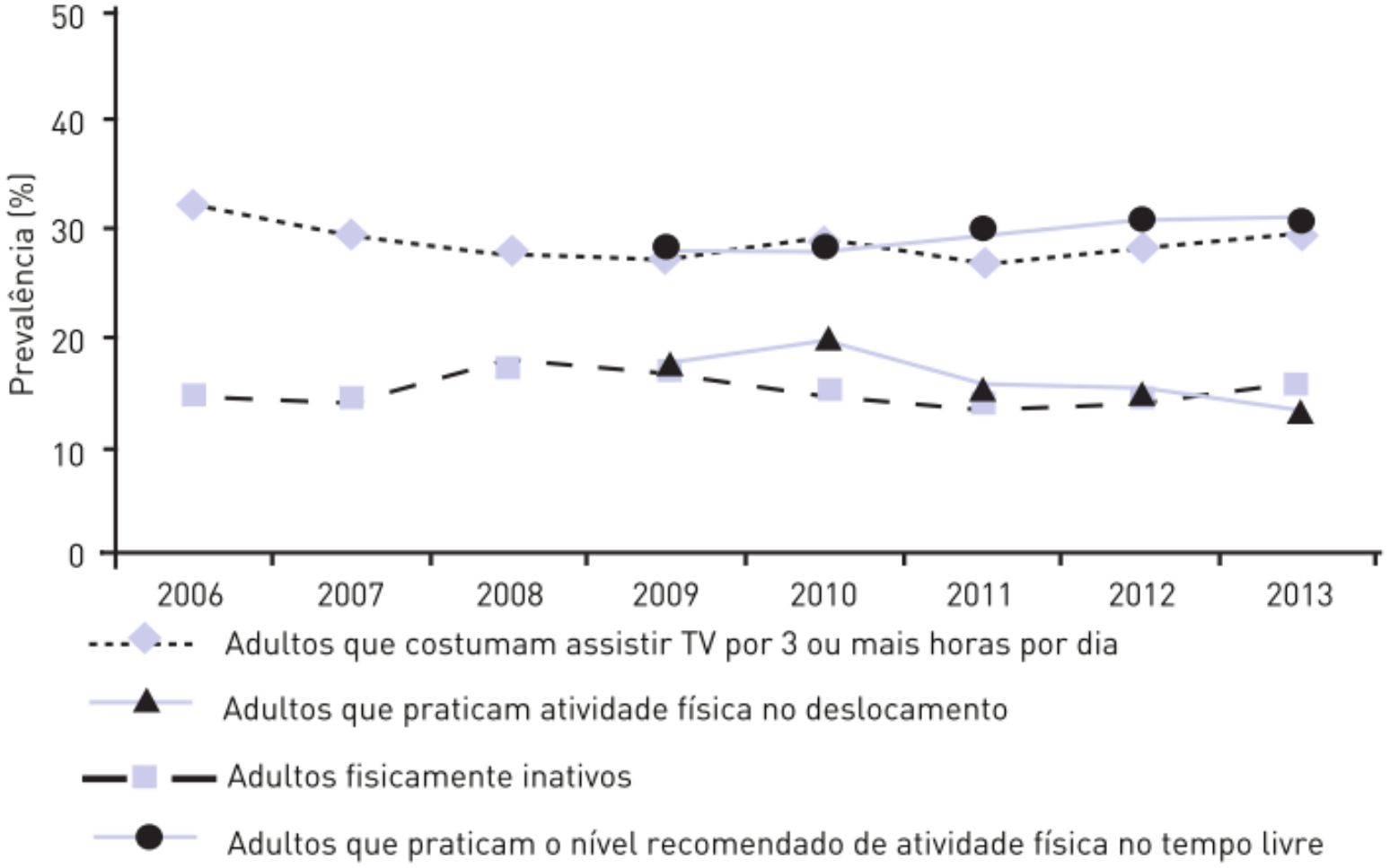


Malta DC, Andrade SSA, Santos MAS, Rodrigues GBA, Mielke GI. Tendências dos indicadores de atividade física em adultos : Conjunto de capitais do Brasil 2006-2013. *Rev Bras Ativ Fis Saude* 2015; 20(2): 141–151.

Cuales métodos son utilizados?

Assessing Physical Activity in Public Parks in Brazil Using Systematic Observation

Diana C. Parra, MPH, Thomas L. McKenzie, PhD, MSc, Isabela C. Ribeiro, PhD, MSc, Adriano A. Ferreira Hino, BA, Mariah Dreisinger, MPH, Kathryn Coniglio, MPH, Marcia Munk, MSc, Ross C. Brownson, PhD, Michael Pratt, MD, PhD, Christine M. Hoehner, PhD, MSPH, and Eduardo J. Simoes, MD, MPH

Physical activity during leisure time has particular relevance for public health practitioners because of its important role in preventing chronic disease and improving mental health, perceived health status, and quality of life.[1,2] Leisure-time physical activity can also contribute to increased social interactions and social support and promote a greater sense of community cohesion.[1] However, despite its well-known benefits, the prevalence of leisure-time physical activity continues to be low in many populations, particularly in low-income countries.[3]

Objectives. We assessed park use in Recife, Brazil, and differences in physical activity and occupation rates in public parks with and without the Academia da Cidade Program (ACP), which provides cost-free, supervised physical activity classes.

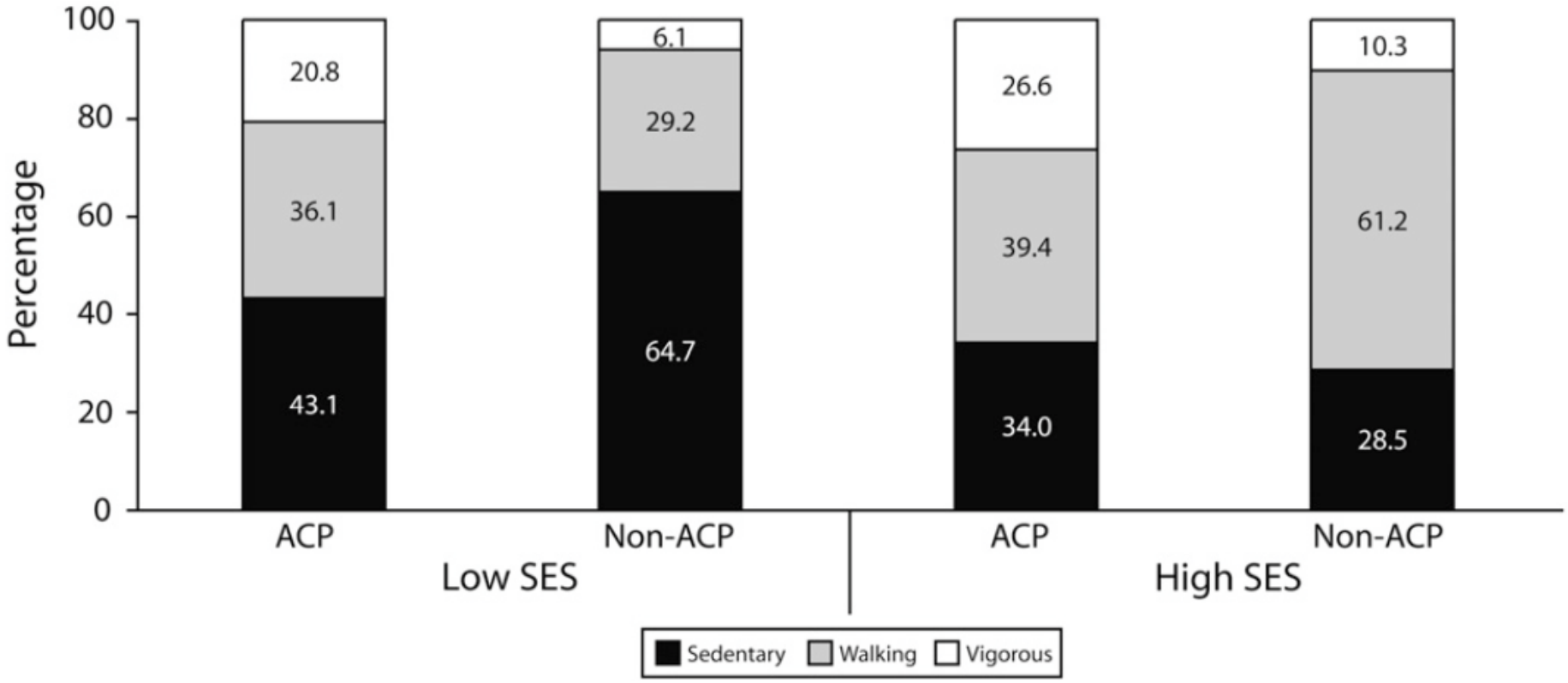
Methods. We used the System for Observing Play and Recreation in Communities (SOPARC) in 128 targeted areas in 10 park sites (5 ACP sites, 5 non-ACP sites) to obtain data on the number of users and their physical activity levels and estimated age. Each area was assessed 4 times a day for 11 days over a 4-week period.

Results. A total of 32 974 people were observed during 5589 observation visits to target areas. People using ACP parks were more likely to be seen engaging in moderate-to-vigorous (64% vs 49%) and vigorous (25% vs 10%) physical activity. Relatively, more participants in ACP sites than in non-ACP sites were females

Cuales métodos son utilizados?

Cuales métodos son utilizados?

Actividade física em parques con e sen la presença del programa "ADC"



Parra et al. **Assessing physical activity in public spaces in Brazil using systematic observation.** American Journal of Public Health.

Cuales métodos son utilizados?

International Journal of
Environmental Research and Public Health

MDPI

Article

The Recreovía of Bogotá, a Community-Based Physical Activity Program to Promote Physical Activity among Women: Baseline Results of the Natural Experiment Al Ritmo de las Comunidades

Olga L. Sarmiento [1,*], Ana Paola Rios [1], Diana C. Paez [1], Karoll Quijano [1] and Rogério César Fermino [2,3]

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3 Research Group of Physical Activity and Quality of Life (GPAQ), Pontifical Catholic University of Parana, Imaculada Conceição St, 1.155, Prado Velho, Curitiba CEP 80215-901, PR, Brazil

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Cuales métodos son utilizados?

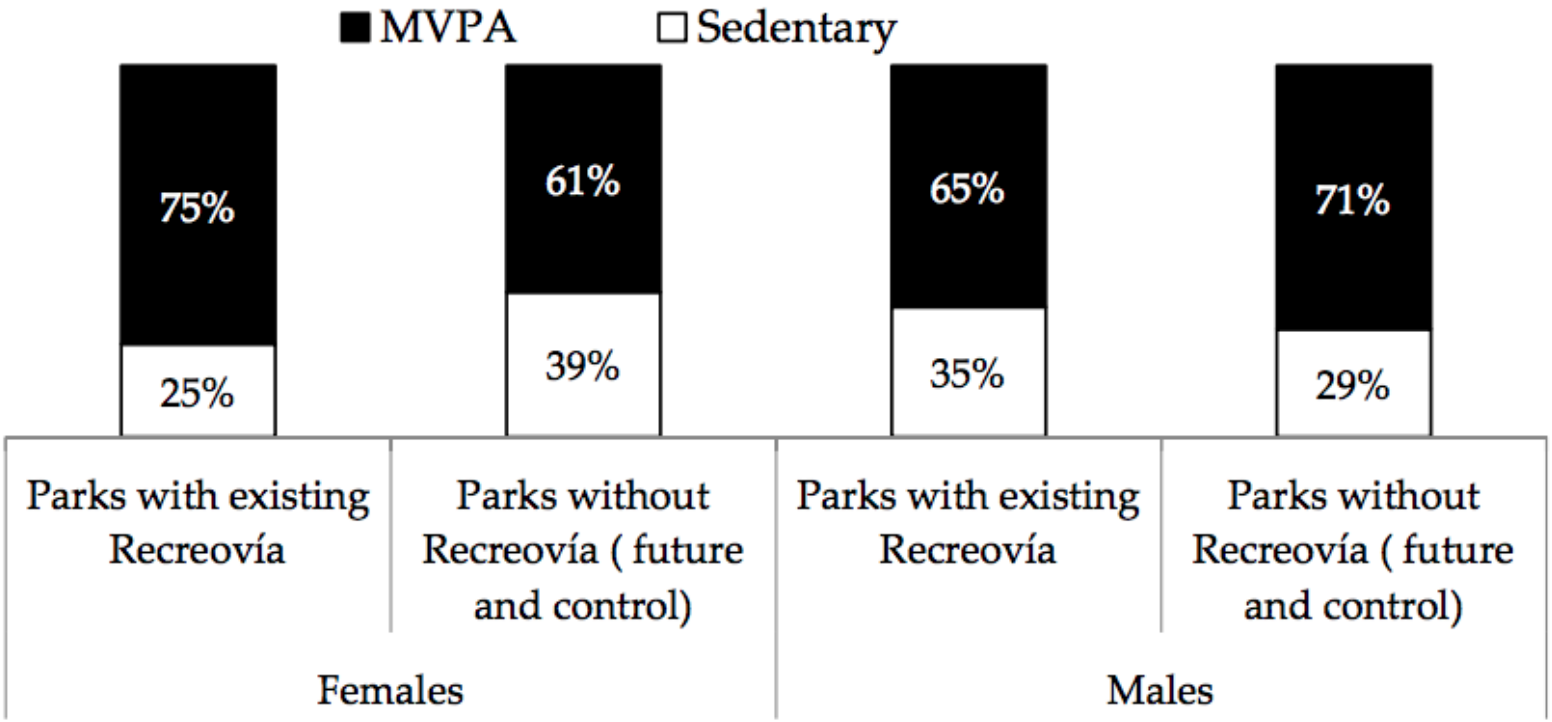


Figure 4. Physical activity intensity level (MVPA: moderate-to-vigorous physical activity) by gender and park program (existing Recreovía vs. no Recreovía program) in Bogotá, Colombia, 2013.

Cuales métodos son utilizados?

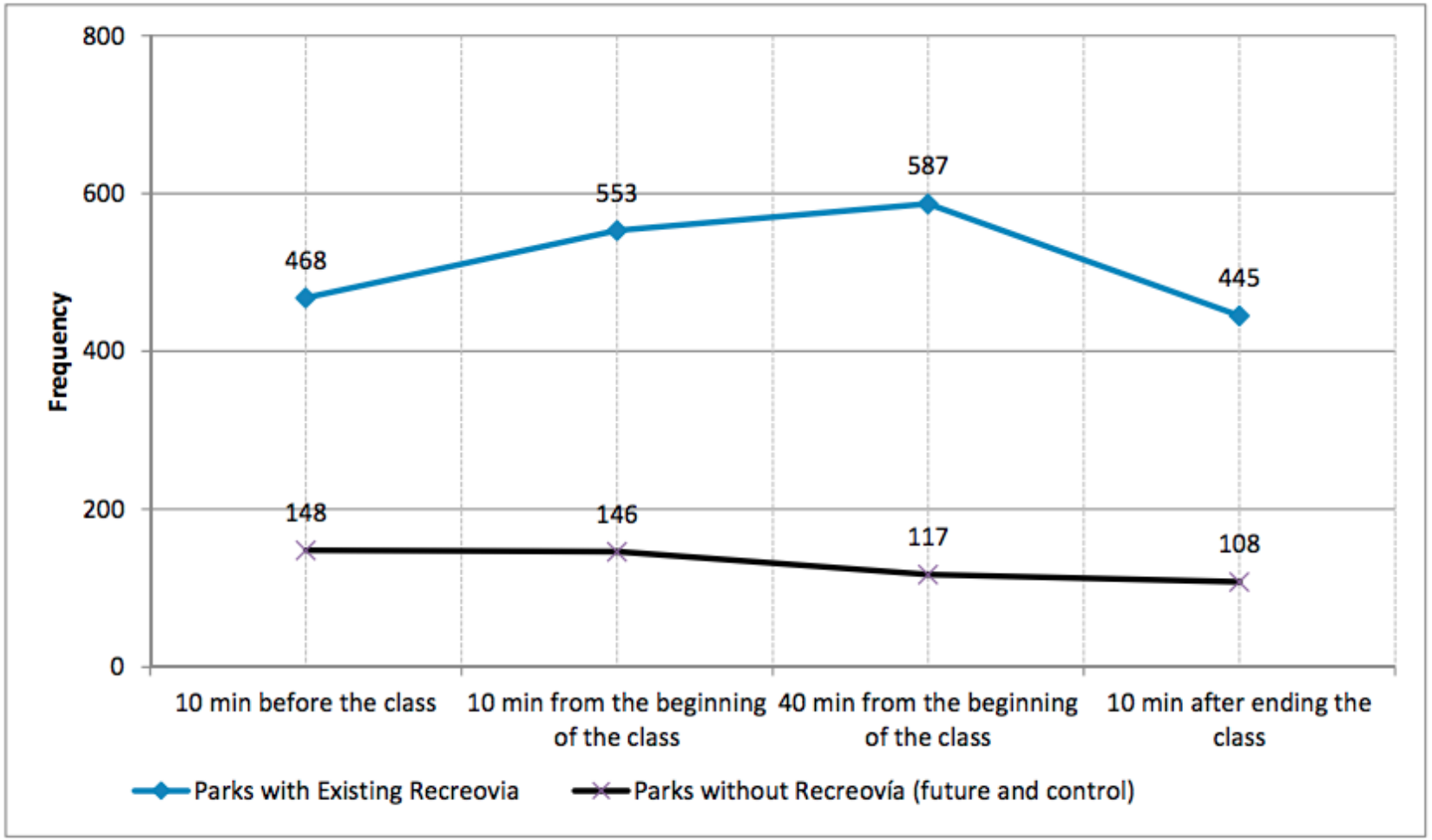


Figure 5. Number of participants observed in the potential target areas for aerobics in parks before, during and after the Recreovía park program (existing Recreovía vs. no Recreovía program) in Bogotá, Colombia, 2013.

Cuales métodos son utilizados?

The Ciclovia and Cicloruta Programs: Promising Interventions to Promote Physical Activity and Social Capital in Bogotá, Colombia

Andrea Torres, MPH, Olga L. Sarmiento, MD, PhD, Christine Stauber, PhD, and Roberto Zarama, PhD

The extensively documented health benefits of regular physical activity (PA)[1] and its relevance for global public health[2,3] have brought increasing attention to the implementation of community-based strategies in Bogotá[4,5] and other Latin American cities.[5,6] Evidence suggests that the implementation of strategies to enhance built and social environments is essential to effectively increase PA and to improve health and quality of life.[7,8]

Bogotá has been recognized for the implementation of policies and built envi

Objectives. V closed to moto paths) prograr participation w *Methods.* W intercept surve 1000 Cicloruta *Results.* Mos in leisure time transportation safety (51.2% r ratio = 2.0; 95%

Outcome Variables

For the Cicloruta survey, we analyzed PA as the outcome variable. We used the long version of the International Physical Activity Questionnaire[38] to assess PA levels by domain as suggested by the scoring protocol.[38,39] However, we only considered the leisure time (LTPA) and transportation domains in this study.[40] Cycling for transportation was the

Cuales métodos son utilizados?

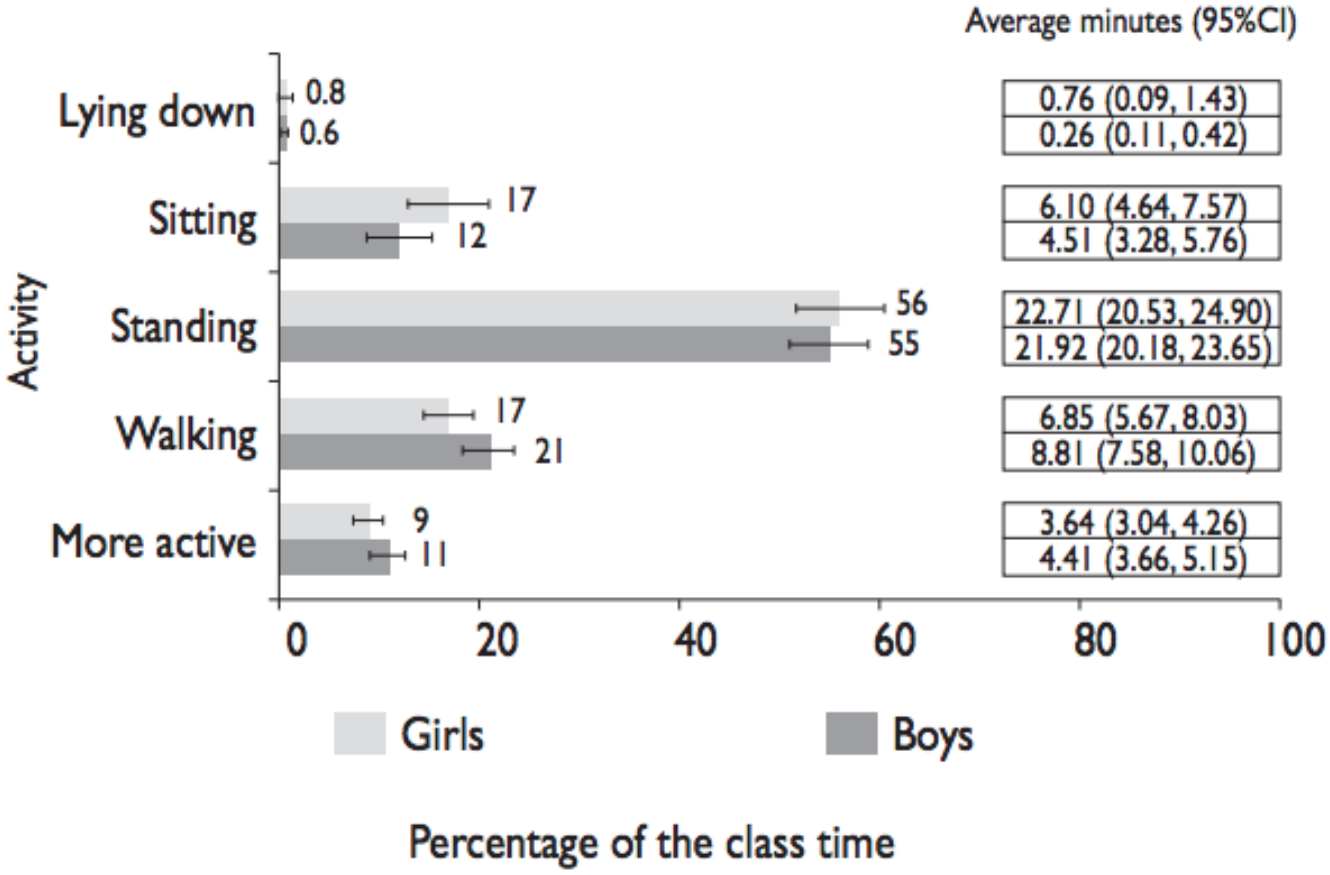
ARTÍCULO ORIGINAL

Physical activity during the school day in public primary schools in Mexico City

Nancy Jennings-Aburto, PhD,[I] Fernanda Nava, MS,[I] Anabelle Bonvecchio, MPH,[I]
Margarita Safdie, MS,[I] Inés González-Casanova, BS,[I] Tiffany Gust, MPH,[I] Juan Rivera, PhD.[I]

Objetivo: Evaluar los niveles de la actividad física (AF) en niños escolares y describir el entorno escolar relacionado con la AF

Cuales métodos son utilizados?



* Measured through direct observation of students in a sample of 12 public primary school in Mexico City between November 2005 and March 2006

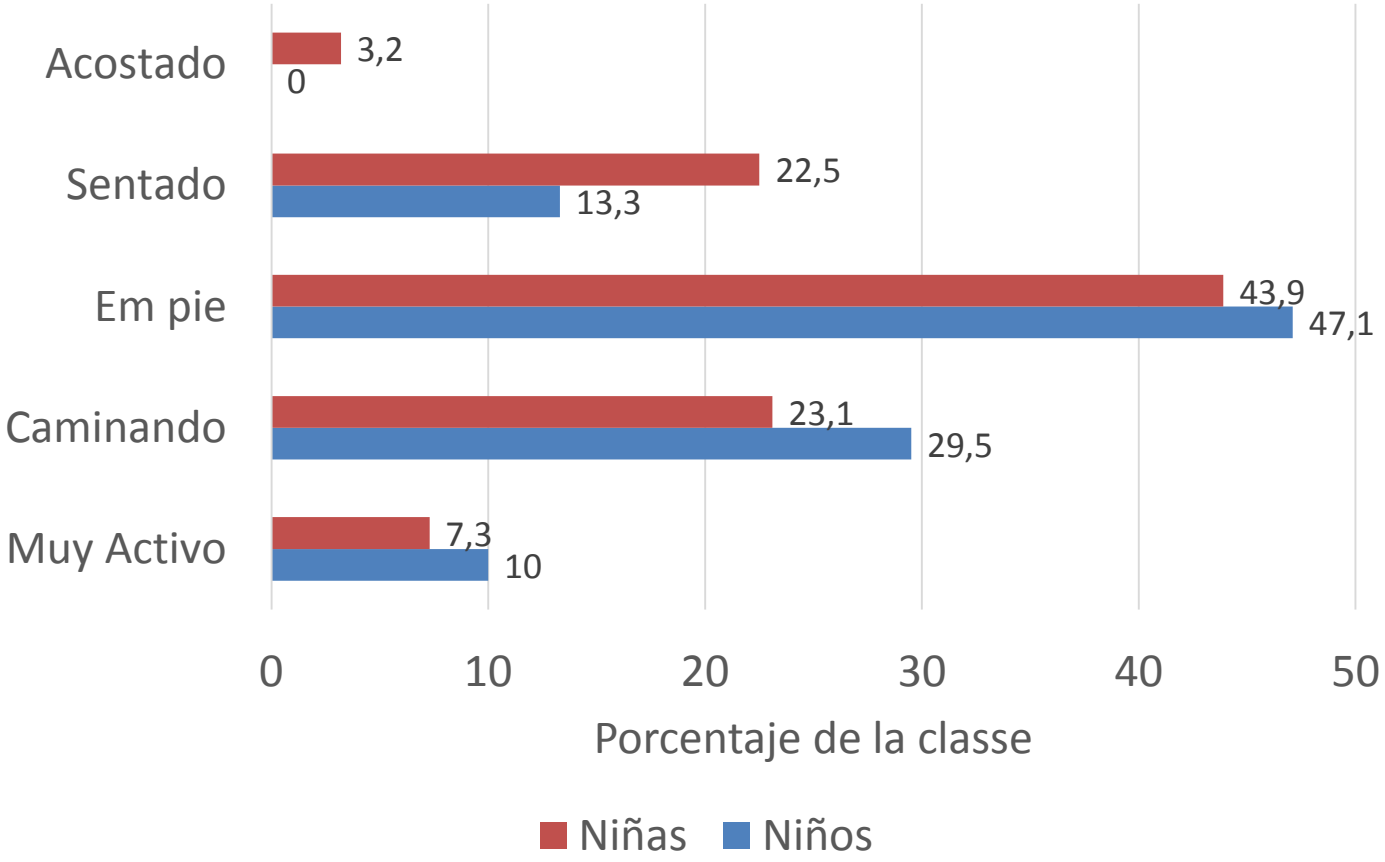
Cuales métodos son utilizados?

OBSERVAÇÃO DOS NÍVEIS DE ATIVIDADE FÍSICA, CONTEXTO DAS AULAS E COMPORTAMENTO DO PROFESSOR EM AULAS DE EDUCAÇÃO FÍSICA DO ENSINO MÉDIO DA REDE PÚBLICA

ADRIANO AKIRA FERREIRA HINO [1,2]
RODRIGO SIQUEIRA REIS [1,2]
CIRO ROMÉLIO RODRIGUEZ AÑEZ [1,2]

[1] Pontifícia Universidade Católica do Paraná
[2] Grupo de Pesquisa em atividade física e qualidade de vidas

Cuales métodos son utilizados?



Cuales métodos son utilizados?

Sports Med
DOI 10.1007/s40279-014-0142-5

SYSTEMATIC REVIEW

Measuring and Influencing Physical Activity with Smartphone Technology: A Systematic Review

Judit Bort-Roig · Nicholas D. Gilson · Anna Puig-Ribera · Ruth S. Contreras · Stewart G. Trost

Cuales métodos son utilizados?

Original Research

DIGITAL HEALTH

Digital Health
Volume 2: 1–8

DOI: 10.1177/2055207616652747
dhj.sagepub.com
SAGE

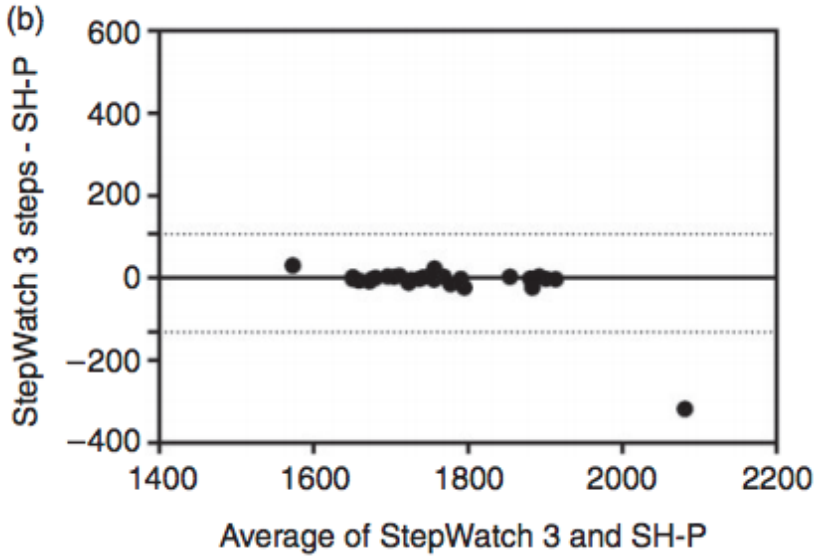
Validity of the Samsung Phone S Health application for assessing steps and energy expenditure during walking and running: Does phone placement matter?

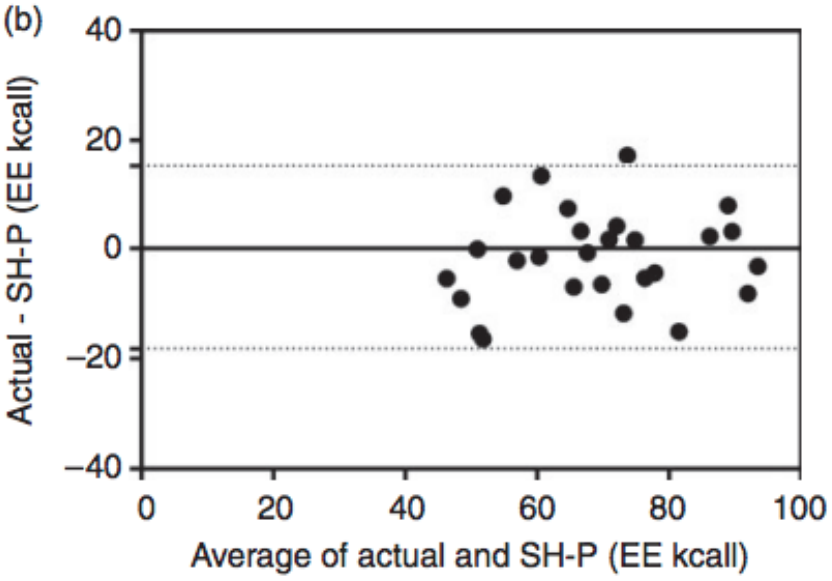
Marquell Johnson, Jillian Turek, Chelsea Dornfeld, Jennifer Drews and Nicole Hansen

Cuales métodos son utilizados?

Table 2. Step counts and EE registered by the two Samsung devices by placement, for over-ground walking at a self-selected pace and treadmill running at 2.24 $m \cdot s^{-1}$.

	All participants ($N = 29$)
SSP SH-H steps	1730 ± 117
SSP SH-P steps	1767 ± 130
SSP StepWatch 3	1752 ± 92
2.24 $m \cdot s^{-1}$ SH-H steps	2389 ± 91
2.24 $m \cdot s^{-1}$ SH-P steps	2406 ± 79
2.24 $m \cdot s^{-1}$ StepWatch 3	2308 ± 179
SSP SH-H EE (kcal)	69.50 ± 14.53
SSP SH-P EE (kcal)	69.85 ± 13.94
SSP indirect calorimetry (kcal)	68.57 ± 14.86
2.24 $m \cdot s^{-1}$ SH-H EE (kcal)	**189.59 ± 42.33**
2.24 $m \cdot s^{-1}$ SH-P EE (kcal)	**194.48 ± 43.96**
2.24 $m \cdot s^{-1}$ indirect calorimetry (kcal)	143.96 ± 33.17





Cuales métodos son utilizados?

- No tenemos un único (mejor) método para evaluar la actividad física
- Tenemos el mejor método para cada situación:
  - Objetivo
  - Que evaluar
  - Características de la población
  - Validez vs. reproducibilidad
  - Logística

Muchas gracias