Decomposing Trends in Leisure-time Sedentary Behavior Among China's Adult Population

Ya Su[1], Yunfei Li[2], Xueyuan Li[3], Huilun Li[4], Haodong Qi[5], Mi Xiang[4, *]

[1]School of Nursing, Shanghai Jiao Tong University, Shanghai, China

[2]Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden

[3]Health Commission of Shanghai Huangpu, Shanghai, China

[4]School of Public Health, Shanghai Jiao Tong University, Shanghai, China

[5]Department of Global Political Studies, Malmö University, Stockholm, Sweden

Email address:

suya@sjtu.edu.cn (Ya Su), yunfei.li@ki.se (Yunfei Li), sharon1222@163.com (Xueyuan Li),
lihuilun@yahoo.com (Huilun Li), haodong.qi@mau.se (Haodong Qi), xiang-sjtu@hotmail.com (Mi Xiang)

[*]Corresponding author

Abstract

Background: Sedentary behavior significantly increases the risk of non-communicable diseases and all-cause mortality. Most studies examining the trend of sedentary behavior are conducted in developed nations. Low and middle-income countries are understudied. There has been scarce knowledge about what factors underlie sedentary behavior trends, particularly in low- and middle-income countries. This study aims to i) analyze the age-gender specific trends of leisure-time sedentary behavior in China during 2006-2015, ii) disaggregate the trends by different leisure activities, and iii) identify the factors underlying the trends of sitting hours. *Methods*: This study is a secondary analysis of the cross-sectional data collected by the China Health and Nutrition Survey (CHNS), 2006-2015. The study population includes adult men and women aged 18 years or older. Leisure-time sedentary behavior was self-reported. Decomposition analysis was applied to analyze the trend of leisure-time sedentary behavior. All statistical analyses for this study were performed using R. *Results*: 39,527 individuals in the CHNS data were analyzed. From 2006 to 2015, weekly hours spent on computers increased by 6.5 and 6.9 hours for men and women, respectively. Of these increases, 0.6 hours [95% CI 0.3 - 0.9] for men and 1.3 hours [95% CI 0.9-1.7] for women are attributable to the changing population composition, namely a growing share of the population in this age group attained more than high school education. In addition, an increase of 0.8 hours [95% CI 0.3-1.29] for men and that of 0.75 hours [95% CI 0.35-1.16] for women are driven by behavioral changes. *Conclusions*: Sitting hours significantly increased during 2006-2011 and declined during 2011-2015 in the Chinese population. Computer use is a significant contributor to prolonged sitting hours during leisure time. The increase in sitting hours is associated with behavioral change of the urban population. Additionally, the higher education level of the population is also a driving factor of elevating sitting hours during leisure time.

Keywords

Sedentary Behavior, Leisure Time, Decomposing Trends, China's Adult Population