Cross-Cultural Comparisons on Domain-Specific Sedentary Behaviors
Among Asian Adolescents: the Asia-Fit Study

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Introduction: Accumulating evidence suggests that, independent of physical activity levels, sedentary behaviors (SBs) are associated with increased risk of cardio-metabolic disease, all-cause mortality, and a variety of physiological and psychological problems (Carson et al: Appl Physiol Nutr Metab, 2016; 6 Suppl 3: S240-265). Understanding behavioral context of SBs is required for effective interventions. The purpose of the present study was to compare the domain-specific SBs of adolescents among major metropolitan cities in southeast Asia regions.

Methods: A total of 11,516 youths (aged 12-15 years; 5,540 boys and 5,976 girls) were recruited from eight Asian metropolitan cities, which were Hong Kong, Shanghai, Tokyo, Seoul, Kuala Lumpur, Taipei, Singapore and Bangkok. Time spent per day engaging in each specific sedentary behavior was assessed by self-report questionnaire, respectively; (1) television (TV) viewing, (2) internet or game use, (3) reading, (4) car travel, and (5) homework.

Results: There were significant differences in domain-specific SBs among Asian adolescents (all p<0.001). Youths in Kuala Lumpur spent greatest time in total sedentary behaviors (776.4 ± 187.8 min/day), followed by Singapore (584.6 ± 211.4 min/day). Hong Kong (547.9 ± 218.8 min/day), Taipei (502.1 ± 192.5 min/day), Tokyo (495.3 ± 227.1 min/day), Shanghai (457.7 ± 160.1 min/day), Bangkok (431.4 ± 187.8 min/day), and Seoul (415.2 ± 187.3 min/day). In addition, Kuala Lumpur youths (319.8 ± 100.8 min/day) spent greatest time in screen-based SBs (i.e., TV viewing and internet or game use), followed by Hong Kong (292.1 ± 147.4 min/day) and Tokyo (266.3 ± 153.0 min/day). For non-screen based SBs (i.e., reading, car travel, and homework), youths in Kuala Lumpur also spent greatest time (456.6 ± 133.9 min/day), followed by Singapore (313.4 ± 155.6 min/day) and Shanghai (295.2 ± 94.0 min/day).

Conclusions: The present study demonstrated that there were significant differences in domain-specific sedentary behaviors among Asian adolescents. It appears that each country has own strengths and weakness regarding the domain-specific SBs. The findings suggest that country-specific strategies are needed to decrease sedentary behaviors in Asian adolescents.

Key words: sitting, youth, correlates