Physical inactivity is a widely recognized public health crisis in the United States. Its increasing prevalence during the past few decades has led to higher levels of obesity, depression, and heart disease (Department of Health and Human Services [HHS], 2008). Therefore, promoting physical activity is an important public health priority that influences health-related quality of life (HQOL; Centers for Disease Control and Prevention [CDC], 2014). Recently, several studies have identified multiple socioecological factors that influence the association between sport participation and HQOL (Adams et al., 2015). Specifically, urban sprawl—the rapid geographical expansion of metropolitan areas—can cause automobile dependence, social segregation, water and air pollution, and shortages of sports facilities, all of which have adverse effects on both sport participation and HQOL (Ewing et al., 2016).

Despite ample evidence of such effects, no studies to date have quantitatively examined how sport participation influences HQOL, depending on the level of urban sprawl, at the community level. Moreover, few researchers have assessed the spatial variability of urban sprawl metrics in relation to sport participation and HQOL. Hence, the aim of this study is to address these gaps by empirically examining the effects of urban sprawl on the relationship between sport participation and HQOL based on the socioecological framework. For this purpose, the study (a) examined the moderating role of urban sprawl in the association between sport participation and HQOL and (b) explored spatially heterogeneous effects of urban sprawl on sport participation and HQOL across 67 counties in Florida.

The data for sport participation rate, urban sprawl index, HQOL (e.g., physical and mental health), and other socioecological factors (e.g., age, income, access to sport facility) were collected from multiple sources, including the 2017 Behavior Risk Factors Surveillance System survey, 2017 Florida Geographic Data Library, and Smart Growth America. To assess the moderating and spatial effects of urban sprawl on the multilevel modeling was conducted using a spatial structural equation modeling approach involving the following: (a) moderation analysis using partial least squares structural equation modeling (PLS-SEM), (b) spatial variation analysis using geographically weighted regression (GWR), and (c) spatial patterning analysis using geographic information system-based exploratory spatial data analysis (ESDA).

The PLS-SEM results showed significant differences in sport participation and HQOL between counties with high and low urban sprawl (β = .17, p < .05), indicating the moderating effect of urban sprawl. The GWR results showed that the effects of urban sprawl on the association between sport participation and HQOL varied across counties (β = -.015 to β = .017, p < .01), indicating that the effects are spatially heterogeneous. ESDA results showed that the greater the stability of urban sprawl, the lower the instability of the association between sport participation and HQOL.

The results add new theoretical insights to the community-sport literature. The association between sport participation and HQOL is influenced by the level of urban sprawl. These findings can allow researchers and community sport practitioners to better understand the spatially heterogeneous moderating effects on this association of urban sprawl, providing significant geographical insights for localized community sport development and policy.