

# Intergenerational differences in the use of maps: results from an online survey

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## Abstract:

Since the end of the 20th century, the widespread availability of information and communications technology (ICT) has led to an increased use of web-based maps that have supposedly changed the use of geospatial information. Although previous studies focused on the conceptual or technical aspects of web maps, few studies have conducted an empirical analysis of the diversity of map usage. In particular, intergenerational differences in the use of digital maps have apparently expanded owing to the generation gap in the skills needed to use ICT devices. In this study, I examined variations in map usage by paying attention to the characteristics of the millennial generation.

An online survey of 624 people who signed up for participation was conducted with a research company in 2018. They were sampled equally by gender and age group and were from the Tokyo metropolitan area. A questionnaire was designed to gather data about their current state of map use, their usage of ICT devices, their degree of geospatial awareness, and demographic attributes. The difference in map usage patterns between generational groups was examined using statistical methods.

Analysis of the data revealed that most people use web maps while conventional paper maps are still widely used by the middle-aged and the elderly. In particular, intergenerational differences in map usage were observed: younger people prefer using web maps with mobile devices for checking locations but older people are still using conventional paper maps.

Among the web maps available, Google Maps was used by the majority of respondents, especially by the younger age group. The next most frequently used was Yahoo! Maps, which was mainly used by the middle-aged and older people while Apple Maps was also preferred by younger people. More than 80% of web map users browse the map with a smartphone; however, middle-aged and older groups tended to use maps with PCs. An analysis of conventional map use revealed many people use tourist maps, maps on signboards, and in-car navigation systems. However, some intergenerational differences were observed. Young people use fewer road maps and in-car navigation systems while elderly people use more housing maps and topographic maps.

An analysis of the relationship between map use and geospatial literacy revealed that younger respondents preferred digital maps to paper maps and tended not to ask someone else for directions but relied on ICT tools to find their way. Since some studies have pointed out that the accustomed use of navigation tools may have negative effects on people's geospatial awareness, young people's dependence on web maps may reduce their concern with maps and geography, which is characteristic of the millennial generation.