

# INDIVIDUAL AND INFRASTRUCTURAL DETERMINANTS OF PARTICIPATION IN DIFFERENT SPORTS

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## Abstract

### Aim of paper

Sport participation does not only contribute to satisfying individual needs such as individual fitness, fun, and well-being. It has also external effects like societal integration, socialization, democracy, and public health (Heinemann, 2005). For this reason, it is the interest of municipalities to foster sport participation which is determined by individual factors as well as the supply of sport infrastructure (Wicker, Breuer, & Pawlowski, 2009). Individual factors are important; however, they cannot be changed by the municipality. In fact, the municipality can increase the attractiveness of sport participation by providing adequate sport infrastructure. However, the required sport infrastructure differs among sports as for example a pool or lake is needed to go swimming. Moreover, the existence of sport-specific infrastructure is likely to prevent people from participation in other sports. Therefore, the aim of this paper is to analyse the influence of individual and infrastructural determinants on participation in different sports. The four sports under investigation are swimming, running, soccer, and tennis.

### Literature review

Previous research has focused on analysing the influence of individual factors such as income, education, age, and gender on sport participation in general (for an overview see Downward, Dawson & Dejonghe, 2009). Only a few studies provided evidence on the determinants of participation in different sports (e.g., Humphreys & Ruseski, 2007). In these studies, gender and age were found to be the main drivers of participation in individual sports such as running or team sports. Moreover, the supply of sport infrastructure had a significant influence on sport participation in general (e.g., Wicker et al., 2009). However, there is a lack of research regarding the importance of sport infrastructure to participation in different sports.

## Theoretical background

This study is based on a Becker model which has already been applied in previous research on sport participation in general (for an overview see Downward et al., 2009). In this model it is assumed that participation in different sports is subject to individual and infrastructural restrictions. Individual restrictions are income, time (working time and time for children/relatives), and education as well as age, gender, and foreign nationality. Restrictions on the infrastructure level relate to the supply of sport-specific facilities such as sport halls, sport fields, pools, tennis courts, and park area.

## Methodology

For this purpose quantitative data from sport participation surveys in Germany is used. In 2008 and 2009, telephone interviews (n=7,043) in German cities have been conducted to get information about individual sport participation in different sports and further socio-economic characteristics (micro-level data). In addition, secondary data on the supply of sport infrastructure in n=53 urban districts was made available by the municipalities (macro-level data). As multi-level analyses are the appropriate method for analysing multi-level data (Osborne, 2000), four multi-level models (Raudenbush et al., 2004) were run with participation in running, swimming, soccer, and tennis as dependent variables and the factors of the theoretical model as independent variables.

## Results

The results show that a high educational level has a positive influence on running and tennis participation. People with a high weekly workload who spend lots of time for children/relatives are more likely to participate in running. The gender effects show that women are more likely to participate in swimming and running, whereas men prefer tennis and soccer. Income and a foreign nationality have no influence on the four sports under investigation. With regard to the effects of sport infrastructure, the presence of park area and the lack of pools have an influence on running participation. Moreover, the participation in soccer is significantly determined by the availability of sport fields and tennis courts as well as by a lack of sport halls. A lack of park area has a significant impact on tennis participation, combined with the presence of sport fields.

## Discussion, implications, and conclusion

With regard to the individual factors, the models indicate that income and foreign nationality are no drivers for participation in running, swimming, soccer, and tennis. These factors are only important to the decision whether an individual takes part in sport in general. In fact, there are other drivers such as sport infrastructure for the decision which sport to participate in. The negative effects of infrastructural variables also provide evidence of possible substitution effects, for example a high supply of pools negatively influences running participation. The results imply that municipalities can increase sport participation by providing adequate sport infrastructure. However, municipalities should not only provide enough sport facilities. In fact, policy makers must decide which sports they want to support.

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