Time and money expenditure in sports participation: The role of income in consuming the most practiced sports activities in Flanders

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\textbf{ABSTRACT}

Given the recent economic crisis and the risen poverty rates, sports managers need to get insight in the effect of income and other socio-economic determinants on the household time and money that is spent on sports participation. By means of a Tobit regression, this study analyses the magnitude of the income effect for the thirteen most practiced sports by households in Flanders (the Dutch speaking part of Belgium), which are soccer, swimming, dance, cycling, running, fitness, tennis, horse riding, winter sports, martial arts, volleyball, walking and basketball. The results demonstrate that income has a positive effect on both time and money expenditure on sports participation, although differences are found between the 13 sports activities. For example, the effect of income on time and money expenditure is relatively high for sports activities like running and winter sports, while it is lower for other sports such as fitness, horse riding, walking and swimming. Commercial enterprises can use the results of this study to identify which sports to focus on, and how they will organise their segmentation process. For government, the results demonstrate which barriers prevent people from taking part in specific sports activities, based upon which they should evaluate their policy decisions.

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1. Introduction

To engage in sports participation, both time and money are essential factors (e.g. Becker, 1965; Taks, Renson, & Vanreusel, 1994; Wicker, Breuer, & Pawlowski, 2010). The recent economic crisis, allied with cuts in government spending, rising unemployment and poverty rates, has brought time and monetary issues to the forefront in putting pressure on sports participation rates. Low-income families in particular are often excluded from sports participation, as they face a harsher financial burden (Bittman, 2002). Families with children may also fall into this group. Therefore, the first aim of this study is...
to investigate the impact of household income on both the time and money that is spent on sports using a cross-sectional survey about sports participation of Flemish (Flanders is the Dutch-speaking part of Belgium and the research context of this study) families with school-aged children.

For government, the duration of citizens’ sports participation is of particular importance, as insufficient physical activity ranks fourth in the list of death causing risk factors. The World Health Organisation (WHO) subscribes a minimum of 60 min of physical activity a day for children and 150 min a week for adults (WHO, 2010). Governments often lower the price of sports participation through subsidies, such that it also becomes accessible to lower-income households. In Flanders, the government considers the organised sports sector as a key player in increasing sports participation rates and health (Ooms, Veenhof, Schipper-van Veldhoven, & de Bakker, 2015). Voluntary sports clubs and sports federations receive subsidies to facilitate club-organised sports participation. In order to improve sports participation figures and physical fitness of the population, sports policy makers and sports clubs require greater insight into the determining factors of the time involvement in sports participation. In contrast with governmental and voluntary sports providers, commercial sports enterprises can be expected to be more interested in (the determinants of) sports expenditure, and less in the time spent on sport. Indeed, their primary focus is making money by selling or renting sports-specific equipment, footwear, clothing and sports infrastructure (e.g. fitness centres) (e.g. Andreff & Andreff, 2009; Gratton, 1998).

Based on the above, it is clear that a more detailed understanding of sports consumption in general, and the relation between income and sports consumption in particular, is needed. First, sports consumption is too often regarded as a composite item, as research has demonstrated that the influencing factors of sports participation and sports expenditure differ depending of the sports activity that is investigated (Humphreys & Ruseski, 2015; Wicker et al., 2010). Consequently, this study compares the effect of income and other determinants of the 13 most practiced sports activities in Flanders. Second, sports consumption consists of both taking part in and spending money on sports participation (Downward, Dawson, & Dejonghe, 2009). The current study investigates whether the influence of income differs between time versus money that is spent on sports participation, because it is expected that higher income households have other tastes when compared to lower income households, for example because they have different financial resources and a different cost of leisure time. To summarise, the current research aims to provide an understanding of the extent to which income restricts households in consuming sports, by investigating both the amount of money versus time that is spent, and this for the 13 most practiced sports activities in Flanders.

2. Literature overview

2.1. Determinants of different sports activities

Only a limited number of studies have compared different sports activities, while no study is found to do this comparison for the determining factors of the time (e.g. Humphreys & Ruseski, 2015) versus money (e.g. Pawlowski & Breuer, 2011; Wicker et al., 2010) that is spent on sports participation. While these studies did not examine time and money at the same time they demonstrated that sports consumption research benefits from investigating different sports activities rather than treating overall sports participation as a composite item. For example, the inclusion of commonly used socioeconomic and socio-demographic variables can provide further evidence on their effects for a wide range of specific sports activities. Furthermore, other studies that estimated elasticities (e.g. Eakins, 2016; Løyland & Ringstad, 2009; Pawlowski & Breuer, 2012) also used similar explanatory variables and thus a more valid comparison can be made between the studies.

2.2. Money versus time

According to the theory of Becker (1965), economic decisions are restricted by both disposable income and time. People not only have to acquire certain goods and services, they also have to spend time on practising sports. In the literature, Becker’s theory has often been applied to the examination of the determinants of the time (e.g. García, Lera-López, & Suárez, 2011; Humphreys & Ruseski, 2011, 2015) and money (e.g. Késenne & Butzen, 1987; Løyland & Ringstad, 2009; Thibaut, Vos, & Scheerder, 2014; Wicker et al., 2010; Wicker, Prinz, & Weimar, 2013) that was spent on sports participation. Although generally a significant positive relationship between time and money expenditure was found (e.g. Scheerder, Vos, & Taks, 2011; Wicker et al., 2010), the study of Lera-López and Rapún-Gárate (2005) demonstrated significant differences between the influencing factors of sports expenses and sports frequency. This is important as expenditure data were often used as a proxy for sports consumption, especially when calculating elasticities (e.g. Eakins, 2016; Løyland & Ringstad, 2009; Pawlowski & Breuer, 2012). The literature that investigated the determinants of sports expenditure and sports duration concurrently is very limited. Only one study was found to do this (Lera-López & Rapún-Gárate, 2005) while to our knowledge no studies calculated the magnitude of the effect of income on both time-involvement data and expenditure data for a range of specific sports activities.

2.3. Determining factors of sports consumption

Table 1 gives an overview of the socio-demographic and socioeconomic determinants (gender, age, education, income, family size and urbanisation) that have been investigated in a large selection of sports consumption studies. In general, male
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