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Involvement in Sports Clubs and Informal Sport Activities of Primary and Secondary School Children in Liechtenstein

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ABSTRACT

Sport involvement among children and adolescents has been a central field of research in sport science since years. This paper documents the participation of 11- to 15-year-olds in sport clubs and informal sport activities in Liechtenstein and examines possible gender- and age-specific differences. The analysis is based on four cross-sectional studies from 2004 to 2015 and includes the data of 1'262 children in primary (5th grade) and secondary (7th and 9th grades) school. According to our findings sports and exercise are considered to be one of the main leisure-time activities for all school levels (irrespective of gender). The percentage of fully sport-abstinent adolescents by 11- and 13-year-olds is about 5 %; by 15-year-olds is around 10 %. The culmination of sports club membership (with current 84.7 %) appears to be at the age of 11 (5th grade). After the switch to secondary school the sports club commitment tends to decrease, while the high attendance of the informal sport activities (>85 %) shows relatively stable age development. In contrast to other child and youth studies, our data indicates a levelling tendency and dissolution of classic gender differences not only in sports club commitment but also in informal sports among girls and boys.

Key words: sports club, leisure-time activities, school-aged children, Liechtenstein

Udeležba v športnih klubih in rekreacijskih aktivnostih otrok in mladostnikov v Liechtensteinu

Izvirni znanstveni članek
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POVZETEK

Že dolga leta so športne aktivnosti otrok in mladostnikov glavna tema znanstvenih raziskav na področju športne znanosti. V tej raziskavi je dokumentirana udeležba od 11 do 15 let starih učencev v športnih klubih in rekreacijskih dejavnostih v Liechtensteinu. Udeležba je obravnavana v skladu z njihovimi željami ter glede na njihovo starost in

spol. Analiza je zasnovana na štirih statističnih raziskavah, izvedenih med letoma 2004 in 2015, ter vsebuje podatke za skupaj 1262 učencev razredne (5. razred) in predmetne (7. in 9. razred) stopnje osnovnih šol. Na podlagi naših ugotovitev lahko sklepamo, da sta gibanje in šport priljubljeni razvedrili za prosti čas pri učencih vseh starostnih skupin (ne glede na spol otrok). Popolnoma nezainteresiranih za šport je manj kot 5 % mladostnikov med 11. in 13. letom starosti ter manj kot 10 % mladostnikov v 15. letu starosti. Očitno so najbolj aktivni ter včlanjeni v športne klube (trenutno 84,7 %) enajstletniki (5. razred). Po prehodu na predmetno stopnjo njihova udeležba v športnih klubih upade, medtem ko udeležba pri rekreacijskih aktivnostih (več kot 85 %) v različnih starostnih obdobjih ostane relativno stabilna. Za razliko od preostalih raziskav v zvezi s športnimi dejavnostmi otrok in mladostnikov naši podatki kažejo izenačitev oz. izginjanje spolno določenih razlik pri udeležbi v športnih klubih ter pri rekreacijskih aktivnostih.

Ključne besede: udeležba v športnih klubih, rekreacijske aktivnosti, učenci, Liechtenstein

Introduction

There are countless studies within German-speaking regions (mainly based on cross-sectional collected data) dedicated to the sports and exercise involvement of children and adolescents (cf. Schmidt et al. 2003; Schmidt 2009a; Rommel et al. 2008; Jekauc et al. 2013; Manz et al. 2014; Lamprecht et al. 2015). According to Schmidt (2009b, 389) and Gerlach and Brettschneider (2013, 63), there is no other age group beside childhood which is so tightly bound to the sport system, and no other youth organizations beside sports clubs which could involve so many adolescents. Many adolescents, however, do not reach health enhancing levels of activity, i.e. at least 60 min/day with medium to higher intensity (WHO 2010, 20), despite their high participation in sports. According to the results of HBSC study (Currie et al. 2012, 130-131), this recommendation is fulfilled on average by only 23 % of 11-year-olds, 19 % of 13-year-olds and 15 % of 15-year-olds in Europe.

Both interest and involvement of adolescents in sports, as in other areas of their lives, are significantly affected by sociodemographic factors such as gender, age, nationality, social-economic status and socialization of parents (Rommel et al. 2008; Jekauc et al. 2013; Burrmann 2005; Gerlach and Brettschneider 2013; Lamprecht et al. 2015; Schmiade and Mutz 2012; Manz et al. 2014; Yao and Rhodes 2015). There is consistent evidence which shows that gender and age contribute to a higher involvement of boys and younger children. Moreover, the sports participation among children from socially disadvantaged groups with migration backgrounds (especially girls) and parents with less sport-affinity is clearly lower than among children from privileged and sport-active families. With this background, the purposes of this paper were a) to describe the proportion of children and adolescents in Liechtenstein, who are active in sport clubs and informal settings and b) to identify possible sociodemographic differences by gender, age and nationality.

Methods

Participants

This study is based on three cross-sectional surveys conducted from 2004 to 2015 and includes data of 1'262 primary and secondary school children, aged 11, 13 and 15 years. *Table 1* summarizes the sample characteristics. All involved nationwide studies based on randomly selected samples (taken from school statistics) and were realised after the approval of the national school authority. The information of the relevant teachers was carried out in cooperation with the local school administration. The participation of the selected pupils was voluntary, but presupposed a written consent of their parents.

Table 1: Basic characteristics of the included four national cross-sectional studies

study	survey period	sample	age group		
			n	boys	girls
Kühnis 2006	2004	13, 15y ^b	344	187	157
Kühnis 2008	2007	11y ^a	313	158	155
Kühnis et al. 2013	2012	11y ^a	157	77	80
Frommelt 2015	2015	11, 13, 15y ^{a,b}	448	206	242
Total			1'262	628	634

a primary school (5th class); b secondary school (7th and 9th class)

Procedures and analysis

The following analysis is based on data of standardised questionnaires. Questions to observe leisure activities and participation in organised and informal sports (consisting of four questions) were identical, but because of the different research focus, each study also used additional and separate questions. Statistical analysis (drawn at a significant level of $p < 0.05$) only included complete data and were performed using SPSS (version 21).

Results

Participation in sports clubs and informal sport settings

The results of the existing cross-sectional investigations (*table 2*) show that among children and adolescents in Liechtenstein sports are considered to be one of the most important leisure-time activities. The percentage of fully sport-abstinent children of 11- and 13-year-olds (5th and 7th grade) is below 5 % and in 9th grade below 10 %. The highest sport clubs membership quota, with current 84.7 %, is observed in primary school (5th grade). A significant decline to 59.5 % takes place at the end of the obligatory school period (9th grade). However, the non-organised sports become more important for youths. The participation in sportive leisure-time activities, apart from sports clubs, increases (> 90 %) during the transition to secondary school and slightly decreases at the end of the obligatory school period (even though with > 85 % still stay at a high level). No gender difference in sports

participation could be detected. In comparison to the surveys of 2004 and 2012 the current numbers from 2015 illustrate a general raise in participation in sport clubs and sportive leisure-time activities by the 5th graders and the majority of the 7th graders. Among the 15-year-olds these comparative values of the last years tend to be on the same level. A comparison of the proportion of members in sports clubs in our study 2015 with current findings from Switzerland (Lamprecht et al. 2015, 38) and older data from Germany (Manz et al. 2014, 843) is illustrated in *figure 1 and 2*.

Table 2: Summary analysis of participation in organised and non-organised sport by gender and age group

	primary school			secondary school			
	5 th class			7 th class		9 th class	
	2007	2012	2015	2004	2015	2004	2015
membership in sports clubs							
All	74.1 % ^{b*}	73.9 % ^{b*}	84.7 %	69.0 % ^{b*}	81.0 %	59.0 %	59.5 % ^{c***}
girls	69.0 % ^{b*}	71.2 % ^{b*}	85.5 %	67.1 %	76.8 %	52.8 %	55.0 % ^{c***}
boys	79.1 % ^{a*}	76.6 %	83.7 %	70.9 % ^{b*}	84.9 %	63.4 %	65.5 % ^{c**}
informal sport activities							
All	86.3 % ^{b*}	79.3 % ^{b***}	93.7 %	97.1 %	94.4 %	85.5 %	87.6 %
girls	85.2 % ^{b*}	75.0 % ^{b***}	95.1 %	95.3 %	98.5 %	91.7 %	88.2 %
boys	86.1 %	84.0 %	91.9 %	98.8 % ^{b*}	90.4 %	81.2 %	86.9 %
both (in and outside sports clubs)							
All	61.3 % ^{b**}	58.7 % ^{b***}	79.3 %	67.3 %	76.8 %	52.6 %	53.8 %
girls	56.8 % ^{b**}	53.8 % ^{b**}	80.6 %	64.7 %	76.8 %	51.4 %	48.6 %
boys	65.8 %	64.0 %	77.6 %	69.8 %	76.7 %	53.5 %	60.7 %

^a significant gender differences (Chi-square-test, $p = 0.04$)

^b significant differences to 2015, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

^c study 2015: significant differences between school levels (5th and 9th class; 7th and 9th class), * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

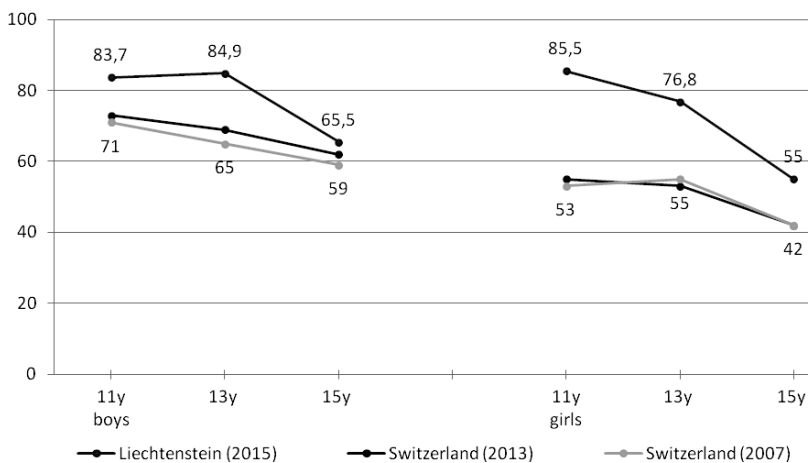


Figure 1: Percentage of children and adolescents participating in sports clubs in the current survey period 2015 compared with national Swiss data from 2007 and 2013 (Lamprecht et al. 2008, 36 and 2015, 12)

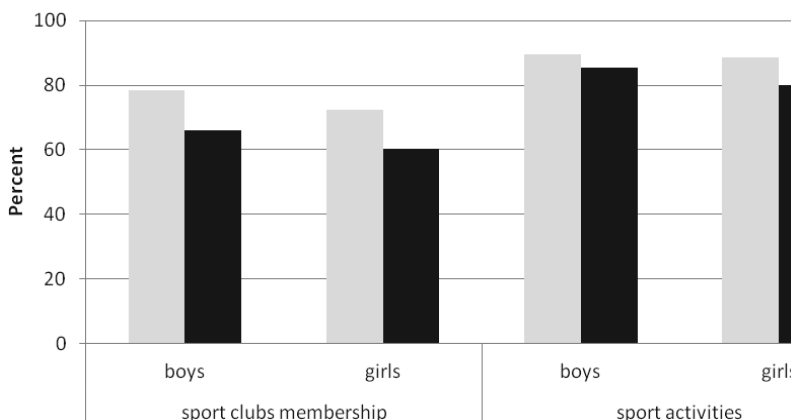


Figure 2: Proportion of 11-13-year olds members in sport clubs and doing sports in general in Liechtenstein (data from 2015) and Germany (Manz et al. 2014, data from 2009-2012)

Influence of nationality and sports club membership of parents

Itemized by nationality (table 3), no noticeable differences were shown with the exception of the 9th grade (significant among boys) in 2015. In comparison, the sport clubs membership of the parents has a significant influence: children from sport clubs affiliated families, i.e. both parents are members, are clearly more involved in sport clubs than children from parents without membership.

Table 3: Children’s sports club membership in association with nationality and membership of their parents

	primary school			secondary school			
	5 th class			7 th class		9 th class	
	2007	2012	2015	2004	2015	2004	2015
nationality							
Liechtenstein	76.9 %	73.2 %	88.2 %	68.9 %	81.1 %	61.3 %	65.7 % ^{a**}
foreign countries	65.8 %	76.5 %	73.1 %	70.2 %	80.5 %	53.7 %	44.8 %
membership of parents							
both	94.1 % ^{b***}	92.0 % ^{b**}	100 % ^{b*}	87.5 % ^{b**}	82.8 %	94.7 % ^{b***}	82.5 % ^{b***}
one parent	85.9 %	85.4 %	78.6 %	83.0 %	90.7 %	70.3 %	75.0 %
no	66.2 %	62.5 %	80.4 %	60.2 %	74.3 %	49.6 %	40.0 %

a significant differences between nationality groups, * p < 0.05, ** p < 0.01, *** p < 0.001

b significant association between children’s and parents membership in sport clubs, * p < 0.05, ** p < 0.01, *** p < 0.001

Discussion

When comparing our results to selected German-speaking reference studies (Rommel et al. 2008; Bös et al. 2009; Schmidt 2009a; Gerlach and Brettschneider 2013; Jekauc et al. 2013; Manz et al., 2014; Lamprecht et al. 2015), there appear concordant, but also contrary findings. Our cross-sectional studies confirm the significance of sports and popularity of sports clubs during childhood and

adolescence. In a list of 10 given leisure activities (with a response scale from 1 “*absolute unimportantly*” to 4 “*very important*”), “sports and exercise” (mean values range between 3.2 and 3.7) together with “meeting friends” achieves a top position among all school grades. Participation in sports with or without an involvement in sports clubs creates two complementary settings of leisure-time activity for the majority of school-aged children in Liechtenstein. 79.3 % of 11-year-olds, 76.8 % of 13-year-olds and 53.8 % of 15-year-olds are currently engaged in both settings simultaneously. Across all age groups of children and adolescents an average of 72.5 % are active in at least one sports club; of which 25.6 % are even active in several sports clubs. The culminating point of sports club membership appears to be at the age of 11 (5th grade). The highest percentage of membership in Switzerland (Lamprecht et al. 2015, 33) and in western part of Germany (Gogoll et al. 2003, 150) becomes apparent at the age of 11-12. According to current findings (Bös et al. 2009, 183; Lamprecht et al. 2015, 41), nowadays children seem to join sports clubs earlier and the membership peak moves progressively towards the childhood.

In comparison to Swiss and German studies (Lamprecht et al. 2008 and 2015; Manz et al. 2014) the membership quota in Liechtenstein (*figure 1 and 2*) is clearly higher within all age groups. However, the different survey periods of these reference studies need to be considered. This high percentage of sport clubs memberships could be explained, on the one hand, by the peculiarity of sport landscape in Liechtenstein, and on the other hand, by the obviously successful efforts of the associations and clubs to acquire the attention of as many adolescents as possible (irrespective of gender and nationality). Despite its small area of merely 160 km² and 37'000 citizens, the country has a very large number of associations and sports clubs, as well as remarkable variety of well-equipped and easily accessible sports stadiums. 47 sport associations and 134 sports clubs affiliated to the Liechtenstein Olympic Committee (LOC) registered approximately 17'310 members in 2014; which corresponds to 47 % of the population. Due to this high density of sports clubs, which is unique in Europe, the population of Liechtenstein has access to a wide range of sport disciplines.

In contrast to the initially mentioned reference studies our cross sectional data show no significant difference (with the exception of 5th grades in 2007, $p = 0.04$) in attendance of sports clubs and informal settings among girls and boys (*table 2*). Already discovered in the previous surveys, the leveling tendency and dissolution of classic gender differences became even stronger in the year 2015. Obviously, sport activities organized by clubs in Liechtenstein seem to equally satisfy the today's needs of girls and boys. In addition, the comparison of the different evaluation periods among both genders showed gratifying gains of membership quotas in the 5th and 7th grades and a stable development in the 9th grade. The next evaluation will clarify whether this positive development is becoming a sustainable trend. Our analysis shows also that the sportive engagement of parents highly influences the sports involvement of their children: consistent with other studies (Burrmann 2005,

142; Rommel et al. 2008, 15), children from parents with a high affinity for sports i.e. both parents are member in sports clubs are more likely to become members of sports clubs than children from families without membership.

As expected (Gogoll et al. 2003, 158; Manz et al. 2014, Rommel et al. 2008, 12-13; Bös et al. 2009, 180; Gerlach und Brettschneider 2013, 66-67; Jekauc et al. 2013, 509; Lamprecht et al. 2015, 4) sports clubs also lose their importance among adolescents in our region with increasing age and the membership quota drops at the end of the obligatory school period to currently observed 59.5 %. This loss is quite conspicuous in Realschule (higher level secondary school) with 56.6 % and with 30.8 % in Oberschule (lower level secondary school), while 69.9 % ($p < 0.01$) of adolescents from the Untergymnasium (gymnasium lower cycle) are still members of sports clubs. According to Currie et al. (2012, 2) and Gerlach and Brettschneider (2013, 66), this loss in sport participation could be explained by the rising study requirements (mainly during the transition to professional apprenticeship), as well as by the growing autonomy and changes in relationship networks among adolescents. In contrast to the known differences in sports participation among local and foreign children (Rommel et al. 2008, 11; Schmiade und Mutz 2012, 121; Jekauc et al. 2013, 509; Gerlach und Brettschneider 2013, 66; Lamprecht et al. 2015, 34), adolescents with migration background in our region do not have hindered access to sports clubs. Overall, the nationality is rarely differentiated and merely reveals itself in the 9th grade (moderated by gender). However, one must consider that in our data a large number of foreign children come from the neighbouring German-speaking countries, and thus have a similar cultural background.

The major strength of this study is the large national survey covering the very important transition period from primary to secondary school. However, our findings derived from data from a small state in a rural area (with only 37'000 inhabitants) and its specific local circumstances, and therefore cannot be generalized for other European regions. Furthermore, no causal interpretation is possible because of the cross-sectional design. Longitudinal studies are necessary to assess individual developments in sports participation during school age.

Conclusion

Our aggregated data from different national cross-sectional studies establishes for the first time a differentiated picture of the sport involvement of school-aged children in Liechtenstein and can be used as a basis for further monitoring. Summing up, sports and exercise play a central role in the context of life and leisure-time activities from 11- to 15-year-olds in Liechtenstein (irrespective of gender). Today, nine of ten children and adolescents practise sports and almost three quarters are members in sport clubs. However, during secondary school mainly adolescents, who change to vocational education and those with foreign nationality tend to leave sports clubs. As a result of this caesura at the end of the obligatory school

period, the age group of 15-year-olds should therefore be considered as one of the important target for exercise promotion programs. To solidify today's knowledge the analysis of the sport engagement among pupils in kindergarten and the first school years would be desirable.

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