

Social class differences in youths' participation in organized sports: What are the mechanisms?

Patrick Lie Andersen & Anders Bakken

Norwegian Social Research (NOVA) - OsloMet – Oslo Metropolitan University

Abstract

Despite several decades of *Sport for All* policies, social class differences in organized sports participation of youth persist. However, few population-based studies have examined *how* social class may influence adolescent participation. We use survey data from upper secondary school students (aged 16–19) from the Norwegian capital of Oslo (N = 10,531) and investigate the factors through which social class operates. To measure parental social class, we use the well-established EGP class scheme, supplemented by indicators of economic and cultural resources. We also include data on immigrant status, neighbourhood and school affiliation. There were large differences in organized sport participation between children from the higher and lower social classes. Indicators of parental economic resources mediated many of these differences and had an additional independent statistical effect. Indicators of cultural resources, immigrant status, and neighbourhood and school affiliation only had modest effects. We conclude that social class plays a major role in organized sport participation, and economic resources are particularly important. Methodologically, we suggest that well-established class classification schemes should be used in such research, supplemented with more detailed indicators of economic resources.

Keywords

Social class analysis, parental resources, organized sports participation, cultural capital, adolescents

Corresponding author

Patrick Lie Andersen, OsloMet – Oslo Metropolitan University, div. Norwegian Social Research (NOVA), Postboks 4 St. Olavs plass, 0130 Oslo, Norway

Email: Patrick.Andersen@oslomet.no

Even though *Sport for All* policies have been implemented in many European countries throughout the past 30–40 years, participation in organized sports among children and youth is still related to social background (Van Tuyckom and Scheerder 2010, Vandermeersch *et al.* 2016). Because participating in organized sport plays an important role in many adolescent lives, this is a topic of societal concern. In an age when digital leisure activities dominate their lives, physical activities offered by sport clubs may counteract the negative health effects of sedentary activities. Sports clubs are places where young people acquire skills that are advantageous in educational or other institutional settings (Lareau 2003). They are arenas where youths develop friendships, networks and social capital (Seippel 2006), and they offer young people a sense of belonging to the wider local community (see Theeboom *et al.* 2010). For families, attending a sports club can have integrative community effects (Stefansen *et al.* 2016), and even strengthen parent–youth relationships (Strandbu *et al.* 2017b). Thus, class-based differences in sport participation among young people are not only an issue ‘here and now’, but may also contribute to the social reproduction of inequality in society (Bourdieu 1978).

Researchers have highlighted access to resources in the family, in particular economic and cultural resources, as the main explanations of social class differences in sports participation among youth (e.g. Stuij 2015). Nevertheless, the number of population-based studies that systematically examine the mechanisms of social class is scarce, and provide limited understanding of why social class matters for participation. Additionally, few quantitative studies of club-organized youth sports have had a clear class-based theoretical basis, and few have used conventional class schemes. In some studies, the concept of social class has been used, but most studies have applied concepts such as socio-economic status, parental education, household income and/or employment status of the parents. Stalsberg and Pedersen (2010) note that the application of a variety of measures of social inequality makes the comparison between studies problematic. This is unfortunate, not least because the research field remains rather ‘atheoretical’.

In this article, we use data from a large population-based survey of young people living in Oslo, Norway, to examine whether there are social class differences in participation rates in club-organized sports, and what these differences are about. To meet some of the shortcomings from earlier studies of social inequality in sports, we will apply the well-established Erikson, Goldthorpe and Portocarero (EGP) class scheme (Ganzeboom and Treiman 2011), where class is defined by parents’ labour market situation. Inspired by the culturalist class approach of Bourdieu (1984, 1986) and followers (Lareau 2003, Savage *et al.* 2005), we examine the extent to which cultural and economic resources make class origin significant for adolescents’ sport participation.ⁱ

Social inequality in club sports participation

A large body of literature has documented positive relationships between club sports participation and education level, income, socioeconomic status and/or social class position among adults (e.g. Bourdieu 1984, Scheerder *et al.* 2002, Wilson 2002, Rohrer and Haller 2015). Even though social inequality in adolescent sport has been less explored, there have been an increasing number of studies in recent decades. With some exceptions (e.g. Scheerder

et al. 2005), studies of youth sports participation have found patterns of social inequality that resemble those of adults, for example in Belgium (Vandermeerschen *et al.* 2016), Canada (Berger *et al.* 2008, White and McTeer 2012), Sweden (Larsson 2008), the USA (Sabo and Veliz 2008, Aspen Institute 2015 and Brazil (Fernandes *et al.* 2012).

Several studies using broader class-related measures show the same pattern. For example, La Torre *et al.* (2006) found that participation in extra-curricular physical activity among Italian students in early adolescence was related to parents' educational level as well as occupational and employment status. Parental employment status has also been found to be a predictor of sports participation and exercise among young adolescents in Denmark (Toftgaard-Stockel *et al.* 2011). In another Danish study, Nielsen *et al.* (2012) found that participation in organized sport among children aged 6–10 was positively associated with parental socio-economic position (indicated by professional qualification), suggesting that the social differentiation of organized sports starts at an early age. Although these studies provide useful insights, they also exemplify how operationalization of social origin tends to vary and remains loosely related to class and stratification-based theories.

Social class: 'minimalist' and 'culturalist' approaches

In sociological research, most approaches to the concept of social class in contemporary society can be traced back to Marx and Weber. However, according to Bottero (2005) two branches dominate the field—minimalist (Erikson and Goldthorpe 1992, Goldthorpe 2000) and culturalist approaches (Bourdieu 1984, Savage *et al.* 2013). Common to these approaches is the assumption that a complex economy and the emergence of a large middle class make differentiation between classes and subclasses necessary, but they diverge regarding the definition of social classes, especially in their view of the relationship between cultural aspects and class itself. Consequently, they attribute different mechanisms that seem to produce social class differences in young people's participation in club-organized sports.

From the minimalist position, social classes are defined and measured by individuals' employment relations (whether they be employers, employees or self-employed), and among employees, their type of labour contract (which reflects the required job skills, the degree of autonomy in their daily work, and career prospects such as promotion and job security) (Goldthorpe 2000). There are various reasons why a labour market-based class position may explain social differences in adolescent sport participation. First, as class position reflects parental work situation, one important factor could be their flexibility and autonomy at work, which may affect parental availability to engage in their children's leisure activities. Another factor is parental skills, which may influence their capacity for organizing children's sport activities. A third possibility is that job prospects affect parental perceptions of their economic security, which may affect their investment in their children's leisure activities.

In the minimalist approach, social class is often operationalized using the EGP scheme, where the main opposition is between the service class (professionals) and the working class (Erikson and Goldthorpe 1992: 35–47). Service class occupations are characterized by specialization and autonomy, whereas working class occupations are easier to monitor and demand less specialization. The scheme also includes categories for self-employed people, farmers and routine non-manual occupations.

Although the EGP scheme is widely applied in the sociology of inequality, it is seldom used in studies of sports participation. Katz-Gerro and Shavit's (1998) analyses show small class differences in sport participation, except for slight over-representation among routine non-manual employees, while Wells et al. (2017) showed that class origin affected girls' risk of physical inactivity.

In the minimalist class approach, cultural factors are not seen as important aspects of class, and class is also seen as different from social status, education and income (Chan and Goldthorpe 2007). This differs from the culturalist class approach, where cultural factors are essential constituents of class as a concept. In this approach, the inequality structure is usually seen as a multidimensional social space (Bourdieu 1984) in which individuals' total volume and composition of power assets, namely economic and cultural capital, define their class positions.

According to Bourdieu (1986), economic capital is the dominant type of capital, and refers to individuals' income, fortune or the value of their material possessions. In the literature, varying access to such resources is often seen as an important explanation of social class differences in organized sport activities. Because participation can be expensive, finances may hamper participation among the classes with the lowest incomes (Duncan *et al.* 2002). Holt et al. (2011) show that lack of economic assets is a major barrier for some families. They emphasize the importance of material resources, such as transport, in ensuring that adolescents can attend sports clubs.

On the other hand, cultural capital refers to individuals' mastery of a society's legitimate culture. It can be part of individuals' habitus, representing their cultural knowledge, ways of communicating, tastes and lifestyle preferences. It can also be acquired in an objectified form (such as books and paintings) or in an institutionalized form (educational qualifications). Several studies highlight cultural capital as an important factor in social differentiation in youth sports participation, and in a Swedish study (Larsson 2008), even more important than economic capital. Vandermeerschen et al. (2016: 480) argue that differences in habitus could '...shape the preferences of young people, and make them more likely to rule out club sport for themselves, or to not feel "at their place". In other words, as determined by their habitus, young people might make different choices.' Furthermore, Nielsen et al. (2012) argue that educational resources can be a '...knowledge resource, making it more likely that information on, for example, the importance of children's physical activity and other public health message are read, understood and dealt with'.

A common idea in the culturalist approach is that sporting activities can be valued more by some classes than by others. Lareau (2003) found that organized leisure time activities were much more common for the middle class than for the working class or the poor. She argued that participation in such activities enhanced the development of a 'sense of entitlement', which again gave benefits in other organizational settings (e.g. educational). Consequently, an investment in adolescents' organized sport participation can also be an investment in cultural capital.

Wilson (2002), inspired by the culturalist approach, examined the relative effects of cultural and economic capital among adults and found both factors independently increased participation in sport. Those rich in economic capital were supposedly more involved in sport since they better can afford the costs in terms of money and leisure time. Cultural capital also

increased the likelihood of sports involvement, net of economic capital, but it had a negative effect on involvement in 'prole sports', which 'implies that sports consumption is to a large degree motivated by preferences, tastes, skills, and knowledge that vary by class' (Wilson 2002: 13).

There are also other possible factors that can account for, or influence, the relationship between social class origin and sport participation among youth. One is immigrant origin, as adolescents of such origin typically have parents in lower-class positions, and are under-represented in organized sport activities, especially girls (Strandbu *et al.* 2017a). As apparent class differences may have more to do with immigrant rather than class origin, it is essential to control for immigrant origin, which recent research seldom does (see e.g. Vandermeerschen *et al.* 2016). Another neglected possibility in the research field is that social class differences in sports participation may be a result of school and neighbourhood segregation processes. Most urban areas are socially segregated, which is also the case in Oslo (Ljunggren and Andersen 2015), and if sport clubs are more widespread and better organized in some urban areas than in others, place of residence may contribute to social differences in participation patterns. Equally, adolescents attend different schools, owing to place of residence and academic achievement, both of which vary by social class. Because club-organized sport activities may be encouraged more by some schools than others, school affiliation may partially mediate the relationship between social class and sport participation.

Research questions

We first ask; to what extent are there social class differences in organized sport participation among youth? To examine this we start with the minimalist class approach, which focuses on parental labour market position. Then, we examine whether the key elements of the culturalist class approach can explain such differences by asking; to what extent does cultural and economic resources in the parental home represent mechanisms that establish this relationship? Finally, we ask; what is the importance of immigrant origin and place of residence and school affiliation for the relationship between class and sport participation?

Research context

The study was conducted in the capital of Norway, Oslo, which has 670,000 inhabitants. Generally the welfare level is high in Norway, but there are considerable socioeconomic differences between parts of the city (Toft and Ljunggren 2016). Norway was one of the first countries to implement *Sport for All* policies (Van Tuyckom and Scheerder 2010), a policy that still remains a major goal of the government's 'Norwegian sports model' (Kulturdepartementet 2012) and in the vision "Joy of Sport - for all" of the national confederation of sports, which organises all sports federations in Norway (Norges idrettsforbund 2018). In Oslo, there are 652 sports clubs, or one club per 1000 inhabitants. Many clubs have mainly children and youth members, and most organize team sports such as football or handball. The clubs are part of the civil sector. There is usually a participation fee, which varies widely, but can be quite high. In most clubs, parents play crucial roles as

volunteers and in many cases, as coaches (Seippel 2008). In general, parental involvement is high in Norway (Stefansen *et al.* 2016, Strandbu *et al.* 2017b: 2).

Data and methods

We used data from the large-scale *Young in Oslo* surveyⁱⁱ, conducted in 2015 to map the general living conditions of teenagers in Oslo. All upper secondary schools in Oslo were invited to participate. Eventually, 30 of 33 schools participated; all the city's 22 public schools and eight of its 11 private schools. The students could participate during a school lesson, and most completed the questionnaire in less than 45 minutes. Parents and students were informed about the study in advance, and notified that participation was voluntary. All ethical aspects of the study were approved by Norwegian Social Science Data Services. The response rate was 72%, and the sample covered 62% of the population of 16–18-year-old adolescents in Oslo. From the total sample (N = 10,928), we excluded 320 respondents older than 19 years and 77 without geographical information, which left 10,531 observations. The average age was 17.0 years (SD = 0.9), and 54% of the respondents were girls. Because the dataset only included students, the sample might be socially biased due to higher dropout rates from school in the lower social classes. Thus, social class differences in club sport participation might be somewhat larger in the population than what is documented in this study.

Dependent variable

Participation in organized sport activities was measured by asking ‘How often do you exercise or take part in the following activities?’ Different exercising activities were listed, including “exercise on your own”, “exercise in a gym” and “exercise or compete in a sports club”. We used the latter alternative to identify those who were active participants in a sports club. The variable had six response options from ‘never’ to ‘more than five times a week’. We defined active participants as those who exercised at least ‘1–2 times a week’.

Measuring social class background

The respondents were asked to name their mother's and father's occupation, and to describe their work. All answers were coded according to the International Standard of Classification of Occupations, ISCO-88. In addition, we identified supervisors, owners of firms and self-employed people. We first operationalized both the fathers' and mothers' EGP class position, based on the eleven-category scheme of Ganzeboom and Treiman (2011). Because of the small numbers in some categories, we collapsed the scheme (original categories in Roman numerals) into six classesⁱⁱⁱ: 1) Higher Professionals (I), 2) Lower Professionals (II), 3) Routine Non-manual/Lower Sales Services (IIIa+b), 4) Self-employed (IVabc), 5) Manual Supervisors (V) Skilled Workers (VI) and 6) Unskilled Workers (VIIa)/Farm Labourers (VIIb). In addition, we included a category for respondents who stated that their parents were not working. We based our classification on a conventional approach (e.g. Breen 2004):

fathers' class position was primarily used to define the family's position, but used mothers' position when information on the father was missing.

Other independent variables

We used three measures of economic family resources. First, family affluence was measured using four items from the Family Affluence Scale (FAS II) (Currie *et al.* 2008): (1) Does your family have a car? (2) Do you have your own bedroom? (3) How many times have you travelled somewhere on holiday with your family over the past year? and (4) How many computers does your family have? An average FAS score across items was constructed (range 0–3). Second, we asked about type of residence and we distinguished between 'House'/'Terrace House' versus 'Flat'/'Other'. Third, perceived family economy was measured by asking 'Has your family economic situation been good or bad during the past two years?' with a five-point response scale from 'Bad all the time' (0) to 'Good all the time' (4).

Building on quantitative studies on measuring cultural capital (e.g. Wells 2008, Leopold and Shavit 2013), we used information on parental education and the number of books at home as two separate indicators of cultural resources in the home. Education was represented by mothers' and fathers' education level, and measured by the number of parents who have higher education (0–2). The number of books is a six-value variable ranging from 0 (no books) to 5 (more than 1000 books). Both measures were satisfactorily validated against school grades (Bakken *et al.* 2016).

Immigrant background was measured by asking where parents were born. Those who answered that both parents were born abroad were classified as having immigrant backgrounds. We also collected information about what school each respondent attended and what part of the city they resided in.

Analyses

Table 1 shows the features of the analytical sample, the distributions and means of variables, as well as class differences for all variables. In the main analyses, we estimated a set of regression models. In Models 1–4 we used OLS linear probability models with robust standard errors. In the last two models, we included both neighbourhood and school in cross-classified multilevel models (Goldstein 2003), as these levels are not hierarchical.

When a dependent variable only has two values, it is common to use non-linear models. However, we used linear probability models, because estimates are easier to interpret (as differences in probabilities) and they are comparable across models and groups (Mood 2010). In many cases, the main objection to such models—heteroscedasticity—is of minor importance, as linear models tend to provide similar results to non-linear models (Hellevik 2009). As long as the probabilities are in the percentage range of 20 to 80, the log odds tend to be a linear function of probability (Hippel 2015).

To avoid bias from missing data arising from item non-response in the multivariate analyses, a multiple imputation technique was used with chained equations to manage missing data for all variables (White *et al.* 2011), as 33% of the sample had missing information on at

least one variable. We ran 30 imputations before performing the analyses on the pooled estimates. These analyses were compared with ‘complete case’ analyses: by using list-wise deletion of respondents with missing values on at least one of the included variables ($n = 6962$), and a single imputation approach ($n = 9032$), we imputed mean values for observations with missing values on continuous variables and included dummies for those with missing values on categorical variables. All approaches provided very similar results.

Results

Descriptive statistics are presented in Table 1. A majority of adolescents, 59%, had parents in the two upper social class categories. Those with parents in non-manual routine jobs made up 12.4%, and less than 3% had self-employed parents. Skilled workers and unskilled workers each represented 9.2%, and 4.5% had non-employed parents. As expected, the amount of cultural and economic resources varied considerably between the social classes. Moreover, the percentage of youth with two immigrant parents varied from 79% among children of unemployed parents to slightly above 10% among the professional classes. Neither age nor gender varied greatly between the social classes.

< TABLE 1 AROUND HERE >

Table 1 shows that 26% of all youth participated in club-organized sport at least once a week. The social class differences in participation rates were quite clear: 18% of children of unskilled workers participated, compared with 30% of children of higher professionals ($OR = 1.95$, $p < .001$). The difference in participation rates between higher and lower professional classes was very small (NS). The percentages of children of skilled, self-employed and routine-manual workers who participated in sports clubs were between those of the professional classes and the unskilled and non-employed people.

< TABLE 2 AROUND HERE >

In Table 2, we examined the relationship of social class origin to sports club participation, controlling for immigrant status, economic and cultural resources, as well as the school and neighbourhood context. The purpose was to test whether each component could explain initial class differences in participation. In these analyses, ‘unskilled workers’ was used as a reference group for all other class origins. In all models, age and gender were controlled for, which showed that boys were more active than girls, and the youngest children were more active than the oldest.

In the first regression model, we included only class position in order to examine the “gross” association with sport participation. It mainly reflected the pattern described above, showing significant differences in participation rates between unskilled workers and the two professional classes. The differences between unskilled workers and other classes were more moderate, between 3.6 and 5.2 percentage points, and only children of non-employed parents did not differ from children of unskilled workers.

In Model 2, when immigrant status was included, the social class differences in sport participation were slightly smaller than the initial class differences. Compared to Model 1, the estimated difference between unskilled workers and the professional classes was reduced about 28%, indicating that immigrant status was only partially related to the initial class differences. The difference in participation rates between those with and without immigrant parents was around five percentage points, when social class position was controlled for.

Since cultural resources are factors that can explain the relationship between class and sport participation, we included parental education level and the number of books at home in Model 3. These variables contributed about the same extent as immigrant status in explaining social class differences in sports participation. After controlling for social class, both coefficients were weak. The number of books at home did not explain any variance in sports participation, while parental education played some role in addition to social class.

In Model 4, economic resources were introduced as they can explain the initial class differences. These factors were clearly more important than the others, as they explained around half of the initial class differences between the reference category and professional classes. The relationship between family affluence and sport participation was quite strong, as the estimated differences in participation rate between those with the most and the least resources was estimated to be 21 percentage points. In addition, sport participation was higher among adolescents who resided in houses and among those who perceived their families' financial situation to be good.

In Model 5, we used cross-classified multilevel modelling to measure the importance of school and neighbourhood context simultaneously. Since these contexts are not nested - i.e. students at schools come from many different neighbourhoods, and those from different neighbourhoods often go to different schools - they should be included as two separate higher level variables. The results showed that these contextual factors contributed little to explanations of social class differences in club participation. The two coefficients for service class positions were 15-17% smaller when these factors were considered, compared with the initial differences in Model 1. Thus, social class differences in participation rates were rather similar within such contexts as across them.

In the final model, we entered all variables using the cross-classified multilevel framework. This model explained slightly more than half of the social class differences in sport club participation. The economic resources variables remained significant. On the other hand, when all variables were controlled for, the coefficients for immigrant status and parental education were non-significant and very close to zero. Because neither school nor neighbourhood effects were particularly large, the explanatory power here must be attributed to families' economic resources. Nevertheless, close to half of the class differences were left unexplained by the variables in the analysis.

Discussion

The study showed that 26% of all youth in Oslo aged 16-18 were participating in club-organized sport, a figure that was slightly below the national level (29%) (Bakken 2017: 46). In such a context, social class differences must be considered quite large, as those raised by parents in service class positions had a 10–11 percentage point higher probability of

participating in sports clubs than children of unskilled workers. The participation rates of children of skilled workers, self-employed people or manual routine workers were somewhere between the poles of the class distribution. An important finding concerns the relative importance of cultural and economic resources as mechanisms that generate social class differences in sport-club participation. The analyses showed that economic resources were the most important factors. Family affluence strongly influenced participation rates, as well as type of housing and youths' perceptions of their families' financial situation. Cultural resources explained only a modest proportion of class differences, and controlling for immigrant origin only slightly reduced the associations between social class and sports participation. The same was true for place of residence and school affiliation. Although we can explain large proportions of the class differences in our models, some of these class differences were left unexplained. This proves that applying a conventional and well-established class scheme in analyses of sport participation is an important approach to examining this kind of social differences among youth.

Understanding class differences

Previous studies have also found that economic resources in the family are the main contributor to social class differences in club sports participation (Duncan *et al.* 2002, Holt *et al.* 2011). Club sports are costly, and the more limited a family's budget, the higher the relative cost of adolescent club sport participation—and the less it may be prioritized. Particularly among unskilled workers and non-employed people, who have the lowest economic resources, cost may be a barrier. In this study, we found an independent explanatory effect of economic resources in the family, even among those in similar class positions. This implies that the EGP scheme does not capture all social differences, and there is heterogeneity of economic resources within the class categories that affects participation.

Immigrant background and parental education explained only a small proportion of class differences, and the number of books at home had virtually no impact. The latter indicates that academic culture is not particularly relevant for young people's participation in sports club activities. Thus, our findings contradict previous findings that cultural capital affects sport participation net of economic capital (Wilson 2002), and especially those by Larson (2008) who argues that cultural capital is even more important for youth sport participation than economic capital.

Still, because the variables included in our analyses explained only slightly more than half of the initial class differences, we cannot reject the view that cultural resources may be important in class differences in sports participation. A first issue is that the indicators used in this article may be incomplete, and more precise measures of family cultural and economic resources may explain even more class differences. Furthermore, cultural capital is understood and measured in different ways, and the indicators of cultural resources used in this study do not necessarily capture all relevant cultural resources. For instance, families from different social classes could have different 'cultures for sports' or 'tastes for sport' (Bourdieu 1978), and middle class parents may encourage childrens' participation in organized leisure time activities more than parents in other classes (Lareau 2003: 82). Also, middle class parents may have more confidence and ease in organizational settings (Lareau

2003: 231), a type of cultural skill that again could affect their childrens' experiences and their participation rates. Nevertheless, as we had limited access to indicators of these aspects of the family culture, we can only hypothesize that such cultural differences play a role.

On the other hand, the unexplained class effect (in model 6) could be a result of class differences more directly related to parental working situation. The EGP class scheme distinguishes between occupations with different degrees of skills, flexible working hours, long distance commuting and/or exhausting conditions. Such factors may influence parental ability and time for supporting, organizing and raising funds for their children's club sport activities. Such a substantial class effect would contradict the view that a minimalist class understanding is of little relevance in explanations of cultural and social activities (e.g. Savage *et al.* 2013: 222).

The analyses showed that class effects were somewhat reduced when neighbourhood and school context were controlled for. This indicates that the youths' social context may also matter. Although these effects were not particularly large, they indicate that organization of sport clubs, degree of parental engagement in neighbourhoods, and school sports cultures may explain some class differences in participation.

To the best of our knowledge, this study is the first to use established measures from the minimalist tradition and concepts from the culturalist tradition in class research to investigate the link between parental social class and participation in organized youth sports. Hopefully, the study will inspire other researchers to use similar approaches so that further research results will accumulate in this area. In this regard, we wish to highlight that the use of established class models may facilitate comparison of studies. Moreover, when we apply theory-based class schemes and concepts in multivariate analyses, we have a better understanding of the inequality-generating factors and mechanisms than with arbitrary measures of social inequality. The results suggest that in analyses of organized club sport participation, the EGP classification should at least be accompanied with indicators of economic resources. We also wish to highlight the importance of including related variables such as immigrant background and social context in analyses, which were typically neglected in earlier studies.

Conclusion

Our analyses show substantial differences in organized sport participation between adolescents from different social classes. Despite Sport for all-policies, democratization of participation in organized sport has not yet been realized, even not in relatively egalitarian countries like the Scandinavian. Our analyses suggest that cultural resources, immigrant origin and the social context in which the adolescents live in and what school they attend, only partially explained this relationship. The analyses suggest that economic resources are more central in young people's sport club participation, and that such assets are the most important factor in social class differences. This is not a particularly new conclusion, but the strength of the study is that we find this even when cultural and economic resources, as well as other factors as immigrant origin and social context, are treated in the same study. Thus, policies by local authorities and sport clubs in low-income areas that provide economic assistance to low-income families with children who wish to participate in sports, should be

encouraged. The results also suggest that the sport clubs should be more aware of the costs for parents, such as membership fees, as high costs can exclude adolescents of low-income families from sport.

However, as discussed above, our measures of cultural and economic resources can only be crude indicators of resources that do not cover all family assets relevant to class differences in participation. Thus, future research should include even more detailed information on parental education, cultural resources and income. Because many of the class differences in participation rates remain even after controlling for all factors in the full model, future research should examine whether differences in parental involvement in sports (e.g. how important they think it is, and their level of participation) and differences in their work situations, affect their support of their adolescent children's sport club participation. Future research should also examine how class, cultural resources and economic resources influence adolescents' participation in different types of sports and clubs, as these factors have been found to be important among adults (Wilson 2002).

Further research should have better control of the temporal aspect of social inequality in sports participation. For example, in this study we do not know whether the class differences seen in late adolescence are mainly the result of lower classes taking up sports (as children) to a lesser degree than youths from professional classes, or if the former group is dropping out more frequently than the latter later during adolescence, when sports activities become more expensive and serious. This question has important policy relevance, and future research should be encouraged.

Funding

This research is a part of the project "Participation in Sports among Norwegian Youth", project number 316032, funded by The Norwegian Ministry of Culture, Norwegian Social Research (NOVA) and The Norwegian School of Sport Sciences.

Notes

ⁱ The use of the notions of "capital" and "resources" is debated (e.g. Goldthorpe 2007: amongst others). Here, we use the term resources as a more general concept than capital.

ⁱⁱ For data access, contact the Norwegian Centre for Research Data (<http://www.nsd.uib.no/nsd/english/index.html>).

ⁱⁱⁱ This is similar to the approach followed by Halpin (1999) and Jæger and Holm (2007), except that we do not collapse the two service class categories I and II.

References

- Bakken A (2017) Ungdata 2017: nasjonale resultater. [Ungdata 2017: national results] Oslo: NOVA - Norwegian Social Research
- Bakken A, Frøyland LR and Sletten MA (2016) Sosiale forskjeller i unges liv. Hva sier Ungdata-undersøkelsene? [Social differences in young people's lives. What can UNGDATA tell us?] Oslo: University College of Oslo and Akershus.
- Berger IE, O'Reilly N, Parent MM, et al. (2008) Determinants of sport participation among Canadian adolescents. *Sport Management Review* 11: 277–307.
- Bottero W (2005) *Stratification: Social Division and Inequality*. London: Routledge.
- Bourdieu P (1978) Sport and social class. *Social Science Information* 17: 819–840.
- Bourdieu P (1984) *Distinction: A Social Critique of the Judgement of Taste*. London: Routledge & Kegan Paul.
- Bourdieu P (1986) The forms of capital. In: Richardson JG (ed) *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood Press, pp.241–258.
- Breen R (2004) *Social Mobility in Europe*. Oxford: Oxford University Press.
- Chan TW and Goldthorpe JH (2007) Class and status: The conceptual distinction and its empirical relevance. *American Sociological Review* 72: 512–532.
- Currie C, Molcho M, Boyce W, et al. (2008) Researching health inequalities in adolescents: The development of the Health Behaviour in School-Aged Children (HBSC) family affluence scale. *Social Science & Medicine* 66: 1429–1436.
- Duncan M, Woodfiel DL, Nakeeb Y, et al. (2002) The impact of socio-economic status on the physical activity levels of British secondary school children. *European Journal of Physical Education* 7: 30–44.
- Erikson R and Goldthorpe JH (1992) *The Constant Flux: A Study of Class Mobility in Industrial Societies*. Oxford: Clarendon Press.
- Fernandes RA, Reichert FF, Monteiro HL, et al. (2012) Characteristics of family nucleus as correlates of regular participation in sports among adolescents. *International Journal of Public Health* 57: 431–435.
- Ganzeboom HBG and Treiman DJ (2011) International stratification and mobility file: Conversion tools. Available at: <http://home.fsw.vu.nl/hbg.ganzeboom/ismf> (accessed 8 November 2017).
- Goldstein H (2003) *Multilevel Statistical Models*. London: Arnold.
- Goldthorpe JH (2000) *On Sociology: Numbers, Narratives, and the Integration of Research and Theory*. Oxford: Oxford University Press.
- Goldthorpe JH (2007) “Cultural capital”: Some critical observations. *Sociologica* 1(2): 0-0.
- Halpin B (1999) Is class changing? A work–life history perspective on the salariat. *Sociological Research Online* 4: 4.
- Hellevik O (2009) Linear versus logistic regression when the dependent variable is a dichotomy. *Quality & Quantity* 43: 59–74.

- Hippel PV (2015) Linear vs. logistic probability models: Which is better, and when?
Available at: <http://statisticalhorizons.com/linear-vs-logistic> (accessed 8 November 2017).
- Holt NL, Kingsley BC, Tink LN, et al. (2011) Benefits and challenges associated with sport participation by children and parents from low-income families. *Psychology of Sport and Exercise* 12: 490–499.
- Jæger MM and Holm A (2007) Does parents' economic, cultural, and social capital explain the social class effect on educational attainment in the Scandinavian mobility regime? *Social Science Research* 36: 719–744.
- Katz-Gerro T and Shavit Y (1998) The stratification of leisure and taste: Classes and lifestyles in Israel. *European Sociological Review* 14: 369–386.
- Kulturdepartementet (2012) Den Norske Idrettsmodellen. [The Norwegian Sport Model] Meld. St. 26 (2011–2012). Oslo: Kulturdepartementet.
- La Torre G, Masala D, De Vito E, et al. (2006) Extra-curricular physical activity and socioeconomic status in Italian adolescents. *BMC Public Health* 6: 22.
- Lareau A (2003) *Unequal Childhoods: Class, Race, and Family Life*. Berkeley: University of California Press.
- Larsson B (2008) Ungdomarna och idrotten: Tonåringars idrottande i fyra skilda miljöer [Youth and sports: Adolescents' sporting activities in four different environments]. Stockholm: Stockholm University, Sweden.
- Leopold L and Shavit Y (2013) Cultural capital does not travel well: Immigrants, natives and achievement in Israeli schools. *European Sociological Review* 29: 450–463.
- Ljunggren J and Andersen PL (2015) Vertical and horizontal segregation: Spatial class divisions in Oslo, 1970–2003. *International Journal of Urban and Regional Research* 39: 305–322.
- Mood C (2010) Logistic regression: Why we cannot do what we think we can do, and what we can do about it. *European Sociological Review* 26: 67–82.
- Nielsen G, Grønfeldt V, Toftegaard-Støckel J, et al. (2012) Predisposed to participate? The influence of family socio-economic background on children's sports participation and daily amount of physical activity. *Sport in Society* 15: 1–27.
- Norges idrettsforbund (2018) The Norwegian Olympic and Paralympic Committee and Confederation of Sports Available at: <https://www.idrettsforbundet.no/english/> (accessed 8 February 2018).
- Rohrer T and Haller M (2015) Sport und soziale Ungleichheit – Neue Befunde aus dem internationalen Vergleich. *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie* 67: 57–82.
- Sabo D and Veliz P (2008) *Youth Sport in America*. East Meadow, NY: Women's Sports Foundation.
- Savage M, Devine F, Cunningham N, et al. (2013) A new model of social class: Findings from the BBC's Great British Class Survey experiment. *Sociology* 47(2): 219–250.
- Savage M, Warde A and Devine F (2005) Capitals, assets, and resources: Some critical issues. *The British Journal of Sociology* 56: 31–47.

- Scheerder J, Vanreusel B, Taks M, et al. (2002) Social sports stratification in Flanders 1969–1999: Intergenerational reproduction of social inequalities? *International Review for the Sociology of Sport* 37: 219–245.
- Scheerder J, Vanreusel B, Taks M, et al. (2005) Social stratification patterns in adolescents' active sports participation behaviour: A time trend analysis 1969–1999. *European Physical Education Review* 11: 5–27.
- Seippel O (2006) Sport and social capital. *Acta Sociologica* 49: 169–183.
- Seippel O (2008) The fine art of coaching: Instructions, social support or democratic participation? *European Journal for Sport and Society* 5: 169–185.
- Stalsberg R and Pedersen AV (2010) Effects of socioeconomic status on the physical activity in adolescents: A systematic review of the evidence. *Scandinavian Journal of Medicine & Science in Sports* 20: 368–383.
- Stefansen K, Smette I and Strandbu Å (2016) Understanding the increase in parents' involvement in organized youth sports. *Sport, Education and Society* 1–11.
- Strandbu Å, Bakken A and Sletten MA (2017a) Minority and majority youth and sport participation—different patterns for boys and girls. *Sport in Society (accepted)*.
- Strandbu Å, Stefansen K, Smette I, et al. (2017b) Young people's experiences of parental involvement in youth sport. *Sport, Education and Society* 1–12.
- Stuij M (2015) Habitus and social class: A case study on socialisation into sports and exercise. *Sport, Education and Society* 20(6): 780–798.
- Theeboom M, Haudenhuyse R and De Knop P (2010) Community sports development for socially deprived groups: A wider role for the commercial sports sector? A look at the Flemish situation. *Sport in Society* 13: 1392–1410.
- Toft M and Ljunggren J (2016) Geographies of class advantage: The influence of adolescent neighbourhoods in Oslo. *Urban Studies* 53(14): 2939–2955.
- Toftgaard-Stockel J, Nielsen GA, Ibsen B, et al. (2011) Parental, socio and cultural factors associated with adolescents' sports participation in four Danish municipalities. *Scandinavian Journal of Medicine & Science in Sports* 21(4): 606–611.
- Van Tuyckom C and Scheerder J (2010) Sport for All? Insight into stratification and compensation mechanisms of sporting activity in the 27 European Union member states. *Sport, Education and Society* 15(4): 495–512.
- Vandermeerschen H, Vos S and Scheerder J (2016) Towards level playing fields? A time trend analysis of young people's participation in club-organised sports. *International Review for the Sociology of Sport* 51: 468–484.
- Wells R (2008) The effects of social and cultural capital on student persistence: Are community colleges more meritocratic? *Community College Review* 36: 25–46.
- Wells L, Magnus N and Östberg V (2017) "Physical inactivity from adolescence to young adulthood: the relevance of various dimensions of inequality in a swedish longitudinal sample." *Health Education & Behavior* 44 (3): 376–384.
- White IR, Royston P and Wood AM (2011) Multiple imputation using chained equations: Issues and guidance for practice. *Statistics in Medicine* 30: 377–399.
- White P and McTeer W (2012) Socioeconomic status and sport participation at different developmental stages during childhood and youth: Multivariate analyses using Canadian National Survey data. *Sociology of Sport Journal* 29: 186–209.

Wilson T (2002) The paradox of social class and sports involvement: The roles of cultural and economic capital. *International Review for the Sociology of Sport* 37: 5–16.

Tables

Table 1. Descriptive statistics. Average score on key variables by social class origin. Adolescents 16-19 years. Young in Oslo 2015.

	I Higher professionals	II Lower professionals	III Routine Non- manual	IV Self employed	V & VI Manual supervisors & skilled workers	VII Unskilled Workers	Non- employed	Total	Standard deviation	Sig - ANOVA: Prob.> F
Sports club participation (1 = at least 1–2 times a week)	.30	.29	.23	.24	.23	.18	.19	.26		.000
Age (16–19)	17.04	17.01	17.01	17.09	17.05	17.06	17.22	17.04	.91	.004
Gender (1 = girls)	.53	.54	.54	.59	.54	.58	.59	.54		.054
Immigrant origin (two immigrant parents = 1)	.12	.14	.40	.21	.37	.63	.79	.27		.000
Parental education level (0–2)	1.72	1.63	1.16	1.19	.90	.68	.42	1.36	.82	.000
Number of books (0–5)	3.41	3.27	2.61	2.89	2.45	2.10	1.86	2.95	1.20	.000
Family affluence (0–3)	2.59	2.50	2.29	2.59	2.33	2.16	1.66	2.41	.55	.000
Housing type (1 = House/Terrace House)	.78	.72	.58	.73	.58	.48	.31	.66		.000
Perceived family economy (0–4)	3.43	3.19	2.90	3.20	2.86	2.68	2.18	3.10	.99	.000
N (complete case)	2 408	1 901	866	197	624	638	310	6 962		
Distribution of social classes (%) (complete case)	34.6	27.3	12.4	2.8	9.2	9.2	4.5	100.0		

Table 2. Participation in club sports regressed on social class, gender, age, economic and cultural resources, immigrant status and neighbourhood and school affiliation.

	Model 1 Null-model ¹				Model 2 Controlling for immigrant status ¹				Model 3 Controlling for cultural resources ¹				Model 4 Controlling for economic resources ¹				Model 5 Controlling for school and neighbourhood affiliation ²			Model 6 Controlling for all ²		
	B	R	SE	p	B	R	SE	p	B	R	SE	p	B	R	SE	p	B	SE	P			
Social class origin (ref.: unskilled workers)																						
Higher professionals	.109	.016		***	.079	.017		***	.078	.019		***	.055	.017		**	.091	.018	***	.042	.019	*
Lower professionals	.101	.016		***	.073	.017		***	.073	.018		***	.061	.017		***	.086	.017	***	.048	.019	*
Routine Non-manual	.037	.018		*	.024	.018		NS	.024	.019		NS	.024	.017		NS	.031	.019	NS	.017	.019	NS
Self employed	.052	.032		NS	.028	.032		NS	.036	.033		NS	.004	.032		NS	.023	.032	NS	-.017	.033	NS
Skilled workers	.041	.021		NS	.027	.021		NS	.034	.021		NS	.024	.021		NS	.032	.022	NS	.015	.022	NS
Unemployed/disabled.	.013	.024		NS	.020	.024		NS	.019	.024		NS	.059	.024		*	.024	.025	NS	.064	.026	*
Age (16–19)	-.052	.005		***	-.052	.005		***	-.051	.005		***	-.049	.005		***	-.054	.005	***	-.051	.005	***
Gender (1 = girls)	-.161	.009		***	-.160	.009		***	-.161	.009		***	-.155	.009		***	-.152	.009	***	-.148	.008	***
Immigrant origin (two immigrant parents = 1)					-.056	.010		***									-.022	.011	NS			

Parental education level (0–2)			.022	.007	**							.008	.007	NS		
Number of books (0–5)			.006	.004	NS							.001	.004	NS		
Family affluence (0–3)								.070	.010	***		.061	.010	***		
Housing type (1 = House/Terrace House)								.041	.010	***		.033	.011	**		
Perceived family economy (0–4)								.017	.005	***		.013	.005	**		
Constant	.326	.015	***	.363	.017	***	.298	.017	***	.102	.025	***	.325	.027	***	
N =	10 531			10 531			10 531			10 531			10 531			
Random effect estimates											SD	SE	sig	SD	SE	Sig
Individual (level 1)											.413	.003	***	.410	.003	***
School (level 2)											.112	.015	***	.109	.015	***
Neighbourhood (level 2)											.032	.006	***	.024	.006	***

1) Linear probability models 2) Cross-classified multilevel model. Ref: reference category – B: beta coefficients – R SE: robust standard errors – SE: standard errors – p: probability level

*** p < .001, ** p < .01, * p < .05