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# Sports participation among Norwegian youth: a study of early sporting careers

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## ABSTRACT

Despite a growing body of evidence suggesting that establishing sporting repertoires during youth is intimately related to ongoing participation in sport, little is known about how such repertoires develop during the crucial early teenage years, when the sporting habits that provide a basis for sporting careers take shape. The aim of the study was, therefore, to describe the structure of young people's sporting repertoires as they move through a key formative period, as a basis for theorising their retention in sports participation. By providing a detailed analysis of a cohort of young Norwegians as they progressed through lower-secondary into upper-secondary school (13–16-year-olds), this study offers insights into how different sporting forms fluctuate during a period typically characterised by heavy drop-out and drop-off from sports participation. Data were obtained from a longitudinal cohort study of Norwegian youngsters attending 11 lower secondary schools based on annual surveys conducted from grade 8 through to grade 10 and used to describe cohort changes in sports participation rates and sporting forms over time. The noticeable movement between sporting forms alongside the marked shift towards informal sports during the period is likely to provide an important insight into how Norwegian teenagers not only maintain high levels of participation during the teenage years but also enhance their sporting repertoires in a manner likely to sustain sports participation through youth into early adulthood.

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Youth; sports participation; sporting careers; sporting repertoires; informal sports; transitions; Norwegian

## Introduction

In recent years, interest in youth sports participation has increased markedly (see, e.g. Bakken, 2019; Skauge & Seippel, 2022; van Houten et al., 2019), not least because participation during this transitional life-stage appears related to ongoing participation in sport over the life-course (Engström, 2008; Kjønniksen et al., 2008; Laakso et al., 2008; Roberts & Brodie, 1992; Scheerder et al., 2006). There is growing evidence, for example, that if young people are introduced to sport during childhood, and sustain involvement into and through youth, then their chances of becoming lifelong participants are considerably increased (see, e.g. Engström, 2008; Haycock, 2015; Roberts et al., 2020; Roberts & Brodie, 1992).

Although the life-stage when sporting habits can become deeply ingrained, youth is also the period when drop-out (ceasing participation) and drop-off (participating less, overall, as well as in

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relation to specific sporting forms) tend to gather pace. In this regard, there is an emerging body of research suggesting that the forms of sport that youth take part in – and, in particular, the more-or-less formal or informal contexts in which they engage – are important for understanding their patterns of participation (see, e.g. Persson et al., 2020). Despite the emerging research on organised sports participation, the composition of youngsters' sporting repertoires during the youth life-stage remains significantly under-explored. More specifically, very little is known about the ways in which these repertoires develop during this life-stage. In addition, there is a dearth of longitudinal studies of sports participation among youth, especially during the lower secondary school years (13–16-year-olds) when drop-off and drop-out begin. Moreover, until relatively recently, studies into young people's leisure activities concentrated mainly on adolescents or older youth. The advanced onset of the transition from childhood into youth (Zeijl et al., 2001) highlights the need for further study of early or incipient youth, particularly in relation to active leisure in the form of sport. Given this rationale, the aim of the study was, therefore, to describe the structure of young people's sporting repertoires as they move through a key formative period, as a basis for theorising their retention in sports participation. This aim was operationalised in the form of the following research question: How do Norwegian 13–16-year olds' sporting repertoires develop?

The study endeavours to make several contributions to existing knowledge regarding young people's sports participation. We know, for example, that in many countries in Western societies it is in the early years of secondary schooling – between 13 and 16 years – that participation in sport, both in and out of school, tends to begin its steady downward trend towards the first major point of drop-out, the end of compulsory schooling. The existing evidence regarding ongoing participation (e.g. through youth into adulthood and later-life) demonstrates that life events (such as moving from education to work) tend not to significantly disrupt sports participation among those who have established strong sporting habits during childhood and embedded these by age 16 (see, e.g. Engström, 2008; Roberts & Brodie, 1992; Scheerder et al., 2006). Subsequent life events will impact older youth and young adults' sports participation differentially depending upon the breadth and depth of their embedded sporting repertoires and associated habits by age 16. At the same time, while research has shown that teenagers typically experiment with a wide range of leisure interests what is not known is how this tendency plays out empirically and whether this experimentation manifests itself in tendencies to engage in more or less formal or informal sporting forms as youths' leisure styles become focused around a smaller number of retained pastimes (Roberts, 2019).

Norway makes an interesting case-study of youths' sports participation for several reasons. First, more people do more sport, more often in Norway compared to elsewhere, especially outside the Nordic region (European Commission, 2018; Green, Thurston, et al., 2019; Van Tuyckom, 2016). Second, the peak in sports participation appears to occur later in Norway – 16–19 years (Statistics Norway, 2015) than is typically the case internationally. Third, the decline in sports participation following the transition into adulthood is reminiscent of drop-off rather than drop-out, given the tendency towards a 'bounce back' in participation in middle age (Green, Thurston, et al., 2019). Fourth, there has been a high level of convergence between genders in sports participation in Norway (Breivik & Rafoss, 2017; Dalen & Holbæk-Hanssen, 2016; Statistics Norway, 2015).

## Theorising sporting repertoires and careers

In seeking to theorise youngsters' sports participation we adopt a sociological perspective, which emphasises social biography and emerging identities during the formative period of youth. Here we clarify our use of these terms and begin with the term 'sport'. In its formal, restricted sociological usage sport refers to competitive game-contests (revolving around three chief characteristics: competition, physical vigour and institutionalisation). However, we broaden its usage to incorporate less competitive, less organised, recreational versions of these sports (e.g. casual football) as well as more recreationally oriented physical activities and exercise (e.g. swimming, parkour) often referred to as

lifestyle sports and activities (Gilchrist & Wheaton, 2016). In this regard, it is increasingly commonplace in the study of contemporary trends to use the term sport in this broader sense (see, e.g. Thorpe & Dumont, 2022) and refer to 'a "sport participant" [as] a person who takes part in a sporting activity, whether in a formal or informal capacity' (Eime et al., 2020, p. 1344). For the purposes of the present study, the distinction between formal and informal sport revolves principally around the *context* of participation rather than the activity itself (Jeanes et al., 2019). Thus, formal sport takes place within sporting organisations, such as the sports club. Informal sport takes place beyond such formal structures, such as at local gyms. Differences in context reveal variations in *styles* of participation such that informal sport tends to be more casual, spontaneous and flexible and oriented towards fun and recreation that participants can readily drop into and out of (Jeanes et al., 2019; Kokolakis et al., 2017; Neal et al., 2023). Thus, we use the term informal sport to refer to recognisable traditional sporting forms as well as physical recreation and lifestyle sports.

One of the features of international trends in forms of sports participation has been a shift in participation styles towards informal participation compared to formal sport (see, e.g. Borgers et al., 2016b). Young and old alike appear attracted by the flexibility and diversity of informal leisure sports that allow for choice regarding where, when, how and with whom participation occurs (Borgers et al., 2016a; Borgers et al., 2018). The flexibility and informality that specific sports offer may be particularly important for youth as pressures from school, among other things, increase (Espedalen & Seippel, 2024). All-in-all, while rates and frequency have long been used as indicators of sports participation, the importance of *forms* (specific sports or groups thereof) for ongoing or life-long engagement remains under-explored (see, e.g. Engström, 2008; Haycock, 2015; Roberts & Brodie, 1992; Scheerder et al., 2006), and empirical evidence remains sparse.

The term sporting repertoires refers to the blend of sports that a person habitually engages in and, more specifically, the number and differing forms of activity. The concept has been applied fairly extensively in recent years, especially in the UK, to various stages of the life course (see, e.g. Harrington, 2006; Haycock & Smith, 2017; Nölleke, 2022; Roberts, 2013; Roberts & Brodie, 1992; Wheeler et al., 2016; Wheeler & Green, 2019). The term sporting career refers to the sequencing of sporting forms (formal and informal) and individual sports that characterise young people's sporting repertoires during a particular period – in this case, ages 13–16.

The concept of career has become well-established in the health field in relation to smoking and drug use where it has been used to examine the development of usage trajectories (see, e.g. Graham et al., 2006; Hughes et al., 2021). In the same vein, the term sporting careers has been used to analyse particular dimensions of (young) people's overall biographies, such as leisure or educational careers (Roberts et al., 2009). The social significance of the ways in which youngsters' sporting careers develop lies in what it may tell us about the mix of structural and agentic influences during this phase of their lives: i.e. the ways in which the structural influences of childhood involvement in formal sporting organisations begin to lose hold as the youngsters' reflexively exercise degrees of agency in constructing their sporting repertoires. In this regard, the concept of sporting careers enables exploration of the sequential development of youngsters' sporting repertoires and how these reflect degrees of change and continuity. Conceptualising sports participation in terms of careers is consistent with the notion of youth as a transitional life-stage between childhood and adulthood (Cieslik & Simpson, 2013). Thus, young people's sporting careers are typically built upon and enabled by previous experiences, leading to what is often referred to as a sporting habitus – defined as 'the durable and generalised disposition that suffuses a person's action throughout an entire domain of life or, in the extreme instance, throughout all of life' (1986, as cited in Van Krieken, 1998, p. 44). Thus, the concept of career injects a biographical dimension into analyses of social life. It seeks to reconstruct the successive experiences which have become crystallised in young people's predispositions to think and act in particular ways (Lahire, 2019).

Recognising that sporting careers tend to have their own structure and momentum (Roberts, 2016b) requires attention to be paid to the mutability of sporting repertoires. In other words, sporting repertoires not only change but become less uniform in pattern and form, in a kind of structured

flux (Mennell, 1992). A repertoire of sports, while always liable to change, can be seen to possess a recognisable shape or pattern at a given point in time. The ways in which regular and persistent sports participants change the mixes of sports they engage with is the focus of this study. As Roberts (2014) observes, the main difference in youth sports participation between those who are likely to remain in sport and those likely to drop-off and/or drop-out tends to be not so much the amount they undertake nor how good they are or even how much they enjoy particular sports as the number, form and variety of sports they play regularly (Roberts & Brodie, 1992). Variety appears important because of the mutability of participants' sporting repertoires, whereby youths display a tendency to swap the mixes of sports in their repertoires at any one time – often in response to changing personal and social circumstances as much as developing tastes but also in the process of establishing their own identities.

Youth is conceptualised as a life-stage between childhood and adulthood, the length of which varies across time and place. The biographical perspective in sociology views the life course as consisting of stages marked by life events, some of which are major (such as moving from education to work) while others are relatively less so (moving from lower-secondary to upper-secondary schooling, for instance) (Roberts, 2009). In the present study, we focus on how the early teenage years appear to signal a re-configuring of youths' sporting repertoires. Linked to the notion of youth as a life stage is the concept of transition. Transitions are types of change involving a start point (e.g. childhood) and a known destination (e.g. adulthood) and the life-course of the individual (in other words, their social biography) is said to be structured by these socially constructed transitions more so than by biological age. Transitions to adulthood are the central dynamic in youth and are often associated with social experimentation and the development of preferred leisure identities, among other things (Jones, 2009). As far as the life-stage of youth is concerned, these transitions amount to moving from childhood towards adulthood via a number of socially significant status transitions. These shifts are potentially significant for sports participation because, during transitions, people's sporting lives can, and often do, unfreeze and reform.

## Methods

### *Study design and participants*

The data presented are drawn from a larger mixed-method longitudinal cohort study of Norwegian youth (13–19-years-old), which was conducted in two phases. Phase 1 involved the recruitment of a cohort of 13–16-year-olds<sup>1</sup> attending 11 lower secondary schools<sup>2</sup> located in different counties in the western and eastern regions of Norway. The schools were selected based on their socio-demographic characteristics, such as location (urban/suburban/rural), ethnic composition and socio-economic status among the pupils, as well as the size of the school. The cohort was involved in an annual survey for three years – from grade 8 (ages 13–14 in 2016) through grade 9 (ages 14–15 in 2017) to grade 10 (ages 15–16 in 2018). The survey used an online questionnaire, which was completed during class time with the researchers present. The presence of researchers ensured that data collection took place according to established ethical principles (for example, with regard to the young people's voluntary participation) and methodological requirements (e.g. clarifying questions in the questionnaire and responding to any technical issues with the online survey). The researchers did not intervene unless participants raised their hands. The study was approved by the Norwegian Centre for Research Data (Reference number 315433).

The analysis presented in this paper specifically draws on questions relating to their participation during their leisure time in a variety of sports during summer and winter. Overall, 599 pupils (54.4% girls) of an eligible sample of 1001 consented to participate in the study during grade 8. The drop-out between grades 8 and 10 was relatively low; 69 had moved school or withdrew their consent while 21 new participants entered the study at grade 9.

Phase 2 involved a follow-up study of a sub-sample ( $n = 41$ ) of the original cohort, the purpose of which was to further explore the development of their sporting careers from childhood up to the present day. The individual interviews were completed during the 2nd year of upper-secondary school when the young people were aged 17–18 years old. This coincided with a period of national lockdown (spring 2021) due to the COVID-19 pandemic. The young people were contacted via text-message and/or e-mail, which outlined why they had been contacted and explained the purpose of the follow-up study. They were asked to opt into the follow up study, with active oral consent being given by each young person prior to the start of the interview. To ensure data security, the interviews were audio recorded on a separate device. The interviews were carried out online via Zoom or Teams, whichever the participants preferred. Individual in-depth qualitative interviews were carried out to explore biographical and sporting shifts from childhood to the present day, especially with an emphasis on their formal and/or informal participation. Our analyses specifically draw on data that relates to the 13–16-year-old life-stage.

### ***Measures of sporting careers and sporting repertoires***

The study's longitudinal perspective allowed sporting careers to be described by capturing data at three annual time points and documenting changes over time. At each point, data on sporting repertoires was collected using three sports participation variables: sports participation frequency; sporting activities; and participation forms (formal and informal forms of sports activities). Questions on sports participation frequency and sporting activities were identical to those employed by Statistics Norway (2015) in its nationally representative study of *Living conditions in Norway*. Frequency of sports participation was measured by the question 'During a typical week, how often do you do physical activity during your free time?' with five alternatives ranging from 'never' to 'almost daily or more'. Sporting activities were measured (both for winter and summer) with the question 'What types of activities do you do regularly (at least once every two weeks) during your free time to train/exercise during summer/winter?', with 24/29 different activities respectively to choose from in addition to a text box for other activities. Respondents could report all sports that applied. Open-text answers were categorised into 'other sports' or existing pre-defined sporting activities where relevant. Summer and winter activities were combined to obtain a total count for presentation purposes. If one activity was undertaken during both summer and winter, it counted as one activity.

For the purpose of the analysis presented here, data from the phase 2 interviews were used to investigate participation forms (organised/formal, unorganised/informal participation, both or none if they did not do any sports) in relation to the specific sporting activities reported from phase 1, by asking the youngsters about their sporting biographies from childhood up to the present day. Because each young person in the original cohort had a unique reference number, we could link their questionnaire responses from phase 1 to each of the 41 young people interviewed. In this way, we were able to ask them about their responses to the questions on participation in the online survey in each wave and tell us if their participation was formal and/or informal. Organised/formal participation was defined as structured sporting activities organised by a formal youth sports club (e.g. football team), while unorganised/informal participation was defined as sports done outside of such formal settings. Data from phase 2 are used to illustrate the development of the youngsters' sporting careers and how participation forms shifted during their transition through grades 8–10.

### ***Data analysis: phase 1***

The data from phase 1 relates to the young people's sporting activities during three years of compulsory schooling from grade 8 to grade 10. Statistical analyses were performed using IBM SPSS Statistics for Windows, Version 26.0. The Wilcoxon signed-rank test was used to analyse changes over



time in ordinal dependent variables (*sports participation frequency*). McNemar chi-square was used to analyse changes over time for each of the *sporting activities*. Gender differences in *sports participation frequency* were analysed by Mann–Whitney U tests, while Chi-square test of homogeneity, or Fisher's exact test when expected frequencies were  $<5$ , were used for *sporting activities*.

## Data analysis: phase 2

The analysis in phase 2 involved converting qualitative responses into quantitative data, a typical procedure used in mixed-methods research to ensure *integration* of methods (Tashakkori et al., 2020). Each youngster's reported activities were coded into a category based on whether participation was 'formal', 'informal', 'both' or 'none' if they did not do any sports. This coding was carried out for participation reported at grade 8 and grade 10 respectively ending up with four possible participation forms at each of the two grades. This gave in total 16 possible transitional paths between the two time points for each of the 41 youngsters (for example, formal at grade 8 to informal at grade 10). The data were imported into Microsoft Excel and the plug-in tool 'ChartExpo' was used to create Sankey diagrams for visual presentation of the data where the possible transitional paths are represented by lines of different thickness depending on the proportion of youngsters that followed the respective transitional pathway. The colours of the pathways differentiate the forms of sports participation reported at grade 10. In this way, Sankey charts can be used to show change over time in relation to starting points and destinations (in other words, careers). In our case, we can thus show how sporting careers between the ages of 13 and 16 years are formed.

## Results

### Frequency of sports participation

Figure 1 shows frequency of sports participation for the young people at grades 8, 9 and 10 ( $n = 574\text{--}507$ ), ages 13–16. During grade 8, the majority (77%) of the youngsters played sports regularly (twice a week or more). Of those regularly participating, just over a third (34.1%) participated on an almost daily basis, while just under two-thirds (60.6%) did so at least three times a week. At the other end of the frequency scale, few teenagers were doing nothing – 1.7% never participated in sports at grade 8. Differentiation by gender revealed that boys' and girls' frequency profiles differed slightly, with boys more likely to participate almost daily compared to girls (37.1% versus 31.6%). The pattern was reversed at the other end of the frequency spectrum, with girls more likely to participate once a week or less (23.5% versus 18.6%) and boys more likely to never do sport than girls (2.3% versus 1.3%). Differences in participation frequency between genders were not, however, statistically significant at any of the time points ( $p = 0.13$ ). Exploring differences over time reveals that the proportions taking part regularly remained quite stable between 8th (77%), 9th (79.5%) and 10th grades (75.7%). This was largely true for both boys and girls, although girls' sports participation frequency declined slightly and significantly overall ( $p = 0.02$ ) over time. For boys, there were no significant changes ( $p = 0.88$ ) in participation frequency over time.

### Types of sporting activity

Table 1 presents participation in summer and winter sports combined, ranked according to popularity at grade 8, for all and according to gender. Overall, the five most popular activities among the whole sample at grade 8 and grade 10 were fast walks, running/jogging, cycling, football and strength training. The top five activities were the same for boys and girls at grade 8, with small changes in relative positions. Moreover, the pattern was similar at grade 10. However, football significantly declined in popularity among boys and girls but especially among the latter where it dropped out of the top five sports. Strength training, on the other hand, increased significantly

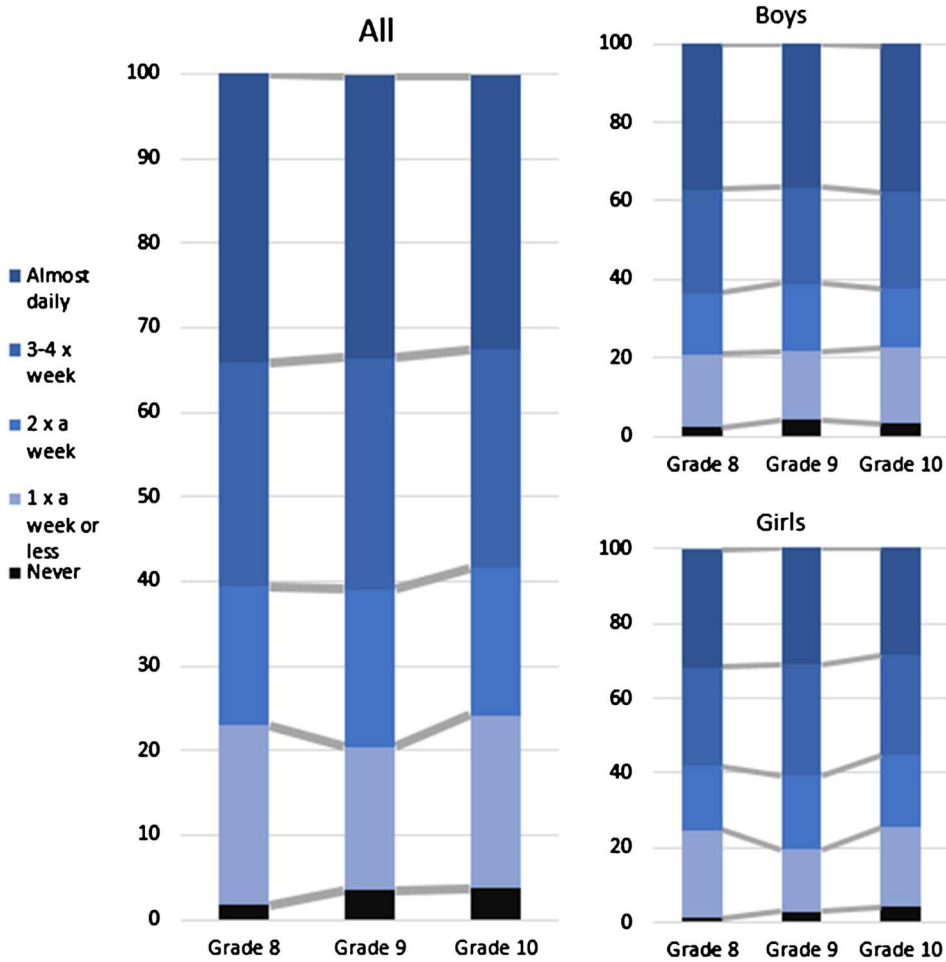


Figure 1. Sports participation (%) by frequency per week for all and by gender, grade 8–10 ( $n = 574\text{--}507$ ).

by 13.9 and 11.3 percentage points for boys and girls respectively, making it the most trending of all activities between grades 8 and 10.

The pattern with regard to team games was more complex in relation to shifts over time and differences between genders. Although each of the major team games in Norway – football and handball – decreased overall in popularity among the cohort between grades 8 and 10, the pattern differed among boys and girls. While football was in the top five sports for boys at grade 8 (59%), participation declined, to roughly one in two of the boys (51%). However, this decline was not statistically significant. For girls, the decline in football from 42.9% at grade 8–34.4% (one in three) was significant. Handball, on the other hand, was not particularly popular among the cohort overall at grade 8 (16%). This was especially the case among boys (8.6%) – although participation increased slightly at grade 10 (9.1%), albeit insignificantly. For girls, meanwhile, handball declined significantly from 24% to 18.9% over time. Basketball increased in popularity over time among boys and girls, but this was only significant for boys (21% vs 33.8%). Hockey declined slightly but significantly among boys. Participation in volleyball increased over time but not significantly so among either boys or girls.

The persistence of team games within the sporting repertoires of the youngsters notwithstanding, the big beneficiary among both boys and girls during grades 8–10 were activities typically



**Table 1.** Participation (%) in different sports at grades 8 and 10 by all and gender.

	All		<i>P</i>	Boys		<i>P</i>	Girls		<i>P</i>
	Grade 8	Grade 10		Grade 8	Grade 10		Grade 8	Grade 10	
Fast walks	71.2	67.0	*	68.5	56.7 <sup>††</sup>	**	73.4	75.3 <sup>††</sup>	
Running / jogging	63.0	67.8		65.2	65.4		61.2	69.8	
Cycling	52.3	50.4		58.1 <sup>†</sup>	57.6 <sup>††</sup>		47.4 <sup>†</sup>	44.7 <sup>††</sup>	
Football	50.8	42.0	**	59.9 <sup>††</sup>	51.5 <sup>††</sup>		42.9 <sup>††</sup>	34.4 <sup>††</sup>	**
Strength training	47.2	59.6	**	47.6	61.5	**	46.8	58.1	*
Mountain walking / skiing	40.2	37.2		39.7	35.5		40.7	38.5	
Swimming	39.4	38.1		42.3	38.5		36.9	37.8	
Cross-Country Skiing	29.2	30.7		30.0	29.4		28.5	31.6	
Ice skating	25.7	25.3		22.8	19.5 <sup>††</sup>		28.2	29.9 <sup>††</sup>	
Alpine	24.4	26.8		26.6	24.7		22.4	28.5	
Handball	16.9	14.6		8.6 <sup>††</sup>	9.1 <sup>††</sup>		24.0 <sup>††</sup>	18.9 <sup>††</sup>	*
Climbing (indoors & outdoors)	16.6	12.5	**	18.4	13.0		15.1	12.0	
Basketball	15.2	21.6	**	21.0 <sup>††</sup>	33.8 <sup>††</sup>	**	10.3 <sup>††</sup>	12.0 <sup>††</sup>	
Dance	14.3	15.1		3.7 <sup>††</sup>	3.0 <sup>††</sup>		23.4 <sup>††</sup>	24.7 <sup>††</sup>	
Volleyball	13.1	15.3		13.5	13.9		12.8	16.5	
Athletics	13.1	10.3	*	14.6	12.6		11.9	8.6	*
Gymnastics	13.1	8.0	**	8.6 <sup>††</sup>	4.8 <sup>†</sup>		17.0 <sup>††</sup>	10.7 <sup>†</sup>	**
Hockey / bandy	11.4	8.0		18.4 <sup>††</sup>	14.3 <sup>††</sup>	*	5.4 <sup>††</sup>	3.1 <sup>††</sup>	
Riding	9.2	7.9		1.1 <sup>††</sup>	2.6 <sup>††</sup>		16.0 <sup>††</sup>	12.0 <sup>††</sup>	**
Snowboard	8.5	6.5		8.2	5.6		8.7	7.2	
Orienteering	7.1	8.0		9.0	11.3 <sup>†</sup>		5.4	5.5 <sup>†</sup>	
Tennis	6.9	9.0		7.5	10.8		6.4	7.6	
Martial arts	5.7	6.7		6.7	7.4		4.8	6.2	
Golf	5.4	4.4		7.5 <sup>†</sup>	6.1		3.5 <sup>†</sup>	3.1	
Roller skiing	5.2	4.8		6.0	7.4 <sup>†</sup>		4.5	2.7 <sup>†</sup>	
BMX	3.5	1.7		6.4 <sup>††</sup>	3.5 <sup>†</sup>		1.0 <sup>†</sup>	0.3 <sup>†</sup>	
Aerobics	0.9	1.0		1.1	0.4		0.6	1.4	
<b>Other types of sports</b>	22.5	22.4		24.3	27.3		20.8	18.6	

Note: BMX = Bicycle motorcross.

\*Change in participation over time based on McNemar chi-square:  $P < 0.5$ ; \*\*  $P < .01$ .

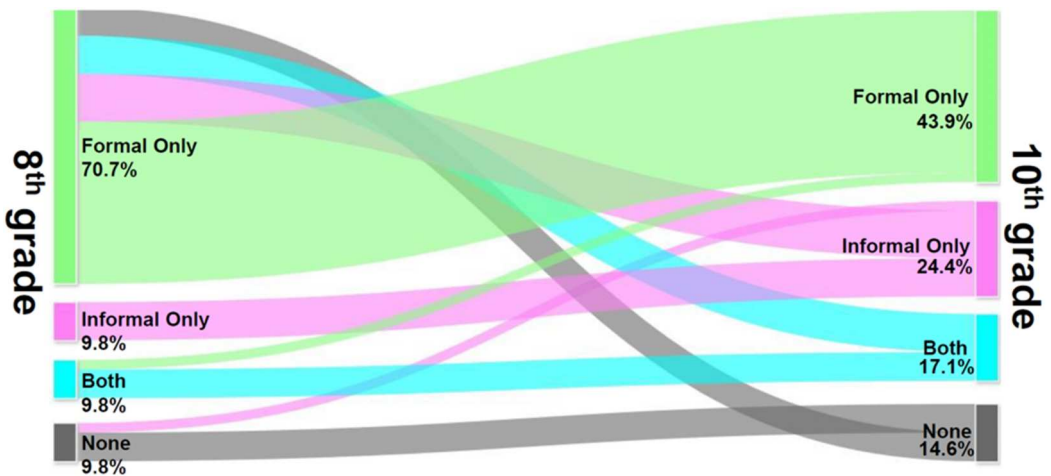
<sup>†</sup>Sex difference based on chi-square test of homogeneity/ Fisher's exact test:  $P < .05$ ; <sup>††</sup>  $P < .01$ .

carried out in informal settings<sup>3</sup> (fast walks, running and strength training). The popularity of cross-country skiing – seen as a quintessential Norwegian outdoor activity – remained relatively stable and showed small insignificant variations among boys and girls. The same stability was evident for alpine skiing, where small fluctuations in both directions among girls and boys did not reach significance. The increased popularity of typical informal sports (for example, strength training) alongside sustained involvement in lifestyle and adventure sports (including cross country and alpine skiing) may go some way to explaining the significant decrease in individual games, such as gymnastics and athletics, among girls over the same period.

### Forms of sports participation

Figure 2 presents data from the sub-sample of 41 youngsters between the ages 13–16 years. Due to the relatively small sample size in phase 2, this data is not categorised by gender. The data illustrate the transitional pathways of sporting forms that make up the emergent nature of sporting careers between 8th and 10th grades. In other words, the chart reveals the process by which the typical sporting forms that characterise students' repertoires at the end of lower-secondary school have come into being, with particular sporting forms becoming more-or-less prominent. More specifically, Figure 2 sheds light on the changes and continuities in youngsters' participation according to the forms of sporting activities undertaken between 8th and 10th grades.

In grade 8, most youngsters' repertoires were characterised by participation in formal sports (70.7%) exclusively. Indeed, the prominence of formal sports at this age becomes especially evident if the proportion of youngsters participating in both formal and informal sports is added



**Figure 2.** Transitional pathways of the sporting forms from grade 8 to grade 10 ( $n = 41$ ). Note: The thickness of pathways in the Sankey diagram represents the number of youngsters that followed the respective transitional pathway. The colour of the pathway represents the sporting form reported at grade 10.

to the 'formal only' category. On this basis, eight in every 10 (80.5%) grade 8 youngsters were involved in formal sports, either exclusively or in conjunction with informal sports. Over time, however, their repertoires became more differentiated, a key aspect of which was the decline in exclusive participation in formal sports. While seven out of every 10 (70%) grade 8 youngsters were involved in formal sports alone, this dropped to below half (43.9%) by grade 10. Figure 2 indicates that this can be explained in terms of shifts from the formal only group to all three other categories – the largest being the shift to informal sports only. Furthermore, while the tendency was for few youngsters to move to the formal only category over time, a small proportion shifted from the 'both' category to formal only.

As indicated above, a second key aspect in the differentiation of youngsters' sporting repertoires related to an expansion in the proportion participating exclusively in informal sports. While just under one in 10 (9.8%) of the sample participated solely in informal sports at grade 8, by the time they had reached grade 10 this proportion had grown to just under one in four (24.4%). Similarly, by grade 10, the proportion undertaking both formal and informal sports had almost doubled (from 9.8% to 17.1%). Thus, by grade 10, 40.4% of youngsters were participating in informal sports either solely or alongside formal sports – an increase from 19.6% at grade 8. In this regard, it is noteworthy that over the course of the three years, not only did formal activities diminish as informal activities grew as a proportion of the participants' sporting repertoires, but the propensity to blend the formal and informal increased. Especially noteworthy was the proportion of youngsters' participating in 'informal only', which more than doubled (9.8% to 24.4%). It is also worthy of note that the movement between the 'formal only' and 'informal only' or 'both' was predominantly unidirectional. While 14.7% moved from 'formal only' sports to either 'both' or 'informal only', only one of the youngsters involved in 'both' formal and informal sports moved the other way. In addition, it is noteworthy that none of the roughly one in 10 (9.8%) of the eighth graders involved in 'informal only' moved to 'formal only' sports by grade 10.

Overall, the main pattern in the differentiation of youngsters' repertoires from grade 8 to grade 10 was in relation to shifts from formal to informal sports, either exclusively or in combination with formal activities. In other words, very few youngsters dropped out of sport completely during this period of their lives. While those not participating at all increased over time from 9.8% to 14.6%, this was due to a shift from the 'formal only' category. Approximately one in 20 of the 'formal only' eighth graders (4.8%) had stopped participating in any sport by grade 10. On the other

hand, none of those participating in either 'informal only' or 'both' at grade 8 had dropped out by grade 10.

## Discussion

This study set out to document the sporting repertoires and nascent sporting careers of Norwegian lower secondary school youngsters as they progressed through grades 8–10, ages 13–16 years. This period tends to be viewed as a crucial period in the establishment of sporting repertoires and longer-term attachments to sport. In this regard, the study makes several contributions to existing knowledge regarding youths' sporting repertoires and careers. The study conceptualised young Norwegians' sporting lives as processual and developmental: that is to say, as a sporting career. Thus, the innovative nature of the research lay in the longitudinal study of the hitherto uncharted early years of youth as well as in the exploration of the developmental nature of Norwegian youngsters' sporting repertoires. From this, we conclude that participation in sporting forms and activities changes over time as the youngsters' sporting careers take shape. Their sporting repertoires over time took on the appearance of a kind of structured flux. The study thus challenges the conventional view of young people's socialisation into sport as following a general pattern of sampling, specialising and investing (Côté & Hay, 2002; MacPhail & Kirk, 2006). Our study suggests that among Norwegian 13–16-year-olds, play – or, rather, physical recreation – not only continued to be a prominent feature of their sporting repertoires but, in point of fact, became increasingly prevalent. The study provides evidence that challenges the belief that 'sporty' youngsters are likely to have built their sporting repertoires around more formal versions of sport and that these competitive, organised varieties provide the core of these. It also challenges the view that it is those youngsters who are in the process of rejecting formal sport who turn to the informal varieties. Rather, it seems that very many active youngsters are already incorporating informal sports into their developing sporting repertoires during the early teenage years. In this regard, the study makes an original contribution to charting the mutability of youths' leisure-sport portfolios during the early teenage years. The social significance of the ways in which the 13–16-year-olds' sporting careers were developing lies in what it tells us about the mix of structure and agency during this phase of their lives. The structural influences of childhood involvement in formal sporting organisations – through parents and sports clubs, in particular – begin to lose hold as the youngsters' reflexively exercise degrees of agency and re-imagine and re-shape their immediate (and potentially long-term) participatory futures as they move through this life-stage of early youth.

Sporting careers are, by degrees, pre-structured by socio-economic and cultural conditions and built by the agency of youngsters who may be planning their future steps. Exploring early sporting careers enables us to introduce a biographical element into our understanding of sporting lives in their key formative stages. In particular, the findings among the young people in this study illustrate the value of adopting a life course perspective, as the sporting repertoires observed are likely to give rise to a sporting career that develops a 'robust' sporting habitus that can withstand changing life circumstances, making sports participation during the adult years more likely to rebound – or 'bounce back' – later on.

### *Sustained high levels of sports participation*

The findings from the present study provide further support for the observation that, in Norway, few teenagers are doing nothing by way of sporting activities and very many are doing a lot, by any measure (see, e.g. Green, Thurston, et al., 2019; Seippel & Skille, 2019). The strong involvement in formal sport observed at age 13 goes a long way to explain why so few (1.7%) were doing nothing at all by way of sports participation. Indeed, there were very few signs among the lower secondary students in the study of the kinds of drop-off from sports participation in general, let alone drop-out, characteristic of very many countries beyond the Nordic region. In this respect, the

findings may provide support for the observation that drop-off and drop-out tend to occur later among Norwegian youth (see, e.g. Green et al., 2015) and, at the very least, beyond the lower-secondary school years. The data might also be taken to indicate that while gender differences in sports participation in Western countries have been diminishing over time (Laakso et al., 2008; Vandermeersch et al., 2016), among Norwegian youngsters, levels of participation between genders have converged to an extent rarely seen beyond the Nordic region (Green, Sigurjónsson, et al., 2019).

### ***The informalisation of sporting repertoires and careers***

A relatively recent issue in the sociology of sports participation has been the implications of the individualisation of youth biographies and whether this is producing shifts in the character of sports and how these are played. Is there, for example, a shift out of clubs and teams towards individual exercise, recreation/fun and lifestyle sports? Our empirical data supports this proposition. Our analysis illustrates how conventional sports have been supplemented by a broad and diverse range of informal sporting activities in the participatory repertoires of young people. In this regard, the youngsters in the present study were engaged in a broad and diverse range of activities, a noteworthy feature of which was a shift towards individual and small group participation typically undertaken in informal and commercial settings and away from formal team games. This development is mirrored elsewhere in Europe and the global north (Borgers et al., 2018). As Borgers and Scheerder (2017) note, informal sports offer forms of participation that appear conducive to sustaining and even enhancing overall sports participation rates in a manner consistent with wider shifts towards individualised lifestyles – part of a process often referred to as ‘youth’s new condition’ (Roberts, 2016a). The present study provides support for Borgers and Scheerder’s (2017) observation insofar as while the youngsters’ involvement in formal sport (and, most notably, team games such as football and handball) declined over the lower secondary school years, the overall participatory shift from formal to informal sporting forms appeared part of the explanation for the high and stable levels of participation at grade 10, age 16.

This observation requires a caveat, however. Although informal sports have been growing in appeal and formal sports (such as team games) losing popularity, the data from this study indicates that such a trend does not signal the demise of conventional sports in the participatory repertoires of young Norwegians. Indeed, while some games may have diminished in popularity among the young – whose sporting repertoires tend to constitute a mix of typically formal and informal activities – our data suggest that boys remain more likely than girls to sustain involvement in sports typically done in organised forms during lower secondary school. It also reminds us that formal sport tends to be part of their sporting repertoires and developing sporting careers of a relatively large proportion of 16-year-olds. Girls, on the other hand, reported more pronounced shifts towards more informal participatory orientations, in line with earlier findings (Borgers et al., 2015; Skauge & Seippel, 2022). This may throw some light on the steeper decline in organised sports participation among girls compared to boys during youth (Bakken, 2019; Howie et al., 2016; Sabo & Veliz, 2014). That said, growth in the popularity of strength training across the whole sample underlines the likely increasing centrality of health and fitness and informal sports through the life-stage of youth for both genders, as well as the shift towards commercial provision – particularly in the health and fitness domain (Borgers & Scheerder, 2017). All-in-all, the findings from our study add weight to Borgers et al.’s (2016b) observation that drop-out from formal sport does not necessarily signal drop-out from sporting activities *per se*. Rather, it might also signal an intensification of the trend towards more informal sports (Gilchrist & Wheaton, 2016) – especially in Norway. Disengaging from organised, competitive sport, alongside a preference for engaging with more recreational, informal activities in mixed-gender rather than single-gender groups is likely to be both part of a lifestyle strategy for growing-up – as youth negotiate and begin to develop their own adult-oriented leisure repertoires and trajectories (Roberts, 2016b).

We theorise that one possible explanation for this shift could be that formal sports, while foundational in developing a sporting habitus from a young age, may become less attractive to youngsters as they leave childhood behind. This could be due, in part, to the competitive and gender-divided nature of formal sports, which might become increasingly less relevant to young people. Moreover, the demanding time commitment and structured nature of formal sports could also make it less appealing as a pivotal, fixed reference point in one's life (Roberts, 2016b). By contrast, informal sports have advantages for young people as they seek to gain more control over their leisure-sport lives as they reflexively construct their own preferred self-identities. In addition, they can be played flexibly, for short or long periods and at times that suit the participants. This makes them compatible with the routines and demands of today's youth in the global north, who study, have part-time jobs, family obligations and for whom friends have growing significance. Informal sports also tend to be particularly appealing to girls and may be particularly important in terms of sustaining their participation as they move through youth. Above all else, however, an important advantage of informal sports is that they tend not to be competitive (Roberts, 2016b). Given the increasing pressure from school, youngsters tend to want to seek out activities that give them refreshment and respite from these demands (Røset et al., 2020).

### ***The mutability of sporting repertoires and careers among young Norwegians***

The study also explored the mutability of youngsters' sporting repertoires. Thus, their sporting repertoires had an emergent character that was marked by a tendency to change and develop within what amounted to a kind of structured flux. Repertoires, while liable to change, typically possessed a recognisable form or shape at a given point in time. Illustrations of such shifts were seen in relation to fluctuations within particular sporting activities as well as the form of participation (formal or informal participation), alongside participation frequencies over time. Thus, nascent sporting careers among the young Norwegians in the study reflected a broadening and diversification of participation through the early years of this life-stage of youth. In shedding additional light on the construction of youths' sporting careers during the early teenage years, the study revealed greater degrees of mutability in young people's sporting lives than is often thought to be the case. In this respect, volatility appears a feature of young people's sports participation. Fraser-Thomas et al. (2016, p. 228) remind us of the need to distinguish between activity-specific drop-out – 'whereby individuals discontinue a specific sport activity while continuing others' – and domain-general drop-out – 'whereby individuals permanently withdraw from all sport activities'. Among other things, these cohort-level findings suggest that the former may well be more prevalent than the latter among Norwegian youth, who not only continue participating in at least one other sport after withdrawing from another but often take up a new sport subsequent to withdrawal (Fraser-Thomas et al., 2016). This provides support for the observation that sports careers often involve some re-construction from time-to-time (Roberts & Brodie, 1992), even during youth when disengagement from organised sport occurs (Persson et al., 2020; Skauge & Seippel, 2022).

A focus on the forms of sport that make up the sporting repertoires of young people and the experiences they generate, holds out the promise of refining our understanding of the kinds of sporting habits that are consolidated and developed during early youth and which may lock young people into sport over the longer term. On this view, the real force governing sports participation appears to be habits or habitus, in other words, deep-seated predispositions.

### ***Socio-economic differentials and convergence between genders***

Average levels of sports participation are an outcome of some groups doing more and others doing less. The 'big picture' provided by averages inevitably conceals differences between socio-demographic groups. These differences appear nothing like as marked among Nordic countries, such as Norway, however (see, eg., Green, Sigurjónsson, et al., 2019). In other words, the averages conceal

relatively small deviations from the mean. This should not surprise us, however, given that in all walks of Nordic life there was a narrowing of socio-economic differentials during the latter decades of the twentieth century (Hilson, 2008, 2020). This corresponded with a weakening of the major social divisions (class, gender, ethnicity and even, albeit to a lesser extent, disability) in sports participation. Indeed, over time, the gaps between social class fractions have been closing and most notably among the young. Recent evidence of a widening of relative inequalities notwithstanding, Strandbu et al.'s (2017) review of sports participation revealed that, despite major differences in sports participation by occupation and educational level in the 1950s, no obvious class inequalities were apparent in Norway in the 1980s, the 1990s or 2000s. This matters because there is evidence that differences in sport participation rates between socio-demographic groups are fixed by, then remain stable after, age 16 (Roberts et al., 2020).

In terms of gender differences, we conclude that there is convergence in terms of frequency of participation and, albeit to a lesser extent, in sporting repertoires. The frequency of sports participation among girls and women in the global north has been moving towards the previously considerably higher frequencies of participation among boys and men since the 1970s. The clear convergence between girls and boys in sports participation notwithstanding, this study provided further evidence of the marked increases in frequencies and varieties of participation among girls – that point to a closing of the gap between genders in sporting terms. The findings also reflected elements of continuity alongside change. If the study is at all illustrative of wider tendencies, young Norwegians continue to take part in traditionally masculine and feminine leisure-time sports, albeit to a far lesser extent than previous generations. Thus, frequencies and forms of sports participation continue to both reflect and contribute to narrowing or widening social divisions and gender, in particular.

The study has a number of limitations. First, the sports participation data is self-reported, and thus subject to the biases inherent in using questionnaires of this kind. Some steps to minimise biases were taken such as researchers being present during the completion of the questionnaire to answer questions. Second, the statistical analyses applied on time changes do not take into account each individual case but compare totals. In other words, changes over time reflect changes in particular sports and frequencies rather than changes among individuals. Thus, interpretations relating to individual-level development and trajectories must be treated with caution. The study was, then, concerned with cohort patterns rather than individual changes; hence, the descriptive nature of the data vis-à-vis the patterns to be found in youths' developing sporting repertoires and careers. In this regard, we have sought, however, to explain the patterns observed in sociological terms. This is primarily because we want, in the first instance to systematically observe and record the actual (rather than assumed) patterns in the sporting repertoires of young people – particularly in terms of formal and informal activities. This has allowed us to document, clearly, the potentially significant changes taking place during this period. The next step in this research is to explore, at the individual level, the processes which enable and constrain the youngsters' sporting careers and, in particular, the mutability of the sporting repertoires of those youngsters (of which there appear to be many) who seem to be on trajectories towards life-long sports participation.

## Conclusion

The sporting repertoires most likely to 'track' into adult life (Vanreusel & Scheerder, 2016) are those that are built on early and sustained involvement in a breadth of different sports (Roberts & Brodie, 1992). Our results support this earlier work in terms of showing how sporting repertoires are built early in the teenage years through sustained involvement in several sports. Furthermore, we conclude that informal sports play a significant role in developing sporting repertoires and nascent sporting careers during this formative period. If the evidence from this study is anything to go by, it seems that during their teenage years young Norwegians are already building the sporting



repertoires that typically characterise those of adults by beginning to incorporate informal sports alongside or in place of formal sports.

Answering the question of whether any specific sports, or forms thereof, are particularly successful in retaining active youth (the rationale for the novel longitudinal dimension to the study) has significant ramifications for our theoretical understanding of sports participation but also everyday practice in, among other things, the content of school physical education programmes. In this regard, policies will always be more realistic and capable of realising their aims if based on evidence from studies of normal, everyday, routine sporting activity.

## Notes

1. The 13–16-year-old group are, by definition, teenagers and young people, while also constituting what might be termed ‘incipient’ youth insofar as they are on the threshold of and moving into the life stage of youth. We also refer to the group as ‘youngsters’ because, although sometimes used as slang, the term ‘youngster’ is a noun which serves as a useful generic way to refer to someone in their early teenage years (see, Collins Dictionary; Merriam Webster, OED).
2. Lower secondary school in Norway comprises three ‘grades’: grade 8, grade 9 and grade 10, which include young people between the ages of 13–16-year-olds.
3. What we are labelling ‘informal sports’.

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No potential conflict of interest was reported by the author(s).

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