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1 **Fostering Unorganized Sport to Sustain Adolescent Participation: empirical**
2 **evidence from two European countries**

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1 **Fostering Unorganized Sport to Sustain Adolescent Participation: empirical**
2 **evidence from two European countries**

3 **ABSTRACT**

4 Sport participation in adolescence helps to reach the recommended levels of physical
5 activity and predicts participation during adulthood. Few cross-cultural studies compare
6 contexts of sport participation and their relation with sport participation rates. In Europe,
7 Austria and France are two countries that differ in their economic situation and sport
8 policy structure. The main objective of this study was to compare sport participation rates
9 and sport contexts (unorganized/organized sport) in Austria and France, by sex and SES.
10 Two data collections were conducted during spring 2015 in Austria and France among
11 high-school students. Logistic regressions were used to compare the sport participation
12 rates of Austrian and French students by sex, SES and context of participation. The
13 Austrian adolescents had higher sport participation rates than the French adolescents but
14 were less likely to participate in organized sport compared with the French (OR= 0.64,
15 95% CI= 0.52-0.78). The Austrian students were more likely to participate in unorganized
16 sport (OR= 3.46, 95% CI= 2.75-4.36). The large participation difference between the two
17 countries was also caused by the higher unorganized sport practice of low-SES Austrian
18 adolescents, especially by low-SES girls. This indicates that, next to organized sport,
19 unorganized practice can help to enhance adolescent participation and to balance existing
20 social and gender inequalities.

21
22 **Keywords:** Europe; teenagers' sport participation; sport setting; public health; cross-
23 **cultural studies**

1 **Introduction**

2 Engagement in sport clubs – organized sport – is considered to be one means of positively
3 contributing to adolescent health and well-being through physical activity (PA). It has a
4 stronger association with meeting adolescents' PA guidelines (Kokko et al., 2019) and physical
5 fitness (Drenowatz et al., 2019) compared with non-practitioners. Available research findings
6 suggest a stronger association with life satisfaction, psychological well-being (Eime et al.,
7 2010), cognitive abilities and healthy growth (Wiiium & Säfvenbom, 2019) than other forms of
8 PA. Thus, club sport is considered an important factor for implementing health promotion
9 initiatives targeting adolescents (Geidne et al., 2019). However, in Europe, the number of
10 Europeans not exercising or playing sport has been increasing since 2009, mainly due to the
11 low rates of female participation, especially in 15-24 year-old girls, 33% of whom reported
12 never practising sport (European Union, 2018). Financial difficulties, lower education and lack
13 of time are also relevant as the main barriers for the increasing number of non-practitioners in
14 Europe (European Union, 2018). Only 12% of sport practitioners in Europe are members of a
15 sports club (European Union, 2018).

16 Some studies have challenged the unambiguously positive aspects of club participation.
17 Club sport practice tends to leave out a crucial number of adolescents due to its exclusive aspect
18 (Säfvenbom et al., 2014). In this setting, the values of competition and performance are rather
19 central (Caillois, 1967; Luiggi et al., 2019; Ulmann, 1977). The performance focus can be a
20 reason for dropouts among a significant number of adolescents, and these reasons are more
21 predominant among adolescent girls (Craike et al., 2009; Warner & Dixon, 2013; Yungblut et
22 al., 2012). European temporal trends studies have also shown the possible inefficacy of sport
23 clubs to sustain adolescent participation. In Belgium, sport participation among females in
24 unorganized sports was reported to be the most sustainable form, since many female
25 participants stated that they had dropped out of club sport participation after school (Scheerder
26 et al., 2006). This tendency is also noted in the Nordic countries. While their sports participation

1 rates are among the highest in the world (Green et al., 2019), sports club membership among
2 young people has been decreasing (Tin et al., 2019). However, in young Nordic populations,
3 this decline goes hand in hand with more varied forms of sport (Green et al., 2019). The last
4 Eurobarometer study highlights this tendency. In European countries, there is a shift from
5 formal sport settings towards informal ones, mainly taking place outdoors (European Union,
6 2018). In the Australian state of Victoria, the findings are similar. Inter-club competitions were
7 traditionally the main setting for participation. As existing literature suggests, this is no longer
8 the case today and strategies should consider the promotion of more attractive participation
9 options (Eime et al., 2020). In France, the current decline in adolescent sport participation
10 (Luiggi et al., 2018) has been partly interpreted as a rejection of the specific sports experiences
11 and values embodied in sport clubs (Gatouillat et al., 2019). The authors showed that more than
12 95% of adolescents who dropped out of sport practice were club practitioners, and 60% of them
13 invoked club sport as a reason for their drop-out.

14 In contrast, unorganized sport activities offer a spontaneous use of space for everyone
15 in a more inclusive manner (Bach, 1993) and mainly take place in urban or natural areas which
16 are 'open for all'. These shared areas are spaces where recreation and outdoor sports merge
17 (Bach, 1993). They are cost-free and represent an alternative form of sport participation for
18 low-SES populations with too limited financial resources for organized sports (Bélanger et al.,
19 2011; Holt, 2008; Humbert et al., 2006; Prins et al., 2013). According to existing literature,
20 there are different designations for sport practice alternative to organized sport. Säfvenbom and
21 Stjernvang (2019) refer to self-organized lifestyle sport, where the hierarchic structure is less
22 pronounced, compared to conventional/traditional contexts (Wheaton, 2013). This postmodern
23 and alternative sport practice (Wheaton, 2010) is also described as self-organized sport
24 (Chantelat et al., 1998; Säfvenbom et al., 2018), 'relationally process-oriented', 'collaboratively
25 supervised' or 'self-determined' practice (Säfvenbom et al., 2018, p. 13). Throughout the
26 article, the term unorganized sport will be predominantly used.

1 One main feature of unorganized sport is to enable sport participants to act
2 autonomously without being controlled by others (Säfvenbom et al., 2018). Again, it represents
3 an alternative to the rather performance-oriented club sport practice. Today, many sporting
4 events that take place outside clubs and competitions between clubs offer participants
5 significant degrees of freedom and autonomy. In this context, marathons have recently become
6 a popular sport in China because of their open and inclusive properties (Qiu et al., 2020). A
7 study of ultra-trailers showed the different forms of motivation that merge in informal
8 participation (Travert et al., 2019). Here the authors illustrated that athletes might be oriented
9 towards performance and competition but also participate in sport practice to discover a space
10 or to challenge themselves without the goals of performance or ranking. The latter form of
11 participation would thus help adolescents in the development of their own rules and norms,
12 resulting in the building of character and caring (Bowers et al., 2010).

13 This theoretical rationale suggests that unorganized sport practice may be a sustainable
14 way to promote sport participation among adolescents. This open and inclusive form of
15 participation could be more appropriate for adolescents who dislike sport values like
16 competition or performance and those with accessibility barriers (low-SES adolescents).
17 Further, it could be considered a means to compensate for drop-outs from organized sport
18 during adolescence (Dumith et al., 2011). However, intersectional comparisons of adolescent
19 sport participation in Europe, taking the sport context (organized/unorganized sport) into
20 account, are rare. To this effect, regarding Europe, comparing Austria and France would
21 represent an interesting case study, because they differ in terms of their economic situation and
22 political structure. Some studies concerning the Nordic model have shown that the difference
23 in participation rates is related to general political and economic factors (Green et al., 2019; Tin
24 et al., 2019).

25 French sporting policies are characterized by a specific elaboration related to the
26 historically central role played by the government (Callède, 2002). The French government

1 delegates the power to sports federations to promote and organize sport participation.
2 Federations are funded by specific national subventions allocated according to their numbers
3 of members and results in international competitions. The clubs, affiliated to these federations,
4 implement the orientations of the Ministry of Sports. The implementation of decentralization,
5 introduced by the law of March 2nd 1982, has contributed to the expression of ‘proximity
6 policies’. However, local public policies have remained for the most part controlled by the
7 government (Callède, 2002). Thus, in France, the phenomenon of peoples’ adherence to sport
8 is largely oriented by local institutions in the form of sport clubs relaying national guidelines
9 defined by the government. Concerning French governmental interventions to enhance sport
10 participation and public health, in 2002 the Ministry of Health established a strategy for
11 physical activity, nutrition and the ‘prevention of obesity’ (Recours et al., 2011, p. 309). To that
12 effect, with an investment of 48.9 million euros, the initiative, called ‘PNNS’ (Programme
13 National Nutrition Santé) or ‘MangerBouger’ (‘EatingMoving’), has been conducted since
14 2005, trying to reach especially children and adolescents, through, *inter alia*, food package
15 printing and television commercials highlighting the importance of physical activity and
16 nutrition for health (Recours et al., 2011). However, despite this health initiative, French
17 adolescents’ sport participation did not increase from 2001 to 2008 (Recours et al., 2011).
18 Further, there has been a reduction of funding for sport clubs and associations from the French
19 government (CPCA, 2008).

20 In Austria, on the other hand, the federal states are responsible for sport matters; the
21 federation is primarily in charge of funding (Sport Austria, 2019a). For organized sport, the
22 association ‘BSO’, ‘Bundessportorganisation’ (federal sport organization), plays a central role.
23 The BSO forms a link between the federal ministry and the ministry of the ‘Bundesländer’
24 (federal states) and the non-governmental sport clubs (Sport Austria, 2019a). Within the
25 framework of the BSO and, more precisely, Austrian social issues and social policy, the
26 programme point ‘Nachhaltigkeit’ (sustainability) emphasizes the use of sports facilities, but

1 also the use of nature for sport practice (Sport Austria, 2019b). This less centralized sport
2 organization in Austria and the resulting Austrian sport culture find their roots in history. At
3 the beginning of the 19th century and onwards, sport policies rarely existed in Austria due to
4 an economic lag and the authority of the Roman Catholic church (Norden & Weiss, 1992). In
5 the 1930s, sport was used as an ‘instrument of policy by National Socialism’, which intensified
6 the prejudice against sport on the part of Austrian society (Norden & Weiss, 1992). Thus, one
7 could argue that, partly influenced by the government, Austrians have developed a more
8 autonomous culture compared with the French. Regarding sports funding, the Austrian
9 government puts a special focus on advocating popular sport associations, which are also
10 performance-oriented, but support the ideology of ‘sports for all’ (Schantl et al., 2014).
11 Concerning adolescent sports promotion in Austria, there are projects like ‘Fit für Österreich’
12 (fit for Austria), where collaboration between the sports industry and the health sector has taken
13 place (Sport Austria, 2019c). In Austrian schools, the ‘daily sports lesson’ is the aim, and in
14 2015 the daily movement unit was implemented in all-day schools (Sport Austria, 2019d). In
15 order to react to sport associations’ and adolescents’ needs, youth representatives called ‘BSO-
16 Sportjugend’ (Sports Youth of the Federal Sport Organization), were active from 2004 to 2019
17 (Sportaustria, 2020d). Concerning nature sport experience in the Austrian school curriculum,
18 skiing days and hiking days take place from primary school onwards and, in junior and senior
19 high school, outdoor sports weeks in summer and winter are conducted and have been enshrined
20 in the Austrian school law for school events since 1990 (Bundesministerium für Digitalisierung
21 und Wirtschaftsstandort, 2020a, 2020b). The Austrian government also established a
22 programme aimed at increasing adolescents’ participation in winter sports weeks, including a
23 skiing course of one week, through financial support for socially disadvantaged families, etc.
24 (Sport Austria, 2019d). However, there is a lack of facilities for organized sport in Austria: one
25 in ten Austrian sport clubs needs facilities for an additional 10 hours of sports training per week
26 (Sportaustria, 2020c).

1 Next to the above-mentioned sport promotion policy differences between Austria and
2 France, one should note the influence of high standards of living on the exploitation of sporting
3 opportunities (Green, Thurston, Vaage, & Moen, 2015). Austria has a higher per capita gross
4 domestic product (GDP) (2019: Austria: 59,110 euros per capita; France: 49,435 euros)
5 (Groupe Banque Mondiale, 2020), which is one of the factors of higher sport participation rates
6 observed in European countries (Green et al., 2019). For example, in Norway the per capita
7 GDP is 66,831 euros (Groupe Banque Mondiale, 2020) and this is one of the countries with the
8 highest adolescent sport participation rates. This difference in GDP between Austria and France
9 suggests higher sport participation rates among Austrian adolescents compared with French
10 adolescents. Regarding all age groups, this difference was confirmed in the last Eurobarometer
11 of 2018 (European Union, 2018). However, the nature of these differences has not been
12 explored according to the context of participation (organized or unorganized).

13 The main objective of our study was to compare Austrian and French adolescents' sport
14 participation rates by the context of participation (organized/unorganized), sex and SES. To
15 avoid bias due to sport participation disparities between territories in France (Luiggi et al.,
16 2018) and in Austria (Szabo, 2014), we decided to focus on similar geographical regions in
17 terms of urban and nature areas in the two countries. There are factors influencing the chosen
18 type of sport that are intimately linked to the context of participation (organized, indoor for
19 traditional team and competitive sport vs. unorganized, outdoor for individual nature sport). We
20 hypothesized that Austrian adolescents would be more prone to play sport in the unorganized
21 context to a greater extent, while it would be the opposite for the French. This would suggest
22 that the promotion of the unorganized setting of participation can positively contribute to
23 advocating sustainable sport participation among European adolescents.

24

1 **Materials and methods**

2 ***Context***

3 We chose students of the same age group and level of education and students attending schools
4 in urban areas in the two countries. In France, our investigation concentrated on the South-East
5 region, more precisely on the *Métropole Aix-Marseille-Provence*, which consists of around
6 50% of urban areas and 50% of nature areas such as sea, coast or mountains (Agence
7 d'urbanisme de l'agglomération marseillaise, 2020). In this area, we selected 30 high schools
8 in six different cities to represent the socioeconomic and geographical diversities of this
9 territory. During the year 2015, representing the time frame when we conducted this study, and
10 even until 2019, social inequality was higher in France than in Austria (Eurostat, 2021). Thus,
11 regarding the socioeconomic factor, in France and especially in Marseille, it was necessary to
12 control the social morphology, since the schools in Marseille are marked with either an
13 extremely low or high socioeconomic status (Institut national de la statistique et des études
14 économiques, 2021; Ly & Riegert, 2015).

15 In Austria, we conducted our investigation in Graz (region of Styria), in the capital
16 Vienna and in Wolfsberg (region of Carinthia). There are 50% of green areas in the city of Graz,
17 and 42.7% of green areas in Vienna (Naomi, 2018). Regarding the city of Wolfsberg, there are
18 no explicit numbers of green areas. In these regions, 11 high schools were randomly chosen.

19 ***Consent***

20 In France, the *Recteurs d'Académie* are responsible for all initiatives launched concerning
21 adolescent students in public schools, respective to their school academy. The study conducted
22 in France was agreed to by the Chancellor of the Aix-Marseille Academy and by the Aix-
23 Marseille University Ethics Committee. Additionally, all school gatekeepers approved this
24 study orally by letting the researcher enter high school and collect data among students with
25 the physical education teachers.

1 In Austria, all head teachers agreed in written form with the evaluation of the study in
2 their school. In both countries, we conducted this study in physical education (PE) classes,
3 where PE teachers first provided a parental consent form which students returned two weeks
4 later. Only students who returned a positive parental consent form and agreed to participate in
5 this study were included (response rate France=98.5%, Austria=99%).

6 ***Participants***

7 Data collection on adolescents and health was conducted in France ($n_{\text{students}}=1019$, $n_{\text{girls}}=548$)
8 and Austria ($n_{\text{students}}=903$, $n_{\text{girls}}=504$) between February and April 2015. The same protocol was
9 used in both countries. For all of the students (aged 13-20) an adequate comprehension of
10 questions was ensured. They participated in the survey in classrooms under the supervision of
11 a PE teacher and a researcher, who answered eventual questions. The researchers had direct
12 contact with the head teachers and personally went to the classrooms with the PE teachers,
13 which further guaranteed rigorous data collection. In France students from the 4th year of junior
14 high school ($n=387$) and the 3rd year of senior high school ($n=632$) participated in this study. In
15 Austria, students from the 1st ($n=438$) and the 4th year ($n=465$) of senior high school took part
16 in the study. This is because there are four years of primary school in Austria, whereas there
17 are five years in France. No significant differences were observed concerning age between
18 countries ($M_{\text{Austria}}=16.21 \pm 1.69$, $M_{\text{France}}=16.30 \pm 1.71$).

19 ***Demographics***

20 Students were asked to report their age, sex, height and weight. Body mass index (BMI) was
21 calculated by dividing weight (kg) by height (m^2). Students were asked to report their family
22 head's employment status. This was used in order to establish the adolescents' SES. As in other
23 studies (Stalsberg & Pedersen, 2010; Toftegaard-Støckel et al., 2011), SES was divided into
24 two groups (high and low) for the analyses. According to existing measures, high SES included
25 family heads in intellectual occupations, as well as traders, artisans, company heads, educators,
26 nurses or technicians (Luiggi et al., 2018). Low SES included salaried employees, laborers,

1 retirees or unemployed people. Adolescents with unknown SES were excluded from SES
2 analyses. No significant differences were identified in age, height, weight and BMI between
3 the two countries. The Austrian sample comprises more high-SES adolescents compared with
4 the French sample (All, $\chi^2 = 23.33$, $p < 0.001$; Boys, $\chi^2 = 11.71$, $p < 0.001$; Girls, $\chi^2 = 10.84$,
5 $p < 0.001$).

6 ***Sport participation***

7 The term ‘sports’ was defined by the Council of Europe in 1992: ‘Sports means all forms of
8 physical activity which, through causal or organized participation, aim at expressing or
9 improving physical fitness and mental well-being, forming social relationships or obtaining
10 results in competition at all levels.’ As regards existing studies (Confédération suisse, 2008),
11 students were invited to report their sport participation outside of mandatory PE lessons at
12 school, which we also used for our questionnaire. Students who answered the question ‘Apart
13 from physical education (PE) classes at school, do you practise sports?’ positively and who
14 answered that they practised their favourite sport for at least one hour per week were considered
15 sport practitioners. Sport practitioners also replied to the question concerning their sport context
16 (organized, unorganized, both) regarding their favourite sport. Four French adolescents did not
17 report their context of participation. All Austrian adolescents reported their context of
18 participation.

19 ***Data analysis***

20 Statistical analyses were performed using SPSS 18.0.0. The outcome variable was sports
21 practitioner, coded as ‘yes’ or ‘no’. Firstly, overall sport participation rates and sport
22 participation by context (organized, unorganized, mixed) were calculated by country, sex and
23 SES. The chi-square statistical test (χ^2) was used to examine sport participation between
24 countries. Secondly, we performed multiple binary logistic regression adjusted for age and SES
25 to investigate whether country differences existed in overall sport participation, organized,
26 unorganized and mixed participation, by sex. Thirdly, multiple binary logistic regressions

1 adjusted for age were performed to determine country differences in all types of sport
2 participation by SES. Adjusted odds-ratios (OR) estimated in these analyses with χ^2 were used
3 to approximate differences in sport participation between France and Austria. Finally, the top
4 ten favourite sports played by adolescents were presented by nationality and context.

5 **Results**

6 Austrian girls and boys included a greater proportion of sports practitioners compared with
7 French girls and boys (respectively, $\chi^2 = 47.00$, $p < 0.001$ and $\chi^2 = 22.80$, $p < 0.001$) (Table 1). No
8 difference in the mixed context of participation was observed. French adolescents reported a
9 higher participation rate in the organized context ($\chi^2 = 17.86$, $p < 0.001$), whereas Austrian
10 adolescents reported a higher participation rate in the unorganized context ($\chi^2 = 134.34$,
11 $p < 0.001$). Differences were higher for girls compared with boys. Concerning SES, both
12 Austrian low-SES and high-SES adolescents had higher sport participation rates compared with
13 French adolescents. Greater country differences were observed among high-SES ($\chi^2 = 31.64$,
14 $p < 0.001$) compared with low-SES ($\chi^2 = 16.29$, $p < 0.001$) adolescents.

15 The results of adjusted-binary logistic regression models illustrated that Austrian
16 adolescents were more likely to practise sport than the French (Table 2), as already observed in
17 Table 1. More precisely, they were 2.16 times more likely to practise sport than the French
18 (95% CI: 1.72-2.71) (Table 2). In comparison with French adolescents, Austrians were less
19 likely to practise sport in an organized context [OR: 0.64 (95% CI: 0.52-0.78)] and more likely
20 to practise sport in an unorganized context [OR: 3.46 (95% CI: 2.75-4.36)].

21 Austrian adolescents' greater likelihood of unorganized sport participation compared
22 with the French was stronger among girls [OR: 4.54 (95% CI: 3.24-6.34)] than boys [OR: 2.77
23 (95% CI: 1.99-3.86)]. No difference was found for mixed sport participation. Additional
24 adjusted binary logistic regression models performed by SES revealed that Austrian low-SES
25 [OR: 4.36 (95% CI: 3.04-6.24)] and high-SES [OR: 2.94 (95% CI: 2.18-3.97)] adolescents were

1 more likely to practise an unorganized sport activity compared with French adolescents (Table
2 3). The country difference in unorganized sport practice was especially strong among low-SES
3 girls. Austrian low-SES girls were 5.96 times more likely to practise an unorganized sport
4 activity than French low-SES girls (95% CI: 3.50-10.13), whereas this probability was only
5 3.28 times greater for Austrian low-SES boys compared with French low-SES boys (95% CI:
6 1.96-5.51). These gender effect differences were also observed among high-SES adolescents
7 but with a slightly smaller effect (high-SES girls: [OR: 3.71 (95% CI: 2.41-5.72)]; high-SES
8 boys [OR: 2.47 (95% CI: 1.62-3.79)]).

9 Within the 10 top unorganized sports for French teenagers, the most prevalent ones are
10 soccer (20.4%), strength training (11.0%), walking (10.5%), dancing (6.6%), swimming (6.6%)
11 and basketball (5.5%) (Table 4). For Austrian teenagers, the unorganized sports of walking
12 (15.4%), soccer (11.9%), biking (9.0%), fitness (8.4%) and skiing (7%) are predominant (Table
13 4). Regarding the most spread organized sports among French teenagers, dancing (17.9%)
14 scores highest, followed by soccer (13.9%), tennis (5.7%), basketball (5.1%) and horse riding
15 (4.7%). For Austrian students, soccer (24.4%), dancing (8.1%), fitness (7.4%), tennis (6.6%)
16 and horse riding (6.6%) represent the mostly practised organized sports.

17 **Discussion**

18 The objective of our study was to compare sport participation rates in France and Austria, taking
19 the sport context into account. In accordance with our hypothesis, Austrians had higher
20 participation rates and were more likely to practice their preferred sport in the unorganized
21 context than the French.

22 These results are consistent with previous findings regarding higher PA levels among
23 Austrian adolescents compared with French adolescents (Kalman et al., 2015; Samdal et al.,
24 2007). Regarding our study, by examining the question of the context of participation, we
25 observed that a greater proportion of Austrian adolescents practised sport and that this higher

1 rate was mainly due to a greater participation in the unorganized context. Austrian low-SES
2 adolescents were more oriented towards unorganized sport, namely 4.5 times more than French
3 low-SES adolescents, while this ratio was only around 3.0 between high-SES adolescents of
4 Austria and France. Further, Austrian low-SES girls were almost 6.0 times more likely to
5 practise an unorganized sport activity compared with the French, while this ratio was around
6 3.0 between low-SES boys. With regard to our results, this greater orientation towards
7 unorganized forms of participation among less represented adolescents in organized sport
8 (Martins et al., 2015; Telford et al., 2016) appeared then as means to increase adolescents' sport
9 participation rates, and could be an explanation for the higher sport participation rates and PA
10 levels (Kalman et al., 2015; Samdal et al., 2007) observed in Austria compared with France.

11 The lower adolescent sport participation in France, compared with Austria, can be
12 linked to the high drop-out rate from sport practice in the study area of South-East France
13 between 2001 and 2015 (Gatouillat et al., 2019; Luiggi et al., 2018). One reason for this is the
14 strong decline in collective and aquatic sports, partly linked to the reduction of facilities in the
15 area (Gatouillat et al., 2019). In a centralized country, oriented towards the development of
16 institutions, such as France, one could argue that playing sport is closely connected to the
17 increase and quality of facilities and the offer of sports clubs (Gatouillat et al., 2019). In France,
18 the governmental omnipresence seems to guide the ways of life and the decision of the actors
19 (Crozier & Friedberg, 1977). Consequently, actors take less initiative and turn more towards
20 institutions to determine the content of their lives (Crozier & Friedberg, 1977). According to
21 our results, French adolescents are more engaged in organized sport, which provides them with
22 a specific organization created by clubs and associations. In clubs, training days and
23 competitions are planned for an entire year and adolescents have to strictly follow this schedule.
24 This form of participation is less oriented towards the development of their autonomy and their
25 ability to define the content of their lives on their own. Consequently, the use of nature or urban
26 areas for self-determined sport practice is less present among French adolescents.

1 To better understand the high unorganized sport participation of Austrian adolescents,
2 one can consider Austrian sport policy, which is conducted in a more regional and decentralized
3 way than the French one. Here the inclusive ideology of ‘sports for all’ (Tin et al., 2019) is part
4 of the Austrian popular sports programme (Sport Austria, 2019a). Next to the rather
5 performance- and elite- oriented sport federations, three main umbrella organizations advocate
6 sport for all (Sport Austria, 2019a) and represent sport as being open for everyone. Austrian
7 sport policy calls attention to sport in the environment of nature (Sport Austria, 2019b), which
8 could help to explain Austrians’ higher unorganized sport participation and their autonomous
9 approach. For example, Austria counts more than 40,000 km of hiking paths (Alpenverein
10 Austria, 2020); France, as a comparison, has more than 70,000 km (Fédération Française de la
11 Randonnée Pédestre, 2020). However, considering the number of the countries’ inhabitants, for
12 Austria, there are 4.51 km of hiking paths per 1,000 inhabitants, and in France there are 1.05
13 km per 1,000 inhabitants, so over four times more in Austria than in France. Next to Austrians’
14 favourite sports of skiing and cycling (Menaker, 1934), Austrians have frequently reported
15 hiking to be their preferred sport practice (Grössing, 1970; Pratscher, 2000; Zellmann &
16 Mayrhofer, 2015, 2019). These sports can be practised in nature, where practitioners are able
17 to define their own rules of action and where pleasure and play characterize experiential sports
18 (Eichberg, 1998). Furthermore, Austrian school sport promotes outdoor sport through winter
19 sports and summer sports weeks in junior and senior high schools, which is laid down in the
20 Austrian law for school events (Bundesministerium für Digitalisierung und
21 Wirtschaftsstandort, 2020a) and partly financially supported by the government (Sport Austria,
22 2019c). Consequently, already young people get to know and ideally like outdoor sports and
23 nature sports, such as skiing during winter sports weeks and for example sailing, surfing or
24 beach volleyball during summer sports weeks.

25 From 1995 to 2004, Austrians underwent a great shift from organized to
26 unorganized/self-organized sport practice, whereby self-organized sport participation tripled

1 (Zellmann & Opaschowski, 2004). According to Zellmann & Opaschowski (2004), a process
2 of deinstitutionalization has been taking place in Austria, where people prefer flexible times,
3 long for independency as well as adventure and outdoor sport. Escaping daily life and
4 experiencing personal well-being play an important role, also for inexperienced sports
5 practitioners. This change of sport values has been challenging for sport politics. Alternative
6 types of movement, strongly marked by the process of individualism and commercialism, have
7 been widespread (Zellmann & Opaschowski, 2004), probably also influencing girls'
8 participation in sports. This Austrian tendency towards self-organized sport practice, where
9 nature experience counts among the major motivational factors for sport practice (Bässler,
10 1999), overlaps with the Nordic ideology of 'friluftsliv' (outdoor life), explaining Norwegians'
11 tendency towards alternative forms of sport participation, including outdoor life or
12 connectedness to nature (Green, Thurston, Vaage, & Roberts, 2015). Thus, by their orientation
13 towards unorganized sport, Austrians – probably more than the French – define the obstacles
14 and rules of confrontation on their own (Säfvenbom et al., 2018). These self-organized
15 obstacles and rules of confrontation on their own could also include competition or
16 performance-oriented goals.

17 French adolescents' participation in open-air activities, on the other hand, has markedly
18 decreased within the last decades (Gatouillat et al., 2019). Another French study (Luiggi et al.,
19 2018) conducted in the same area (South-East of France) demonstrated this phenomenon
20 concerning nature sports, which have continuously declined over the past 15 years although
21 this French region provides accessible nature space.

22 These last observations are confirmed by our results, with regard to the most prevalent
23 sports practised by Austrian and French adolescents. Austrians' favourite unorganized sports
24 were walking, soccer, biking, fitness and skiing, representing sports that can all be practised in
25 natural areas without adult supervision, except for soccer (Table 4). In contrast, French
26 adolescents' favourite unorganized sports included soccer, bodybuilding, walking, dancing and

1 swimming, which are sports that are practised more in dedicated facilities and in indoor areas,
2 except for walking (Table 4).

3 Next to the adherence to particular sport contexts, as our results show, female
4 participation can also make a difference in participation rates. In our case, the participation of
5 Austrian girls contributed to the high rates of all Austrian adolescents. This is consistent with
6 observations collected in Nordic countries, where the worldwide highest sport participation
7 rates stand in connection with the high female sport participation (Green et al., 2019).
8 Therefore, gender equality in the form of equal access to sport practice plays a fundamental
9 role in enhancing general sport participation rates (Green, Thurston, Vaage, & Moen, 2015;
10 Green et al., 2019). Such a project, however, implies the inclusion of sport in a broad social
11 development plan (Green, Thurston, Vaage, & Moen, 2015). Moreover, the higher sport
12 participation of Austrian adolescents than the one of the French can be interpreted as being
13 correlated with the countries' GDP (Green et al., 2019). As mentioned above, the per capita
14 gross domestic product (GDP) in Austria is around 20% higher than the French one (Groupe
15 Banque Mondiale, 2020).

16 Concerning existing literature in the field of alternative forms of sport practice, Beal et
17 al. (2017) encountered the significant increase of individualism as part of their qualitative study.
18 This process of individualism has also affected politics, regarding the 'shift in governing modes
19 and structures', leading to reducing 'public investment in youth sport' (Beal et al., 2017, p. 12).
20 Beal provides a positive example for youth sport, basing on public and private partnerships,
21 accessible for everyone and within a secure context, taking the sport of skateboarding and skate
22 parks into account. In the San Francisco bay area in the United States, skateparks represent a
23 great recreation opportunity for 'youth of all economic backgrounds' in a safe environment,
24 supervised by adults and demanding a user fee, affordable for everyone (Beal et al., 2017, p.
25 17).

1 **Perspectives**

2 Taking the situation of sport practice in Europe into account, sport memberships have been
3 decreasing (European Union, 2018). This is also the case in Nordic countries (Green et al.,
4 2019), despite their more social and inclusive sport clubs. As mentioned above, only 12% of
5 European citizens declare themselves to be club sport members (European Union, 2018) and
6 choose the sport values of performance and ranking, in other words, the achievement sport
7 (Eichberg, 1998), while 11% participate in commercial sport practice (Eichberg, 1998) in the
8 form of membership of fitness centres. Club sport and sport in fitness centres both incorporate
9 the financial barrier, which, next to the lack of time as the main barrier, deters Europeans from
10 sport practice (European Union, 2018).

11 Thus, in the long-term, further focus on the promotion of unorganized sport practice, at
12 national and regional level, can positively contribute to sustainably maintaining the general
13 sport participation rate in Europe and can contribute to balancing inequality concerning sport
14 practice. Literature on female participation and unorganized sport is scarce. However,
15 according to existing studies, girls and low-SES groups are often more excluded from club sport
16 (Craike et al., 2009; Warner & Dixon, 2013; Yungblut et al., 2012), which, regarding our
17 results, was also observed in Austria and France. We found out that Austrian girls, especially
18 low-SES girls, are more engaged in unorganized sport than the French ones. Therefore,
19 referring to our results and the Austrian model, it seems that unorganized sport can help to
20 reduce the sport participation gap between gender and SES, which can be provoked by club
21 sport exclusion. Unorganized sport can sustainably diminish the financial, accessibility and
22 opportunity barriers (Martins et al., 2015). This goes along with Säfvenbom (2018), who
23 highlights the development of informal sport providing equal opportunities for all youth,
24 advocated through 'open for all' sport facilities (Säfvenbom, 2018). With regard to political
25 measures, the provision of spaces for unorganized sport practice seems relevant. This can be
26 accomplished by providing more public, urban and outdoor spaces. This includes a large

1 production and diffusion of guides for skateboarding or parkour in the city and the furnishment
2 of information on existing places in nature for sports, such as hiking, mountain- and downhill
3 biking, canyoning, climbing or ski touring. Our results illustrated that the availability of existing
4 nature areas is not sufficient to make adolescents use them for their sport practice, since the
5 South-East French region includes accessible nature space, however, French youth are not using
6 it for sport practice (Gatouillat, 2019). This underlines the necessity to develop awareness-
7 building programmes for freely accessible areas. Interventions in schools could be undertaken,
8 e.g. by organizing and implementing traditional outdoor activities, such as hiking days or
9 outdoor sports weeks, following the Austrian model (Bundesministerium für Digitalisierung
10 und Wirtschaftsstandort, 2020a), or urban sport activities such as parkour (Thorpe & Ahmad,
11 2015) within the framework of the physical education curriculum.

12 Regarding the promotion of organized sports, this still plays an important role. Taking
13 Nordic countries as a successful example, their sport clubs are more social and inclusive, which
14 could be an approach for other countries in Europe.

15 **Strengths and limitations**

16 The strength of this study is that we compared two populations of students from two
17 different European countries. The large sample size offers a relatively representative vision of
18 adolescents' sport practice in regions of Austria and France. In addition, this is the first time
19 that the contexts of participation have been investigated to observe sport participation
20 differences between the two countries.

21 However, there are limitations. Our results are restricted to the geographical zones
22 where the surveys were conducted. These regions probably don't provide the same accessibility
23 to urban and nature areas for sport practice, which we have not investigated. We hypothesize
24 that Austrians practice more nature sports, because Austrian cities are smaller and nature spaces
25 are more accessible and closer. To verify this hypothesis, within the framework of further

1 qualitative and quantitative research, facilitators and barriers regarding access to unorganized
2 sport need to be examined. For this, one can explore the context (unorganized and organized),
3 space (nature and city) and transport (means of transport and duration from home to the place
4 of sport practice).

5 We observed differences in the context of adolescents' sport participation. The question
6 of adolescents' preferred sport practice in an organized or unorganized sport context does not
7 always correlate with their most practised sport practice. Instead of questioning adolescents
8 only on their preferred sport practice, one could additionally ask them about their most practised
9 sport. This most practised sport, including the sport context (organized or unorganized), could
10 be used for the study. Meanwhile, it would be interesting to know precisely how many hours
11 per week adolescents spend practising sport in an organized and unorganized context in order
12 to investigate the real time spent for organized and unorganized sport practice.

13 Concerning the questionnaire used for this quantitative study, it includes questions on
14 sport participation that have been successfully applied in other questionnaires and published
15 (Lamprecht et al., 2014; Recours et al., 2004; Luiggi et al., 2018). These questionnaires have
16 not been validated by convergent measures. One could test the contextual measure in a panel
17 of adolescents and then cross-validate their answers by a field observation. It is likely that not
18 all adolescents playing club sport might answer that they actually do it, and vice versa. Knowing
19 this exact proportion of misanswering might precisely describe the validity of the utilized
20 questions. Future studies should be conducted in this way.

21

1 **Conclusion**

2 A greater proportion of Austrian than French adolescents participates in sport, but mainly in an
3 unorganized context. In France, adolescents are more attracted to club sport practice. This
4 distinct sport participation could be the product of two different sport policies. The centralized
5 sport policy in France promotes this attraction towards club sport, whereas Austrian sport
6 politics are organized in a more autonomous way. While French adolescents expressed a higher
7 organized sport participation, Austrian adolescents are more oriented towards individual, self-
8 organized sport practice where they can define their own rules. Our findings highlight the
9 importance of the promotion of unorganized sport, which also provides the opportunity for sport
10 practice for low-SES adolescents and girls. Next to organized sport, unorganized sport can
11 positively contribute to reducing gender and social inequalities and to increasing adolescent
12 sport participation rates and PA levels in Europe.

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21

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Table 1. Sport participation rates by country, context, gender, SES

Variables	France (% (n))			Austria (% (n))			χ^2		
	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls
Sport participation context									
Organized	40.1% (409)	45.5% (210)	36.3% (199)	30.8% (278)	37.2% (138)	26.4% (133)	17.86***	5.77*	11.56***
Unorganized	14.9% (152)	19.0% (88)	11.7% (64)	38.1% (344)	40.4% (150)	36.9% (186)	134.34***	46.10***	92.22***
Both	10.3% (105)	13.0% (60)	8.2% (45)	12.7% (115)	12.7% (47)	13.3% (67)	2.79	0.20	7.13**
NA	0.6% (4)	0.0% (2)	0.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	NA	NA	NA
SES									
low	62.6% (278)	78.5% (157)	50.8% (121)	76.8% (222)	88.4% (99)	69.2% (117)	16.29***	4.77*	13.77***
high	70.3% (353)	79.0% (181)	63.5% (172)	84.9% (445)	92.6% (199)	81.1% (240)	31.64***	16.43***	22.09***
NA	53.4% (39)	66.7% (22)	43.6% (17)	77.8% (70)	84.1% (37)	74.4% (29)	10.79**	3.2	7.63**
Overall sport participation	65.8% (670)	77.9% (360)	56.6% (310)	81.6% (737)	90.3% (335)	76.6% (386)	61.44***	22.80***	47.00***

*p<0.05; **p<0.01; ***p<0.001

Table 2. Odds ratio (OR) and 95% confidence interval (CI) describing the relationship between sport participation and country by sex adjusted for age and SES

Variables	OR (All)	95% CI	OR (Boys)	95% CI	OR (Girls)	95% CI
Overall sport participation						
AGE	0.91**	0.85-0.97	0.89*	0.79-0.99	0.92*	0.84-1.00
SES	1.53***	1.23-1.91	1.17	0.78-1.74	1.80***	1.36-2.38
AUT ^a	2.16***	1.72-2.71	2.68***	1.71-4.21	2.30***	1.73-3.04
Organized						
AGE	0.91**	0.86-0.97	0.91*	0.84-0.99	0.91*	0.84-0.99
SES	1.39**	1.13-1.70	1.04	0.77-1.40	1.76***	1.32-2.34
AUT ^a	0.64***	0.52-0.78	0.70*	0.52-0.95	0.59***	0.45-0.79
Unorganized						
AGE	1.07*	1.00-1.14	1.05	0.96-1.15	1.10	1.00-1.21
SES	0.95	0.76-1.20	0.94	0.67-1.32	0.98	0.71-1.34
AUT ^a	3.46***	2.75-4.36	2.77***	1.99-3.86	4.54***	3.24-6.34
Both						
AGE	0.92	0.84-1.00	0.97	0.86-1.09	0.88*	0.78-1.00
SES	1.23	0.90-1.67	1.25	0.80-1.95	1.23	0.80-1.88
AUT ^a	1.20	0.89-1.62	0.99	0.65-1.53	1.49	0.98-2.26

^areference category: France. *p<0.05; **p<0.01; ***p<0.001

Table 3. Odds ratio (OR) and 95% confidence interval (CI) describing the relationship between context of sport participation and country by SES and sex, adjusted for age

Variables	OR (All)	95% CI	OR (Boys)	95% CI	OR (Girls)	95% CI
Low-SES adolescents						
Overall sport participation						
AGE	0.88**	0.80-0.97	0.81*	0.68-0.96	0.91	0.80-1.02
AUT ^a	1.97***	1.41-2.75	2.02*	1.03-3.97	2.19***	1.44-3.33
Organized						
AGE	0.88**	0.80-0.97	0.90	0.79-1.03	0.86*	0.75-0.98
AUT ^a	0.58***	0.41-0.80	0.58*	0.36-0.93	0.59*	0.37-0.94
Unorganized						
AGE	1.05	0.95-1.17	1.00	0.86-1.16	1.12	0.96-1.31
AUT ^a	4.36***	3.04-6.24	3.28***	1.96-5.51	5.96***	3.50-10.13
Both						
AGE	0.92	0.79-1.06	0.95	0.78-1.17	0.89	0.72-1.09
AUT ^a	0.97	0.59-1.58	0.87	0.42-1.82	1.06	0.54-2.08
High-SES adolescents						
Overall sport participation						
AGE	0.93	0.85-1.02	0.95	0.81-1.11	0.93	0.83-1.05
AUT ^a	2.35***	1.73-3.19	3.30***	1.81-6.02	2.40***	1.64-3.53
Organized						
AGE	0.93	0.87-1.01	0.92	0.83-1.02	0.94	0.85-1.05
AUT ^a	0.69**	0.53-0.89	0.8	0.55-1.17	0.61**	0.43-0.87
Unorganized						
AGE	1.08	0.99-1.17	1.09	0.97-1.22	1.07	0.95-1.21
AUT ^a	2.94***	2.18-3.97	2.47***	1.62-3.79	3.71***	2.41-5.72
Both						
AGE	0.92	0.83-1.03	0.98	0.84-1.14	0.88	0.75-1.03
AUT ^a	1.37	0.94-2.00	1.07	0.62-1.83	1.85*	1.07-3.20

^areference category: France. *p<0.05; **p<0.01; ***p<0.001

Table 4. Top Ten unorganized and organized sports by country

Unorganized sports (% (n))				Organized sports (% (n))			
France		Austria		France		Austria	
	%		%		%		%
Soccer	20.4% (31)	Walking	15.4% (53)	Dancing	17.9% (73)	Soccer	24.4% (68)
Bodybuilding	11.0% (17)	Soccer	11.9% (41)	Soccer	13.9% (57)	Dancing	8.1% (23)
Walking	10.5% (16)	Biking	9.0% (31)	Tennis	5.7% (24)	Fitness	7.4% (20)
Dancing	6.6% (10)	Fitness	8.4% (29)	Basketball	5.1% (21)	Tennis	6.6% (18)
Swimming	6.6% (10)	Skiing	7.0% (24)	Horse riding	4.7% (19)	Horse riding	6.6% (18)
Basketball	5.5% (9)	Bodybuilding	6.1% (21)	Boxing	4.4% (18)	Volleyball	6.1% (17)
Badminton	3.3% (5)	Horse riding	6.1% (21)	Rugby Football	3.7% (15)	Walking	5.6% (15)
Cross-country cycling	3.3% (5)	Volleyball	5.2% (18)	Badminton	3.4% (14)	Basketball	3.8% (11)
Skiing	2.8% (4)	Climbing	3.5% (12)	Swimming	3.0% (12)	Swimming	3.3% (9)
Fitness	2.2% (3)	BMX	2.6% (9)	Handball	2.5% (10)	Skiing	2.8% (8)
Overall Top Ten	72.4% (110)	Overall Top Ten	75.3% (259)	Overall Top Ten	64.4% (263)	Overall Top Ten	74.6% (207)