



School attainment, family background and non-curricular activities: Reproduction of or compensation for social inequality?

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Abstract

This article focuses on uncovering social inequality in non-curricular activities (NCAs) and looking at the impact these have on young people's school performance. Based on research conducted in Barcelona with 2,156 10th-graders, the authors investigate the association of participation in NCAs with academic outcomes in the context of social stratification. Their analysis of the data show how the choice of NCAs differs according to gender, immigrant background and family education level. Their findings also indicate that NCAs have an impact on academic performance, and that this effect is amplified when the family educational level variable is introduced. The largest impact of these activities occurs among students whose parents' highest level of education is compulsory education. If students in this social group do not participate in any of the NCAs, their grade point average is associated with the worst performance among young people in Barcelona. On the other hand, if they take part in sports or artistic activities at school, their grade point average is the highest in their social group. The article concludes with some recommendations for socio-political and educational intervention, at the level of schools and the educational community as well as at the policymaking level.

Keywords Extracurricular activities · Non-curricular activities · Educational inequality · Social inequality and school attainment · Disadvantaged learners · Spain

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Résumé

Le niveau scolaire, le milieu familial et les activités non scolaires : reproduction ou compensation des inégalités sociales ? – Cet article s’emploie à dévoiler les inégalités sociales dans les activités non scolaires (ANS) et l’impact de celles-ci sur les performances scolaires des jeunes. Sur la base d’une recherche menée à Barcelone auprès de 2 156 élèves de seconde, les auteurs étudient l’association entre la participation aux ANS et les résultats scolaires dans le contexte de la stratification sociale. Leur analyse des données montre comment le choix des ANS diffère selon le sexe, l’origine immigrée et le niveau d’éducation de la famille. Leurs résultats indiquent également que les ANS ont un impact sur les performances scolaires, et que cet effet est amplifié lorsque l’on tient compte de la variable du niveau d’éducation de la famille. L’impact le plus important de ces activités se révèle chez les élèves dont le plus haut niveau d’éducation des parents est l’enseignement obligatoire. Si les élèves de ce groupe social ne participent à aucune des ANS, leur moyenne générale est associée aux plus mauvais résultats parmi les jeunes de Barcelone. En revanche, s’ils participent à des activités sportives ou artistiques à l’école, leur moyenne générale est la plus élevée de leur groupe social. L’article s’achève sur quelques recommandations d’intervention sociopolitique et éducative, tant au niveau des écoles et de la communauté éducative qu’au niveau de l’élaboration des politiques.

Resumen

El rendimiento escolar, el entorno familiar y las actividades no curriculares: ¿Reproducción o compensación de la desigualdad social? – Este artículo analiza la desigualdad social en las actividades no curriculares (ANC) y su impacto en el rendimiento escolar de los jóvenes. Basándose en una investigación realizada en Barcelona con 2.156 alumnos de 4º de la Educación Secundaria Obligatoria (ESO), los autores investigan la relación entre la participación en ANC y los resultados académicos teniendo en cuenta el origen social del alumnado. Los resultados muestran cómo la elección de las ANC difiere según género, origen inmigrante y nivel educativo de la familia. A su vez, los resultados indican que las ANC tienen un impacto en el rendimiento académico, y que este efecto se amplía cuando se tiene en cuenta el nivel educativo de la familia. El mayor impacto de estas actividades se produce entre los estudiantes con progenitores con niveles educativos inferiores. Si los estudiantes de este grupo social no participan en ninguna de las ANC, su promedio de notas es el más bajo entre los jóvenes de Barcelona. En cambio, si participan en actividades deportivas o artísticas en la escuela, su media de notas es la más alta de su grupo social. El artículo concluye con algunas recomendaciones para la intervención sociopolítica y educativa, tanto a nivel de las escuelas y la comunidad educativa como a nivel de la administración pública.

Introduction

Ever since the publication of the Coleman report (Coleman et al. 1966) in the United States,¹ there has been a debate about how schools could improve students' academic performance and become more "effective" (Lauer et al. 2004) in light of the report's finding that most of the variance in attainment was clearly caused by family background, regardless of the school's methodology or resources. The main question was why some schools had a high concentration of pupils from lower-class families and other disadvantaged groups, making the social composition of schools a major issue for policymakers. John Dewey's idea of mass secondary education for everybody (Dewey 1916) as a way of overcoming social inequality proved difficult to implement in the United States because of social trends, individual choices, expectations and strategies to use school as a social differentiation pathway. A similar phenomenon has been observed in Spain over the past twenty years as the number of migrant pupils increased substantially (Merino 2007), particularly in urban areas like Barcelona.

The role of compulsory school attendance in fighting social inequality has long been on researchers and policymakers' agendas in many countries worldwide. Much less attention has been given to the role of extracurricular activities (ECAs) students engage in during their leisure time in mediating between the school and the reproduction of social inequality. This relatively new field of research strives to contribute to a better understanding of the relationship of young people with the school institution. Indeed, practice has shown that ECAs do seem to offer greater possibilities for socio-educational intervention, since their agenda is less rigid than school structures and the curriculum.

The impact of extracurricular activities on the lives of adolescents

The enjoyment of leisure is a universal right, and a fundamental aspect of an individual's self-fulfilment. It is also crucial for a person's social, educational and psychological development (OECD 2012), especially during youth, when individual values are being shaped (Clavería et al. 2021). In Spain, ECAs represent a central element in young people's lives (ibid.). The Spanish youth report 2020 [*Informe Juventud en España 2020*] states:

¹ In 1964, the American Congress commissioned the US Office of Education to investigate the inequality of educational opportunities in primary and secondary education across the United States. The research team, chaired by James Coleman, launched an impressive nationwide survey and produced the landmark *Equality of Educational Opportunity Report*, also known as "the Coleman report". "Taking all the[ir] results together", they concluded that "one implication stands out above all: That schools bring little influence to bear on a child's achievement that is independent of his background and general social context; and that this very lack of an independent effect means that the inequalities imposed on children by their home, neighborhood, and peer environment are carried along to become the inequalities with which they confront adult life at the end of school" (Coleman et al. 1966, p. 325)

The task ... of education systems is to correct the inequalities underlying socio-demographic traits and to adapt the learning circuit to different personalities. That said, there are a number of lifestyle habits and hobbies that can boost learning and academic success. This is shown by researchers, who generally point to sports or reading as the main extracurricular activities with a multiplier effect on studies (*ibid.*, p. 46; translated into English for the purposes of this article).

Table 1 shows the typical activities that young Spaniards like to engage in and the differences according to gender and age. As is evident, many of these activities score high participation rates.

Although there is some Spanish research on the impact of ECAs on the learning outcomes of young people (González 2016), and these activities' potential to reduce social inequality (Merino 2007), the topic of the academic effect of ECAs has not yet been widely studied in Spain. Internationally, the literature about ECAs, which has increased in recent years (Shulruf 2010; Abizada et al. 2020), points out that participation in one set of these activities (e.g. sports) generally leads to more positive youth development compared with no participation (Linver et al. 2009). These activities have the potential to improve attitudes towards learning and young people's positive beliefs in their own abilities (OECD 2012). They also give children spaces where they can thrive and develop their personalities (Fredricks et al. 2006). In a study they conducted in the United States, Nancy Darling et al. found that once sociodemographic characteristics were controlled for, adolescents who participated in school-based ECAs reported higher grades, higher academic expectations, and more positive attitudes toward schools (Darling et al. 2005).

James Coleman's theory postulated that ECAs provide complimentary roles for a student to take on besides their role as a pupil (Coleman et al. 1981). This additional role benefits the student academically because it has the potential to increase self-esteem and social skills, which foster bonding with school (Finn 1989), avoiding negative experiences, such as bullying (Hunt 2005; Juvonen et al. 2012). Research also indicates that participation in ECAs reduces dropout (Mahoney and Cairns 1997) and risky behaviour outcomes (Eccles et al. 2003).

Table 1 Activities of young Spaniards outside of school hours by gender and age

	Total	Boys	Girls	Age 14–19	Age 20–24	Age 25–29
Listening to music or the radio	97%	96.9%	97.1%	97.5%	97.3%	96.4%
Watching TV or online series	92.9%	91.7%	94%	93.3%	94%	91.4%
Going to bars or clubs	76.3%	76.5%	76.1%	72.6%	82.1%	74.3%
Doing sports/exercising	64.5%	72.1%	57%	68.7%	62.6%	62.2%
Reading, or visiting theatres or museums	49.5%	43.1%	55.8%	45.1%	51%	52.3%
Drinking in public spaces/loitering	39.1%	41.9%	36.4%	48.7%	45.2%	24.5%
Collaborating with NGOs (volunteering)	18.5%	15.9%	21.2%	15.5%	20.1%	20%

Source: Clavería et al. (2021), p. 158; translated into English here

Robert Putnam summarises the positive effects of ECAs as an increase of non-cognitive skills and occupational returns on education (Putnam 2015).

Non-cognitive ... has become a catchall term for traits or skills not captured by assessments of cognitive ability and knowledge. ... Many educators prefer the umbrella term “social and emotional learning” ..., which is often used to encompass a broader range of competencies such as social awareness, empathy, and self-regulation. Others use “21st Century skills” ... to emphasize the value of critical thinking and problem-solving skills (West et al. 2016, p. 149; italics in original).

These personality dimensions are recognised for their capacity to explain variability in educational attainment as well as variability in students’ career and health outcomes (Kautz et al. 2014). Most research distinguishes between intrapersonal and interpersonal non-cognitive skills (West et al. 2016; Doren and Grodsky 2016; Kautz et al. 2014). Intrapersonal non-cognitive skills include competencies related to intellectual openness, work ethic, conscientiousness and self-evaluation. On the other hand, interpersonal non-cognitive skills include competencies such as collaboration, communication and conflict resolution (Pellegrino and Hilton 2013). Some studies have shown that participation in ECAs improves interpersonal non-cognitive skills, especially communication and collaboration skills (Eccles et al. 2003; See et al. 2017). Nurturing these non-formal or “soft” skills has been shown to facilitate success in finding employment, and to broaden people’s life choices (Archer 2007; Eccles et al. 2003).

Putnam also points out some negative effects associated with ECAs. For instance, the social composition of youth clubs can stimulate bad behaviour at school or even in society. He also shows a negative correlation between an excess of engagement in ECAs and poorer academic performance (Putnam 2015). Other research shows that the positive effects of ECAs have a greater impact on students from lower social backgrounds, indicating that ECAs can also play a role in compensating for social inequality. In this sense, differences in the school grades of young people from different social backgrounds are reduced if ECAs are taken into account.

It is important to clarify that the concept of ECAs includes different activities. Some are school-based or linked to the school and promoted by school staff, while others are practised outside of school, but still supervised by adults and oriented towards pedagogical goals. Sports competitions, theatre classes and music lessons are examples of these activities. Although the ECA concept is often used in the literature, it should be borne in mind that it can generate some confusion in its positive connotation; it usually refers to the purpose-oriented pursuit of an educational agenda, albeit a non-formal one, outside of the classroom, presented as exceptional or special. As can be seen in the same literature, in practical terms, many of these ECAs become a continuity of curricular activities, for example music or language lessons, which some authors refer to as *co-curricular* activities or *direct* activities (Bartkus et al. 2012). In our own analysis, presented here, we consider a wider spectrum of adolescents’ activities outside of school hours, which include entirely unplanned leisure pursuits such as simply spending time with friends. For this reason, we have chosen the more neutral term of “non-curricular activities” (Merino

2019), although this also suffers from the difficulty of separating what is curricular from what is not.

An operational way of defining non-curricular activities (NCAs) is saying that this designation refers to those activities that are carried out outside of school hours, or within school hours but outside the normal curriculum, and are not subject to formal assessment. The concept of NCAs encompasses both school-based ECAs and out-of-school ECAs, as well as leisure time activities, such as hobbies. This dimension of the concept enabled us to include a range of activities practised by young people outside of school hours beyond extracurricular education.

Objectives and hypotheses

The main objective of this article is to analyse the impact of different NCAs on academic outcomes of youth and to find out whether these activities can compensate for social inequality. The key question we were interested in was whether engaging in any NCA enhances social inequality or whether participation has the potential to compensate in some way for the lack of skills learnt at school by students from disadvantaged backgrounds. We set out to investigate the viability of the following three hypotheses:

- *H 1*: There is a social stratification of NCAs. Choices of NCAs are different according to social background.
- *H 2*: The association between NCAs and academic outcomes differs depending on the type of NCA.
- *H 3*: The association of NCAs with academic outcomes differs according to students' social background. Some NCAs act as a mechanism of compensation for social disadvantages.

Data

The data we used for our analysis come from a study carried out by the Autonomous University of Barcelona (UAB)'s Education and Work Research Group (GRET) in the city of Barcelona in 2013/2014. It was part of a larger international research project, the International Study of City Youth (ISCY), conducted 2013–2017, which compared educational transitions of 10th grade students between the ages of 16 and 19 in 15 cities in 10 countries.² The Barcelonian study consisted of a longitudinal follow-up of a sample of students who were in their final year of compulsory schooling (10th-grade in Spain) before starting out on different paths in post-compulsory education. For the analysis presented in this article, we used data from the baseline questionnaire, administered in the academic year 2013/14. Our analysis focuses on

² The 15 cities are Barcelona, Bergen, Bordeaux, Ghent, Hong Kong, Melbourne, Montreal, Reykjavik, San Diego, Santa Barbara, Sacramento, Tijuana, Santiago, Turku and Wrocław.

the 10th-graders' answers when asked about their ECAs. The sample group consisted of 2,156 students from 27 secondary schools in Barcelona, which were representative in terms of type (subsidised private schools or state schools).³

Measures

Social stratification was measured by two variables, the first of which was family educational background. It had three levels: at least one parent had a university degree; one or both parents had an upper secondary qualification; or both parents had only a primary level education. The second variable concerned migrant background, which had two categories: students with both parents born in Spain and students with one or both parents born abroad. These data were also disaggregated by sex (respondents had been asked to self-identify by choosing among two checkboxes in the questionnaire, female or male).

Academic outcomes were measured by four variables. First, the students were asked about their expected marks at the end of the academic year,⁴ their expectations beyond compulsory schooling and repeating a grade. The options for expected marks ranged from 1 (good results) to 5 (bad results). Self-perception is important in making decisions about the future (Zaff et al. 2003), but these subjective data have limitations, so the ISCY project introduced an objective measurement: a basic skills test (BST) run by an external assessment body. For our analysis, we constructed a synthetic index using the maths and language scores and divided the students into three percentiles.

In terms of NCAs, we considered three different kinds of activities:

- *School-based NCAs*: these include different activities related or linked to the school framework, sometimes promoted by teachers or school staff as an extended curriculum, and sometimes organised by the students themselves. Specifically, we considered the following school-based NCAs: science and literature competitions, acting or singing in a choir, representing the students on the Board of Governors or at the students' assembly, sports competitions in a school team and activities organised by the students themselves (cultural events, school magazine, end-of-year trip ...). The question in the survey was: "Do you take part in any of the following activities at school?" and the answer options were "yes" or "no".
- *Out-of-school NCAs*: there are many activities young people can engage in outside of school, some of which involve a commitment, meaning that they are

³ In Spain, there are three types of schools: state schools, run and funded by public authorities; private schools, run by private owners and funded by the students' families, most of these schools are faith-based; and subsidised private schools, run by private organisations but funded by public funds in the compulsory stages. The Barcelonian ISCY survey did not include children attending private schools because of difficulties in accessing these centres and also because their student numbers are low.

⁴ The questionnaire was completed by students between February and March and final examinations are in June, so they had an idea about their expected marks.

expected to attend regularly with the potential for skills improvement and often some kind of assessment. The survey asked whether during the last three years they had participated in any of the following activities outside of school: having extra tuition, going to a music school, doing extra classes in languages or other academic subjects, going to a club (a sports club, a youth club or scout group, or a cultural association) or attending church. Here in the response options a minimum frequency was added: “never”, “sometimes”, “regularly”.

- *Leisure activities*: last, there is a set of activities young people take part in for varying amounts of their spare time that require no formal commitment and can be either done alone or with friends, at home or otherwise. In this article, we consider the following options: reading for pleasure, doing sports (not regularly in a club) or physical exercise, watching TV, playing videogames, surfing the Internet, playing a musical instrument or simply spending time with friends. The questionnaire offered six options to measure the amount of time spent on each activity: never, less than once a week, once a week, almost every day, less than two hours every day or more than two hours every day.

Analytical strategy

To analyse the impact of NCAs on the school achievements of young people, we formulated an analytical strategy with different steps. In the first step, we carried out an explanatory factor analysis with the elements related to the NCAs described above. This allowed us to simplify the information and find common dimensions among the NCAs Barcelonian 10th-graders engaged in.

From the resulting components of the factorial structure, we carried out a cluster analysis and elaborated a typology of students according to the NCAs they practised the most. To identify the main descriptive characteristics of the typology, we performed a Chi-square analysis and adjusted standardised residuals introducing variables related to social stratification and academic outcomes.

Finally, to deepen the relationship between social stratification, academic outcomes and NCAs, we conducted an analysis of variance (ANOVA) to determine differences in student outcomes according to the typology of NCAs and taking into account family educational background and gender. We conducted two ANOVAs for this purpose: the first analyses the variance of academic outcomes according to an objective measurement (basic skills test) and the second analyses the variance according to a subjective indicator of self-perception of performance.

Results

In order to simplify information and find common dimensions among NCAs, we carried out an exploratory factor analysis by applying the principal component extraction method with varimax rotation. The estimation of the significance and relevance of the model was done through the Kaiser-Meyer-Olkin sample adequacy statistic ($KMO = 0.652$). The results establish a factorial structure

consisting of 7 components whose total accumulated explained variance is 59,5%. Table 2 shows the extraction and contribution of each element to the different components.

From the resulting components we elaborated a typology of students according to the NCAs they performed. Based on a cluster analysis (Ward Method) and taking into account the level of aggregation at each level of the histogram, we chose a typology composed of 5 types of students: *sporty*, *associative*, *musician*, *artist at school* and *non-participative*. The young people surveyed may have done more than one type of activity because these typologies are not exclusive, but we labelled them according to their most significant one. In other words, the youth were classified by the activity which most distinguished them.

From this sample group of 1,801 individuals, 760 were classified as *sporty* (see Table 3), which encompasses youth who practised a sport, trained at a sports club or exercised to keep fit. *Associative* refers to those young people who participated in cultural or religious associations, or in a scout group. The *musicians* include those who played an instrument and had music lessons. The *artists at school* were those 10th-graders who engaged in acting or music activities, such as taking part in a band or a choir, either at school or promoted by the school. Last, *non-participative* students are the group who did not take part in any of the NCAs asked about in the survey, although this does not mean that they did nothing during their leisure time. Having established this typology, we addressed each of our three hypotheses one by one.

H 1: There is a social stratification of NCAs. Choices of NCAs are different according to social background

To prove or disprove our first hypothesis (*H 1*), we ran a bivariate analysis. The new typology was now the dependent variable, and sex, family educational background and immigrant background were the independent variables. Table 4 shows how each variable affected the choice of NCAs.

Choices of NCAs differed according to sex, immigrant background and family educational background. Cramer's V tests confirmed the intensity of the association between these variables. On examining the data case by case, we found some relevant associations. Children from families with a low educational background participated less in all types of activities except for engaging as artists at school, where they represent 29.3% of the total, whilst their counterparts from families with medium and high educational backgrounds represent 19.2% and 13.4% of the total, respectively. We found 9.6% of the youth from families with a low education level to be non-participative, which is the highest percentage among the youth from all family educational backgrounds.

The relevant variances in our analysis of this variable also confirm that there is indeed a social stratification of NCAs. We found 45.8% of non-migrants to be sporty, compared to just 29.2% of migrants. The percentages of associative students, musicians and artists at school are higher for the migrant group than for the non-migrant group. The biggest difference is among the artists at school: 23.8% of the migrants engaged in acting or music activities at school, while this

Table 2 Components of the exploratory factor analysis

	Component						
	1	2	3	4	5	6	7
Training in clubs	0.756	-0.14	-0.029	0.03	0.033	0.053	0.111
Playing sports	0.913	0.005	0.019	0.011	0.017	0.02	-0.021
Exercising for fitness	0.858	0.034	-0.001	-0.001	0.057	-0.03	-0.041
Engaging in the student council or student government	-0.075	0.524	-0.006	-0.033	0.011	0.28	0.25
Participating in Maths/Science competitions	0.018	0.702	-0.1	-0.12	0.031	-0.117	0.05
Organising activities at school (carnival, excursions ...)	-0.045	0.693	-0.032	0.088	-0.07	0.049	-0.052
Engaging in community service activities	-0.028	0.562	-0.019	-0.243	0.018	0.159	-0.178
Taking music lessons	-0.007	-0.104	0.825	0.138	-0.041	0.004	0.046
Playing a musical instrument	-0.003	-0.038	0.856	0.048	0.04	-0.141	-0.077
Engaging in activities offered by a Scout group	0.052	-0.192	0.159	0.622	0.086	0.102	0.126
Engaging in religious activity	-0.041	0.069	-0.044	0.641	-0.107	-0.15	-0.037
Engaging in activities offered by an Association (cultural, hiking ...)	0.034	-0.1	0.096	0.697	0.051	-0.04	-0.045
Spending time with friends	0.2	-0.091	0.1	0.062	0.62	0.057	0.117
Using the Internet	-0.06	0.003	0.071	-0.097	0.755	0.098	-0.005
Watching TV	-0.014	0.072	-0.235	0.065	0.644	-0.156	-0.14
Playing music in a group (orchestra, school band ...)	0.018	-0.012	-0.391	-0.051	0.034	0.673	0.021
Engaging in a drama group	0.036	0.18	0.072	-0.067	0.002	0.763	-0.055
Being taught by a private supplementary tutor	0.047	0.001	-0.03	0.015	-0.011	-0.04	0.935
Explained variance	12.2	9.4	9.4	7.9	7.8	6.9	5.8

Bold numbers indicate values higher than 0.5. The KMO test measures the sampling adequacy for each variable in the model and for the whole model. Values between 0.5 and 1 indicate that it is appropriate to apply, as an indicator showing the strength of relationships between variables

Table 3 Typology of students

Typology of students	<i>n</i>	%
Sporty	760	42.2
Associative	281	15.6
Musician	302	16.8
Artist at school	335	18.6
Non-participative	123	6.8
Total	1,801	100.0

Table 4 Social structure of non-curricular activities

	Sporty	Associative	Musician	Artist at school	Non-participative	Total	
						<i>n</i>	%
Sex [0.243]*							
Boys	<u>53.10%</u>	<u>13.40%</u>	15.80%	<u>12.20%</u>	<u>5.40%</u>	923	100%
Girls	<u>30.80%</u>	<u>17.40%</u>	17.90%	<u>25.40%</u>	<u>8.40%</u>	854	100%
Immigrant background [0.155]*							
Non migrant	<u>45.80%</u>	<u>15.40%</u>	16.30%	<u>16.70%</u>	<u>5.70%</u>	1,309	100%
Migrant	<u>29.20%</u>	<u>17.20%</u>	19.40%	<u>23.80%</u>	<u>10.30%</u>	407	100%
Family educational background [0.124]*							
Low	<u>36.10%</u>	12.80%	<u>12.20%</u>	<u>29.30%</u>	<u>9.60%</u>	335	100%
Medium	44%	<u>14.90%</u>	15.20%	19.20%	6.70%	598	100%
High	43.60%	16.80%	<u>20.20%</u>	<u>13.40%</u>	6.00%	833	100%
Total	40.40%	15.40%	16.80%	20%	7.40%		

Source: authors' own elaboration

Notes: Typology of students(Y) Sociodemographic variables (X)

* $p \leq 0.001$ ** $p \leq 0.01$ for chi-square test

Cramer's test is shown in square brackets. Underlined percentages show categories with residues higher than the value + 1.96, which indicates a significant relation between categories with a significance level of 0.05

percentage reduces to 16.7% for non-migrants. However, 10.3% of the migrant group were non-participative, compared to 5.7% for the non-migrant group.

There are some significant differences between boys and girls. In fact, we found sex to be the variable with the most explanatory variance. Among the boys, 53.1% were sporty, while the percentage of sporty girls was just 30.8%. Nevertheless, the percentages for girls participating in all the other NCAs are higher. For example, 25.4% of girls were in the artist-at-school group, which is more than double the percentage of boys. Proportionally, there are more (8.4%) non-participative girls than boys (5.4%).

H 2: The association between NCAs and academic outcomes differs depending on the type of NCA

Table 5 Non-curricular activities and school achievement indicators

	Sporty	Associative	Musician	Artist at school	Non-participative	Total
Perception of marks** [0,071]						
Good marks	<u>49.9%</u>	58.1%	<u>59.6%</u>	49.5%	54.5%	53.1%
Regular marks	<u>48.5%</u>	<u>39.4%</u>	<u>39.4%</u>	47.1%	43.9%	45.0%
Bad marks	1.6%	2.5%	15%	<u>3.3%</u>	1.6%	1.9%
Basic skills test ** [0,090]						
High tercile	<u>31.3%</u>	38.8%	<u>41.9%</u>	32.5%	26.0%	34.2%
Middle tercile	<u>36.9%</u>	33.5%	30.7%	29.1%	31.3%	33.6%
Low tercile	31.9%	27.7%	27.3%	<u>38.5%</u>	<u>42.7%</u>	32.3%
Repeating a school year (n.s.)						
No repetition	88.5%	90.7%	90.3%	87.3%	85.6%	88.8%
Repetition	11.5%	9.3%	9.7%	12.7%	14.4%	11.2%
Expectations (n.s.)						
Academic track	74.6%	73.5%	77.8%	<u>68.5%</u>	70.3%	73.5%
Vocational track	18.1%	16.8%	13.4%	19.3%	17.8%	17.3%
I don't know	6.2%	6.7%	6.7%	<u>10.9%</u>	11.0%	7.6%
Labour market	1.1%	<u>3.0%</u>	2.1%	1.2%	0.8%	1.6%

Source: author's own elaboration

Notes: Typology of students(Y) Sociodemographic variables (X)

* $p \leq 0.001$ ** $p \leq 0.01$ for chi-square test

Cramer's test is shown in square brackets. Underlined percentages show categories with residues higher than the value +1.96, which indicates a significant relation between categories with a significance level of 0.05

If typology is selected as the independent variable, the relation of each type of NCA with school attainment can be analysed. In this case, the subjective variables were perception of marks and expectations beyond compulsory schooling, while repeating a school year and a basic skills test (BST; shown as good, regular and bad marks) run as an objective indicator were the dependent variables. The results of this crosstab are summarised in Table 5.

This table shows how NCAs have no impact on either repetition or student expectations, as indicated by the Chi-square test and Cramer's V test, which are not significant. Self-perceived grades and the basic skills test (BST) are slightly associated with NCAs. Therefore, our second hypothesis (H_2) is corroborated if academic performance is measured through academic performance in an objective test and through self-perceived grades. It is clearer to measure the impact of NCAs on academic outcomes with objective data because the limitations of subjective variables may confuse the final outcome, an example of which is the percentages in the non-participative group: 54.5% of the students who thought they were going to achieve good marks are in the non-participative typology, whilst only 26% of those who actually had good marks are in this group.

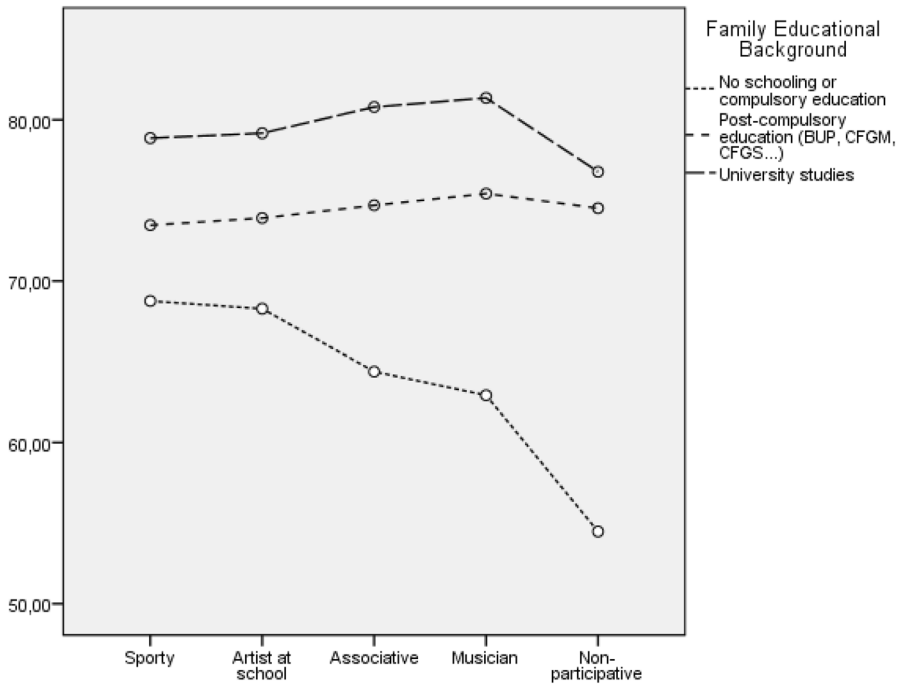


Fig. 1 Diagram of estimated basic skills test (BST) average (Y) in relation to family educational background and typology of students (X)

H 3: The association of NCAs with academic outcomes differs according to students' social background. Some NCAs act as a mechanism of compensation for social disadvantages

After the factorial and cluster analyses, we performed a variance analysis (ANOVA) to analyse the relation between social structure, school attainment and NCEs. We ran the ANOVA by objectively measuring the academic outcomes. In this case, BST as an objective measurement was the dependent variable, while family educational background and sex were the independent variables. As Table 5 shows, the outcome crosstab validated our third hypothesis (*H 3*): when family educational background is introduced, NCAs have an effect on objective academic outcomes, and this impact differs according to social background. In this sense, NCAs could act as a compensation mechanism of social inequality.

Figure 1 maps how young people whose parents have a primary or post-compulsory level education tend to perform less well than youth from families with a higher educational level, even when sex and all types of NCAs are taken into account. This evidence confirms the results of previous research connecting social background to school performance: class origin is the most explanatory factor in educational attainment.

The second evidence is that the impact of NCAs on academic outcomes differs according to type of NCA, sex and family educational background. Students'

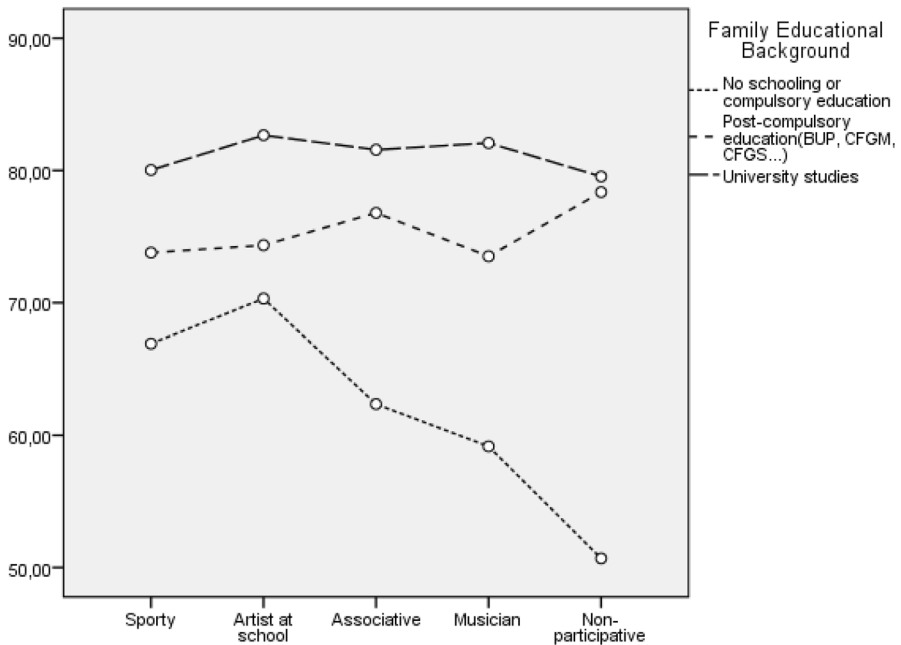


Fig. 2 Diagram of estimated basic skills test (BST) average (Y) in relation to family educational background and typology of students (X). Male students

performance changes depending on their family educational background, their sex and the NCAs they take part in. Non-participation is the most negatively influential on youth performance, mostly for those whose parents' highest educational attainment is primary or compulsory level. Boys whose parents had a post-compulsory-level education were the only ones whose school attainment was not negatively affected by being non-participative (Figure 2). In this case, non-participative is associated with better marks in school.

The highest negative effect of being non-participative was related to young people whose parents had a primary or compulsory-level education: This association has the worst performance, and it is much worse for boys than for girls (Figures 2 and 3)

NCAs seem to have little effect on the performance of youth whose parents have a post-compulsory educational level. Regarding family educational background, being a musician is associated with the best marks in this group. Nevertheless, if this effect is analysed separately by sex, there is a change. Figures 2 and 3 show that girls tend to have better marks if they are in the musician group and worse marks when they are non-participative, while for boys it is the opposite. Interestingly, their best marks are associated with being non-participative and their worst with being a musician.

The variance in the performance of youth whose parents have a university level education barely changes when the NCA variable is introduced (Figure 1). Non-participative is again associated with worse school attainment. When boys and girls are considered separately, there are significant differences. Whilst boys

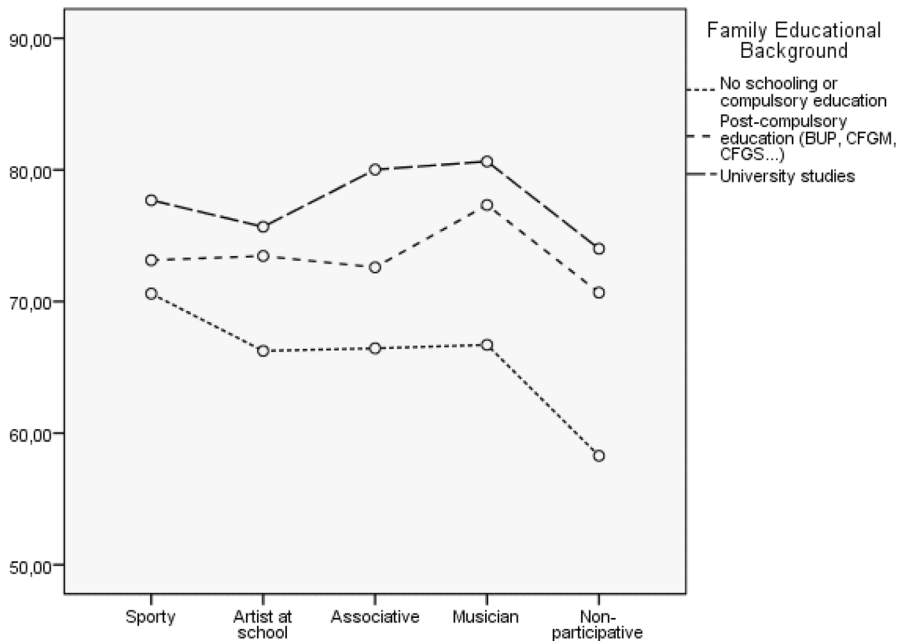


Fig. 3 Diagram of estimated basic skills test (BST) average (Y) in relation to family educational background and typology of students (X). Female students

tended to have better marks if they were in the artist-at-school group (Figure 2), girls tended to perform better when they were in the musician group (Figure 3). For girls, after non-participative, artist-at-school was also related to worse performance (Figure 3).

The highest effect of NCAs on performance appears for young people whose parents have a primary or compulsory level education (Figure 1). Being non-participative has an important negative impact for both boys and girls. Being sporty and/or an artist at school are associated with the best performance for this social class, but there are some differences by sex. Women also perform better if they are sporty, but not if they are in the artist-at-school group.

We ran the next ANOVA by the subjective indicator of self-perception to verify if the limitations of subjective data persist in measuring the impact of NCAs on academic outcomes. Furthermore, this ANOVA shows how NCAs alter the self-perception of youth as students. Finding out more about youths' self-perception of their marks helps to understand their choices and decisions. In fact, young people project their future depending on their self-perception of school attainment (Covay 2010).

Figure 4 indicates that the highest self-perception of marks is associated with musicians from families with a university level education. In general, those in the associative group have the highest perception of marks and those in the artist-at-school group the lowest. Within the non-participative typology, what stands out is the fact that self-perception decreases markedly among young people whose families have a university level education, while being non-participative for youth from

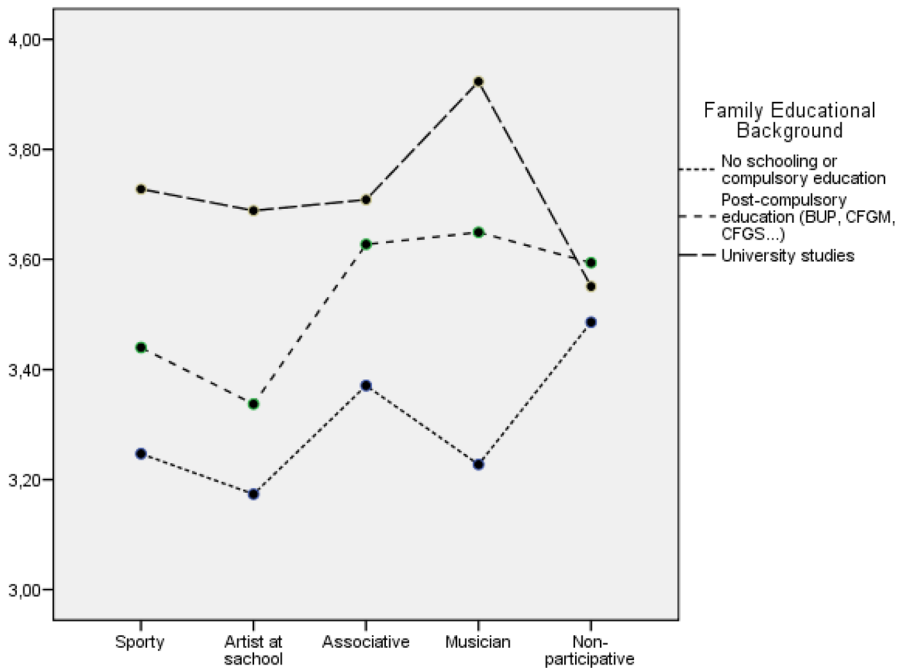


Fig. 4 Diagram of self-perception of marks (Y) in relation to family educational background and typology of students (X)

families with a primary level education is related to the highest self-perception of marks among this family educational background.

There are relevant differences between boys and girls. Associative boys from families with a primary or post-compulsory level education tend to self-perceive the highest marks in their social classes, whilst associative boys from families with a university level education have the second-lowest self-perception of marks in their social class: only non-participative students have a lower self-perception (see Figure 5). For girls, what stands out is that for those whose families have a primary or compulsory level education, being non-participative is associated with the highest self-perceptions in this social class, but for girls from the other two-family backgrounds having the highest self-perception of marks is associated with being a musician (see Figure 6).

Conclusion

Non-curricular activities (NCAs) are diverse and heterogeneous both in terms of their characteristics and their connection with school attainment. The choice of these activities could be interpreted as a combination of family strategies, individual interests and motivations and the opportunities and facilities provided by schools and local communities (Merino 2007). Our analysis of the Barcelonian ISCY data

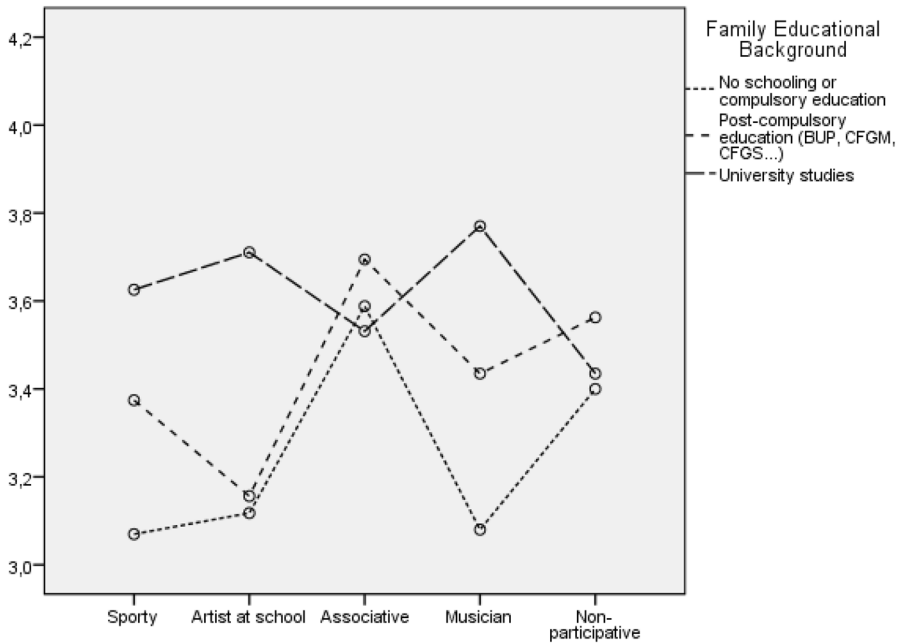


Fig. 5 Diagram of self-perception of marks (Y) in relation to family educational background and typology of students (X). Male students

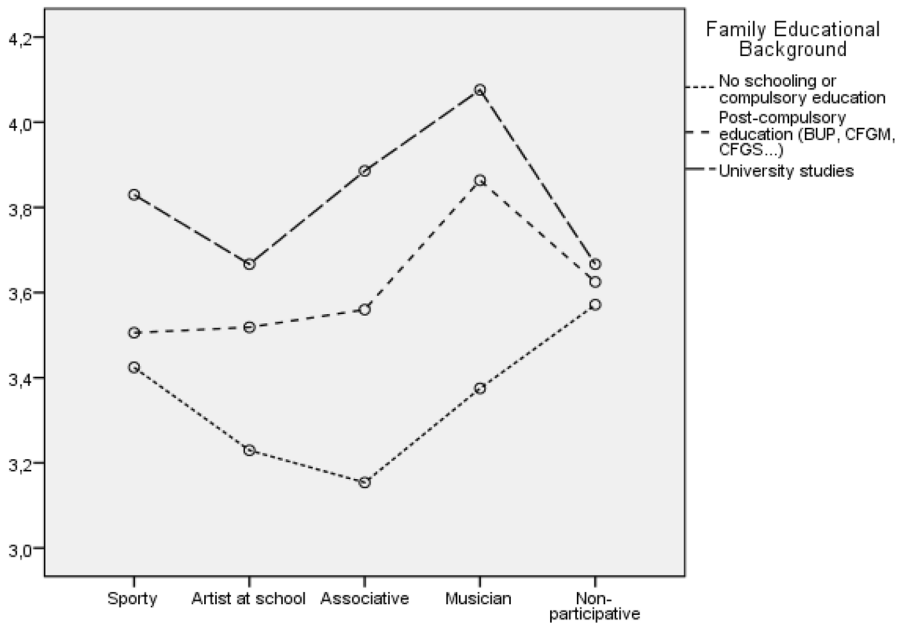


Fig. 6 Diagram of self-perception of marks (Y) in relation to family educational background and typology of students (X). Female students

demonstrates that there is a social structure to these activities that is related to families' cultural capital. Consequently, our first hypothesis (*H 1*) is validated: choices of NCAs do differ depending on social background.

Our second hypothesis (*H 2*) is half confirmed because NCAs have an impact on students' subjective perception of marks and on an external objective test, and these impacts differ depending on the NCA. When the variable family educational background is introduced, this association becomes stronger. Being in the musician group is related to the highest school achievement and the highest self-perception of marks for youth whose families have a post-compulsory or university level education. For youth from families with a primary or compulsory level education, the highest marks are related to the sporty and artist-at-school types. Our third hypothesis (*H 3*) is thus confirmed: the impact of NCAs on academic outcomes does differ according to social background, and some of these activities could act as a compensation mechanism of social inequality.

This article confirms that the school performance of children from families with a university level education seems to be better than the performance of other children, and that this performance does not change much if they take part in a few NCAs. On the other hand, our findings also show that NCAs have the biggest effect among students whose parents have a primary or compulsory level education. The variance of marks when NCAs are introduced is higher for these youth. Within this context, the most explanatory typology is non-participative. It seems that participating in any activity is better than not participating at all. It may be that, as previous research has highlighted, taking part in NCAs is linked to better academic outcomes (Meier et al. 2018). For all children, being non-participative is associated with the worst academic outcomes, but this association is stronger among youth from families with a low educational background. In this sample, not only do the positive effects of NCAs have a greater effect among children from low educational backgrounds (Nordlander 2016), but the negative effects are also more marked for these children.

The main contribution of our findings to the field could be summarised as follows: first of all, this area of research is fairly new among Spanish educational studies, most of which are based on the school context. Our analysis fills a gap related to the study of the social division of NCAs and the effects of these activities on academic outcomes. Our research is also original because it starts from a database where young people are asked about their NCAs among other questions, and in Spain, there is a lack of databases with this information. Our second contribution is related to results. Artistic activities at school increase educational opportunities for boys from a low family educational background. For girls, the buffering effect of NCAs appears with sports activity, at school or in a club. Interestingly, on average, boys engage in more sports activities, and girls engage in more artistic activities, but the most positive effects of an NCA on their performance are provided by the activity most practised by the opposite sex.

Another highlight of this study is that it shows the differences between objective and subjective indicators. Subjective indicators may confuse the measurement of school attainment, but they do expand the information about how NCAs affect young self-perception. The logic about how NCAs impact on self-perception of school attainment seems to differ from the impact that factual marks have. At the

same time, the typology of NCAs has a differential impact on subjective school attainment depending on social origin. The most differential impact is within the non-participative typology: for students from low educational backgrounds, being non-participative is associated with their best self-perception of marks, whilst for students from higher educational backgrounds being non-participative is associated with their worst self-perception of academic outcomes.

Our research has some limitations which affect the scope of our conclusions and point to future lines of research. First, the questionnaire used was multi-thematic and did not allow for in-depth analysis of relevant questions such as the intensity of NCA or the motivations of young people and families for choosing the activity. Second, the correlations made do not allow for a clear indication of causality, which would require a longitudinal analysis to be developed in the future. Moreover, a future development of our approach would be to make an in-depth analysis of the role of schools to find out more about what NCAs they offer and what the main differences are between state and private schools in this field.

Despite these limitations, some recommendations can be made for socio-political and educational intervention, at two levels. The first level would be the school and the educational community. Schools have much to say about providing and promoting NCAs with the aim of preventing increased social inequality. This research shows how the NCAs offered by schools can compensate for the inequality gap. Children from families with a low educational background could use these activities – music and acting at school – with their transformational capability as a damping mechanism of social inequality. The second level is policymakers, how to improve equity in accessing and reaping the rewards of NCAs, which involves the commitment of local providers, youth workers and youth organisations. The main point is to expand the demand for NCAs among youth and to limit pay-to-play (Rausch 2005) policies.

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