

Typology of Extra-curricular Activities and Academic Procrastination among Primary Education Students.

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Abstract

Introduction. Some previous studies have shown that participation in extra-curricular activities optimises both academic grades and the socialisation process of students. However, nobody has so far related extracurricular activities with a tendency for academic procrastination; that is, the more or less deep-rooted habit of leaving study tasks until a later time. This work relates these two variables and is the first of its kind in this field.

Method. We collected questionnaires completed by the parents of a total of 417 students in the mid- and upper-cycles of primary education (8 to 13 years). To identify participation in extra-curricular activities two parameters were used: the type of activities and the number of years that students have been doing them. In order to measure academic procrastination a scale of 0 (no procrastination) to 10 (high level or regular procrastination) was used.

Results. The results indicate that both the type of extra-curricular activity and the number of years doing it, and also the level of academic procrastination perceived by the parents, show clear differentiated signs between girls and boys. Additionally, male students improve in terms of academic procrastination reported by their parents after 4 years' experience in extra-curricular sports activities; in contrast, girls have a greater control over academic procrastination perceived by their parents after 4 years of extracurricular artistic activities.

Discussion and conclusion. The results are generally coherent with previous studies and also broaden the knowledge in that they look at procrastination and extra-curricular activities jointly and also introduce gender differentiation, which allows the design of extracurricular activities scenarios that are more suited and customized for every one of the pupils in primary education.

Key words: extra school or extracurricular activities, academic procrastination, primary school, children aged 8-10, children aged 10-12, gender.

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Tipología de Actividades Extraescolares y Procrastinación Académica en Alumnado de Educación Primaria

Resumen

Introducción. Algunos trabajos anteriores han demostrado que la participación en actividades extraescolares optimiza tanto las notas académicas de los alumnos como sus procesos de socialización. Sin embargo, ninguno ha relacionado las actividades extraescolares con la tendencia a la procrastinación académica, o sea la costumbre, más o menos arraigada, de dejar las tareas de estudio para más adelante. El trabajo que ahora presentamos relaciona estas dos variables y resulta una primicia en este campo.

Método. Se han recogido cuestionarios contestados por padres de un total de 417 alumnos y alumnas de los ciclos medio y superior de educación primaria (de 8 a 13 años). Para identificar la participación en extraescolares se han utilizado dos parámetros: la tipología de las actividades y los años de experiencia de los niños y niñas en la realización de las mismas. Para la procrastinación académica se ha utilizado una escala de 0 –no procrastina- a 10 –procrastina mucho o siempre-.

Resultados. Los resultados indican que tanto la tipología de actividades extraescolares, como los años de experiencia en las mismas, y también el nivel de procrastinación académica percibido por los padres, muestran pautas claramente diferenciadas entre niños y niñas. Además, los alumnos de género masculino mejoran la procrastinación académica reportada por los padres partir de 4 años de experiencia en extraescolares de deporte; en cambio, las niñas controlan mejor la procrastinación percibida por los padres a partir de 4 años de experiencia en extraescolares de tipo artístico.

Discusión y conclusión. Los resultados son, en general, coherentes con trabajos anteriores y, además, amplían el conocimiento al tratar conjuntamente la procrastinación y las actividades extraescolares y, también, al introducir la diferenciación del género, que permite diseñar escenarios de actividades extraescolares más personalizados para cada uno de los alumnos y alumnas durante la educación primaria.

Palabras Clave: actividades extraescolares o extracurriculares, procrastinación académica, educación primaria, ciclo medio de primaria, ciclo superior de primaria, género.

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Introduction

This study has been inspired by a number of previous studies, mainly carried out in the decade 2000-2010, which reported on the consequences and benefits that extra-curricular activities offer students. However, none of the published research to date has related extra-curricular activities to the tendency for academic procrastination, which is the unnecessary delay in carrying out study tasks and which affects both the confidence and sense of security of the students and their academic progress in the educational environment.

This research therefore attempts to analyse the relationship between the two variables in order to identify connections between them which may be useful for parents, teachers and educational psychologists when taking decisions about the kind of extra-curricular activity that they should recommend to primary age students and the benefits related to the level of procrastination control that can be expected as a result of participation in these activities.

Extra-curricular activities

Participation in extra-curricular or out-of-school activities has become popular in Western societies (Moriana *et al.*, 2006), either because the parents positively value the fact that their children are subjected to a timetable and process of instruction outside the school (Osgood, Anderson and Shaffer, 2005), or because of the greater opportunity for training and social relations that these activities offer (Mahoney and Vest, 2012). Recently, some authors have shown that 80% of students between the ages of 5 and 18 take part in some kind of extra-curricular activity occupying 5 hours a week (Cladellas, Clariana, Badia and Gotzens, 2013; Fredricks 2012; Mahoney, Harris and Eccles, 2006).

Additionally, many experts have shown the beneficial effects of extra-curricular activities in a number of aspects of the students' lives. In that respect, with reference to extra-curricular activities in general it has been reported, for example, that they can lead to better development of students as civil members of society (Keser, Akar and Yildirim, 2011), that they increase levels of self-improvement and self-esteem (Ritchie and Williamon, 2011), prevent conflicts during adolescence (Mahoney and Vest, 2012), contribute to the achievement of higher academic grades (Cladellas *et al.*, 2013; Mahoney *et al.*, 2006; Moriana *et al.*, 2006),

and attain long term benefits which can be observed 2 to 4 years after they have ended (Fredricks, 2012).

Despite these positive results other researchers have emphasised what has been called the *Over-Scheduling Hypothesis*, which refers to the dangers of overloading children with excessive activities outside school which, instead of producing benefits, only results in negative effects (Elkind, 2001; Luthar, Shoum and Brown, 2006; Marsh and Kleitman, 2002). To support this idea it has been shown that in fact extra-curricular activities are related to benefits that are not produced in a linear manner but in the form of an inverted U curve where taking 5 different extra-curricular activities simultaneously that occupy 10 hours per week the effect on the student is significantly more negative (Bennett, Lutz and Jayaram, 2012; Cladellas *et al.*, 2013; Fredricks, 2012; Mahoney and Vest, 2012).

Leading authors in this field currently agree that a limited number of extra-curricular activities override the negative effect of *Over-Scheduling* and generally it is appropriate to involve children and adolescents in extra-curricular activities where they dedicate a moderate amount of time to them. Yet beyond *Over-Scheduling* we do not know of any studies that have related participation in extra-curricular activities with the control, planning and regulation of time by students. This aspect is significant mainly because, as we see it, having accepted that extra-curricular activities occupy students' free time it will be very interesting to evaluate how girls and boys taking part in these activities organise the rest of their time and the time they spend studying.

In parallel, in terms of the identification and measurement of participation in extra-curricular activities some authors have recommended a focus on the following aspects (Bonhert, Fredricks and Randall, 2010): 1. *Breadth*, variety or type of extra-curricular activity undertaken by the student during the week, 2. *Intensity*, or number of hours a week dedicated to any kind of extra-curricular activity, 3. *Duration*, number of years that the student has been doing any kind of extra-curricular activity and, finally 4. *Engagement*, intrinsic commitment or motivation of the student (and not the parents) (Troost, Biesecker, Stattin and Kerr, 2007) in the activities.

On the other hand, some experts have reported on the effects of extra-curricular activities according to type. The activities that have led to most studies, possibly as a result of being

the most common, are sports and physical activity, which have been related in students that do them to a greater general sense of wellbeing (Dimech and Seiler, 2011; McHale *et al.*, 2005), the prevention of delinquency (Gardner, Roth and Brooks-Gunn, 2011), better school grades (Cladellas *et al.*, 2013; O'Connor and Jose, 2012) and greater opportunities for social relations (Schaefer, Simpkins, Svest and Price, 2011), to give examples of some recent work. At the same time, articles have been published that focus on the importance of artistic and musical extra-curricular activities in promoting aspects related to better development of the notion of time and space (Atkinson and Robson, 2012), verbal memory (Ho, Cheung and Chan, 2003), and self-esteem and personal satisfaction (Ritchie and Williamson, 2011), again, to cite just a few of the studies carried out in recent years.

It is also important to point out that there is a certain degree of controversy in the distinction between male and female students when specifying the benefits of general and specific types of activity. Some experts have reported that they have not found any significant relationship between students' sex and the type of extra-curricular activity they take part in (Arisoy and Tutkun, 2012) while others have highlighted clearly differentiated traits between the sexes in this aspect (McCoy, Byrne and Banks, 2012). The controversy over students' sex is useful since it would seem interesting to include this aspect in present and future studies related to extra-curricular activities and the benefits they provide.

Procrastination

According to Steel and Ferrari (2013), who are currently two of the leading authors in this field, procrastination is a failure in the self-regulation system, or put more plainly, *putting off until tomorrow what you should do today*, without any objective cause to explain the delay (Lay, 1997). This aspect has been studied in psychology since the 1980s and has been seen to be clearly harmful for academic learning, as commented by authors from around the world (Clariana, Gotzens and Badia, 2011; Clariana, Gotzens, Badia and Cladellas, 2012; Lakshminarayan, Potdar and Reddy, 2013; Lubbers, Van Der Werf, Kuyper and Hendriks, 2010; Moon and Illingworth, 2005, Rothblum, Solomon and Murakami, 1986).

As well as being accompanied by low academic grades, procrastination has other negative effects. For example it is related to lower levels of awareness as a factor of personality (Steel, 2007), and a higher levels of neuroticism (Özer, 2012) and impulsivity (Schouwenbourg and Lay, 1995; Steel and Ferrari, 2013); it correlates negatively with the use of meta-

cognitive strategies and self-regulation during learning (Howell and Watson, 2007); it is connected with lower levels of personal wellbeing (Rice, Richardson and Clark, 2012); and is associated with lower intrinsic motivation in relation to studying (Schouwenbourg and Groenewoud, 2001). These are just some of the aspects most commonly associated with this tendency.

At the same time, some authors (de Bruin *et al.*, 2012; Dewitte and Lens, 2000; Rhodes and Dickau, 2012) describe procrastination as a problem of lack of willpower combined with a deficit in time management when doing tasks. This has been called *intention-gap dissonance*, a construct that assumes people who procrastinate make plans and forecasts just like the others but do not achieve their objectives because, among other reasons, when they set to doing them they do not have enough time. Along the same lines, when talking about the negative effects of procrastination in an academic environment other experts (Ferrari, Johnson and McCown, 1995) had already considered time management when they stated that, as a result of the habit of always starting their schoolwork late, procrastinators do not have enough time to do it properly and so they underachieve.

It has also been reported that university students who display greater *intention-gap dissonance* are influenced by their own experiences in the past, which have taught them or accustomed them to begin tasks later than in their initial plans. It has been shown (e.g. Sommer, 2011) that past habits and behaviour significantly affect present intentions and conduct. As Sommer states in a recent study (2013) on procrastination and exam preparation: “According to this, repeated behavior (routine) – in other words: experience with regard to behavior– leads to an increase of significance of implementation intention with regard to behavior implementation (p. 623). However, in the same study the author also admits that the distance between intention and behaviour is substantially conditioned by the experience of the student at the present time and so logically past habits do not provide the only explanation for the nature of present behaviour.

On the other hand, academic procrastination or unfounded delay in carrying out study tasks is something that affects 80% of secondary level and university students (Steel and Ferrari, 2013), at stages in which obligations to work to deadlines and calendars are very usual. Maybe it is for this reason that over a third of the general population consider that procrastina-

tion has had a major negative effect on the correct way of facing their academic and educational challenges (Steel, 2011).

As far as primary school is concerned, however, procrastination has not been studied as much since most authors claim that its damaging effects are seen from secondary school level (Clariana, 2008; Steel, 2007). Firstly, there are currently no standardised scales or questionnaires for evaluating academic procrastination at primary school age. Also it has been highlighted that responsibility for punctuality in carrying out tasks is primarily shouldered by the parents in pre-school education and then by the teachers at primary level, when they pass responsibility onto the student so that they can learn to have full control of their actions at secondary and university level (Tuckman, 1991). There are also some authors who state that at higher educational levels, such as university, there is a lesser tendency to procrastinate (Ferrari, Özer and Demir, 2009). However, this view has been partly refuted after demonstrating that in this country first year university students procrastinate significantly more than those in compulsory secondary education (ESO), and less than those who are about to finish their degrees (Clariana *et al.*, 2012).

It should also be added that apart from these studies, which have produced affirmations related to student development and procrastination at a general level, we have only found one study referring to unfounded delays in students from 6 to 11 years old. In 1998, Lay, Kovacs and Danto had already corroborated a theory that at that age procrastination is inversely proportional to awareness, as it is during later stages, and that it is also detrimental to learning in formal education. In older students, from 11 to 17 years, it has been shown that procrastination is more common in children from families with lower sociocultural levels (Rosário *et al.*, 2009), and it is also seen more frequently in children brought up in homes with exaggeratedly strict discipline (Xin-yi Ling, Zhang, Xiong and Xin-li, 2011).

Finally, it should be pointed out that the authors who studied primary age students (Lay, Kovacs and Danto, 1998) stressed that neither awareness nor procrastination in school age children are related to students' sex, in contradiction to the majority of subsequent studies on procrastination in older students, which repeatedly indicate that males students put off tasks for no reason more frequently than female students (Steel, 2007, 2010; Steel and Ferrari, 2013). As regards sex-related differences in procrastination we are not aware of any other

studies that have been carried out in primary education, and therefore consider this an interesting question to approach.

Objectives

Given that procrastination is a tendency or habit that involves time management it would seem plausible to hypothesise that it could be related to the participation of students in extra-curricular activities since these activities affect the amount of free time students have while they are attending school. It has also been shown that past behaviour conditions present conduct and so it is appropriate to study procrastination habits in very young students since the trend for unjustified delays at an early age could affect their future academic behaviour.

On the other hand, as we have mentioned, sports and artistic extra-curricular activities have been related to academic success and psychological and social wellbeing in students but little or nothing has been said about their relation to academic procrastination, which may affect these factors wither directly or indirectly.

We have therefore defined the following objectives for this study:

1. Describe the level of procrastination, the types of extra-curricular activities (sports or artistic) and the number of years students have been doing them (“duration” according to Bonhert *et al*, 2010) in mid- and upper-cycle primary school students.
2. Find a relationship between the following three variables: academic procrastination and type and duration of extra-curricular activities.
3. Study any possible inequalities observed between the sexes within these three variables and detect mutual and differential influences among them.

Method

Participants

To carry out this study, during the second semester of the 2011-2012 academic year we requested the cooperation of 18 primary schools selected randomly, of which 50% were state schools and 50% were state-subsidised schools from the province of Barcelona (43%) and the Island of Majorca (57%), both in Spain. The parents of a total of 721 students took

part in the research and of these the information for initial cycle students was not taken into account because the students were considered too young to have a minimally solid and continued participation in extra-curricular activities.

The final sample was therefore composed of 417 students – 206 boys (49%) and 211 girls (51%) from mid- and upper-cycle primary education – aged between 8 and 13 years (average age = 10.01 years; standard deviation = 1.24). The average age comparison test according to sex did not produce significant results, $t = 1.27$, $p = .20$, and neither did the distribution of boys and girls by school year, $X^2 = 4.19$, $p = .24$, and so it was assumed that students' sex, which would be an important variable, was evenly distributed among the participants.

Instruments and measurements

A questionnaire was specifically designed for the parents and legal guardians of the students in the sample and was validated by a group of 15 independent experts made up of primary school teachers and university lecturers. Since the minimum age of the participants was 8 years it was considered better that the parents answer the questions as the reading and writing skills in the mid-cycle of primary education are still being developed. This practice of using the parents and legal guardians to collect information during infancy has been used successfully in previous studies (Bode and Hirner, 2013; Gawrolow, Morgenroth, Schultz, Oettingen and Gollwitzer, 2013; Lachar and Gruber, 2001), and for that reason and also because there are no existing scales for measuring academic procrastination at these ages we decided to adopt it in our study.

The questionnaire included questions about the socioeconomic situation, the year that the student is currently attending, their academic grades and their experience of extra-curricular activities as well as questions about procrastination. This the last point evaluated the level or degree of procrastination that parents perceived in their children: *Procrastination or school slackness* (here we used the commonly used Catalan term “*romanceria*” which means precisely procrastination) *is the habit of leaving study tasks until tomorrow or later – studying, doing homework, reading, etc. – with no good reason to justify such a delay.* On a scale of 0 to 10 score the level of slackness in schoolwork of your child. On this scale 0 means that they never procrastinate and 10 means that they always or almost always procrastinate, so the higher the score the higher the level of academic procrastination perceived by the parents of the students.

As regards the extra-curricular activities of the students at the time the data was collected and those that students had done in the past, we used the register that appears in Figure 1 (Annexe).

After authors mentioned previously (Bonhert *et al.*, 2010), we used two measurements to evaluate participation in extra-curricular activities: we evaluated the type of activity that the students did and also the duration or number of years or experience that the student had doing it. The record sheet shows, in order to calculate this last aspect the extracurricular activities for the academic year 2011-2012 were not taken into account as the experience of the children was considered too brief and whole courses for all the other types of activities were added up. In other words, the years of experience in sports, artistic, other and total extra-curricular activities were added up. It is not surprising, then, that the sample contained 9-year-old girls with 13 years of total experience in extra-curricular activities if they had done 5 years of music, 5 years of ballet and 3 years of English. So the sum of the total number of years could be significantly higher than the age of the student if they had taken part continuously in simultaneous activities.

Consequently the variables analysed in this study were: sex of student, age, type of school, type and duration or experience in extra-curricular activities and academic procrastination perceived by the parents. These variables were used as follows:

- Sex. Dichotomous independent variable in two categories: girl and boy.
- Age. Dichotomous independent variable measured in relation to the primary school cycle attended by the students – in this case in two categories: mid- and upper cycle.
- Type of school. Dichotomous independent variable in two categories: state and state-subsidised.
- Type and duration of participation in extra-curricular activities.
 - Art. Years of experience in artistic-type activities (after Atkinson and Robson, 2012). This is a continuous independent variable with a range for our sample of 0 to 13 years. Later this variable was converted to ordinal as will be explained in the results section.

- Sport. Years of experience in sports-type activities (after O'Connor and Jose, 2012, among other authors). This is a continuous independent variable with a range for our sample of 0 to 14 years. It was also later converted to ordinal.
- Others. Years of experience in all extra-curricular activities that are not included in the two previous categories. This is also a continuous independent variable with a range of 0 to 11 years' practice and includes extracurricular activities in languages, cooking, popular culture, chess, scouts and other child-youth associations, computing, magic and jazz. During the course of our analysis this variable was also converted from continuous to ordinal.
- Total extra-curricular activities. This continuous independent variable is the sum or accumulation of all the extra-curricular activities done by students in the mid- and upper cycles of primary education; in other words, the sum of the variables of experience in art, sport and others. The total of extra-curricular activities enables an assessment of the benefits and disadvantages (in accordance with the *Over-Scheduling Hypothesis*) that students obtain outside school in general (Mahoney and Vest, 2012). In the sample presented here the total extra-curricular activities has a range of 0 to 16 years old, a value which was also later converted to ordinal in the same way as the other independent variables.
- Procrastination. The perception of parents of unjustified delays in undertaking school tasks, valued on a scale from 1 to 10. This is the dependent and continuous variable in this study so, hypothetically, the tendency to procrastinate perceived by parents could be different for boys and girls and could also vary according to the type and duration of the extra-curricular activities in which the children participated.

Procedure

In the first phase the research team met the heads of the selected centres to explain the objectives of the study. In some cases, and on the request of the management team, it was necessary to provide a letter of explanation about the research so that this could be approved by the parents' associations in each centre. In meetings with the teachers the team explained that a questionnaire would be handed out to the parents.

Following this the management teams of each of the participating centres were responsible for distributing the questionnaires to the students so that they could, in turn, give them to their parents to answer the questions. The parents were given a maximum of two

weeks to return the completed questionnaires. They were instructed to hand them in to the administration office of their child's centre. Questionnaires received outside this period were excluded from the sample.

Statistical analysis

For the statistical analysis the *IBM SPSS Statistics Version 19* was used. First, using the Student's *t*-test, the differences between girls and boys were calculated for the following quantitative variables: experience of extra-curricular activities in art and music, sport, others and total, and the level of academic procrastination perceived by parents. In view of the significant results for most of the aspects under study it was decided to proceed by making subsequent analyses separately according to the students' sex.

Secondly, the independent variables were converted from continuous to ordinal in two groups, one denominated 'low' for results under the 50th Percentile and the other 'high' for values over the 50th Percentile. After that the Student's *t*-tests were applied to the levels of academic procrastination perceived by the parents according to the new ordinal variables created, which referred to the type and duration of the extra-curricular activities. As previously mentioned, all of these calculations were carried out separately for boys and girls. There was the possibility of using MANIOVAs for sex but the results of the interaction were not clear and we decided to do the analyses separately in order to get a clearer and more direct appreciation of the influence of the independent variables for procrastination perceived by the parents of female and male students in mid- and upper cycles in primary school.

Results

The description and comparison by sex of the continuous variables in this study can be seen in Table 1, and show that the girls and boys in the mid- and upper cycles of primary education display significantly different values for all the variables studied except experience in other extra-curricular activities apart from sport and art. For that reason, and mainly because the dependent variable of procrastination perceived by the parents also displays significant differences according to sex, we decided to continue the statistical analysis separately for girls and boys. Table 1 therefore shows that boys do considerably more extra-curricular activities than girls, more in total and are also reported as being greater procrastinators. On the other

hand girls are perceived as being more prompt in their undertaking of school tasks; in other words their parents and tutors say that they procrastinate less than the parents of boys and do significantly more extra-curricular activities in art and music and fewer in sport and in total.

Table 1. Description of continuous variables – years of extra-curricular activities and procrastination – and comparison by sex with the Student's t-test (n = 417).

Continuous variables	Boys n = 206	Girls n = 211	t	d	p
Art and music	.79	1.62	3.63	.83	.00*
Sport	3.71	1.49	8.57	2.22	.00*
Others	1.73	2.02	1.34	.30	.27
Total	6.23	5.14	2.26	1.09	.03*
Procrastination	6.25	5.59	4.09	.67	.00*

* $p < .05$

The independent variables Years of experience in extra-curricular activities in art and music, sport, others and total were then converted from continuous to ordinal, taking as a reference the 50th percentile for each separately by sex. Finally, these variables appeared as shown in Table 2.

Table 2. Groups according to Years of experience indifferent types of extra-curricular activities, according to the 50th percentile (n = 417).

	Group	Percentile	Years of Art and Music	Years of Sport	Years of Others	Years of Total
Boys n = 206	Low	< 50	0	0-3	0-3	0-6
	High	> 50	+ de 0	+ de 3	+ de 3	+ de 6
Girls n = 211	Low	< 50	0-3	0-3	0-3	0-7
	High	> 50	3+	3+	3+	7+

As mentioned previously, given the significant differences between sexes as seen in Tables 1 and 2, from this point the analysis of averages procrastination were analysed separately. The results of this comparison are shown in Tables 3 and 4, for boys and girls respectively.

Table 3. Level of procrastination perceived by parents according to Years of experience in different types of extra-curricular activities. Student's *t*-test. Sub-sample of students (male; *n* = 206).

Extra-curricular activities	Averages and standard deviations by group	<i>n</i>	<i>t</i>	<i>d</i>	<i>p</i>
Art and music	0 years = 6.25 (1.74) 0 + years = 6.28 (1.18)	163 43	.12	-.03	.91
Sport	0-3 years = 6.52 (1.77) 3 + years = 6.01 (1.48)	98 108	2.24	.51	.03*
Others	0-3 years = 6.33 (1.67) 3 + years = 5.95 (1.45)	166 40	1.30	.38	.20
Total	0-6 years = 6.37 (1.76) 6 + years = 6.10 (1.46)	115 91	1.23	.28	.22

* $p < .05$

In table 3 it can be seen that in the sub-sample of male students, as the years of experience in extra-curricular activities in sport rises the level of procrastination reported by the parents decreases. The results therefore show that extra-curricular sports activities are beneficial in terms of controlling procrastination when students have at least 4 years' experience in the activity. On the other hand, in the case of boys, having more years of experience in extra-curricular art activities, others (but not art or sport) and total activities does not contribute to improving – or worsening, as the *Over-Scheduling Hypothesis* would postulate – their procrastination.

In order to test whether age is the cause of these differences in procrastination perceived by parents we did a Student's *t*-test comparing the average for this characteristic for the 100 boys in mid-cycle, which was 6.24 (SD = 1.63), with the 106 boys in the upper cycle, 6.26 (SD = 1.65). This $t = .11$, $p = .92$, $d = .02$, guarantees that age has no effect on procrastination as perceived by the parents of the students. The same test was carried out, with exactly the same results, for state schools and state-subsidised schools. The Student *t* was .61, $p = .51$, $d = .17$, indicating that school type is not significant either in determining the level of procrastination.

tion. The average procrastination reported for boys in state schools was 6.37 (SD = 1.87) while that for boys in state-subsidised schools was 6.20 (SD = 1.54).

Therefore, of the variables under study in this work, extra-curricular activities in sport of 4 or more years' duration remain decisive in greater control of procrastination as reported by parents of male students in the mid- and upper cycles of primary education. On the other hand, the scenario is very different for female students. The results and comparison of averages obtained for this sub-group are shown in Table 4.

Table 4. Level of procrastination perceived by parents according to Years of experience in different types of extra-curricular activities. Student's t-test. Sub-sample of students (female, n = 211).

Extra-curricular activities	Averages and standard deviations by group	<i>n</i>	<i>t</i>	<i>d</i>	<i>p</i>
Art and music	0-3 years = 5.71 (1.57) 3 + years = 5.09 (2.02)	168 43	2.18	.62	.03*
Sport	0-3 years = 5.56 (1.69) 3 + years = 5.71 (1.76)	170 41	-.51	-.15	.61
Others	0-3 years = 5.54 (1.74) 3 + years = 5.84 (1.35)	166 44	-1.06	-.30	.29
Total	0-7 years = 5.59 (1.64) 7 + years = 5.64 (1.77)	155 55	-.16	-.04	.87

* $p < .05$

The results in Table 4 show that for girls in mid- and upper cycles of primary education experience in years of extra-curricular activities in art and music helps to control procrastination as perceived by their parents. Specifically, girls with 4 or more years' experience of this kind of extra-curricular activity procrastinate significantly less, according to the information provided by their parents, than those who do not have that experience. On the other hand, the duration of extra-curricular sports activities has no influence on the procrastination perceived for girls and neither do the other activities (except for art and sport) or the total. Therefore, the beneficial effect on procrastination as perceived by the parents, seen in male students who did sport, is seen in female students who do artistic activities outside school.

As with the boys group, age does not appear to influence procrastination as perceived by the parents of the girls, since $t = 1.24$, $p = .22$, $d = .29$, among the 107 girls in the mid-cycle with an average procrastination of 5.73 (SD = 1.72), and the 104 in the upper cycle, with an average procrastination perceived by their parents of 5.44 (SD = 1.64), do not display any significant results. The school type, state and state-subsidised is not of any interest for the dependent variable either, with $t = .64$, $p = .52$, $d = .15$, and average procrastination perceived by the parents of girls in state schools of 5.68 (SD = 1.81), and in state-subsidised schools of 5.53 (SD = 1.60).

Discussion and conclusions

Current literature on the influence of participation in extra-curricular activities in infancy is broad and diverse. However, there have been no studies of such activities related to academic procrastination in primary school students. The present study has marked this as its objective and has found significant differences between boys and girls of school age. The differences seem to indicate that, according to information provided by their parents boys procrastinate more and do more extra-curricular sports activities and more extra-curricular activities in total than girls, and that male students who have been doing extra-curricular sports activities for at least 4 years have a significantly lower level of academic procrastination as perceived by their parents than those who do not have that experience. On the other hand, our results also show that, according to their parents, female students procrastinate less and take part in more extra-curricular art activities than male students, and that girls with at least 4 years' experience of extra-curricular art and music activities are seen by their parents as procrastinating significantly less than those who have not participated in those activities. The data from our study also show that the duration or experience of male and female students in mid- and upper cycle primary education in other extra-curricular activities (apart from sport and art) and total activities does not influence academic procrastination as perceived by their parents one way or the other. Similarly, neither being in the mid- or upper cycle of primary education nor attending a state or state-subsidised school have any significant influence on the academic procrastination of students, according to the information provided by their parents.

In respect of these data, it should be pointed out firstly that they are partly similar to those obtained by other researchers. They confirm a greater tendency to procrastinate in male students (Steel and Ferrari, 2013), although in fact there are no other data for such young students, and also the high and continued participation by the majority of students in extra-curricular activities in western societies (Fredricks, 2012). They also support the idea that participation in extra-curricular activities is generally beneficial for the psychological wellbeing of students (Keser, Akar and Yildirim, 2011; Mahoney and Vest, 2012; Ritchie and Williamon, 2011). This is because prolonged participation in certain extra-curricular activities reduces academic procrastination as perceived by parents, and it has been shown that where there is less procrastination the level of satisfaction with oneself rises (Dewitte and Lens, 2000, among others). It should also be mentioned that the results presented here do not support the *Over-Scheduling Hypothesis* but rather they refute it since they show, on the one hand, that a certain duration (4 years) of participation in certain extra-curricular activities – sport for boys and art for girls – helps to control procrastination and, on the other, that neither male nor female students with prolonged experience of total extra-curricular activities display either greater or lesser academic procrastination as perceived by their parents than their peers. The results of this study are therefore in line with the authors who have recently rejected *Over-Scheduling* (such as Fredricks, 2012 or Mahoney and Vest, 2012) and similarly refute the experts who say that they agree with this hypothesis (such as Shoum and Brown, 2006). More precisely, our results outline the idea that it is simultaneous participation in many extra-curricular activities that can be harmful, but not the duration or continuity of them, which has not had negative effects on any of the students, at least in terms of the procrastination reported by their parents.

Also, the finding in this study confirm and expand those of Moriana and his team with Spanish students (Moriana et al., 2006), which confirm that first cycle students in compulsory secondary education who take part in mixed extra-curricular activities, in other words sports and cognitive activities (here the authors include private classes and extra lessons, which we did not consider), obtain higher academic grades. This result partly coincides with our own as several authors (e.g., Lakshminarayan, Potdar and Reddy, 2013) have shown that academic procrastination is closely and negatively related to school grades. We can therefore conclude that our study is in line with that of Moriana where, generally, the longer the duration of the extra-curricular activity less procrastination is perceived by the parents, which implies better school grades.

However, our results introduce the differentiation by sex for the first time, in line with work published by McCoy and his team (2012, as mentioned in the introduction to this article), which has been crucial for understanding how boys and girls can benefit from certain types of extra-curricular activities. With respect to this point, at first sight it could seem that each sex benefits from the type of extra-curricular activities that they do most frequently – sport for boys and art for girls – but this is not exactly the case as Table 2 shows that the girls’ preference for art and sport is equally intense and female students in mid- and upper cycle primary education do not display benefits in controlling academic procrastination with continued participation in sports activities but only with the participation and continuity of extra-curricular activities in art and music. This finding is of great interest to us and represents a breakthrough. We believe that it is useful for guiding teachers and parents as to the type and duration of extra-curricular activities that are recommendable for students in primary education, especially in those cases where boys and girls show a certain tendency towards unjustified delays in carrying out their school tasks.

Secondly, but no less importantly, the interest in this study lies in the fact that it highlights that it is not only participation on extra-curricular activities that is beneficial in controlling procrastination but also *duration or continued experience* in them. So, both boys with sport and girls with art and music benefit from these activities after 4 years and not before. This finding is in line with the definition of procrastination. Some authors insist that it is a habit acquired over time (Steel, 2011), since time is needed for the development of the prefrontal cortex of the brain which is responsible for control of basic impulses related to the capacity to overcome procrastination habits or irrational delays. In line with this argument it would seem logical that a certain time is needed for a specific activity to establish habits that can help to control procrastination. Also, as we have mentioned, other experts (de Bruin *et al.*, 2012; Dewitte and Lens, 2000; Rhodes and Dickau, 2012), conceptualise procrastination as a *deficit in time management*. In that case our results show that for students with experience and continuity in extra-curricular activities, despite being busier, they do not lack time for school work but rather it would seem that boys who do sport and girls who do art and music regularly have learned to distribute their time better.

It also seems relevant that the results highlight that neither the educational cycle nor the type of school attended by the students are important in terms of academic procrastination

perceived by their parents. As we have mentioned, we have no previous results of studies for children of this age group that have taken these variables into account. Of the studies mentioned in the introduction, that of Lay and his team (1996) is the only one to have been carried out with such young students and it does not deal with the aspects that we have studied here but rather focuses on personality and procrastination. The majority of other questions ask adolescents and university students about their academic procrastination and relate that variable to the sociocultural level of their families (Rosário *et al.*, 2009) and to educational stages (Xin-yi Ling *et al.*, 2011). As far as we know nobody has analysed the influence of primary school age or the effect of the type of school on academic procrastination and both variables are certainly of interest since our work indicates that unjustified delay in doing schoolwork appears at a very young age, or at least that is how the parents perceive it, and does not depend on the primary school cycle of the students. Also, the absence of differentiation between the state school and state-subsidised school in terms of academic procrastination could help to raise the confidence of families in the educational quality of public institutions which, in our view, are unjustly criticised in this country.

Finally, it should be mentioned that in future studies it will be necessary to develop a methodology that reaches out more to the students and does not require the opinions of third parties to find out more about academic procrastination at primary school level. It is well known that there are currently many scales and questionnaires for measuring procrastination, the validity and reliability of which has been rigorously tested. The best known of these are the *Procrastination Assessment Scale Students* PASS (by Solomon and Rothblum, 1984), and more recent ones, such as those proposed by Steel on his interesting website (www.procrastinus.com) and in his book *The Procrastination Equation* (2011), and also the EDA (*Escala de Demora Académica*) which we drew up with students in Barcelona (Clariana and Martín, 2008). However, all of these instruments are appropriate for finding out about academic procrastination from secondary education up but none have been designed for younger children. In that respect, possible direct observation of children both in the classroom and at home studying and doing homework, with specific identifiers drawn up from the theory, would be pertinent.

That is what we plan for future research as we continue to think that academic procrastination, despite the wishes of teaching staff that it should not be an issue, is still a topic of great interest and deserves continued study in order to understand it better and “tame” it.

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Annexe

My child does or has done the following extra-curricular activities:

Type of activity	Hours a week	Years of experience (not counting this year)
Sport		
Hockey		
Swimming		
Football		
Athletics		
Gymnastics		
Hiking		
Martial arts		
Basketball		
Tennis		
Others. Please write the name of the activity.		
Artistic		
Music		
Ballet		
Art		
Theatre		
Others. Please write the name of the activity.		
Others. Extra-curricular activities not included in the two previous categories. Please write the name of the activity.		

Figure 1. Record sheet used in the study for collecting information about the participation of primary age children in extra-curricular activities

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