RESEARCH REPORT

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Retrospective bullying trajectories in adults with self-reported oral language difficulties

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Abstract

Background: Previous research has consistently evidenced that children with speech and language difficulties suffer more bullying victimisation during middle school years, whereas other educative stages remain less explored. Moreover, there are divergent results in previous evidence about the types of victimisation (physical, verbal, relational) youths may experience.

Aims: To examine the retrospective developmental trajectories of bullying victimisation in adults with and without self-reported oral language difficulties across seven educational stages (preschool to university). Special attention was given to the prevalence and types of victimisation.

Methods & Procedures: A total of 336 participants (ages between 18 and 65, $M = 30.3$) from a sample of 2259 participants that fully answered an online survey were classified as having experienced oral language difficulties (LD) not associated with a biomedical condition. A comparable control group ($n = 336$; ages between 18 and 72, $M = 30.0$) was randomly selected for statistical between-groups contrasts. Responses to the California Bullying Victimization Scale–Retrospective (CBVS-R) were analysed by generalised estimating equations (GEE) including language groups, types of bullying, and educational stages as explanatory variables. Specific language group comparisons in terms of percentages were conducted using chi-square tests.

Outcomes & Results: GEE results suggested that experiencing LD was associated with an overall increase in the likelihood of bullying victimisation, Wald's $\chi^2 (1) = 8.41$, $p < 0.005$ for the main effect of the LD group, along almost all educational stages, Wald's $\chi^2 (6) = 3.13$, $p = 0.69$ for the LD group × educational stage interaction. Finally, a higher proportion of participants in the LD group reported having suffered teasing behaviours at the second cycle of elementary, the first cycle of secondary, and baccalaureate. They also reported with a higher proportion being physically hurt at preschool and having received sexual

comments at the second cycle of elementary, Wald's χ^2 (93) = 259.87, $p < 0.001$ for the LD group × educational stage × type of bullying interaction.

Conclusions & Implications: People with oral language difficulties experience more bullying victimisation behaviours than their typically developing peers. Heightened bullying prevalence in children with language difficulties seems to emerge as early as 6–9 years old and persists along the rest of schooling. Not all victimisation forms seem to show differential increased rates in people with speech/language difficulties, evidencing important implications for bullying assessment. Results highlight the need to provide particular support to individuals with language difficulties against bullying during the entire schooling.

What this paper adds

What is already known on the subject

Children with speech/language difficulties usually show higher victimisation during middle school years. Past research shows divergent results regarding the types of victimisation they suffer.

What this paper adds to existing knowledge

The retrospective assessment of individuals with oral language difficulties reveals an increased risk of bullying victimisation that may emerge as early as 6–9 years old and that remains during the rest of the schooling. A global assessment of bullying types (physical, verbal, and relational) seems to better distinguish differential victimisation within individuals with oral language difficulties.

What are the potential or actual clinical implications of this work?

Clinicians and other professionals need to be aware of the differential victimisation patterns in individuals with speech/language difficulties to implement successful prevention, detection, and intervention programs.

INTRODUCTION

Bullying is defined as an aggressive behaviour that is carried out intentionally and repeatedly within an interpersonal context of power imbalance (Olweus, 2013). Previous literature consistently shows that being bullied during childhood and/or adolescence is associated with multiple present and future adjustment and well-being difficulties, such as manifestations of psychological distress (e.g., being tearful or irritable, losing motivation, or experiencing sleep problems), new symptoms of mental health problems (especially anxiety and depression), or higher risk of self-harm and suicidal ideation (Arseneault, 2018). That means that bullying behaviours do not just affect youths' mental health, but symptoms persist onwards, even long after the bullying has stopped (Valera-Pozo *et al.*, 2021). The negative impact of bullying on the present and future mental health and well-being of youths, and by extension, of society, highlights the need to prevent bullying victimisation during childhood and adolescence.

A recent report by the World Health Organization evidences that the proportion of youths who report being bullied varies from 0.3% to 32% in 11- and 13-year-old boys and girls from different European countries (Inchley *et al.*, 2020). In Spain, a national survey promoted by Save the Children and administered to a representative sample of nearly 21 500 Spanish students aged between 12 and 16 showed that 9.3% of the respondents considered that they had suffered school bullying in the last 2 months (Sastre *et al.*, 2016). When considering retrospective reports of harassment during elementary and secondary school, up to 48% of Spanish boys and 45% of girls manifest having experienced some form of bullying (Hunter *et al.*, 2004).

Increasing research is providing insights about intra- and interpersonal factors that might be modulating the onset, persistence, and long-term impact of the outcomes of bullying victimisation. Focusing on individual differences, previous studies have identified a greater risk of bullying victimisation for those individuals with overweight or a diverse sexual or gender orientation (LGBT

community), or presenting psychical and/or mental disabilities or special educational needs (SEN), such as autism, learning difficulties, intellectual disability, or visual or hearing impairment (Juvonen & Graham, 2014). In this sense, past research has specifically examined the relation between speech or language difficulties and bullying victimisation in children and adolescents at different educational stages, mainly at the Elementary stage and the beginning of Secondary Education.

The prevalence of primary language difficulties (not related to other biological conditions) has been stated between 2% and 7% in Anglo-Saxon contexts (Norbury et al., 2016; Tomblin et al., 1997). Similarly, in Spain the prevalence has been stated in 8.1% (García-Mateos et al., 2014), being one of the most prevalent neurodevelopmental difficulties. Nevertheless, primary language difficulties are more unknown than other less common difficulties such as autism spectrum disorder (Thordardottir & Topbas, 2021). Recent studies have estimated that less than 40% of the children with language difficulties are detected, indicating a high proportion of underdiagnosis, which is related to long-term consequences such as scholar failure, impoverishment of social relations, bullying victimisation, and problems with employment and social insertion (Adlof, 2020; Norbury & Sonuga-Barke, 2017; Norbury et al., 2016; Tomblin et al., 1997). Different explanations have been offered to explain the relationship between poor language skills and the higher risk of bullying victimisation, which could also explain individual differences between them. First, children's language and communicative deficits could make them more vulnerable to bullying due to the lack of comprehension of social situations (Andrés-Roqueta et al., 2016; Fujiki et al., 2013; Sako, 2016). Second, social rejection can appear as a result of difficulties in emotional understanding due to their poorer language skills (Lloyd-Esenkaya et al., 2021). Third, lower language skills make children have deficits in social cognition and lower adequacy in communicative situations (Bakopoulou & Dockrell, 2016; Conti-Ramsden & Botting, 2014). Besides, a combination of all of them could also be possible.

Concerning studies examining the relation between speech or language difficulties and bullying victimisation in children and adolescents, a recent study that analysed data from the Norwegian Mother, Father, and Child Cohort Study (22 628 children) reveals that poor language skills at 3 and 5 years old were related to peer victimisation at 5 and 8 years old (Øksendal et al., 2021). Another study comparing the level of peer victimisation among 60 children aged 7–8 years with developmental language disorder (DLD; previously called specific language impairment, SLI), attention-deficit/hyperactivity disorder (ADHD), or typical development (TD) revealed that children with DLD

suffered significantly higher physical bullying behaviours than TD children, and presented a significant risk of peer victimisation (Redmond, 2011). Curiously, group differences were not significant for the verbal bullying index (such as calling names, being nasty about their family, or telling a lie about the other person). Similarly, a study that included over 4000 children of approximately 7–9 years old from the Longitudinal Study of Australian Children (McCormack et al., 2011) evidenced that children identified as having expressive speech or language impairment at age 4–5 years old (24% of the sample) reported significantly more bullying victimisation (20.1%) than their peers with no communication impairment (13.9%). In the same line, a recent study with 42 participants from 5 to 11 years old, half of them with DLD, revealed significant differences between the DLD and TD groups in specific language-victimisation (making fun of their way of speaking or expressing, picked on him/her for not understanding what others are saying...), but not in a non-linguistic victimisation dimension (Ibáñez-Rodríguez et al., 2021).

Studies that have focused on the final period of elementary education, with participants among 11 years old, have found that children diagnosed with DLD showed significantly higher bullying victimisation (36%) as compared with typically developing age peers (12%; Conti-Ramsden & Botting, 2004; Knox & Conti-Ramsden, 2003). Knox and Conti-Ramsden's study (2003) also reported higher victimisation severity for the participants with DLD, as measured by the number of different bullying behaviours each participant had suffered frequently (i.e., poly-victimisation; Mitchell et al., 2020). In a similar way, Savage (2005) found that, at secondary school entry (~11–12 years of age), young people with language difficulties (attending a speech and language resource; six children) were three times more likely to experience bullying victimisation than their peers (50% vs. 16%). Another study that included a wide sample of 326 youngsters recruited through elementary and secondary schools (between 8 and 16 years old) concluded that participants with a diagnosis of DLD reported significantly more victimisation than their peers without DLD (van den Bedem et al., 2018). Interestingly, this study also showed that victimisation tended to decrease in older children in both groups alike.

Additionally, Knox and Conti-Ramsden (2007) assessed current and retrospective bullying victimisation in a sample of 263 young people attending their final year of compulsory education (aged 15–16 years). The current incidence of teasing or bullying experiences was around 12% higher in the group of youths with a history of DLD as compared to a TD group (19.3% vs. 7.2%). When reporting retrospective bullying experiences, almost half of the DLD group (44.2%) reported being teased or bullied in the past,

as compared to near a quarter of the TD group (22.6%), evidencing a greater case identification when assessing longer periods of time (Schäfer *et al*., 2004). Additionally, analyses on participants' responses to current bullying and being bullied in the past revealed that bullying tended to persist across time only in the DLD group (Knox & Conti-Ramsden, 2007).

Contrary to the evidence mentioned above, Lindsay *et al*. (2008) found that physical victimisation prevalence rates in 12-year-old children (in the first year of Secondary Education) were not statistically different between a group with a history of specific speech and language difficulties (28%), a group with other non-language-based learning difficulties (25%), and a TD group (22%). Likewise, prevalence rates were not significantly different between groups when considering verbal bullying victimisation (54%, 44%, and 46%, respectively). Therefore, the authors suggested that children with a history of speech/language difficulties were not specifically vulnerable to being bullied (neither physically nor verbally) at the secondary school stage; that is, their victimisation risk was comparable to their TD peers at age of transition to the secondary stage.

Overall, past research seems to be quite consistent in signalling higher victimisation in children with speech/language impairment, but important issues remain unexplored.

First, past research has predominantly addressed middle school and initial secondary educational levels, finding a general lack of research in preschool, initial elementary school, and post-compulsory education. As seen above, children with language difficulties show a significant risk of peer victimisation as soon as 5–8 years old (McCormack *et al*., 2011; Øksendal *et al*., 2021; Redmond, 2011). However, research about language difficulties reveals that differential bullying victimisation might start at earlier ages, as children without language difficulties seem to be able to recognise others' communication disorders at 3–4 years old, and respond negatively to these perceptions already in preschool (Ezrati-Vinacour *et al*., 2001; Gertner *et al*., 1994; Langevin *et al*., 2009). Thus, determining the stages when these differential bullying patterns emerge in children with language difficulties becomes relevant for developing prevention strategies, taking awareness of early detection, and planning intervention. On the other hand, past studies do not usually examine language-related bullying patterns beyond compulsory education (after age 16). Therefore, it is unknown if this observed heightened risk tends to become equal to their counterparts (Lindsay *et al*., 2008) or, on the contrary, is consistently higher also in later educational stages, as prior research with students with disabilities suggests (Rose & Gage, 2017). In the same vein, the examination of bullying trajectories allows measuring the persistence of bullying episodes over time in peo-

ple with language impairments, as previous research has evidenced (Knox & Conti-Ramsden, 2007), a factor that has been related to an increased negative impact on well-being (Kumpulainen *et al*., 1999; Mitchell *et al*., 2020). In this sense, the retrospective assessment allows the development of cross-sectional studies, ensuring high population participation (in front of high attrition associated with longitudinal research), and having relatively low costs and time consumption. In terms of validity, the available evidence on abuse and neglect indicates that retrospective recall in adult life of adverse experiences in childhood is sufficiently valid to warrant its use (Hardt & Rutter, 2004). Moreover, the retrospective assessment of bullying offers a demonstrated valid method for evaluating patterns of bullying throughout the lifespan. For example, retrospective assessment studies in different populations show a progressive increase of victimisation from preschool to the middle schooling years, followed by a subsequent decrease by the end of high school, and a shift from more direct aggression to indirect or relational bullying (Esteller-Cano *et al*., 2021; Green *et al*., 2018). These developmental patterns are congruent with prior cross-sectional studies at different education times (Hymel & Swearer, 2015; Rivers & Smith, 1994).

Second, the existing evidence seems to be divergent regarding the types of victimisation youths with language difficulties suffer. While most studies have found that children and adolescents with language difficulties suffer more global (physical, verbal, and relational) bullying (Knox & Conti-Ramsden, 2007; McCormack *et al*., 2011; van den Bedem *et al*., 2018), others have found that these children experience mainly physical bullying (Conti-Ramsden & Botting, 2004; Knox & Conti-Ramsden, 2003; Savage, 2005), or physical but not verbal bullying (Redmond, 2011), or linguistic but not global bullying (Ibáñez-Rodríguez *et al*., 2021). This issue becomes especially relevant as bullying assessments may not reveal the actual distress children and adolescents are suffering as a function of the victimisation behaviours analysed. Moreover, measuring different victimisation behaviours allows to obtain a bullying severity or poly-victimisation index that has been previously related to higher academic affectation and increased risk of long-term negative effects in children who stutter (Hugh-Jones & Smith, 1999), and that seems to be higher in students with DLD (Knox & Conti-Ramsden, 2003).

Finally, prior research suggests that certain power dynamics in childhood bullying may be associated with particularly negative outcomes for victims. In particular, the evidence shows that endorsing a higher number of forms of power imbalance or an inability to defend oneself would be related to increased anxiety symptoms (Oblath *et al*., 2020). In this sense, determining the extension and

characteristics of bullying victimisation in individuals with language difficulties is in need for disentangling the hypothetical social and emotional problems associated with the co-occurrence of both conditions (Mishna, 2003).

To sum up, in order to extend the knowledge on bullying victimisation in children and youths with language difficulties, this study examines retrospective bullying patterns across seven educational levels (from preschool to post-compulsory education) in adults with and without self-reported oral language difficulties. This is, to our knowledge, the first study that assesses retrospectively bullying victimisation in people with language difficulties for such a long period of schooling (>16 years). Moreover, this study examines eight different types of behaviours that bullying victims can experience, in contrast to most past studies that reduce possible aggressions to a verbal or a physical category. Finally, this study also examines five additional indicators of bullying severity.

Therefore, this study sets the following two objectives. In the first place, we aim to clarify the prevalence of victimisation across time and regarding different types of victimisation in people with and without self-reports of language difficulties. Our hypothesis is that people with language difficulties will significantly report greater bullying victimisation across their academic life in all the different types of victimisation. The second objective of this study is to analyse other bullying indicators for elucidating bullying victimisation features in victims with language difficulties; specifically, the poly-victimisation, the intensity, the persistence, the power imbalance, and the (in)ability to defend oneself from aggression. According to previous literature, we hypothesise that adults with self-reports of language difficulties will show higher scores in all these indicators, suggesting a greater severity of bullying.

METHODS

Participants

A total of 3090 persons initially accessed an online survey, and 2259 of them fully answered it, giving a completion rate of 73.1%. All of them (except four people) resided in different regions of Spain when they answered the survey, and all were native Spanish speakers. Non-completers, as compared to completers, were more likely to be men, 35.8% versus 29.1%, χ^2 (2, $n = 2835$) = 54.77, $p < 0.001$, and to have reached secondary education at most, 13.4% versus 9.2%, χ^2 (1, $n = 2835$) = 8.79, $p = 0.003$. In this vein, non-completers were less likely to have reached university or higher degrees, 53.7% versus 62.5%, χ^2 (1, $n = 2835$) = 14.95, $p < 0.001$.

To specifically examine the associations between language problems and bullying, 123 participants (5.4% of the complete responses) were excluded because they reported any of the following biomedical diagnoses (Bishop, 2014): hearing deficit, autism spectrum disorder, intellectual disability, orofacial structural deficits, or genetic syndrome.

Participants were included in a group of self-reported oral language difficulties (LD group) if they accomplished three criteria based on the CATALISE project (Bishop *et al.*, 2016, 2017): (i) having experienced oral language problems frequently (*occasionally*, *usually*, or *always*) in at least one of the language items (described in the *Instruments* section); (ii) manifesting oral language difficulties above most participants (top quartile of the valid sample; a score of ≥15 out of 48); and (iii) that these oral language difficulties had caused interferences in the participant context to some extent (top quartile of the valid sample; a score of ≥4 out of 28). According to these criteria, 336 participants (15.7% of the valid sample) were included in the LD group.

A comparable control group was composed by quota sampling from those participants that did not accomplish inclusion criteria and had never received speech therapy nor a previous diagnosis of language disorder. Therefore, once the LD group was defined, a comparable group was semi-randomly selected trying to keep sociodemographic variables constant: age, sex, and ADHD and conduct disorder diagnoses (see Table 1). As expected, because of the selected inclusion criteria, the groups with and without LD differed in their language-related manifestations and life interference.

Instruments

An online survey was created using Qualtrics Research Core. This included an ensemble of sociodemographic inquiries (sex, age, higher educational level achieved, current occupation, and clinical/psychological/psychiatric profile, among other information), language-related questions, and a bullying victimisation questionnaire.

The experiences of significant language difficulties were assessed using two different 0–4-point Likert scales (*never*, *hardly ever*, *occasionally*, *usually*, and *always*) to accomplish the criteria for language difficulties based on the CATALISE (Bishop *et al.*, 2016, 2017). First, having experienced language difficulties was assessed by means of 12 language-related items referred to as the expressive and the receptive phonologic, semantic, syntactic, and pragmatic language domains (see Table 2). Second, the interference of these difficulties was assessed through seven items

TABLE 1 Group characteristics according to classification criteria

Variable	Control group (*n* = 336)	Language difficulties group (*n* = 336)
Age (years)		
Range	18-65	18-72
M (*SD*)	30.3 (11.5)	30.0 (11.0)
Sex (%)		
Women	69	69
Men	31	31
Educative level (%)		
Elementary	3.3	3.6
Secondary	11.3	11.6
Baccalaureate	22.9	25.3
University	62.5	59.5
Occupation (%)		
Worker	39.0	40.5
Student	32.7	33.0
Other	28.3	26.5
Having received… (%)		
Speech therapy	**0.0**	**17.3*****
Previous diagnostic of… (%)		
Attention-deficit/hyperactivity disorder	12.2	12.2
Conduct disorder	2.7	2.7
Language disorder	**0.0**	**6.9*****
Language problems (score)		
Manifestations	**9.0**	**20.8*****
Interference	**1.6**	**7.7*****

Note: Significant differences between groups are presented in bold.
$^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$.

asking the degree to which the preceding difficulties had negatively affected their academic and/or professional career, friendship/couple/professional, and/or familial relationships, and emotional well-being. The Cronbach's alpha for the final sample (*n* = 672) was good for the 12 language-related items ($\alpha = 0.88$) and very good for the seven interference items ($\alpha = 0.90$). Test–retest reliability (Pearson correlations) after 6 months were r (54) = 0.76, $p < 0.001$, for the language manifestations items sum, and r (54) = 0.67, $p < 0.001$, for the interference items sum. Moreover, the test–retest agreement of the participants' classifications as having or not oral language difficulties

was high (agreement = 77.8%; Cohen's kappa coefficient, $\kappa = 0.54$).

Bullying victimisation was assessed using the Spanish version (Esteller-Cano *et al.*, 2021) of the California Bullying Victimisation Scale–Retrospective (CBVS-R; Green *et al.*, 2018). The CBVS-R is a self-report scale that assesses, in adults, patterns of retrospective reports of bullying victimisation across their educational life from a behavioural approach (i.e., without using the term *bully* or a definition of bullying). The CBVS-R addresses the three general principles of bullying, which refer to intentionality, repetitiveness, and power imbalance (Olweus, 2013), and asks about eight different types of victimisation: teasing, rumour spreading, social exclusion, hitting, threatening, sexual jokes or gestures, stealing, and online aggression. Next, respondents are asked to indicate the frequency of each of these experiences on a 5-point scale: *a few times a year*, *about once a month*, *2–3 times a month*, *about once a week*, and *several times a week*. The CBVS-R also reports the periods when each form of victimisation took place. Therefore, data is presented according to the following seven educational levels (or equivalents): preschool (3–6 years old), first cycle of elementary (6–9 years old), second cycle of elementary (9–12 years old), first cycle of secondary (12–14 years old), second cycle of secondary (14–16 years old), baccalaureate (16–18 years old), and university or higher (>18 years old). Finally, respondents that report repeated victimisation ($\geq$2–3 times a month) have to compare themselves (in seven different traits) with the person who was the main aggressor to assess for power imbalance and to rate their perceived ability to defend oneself or stop the aggression (*Yes, definitely*; *Yes, somewhat*; *No, not usually*; *No, definitely not*). The Spanish adaptation of the CBVS-R shows a good reliability test–retest, r (214) = 0.87, and a good internal consistency, $\alpha = 0.80$ (Esteller-Cano *et al.*, 2021).

Respondents were categorised as reported-bullying victims (hereinafter *bullying victims* or *victims*) if they endorsed in any form of intentional and repeated victimisation (at least 2–3 times per month) and perceived a power imbalance between them and their main aggressor (Olweus, 2013). The Cronbach's alpha for the eight victimisation items for the final sample (*n* = 672) was good ($\alpha = 0.82$).

Procedure

Participants were recruited (in a non-probabilistic sampling strategy) by advertisements on the research group's website, social networks, mailing, posters, and flyers. The survey was advertised as a retrospective study, only for adults (aged $\geq$18 years), about behavioural and learning

TABLE 2 Items asking for manifestations of language-related difficulties

Please rate how often you have experienced difficulties in the following aspects of language
1. Pronounce any letter.
2. Distinguish letters that I hear.
3. Have little vocabulary or a limited variety of words.
4. Understand vocabulary or words that I hear.
5. Order ideas and express them in a sentence.
6. Understand the sentences (long, complex, passive…) that I hear.
7. Express complex, abstract ideas.
8. Explain how to do something.
9. Understand what other people tell me.
10. Understand metaphors, jokes, phrases.
11. Talk too much.
12. Talk very little.

school-related problems. To encourage participation, respondents were informed of a monetary reward lottery (five prizes of €100 each) in which they would be included if they fully answered the survey (Gideon, 2012). IP address limitation was used to prevent respondents from answering the survey more than once. The survey was accessible from May 2019 to March 2020. Six months after responding, 250 participants who provided contact information (of the completers sample, $n = 2259$) were invited and allowed to answer the survey again to assess test–retest reliability. Of the final sample ($n = 672$), 54 persons completed it successfully.

The study was authorised by the University's research ethics committee, and full consent was obtained. At the beginning of testing, all participants agreed to participate and provided explicit consent (Esteller-Cano *et al.*, 2021).

Data analysis

First, we calculated the percentage of respondents who reported victimisation (i.e., bullying victims) to examine the rates of the different victimisation forms occurring at each educational level. Only for victims, five additional indexes were obtained: poly-victimisation, intensity, persistence, power imbalance, and inability to defend oneself. The *poly-victimisation* was measured by summing

the number of different types of victimisation behaviours (range 1–8) that victims reported having suffered frequently (≥2–3 times a month). The *intensity* of victimisation was measured by converting the frequencies reported by victims to a 0–3 scale (*a few times a year* or *about once a month* = 0; *2 or 3 times a month* = 1; *about once a week* = 2; *several times a week* = 3) each of the eight victimisation behaviours (range 1–24). The *persistence* of bullying was measured by summing the number of different periods (range 1–7) that victims reported having suffered any type of frequent (≥2–3 times a month) victimisation (even when these periods were non-consecutive). The *power imbalance* was obtained by summing the number of forms of power imbalance endorsed by each victim (range 1–7). Finally, the *inability to defend oneself* was calculated by converting the perception reported by victims to a 0–3 scale (*Yes, definitely* = 0; *Yes, somewhat* = 1; *No, not usually* = 2; *No, definitely not* = 3).

Differences between the LD and the control group were examined by calculating chi-square tests and Mann–Whitney *U*-tests depending on the variable considered. Non-parametric analyses for continuous data were conducted because the assumption of normality was not satisfied (all $p < 0.001$ for S-W tests). In order to examine the specific association between reporting oral language difficulties and the risk of having suffered different types of bullying victimisation at different educational levels, a series of generalised estimating equations (GEE; binomial distribution, logit link, robust estimation) were calculated on victimisation classification (victim and non-victim) with language difficulties groups (LD and control), educational level, type of bullying, and their interactions as independent variables while controlling for sex and age. The software used were SPSS Statistics (v.25, IBM) and JMP (v.5, SAS).

RESULTS

Bullying prevalence

From the final valid sample ($n = 672$), 405 participants (60.3%) accomplished the criteria of bullying victimisation: intentional and repeated victimisation (at least 2–3 times per month) and perceived power imbalance (Olweus, 2013). Table 3 shows the percentage of victims by bullying types at each educational level in the LD and the control group.

Results from the GEE performed on the victimisation classification yielded significant model main effects for educational level and type of bullying, Wald's χ^2 (6) = 473.79, $p < 0.001$, and Wald's χ^2 (7) = 645.19, $p < 0.001$, respectively. The interaction between these two factors was

TABLE 3 Retrospective bullying victimisation reports (percentage values) by bullying type and educational level in each group

	Educational levels[a]													
	1		**2**		**3**		**4**		**5**		**6**		**7**	
	Control (*n* = 336)	**LD** (*n* = 336)	**Control** (*n* = 336)	**LD** (*n* = 336)	**Control** (*n* = 336)	**LD** (*n* = 336)	**Control** (*n* = 325)	**LD** (*n* = 324)	**Control** (*n* = 325)	**LD** (*n* = 324)	**Control** (*n* = 287)	**LD** (*n* = 285)	**Control** (*n* = 210)	**LD** (*n* = 200)
Teased	5.1	4.8	16.7	21.4	29.5	37.5*	34.8	46.9**	25.9	36.1**	6.6	13.3**	1.0	3.5
Rumors	1.8	1.8	6.9	9.2	13.4	17.6	21.5	21.3	16.3	19.1	5.6	9.8	1.4	3.5
Ignored	4.2	4.5	12.2	15.5	18.8	23.2	24.0	30.6	15.1	25.0**	6.3	12.3*	1.9	4.0
Hit	0.6	3.6**	5.1	7.7	7.1	11.3	7.1	9.6	4.3	5.9	1.1	0.7	0.0	0.0
Threatened	0.6	1.8	2.7	5.7	6.0	10.7*	9.2	13.3	7.1	9.9	2.1	2.8	0.5	1.0
Sexual comments	0.9	1.8	3.0	4.5	6.0	11.3*	12.6	17.0	12.3	14.5	4.2	5.3	0.0	1.5
Property	1.2	2.1	3.0	4.5	4.5	7.4	6.8	8.3	4.6	7.1	1.1	0.7	0.0	0.5
Internet	0.6	0.6	1.2	1.2	2.7	3.3	8.0	7.7	8.0	8.6	2.4	3.2	0.5	0.5
Any	6.9	8.0	19.6	26.5*	34.8	45.2**	41.5	51.5*	32.0	42.0**	12.9	21.8**	2.9	7.0+

Note: Percentage values. The highest value in each victimisation type for each group is presented in bold. Educational levels: 1 = preschool (3–6 years old); 2 = first cycle of elementary (6–9 years old); 3 = second cycle of elementary (9–12 years old); 4 = first cycle of secondary (12–14 years old); 5 = second cycle of secondary (14–16 years old); 6 = baccalaureate (16–18 years old); 7 = university (> 18 years old).

[a]Respondents could indicate experiencing victimisation at multiple educational levels, thus being included in more than one column.

Language difficulties (LD) versus control group differences: ^{+}p = 0.05, $^{*}p$ < 0.05,
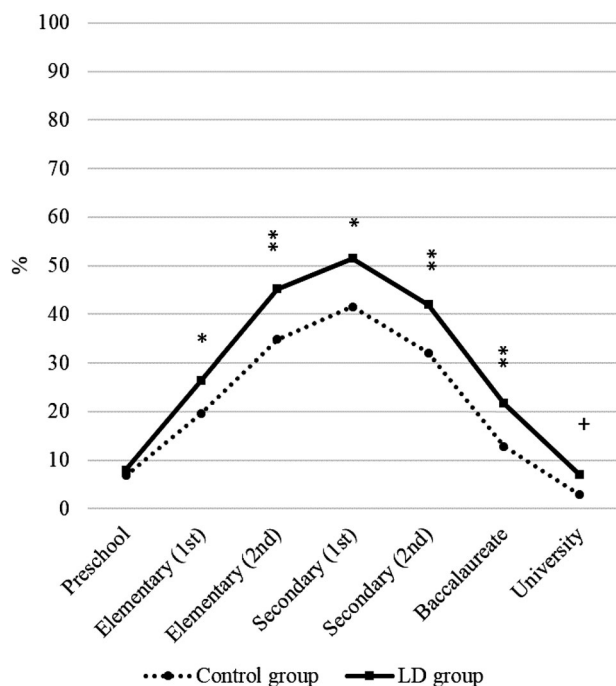
$^{**}p$ < 0.01.

FIGURE 1 Percentage of any bullying victimisation reported at each educational level by each of the groups. *Note*: language difficulties (LD) versus control group differences: $^{+}p = 0.05$, $^{*}p < 0.05$, $^{**}p < 0.01$.

also significant, Wald's χ^2 (41) = 156.77, $p < 0.001$. Overall, being teased or called names was the most frequent type of victimisation at all educational levels except at university, in which the most frequent type was being ignored by peers. All victimisation forms reached their highest rates at the first cycle of secondary education, except for hitting, which occurred mostly at a previous level (second cycle of elementary), and aggressions via the Internet, which occurred mostly at a later stage (second cycle of secondary).

Regarding group differences, GEE analyses yielded a model main effect for LD group, Wald's χ^2 (1) = 8.41, $p < 0.005$, indicating that even when controlling for sex and age, experiencing LD was associated with an increase in the likelihood of bullying victimisation, OR = 1.45; 95% CI = 1.13–1.87. Consistently, a greater proportion of participants in the LD group reported bullying victimisation than controls, 66.4% versus 54.2%, χ^2 (1, $n = 672$) = 10.44, $p < 0.01$. The interaction between LD group and educational level was not significant, Wald's χ^2 (6) = 3.13, $p = 0.69$. Thus, considering having suffered any type of victimisation, the LD group reported higher victimisation rates than the control group along almost all their academic life: these differences began as early as the first cycle of the elementary stage, χ^2 (1, $n = 672$) = 4.44, $p = 0.04$, and were consistent until baccalaureate, all $\chi^2 > 6.53$, all $p < 0.02$ (see Figure 1). Interestingly, group differences

tended to significance at university, χ^2 (1, $n = 410$) = 3.79, $p = 0.05$.

Types of victimisation

The interaction between LD group and type of bullying was not significant, Wald's χ^2 (7) = 5.43, $p = 0.61$. Interestingly, the interaction between LD group, educational level, and type of bullying reached significance, Wald's χ^2 (93) = 259.87, $p < 0.001$. Additional analyses indicated differential victimisation rates across LD and control participants in certain types of bullying behaviours and educational levels (see Table 3). Participants in the LD group presented higher victimisation rates than the control group in teasing behaviours at the second cycle of elementary, χ^2 (1, $n = 672$) = 4.87, $p = 0.03$; the first cycle of secondary, χ^2 (1, $n = 649$) = 9.91, $p < 0.01$; the second cycle of secondary, χ^2 (1, $n = 649$) = 8.00, $p < 0.01$; and baccalaureate, χ^2 (1, $n = 572$) = 7.18, $p < 0.01$. In the same vein, significantly more participants with LD reported being left out of a group or ignored than controls at the second cycle of secondary, χ^2 (1, $n = 649$) = 9.97, $p < 0.01$; and baccalaureate, χ^2 (1, $n = 572$) = 6.14, $p = 0.01$. Reports of being hit, pushed, or physically hurt were also higher for the LD group at preschool, χ^2 (1, $n = 672$) = 7.30, $p < 0.01$. Finally, a higher proportion of participants in the LD group reported having been threatened and having received sexual comments or gestures at the second cycle of elementary, χ^2 (1, $n = 672$) = 4.00, $p = 0.03$, and χ^2 (1, $n = 672$) = 6.11, $p = 0.01$. No other statistically significant group differences were found in the victimisation types.

Other victimisation indicators in bullying victims ($n = 405$)

No significant differences were found by the Mann–Whitney U-tests in any of the other victimisation indicators reported by victims (poly-victimisation, intensity, persistence, power imbalance, and inability to defend oneself) between the LD ($n = 223$) and the control groups ($n = 182$), all $U > 18\,410.5$, all $p > 0.10$. When assessing the poly-victimisation index, both the LD and control victims reported a median of three different victimisation forms. Intensity medians were 7 for the LD victims and 6 for the control ones. Regarding persistence, both groups reported a median of 3 (LD) and two periods. Moreover, victims in both groups reported a median of 3 perceived disadvantages when assessing power imbalance. Finally, both LD and victims in the control group reported a median score of 2.0 in the item referred to the inability to defend oneself.

DISCUSSION

The present study aimed to explore the differential bullying victimisation history of adults with and without self-reported language difficulties and the prevalence of different types of bullying victimisation behaviours in both groups. Additionally, the poly-victimisation, the intensity, the persistence, the power imbalance, and the (in)ability to defend oneself were examined in victims of bullying.

First, general prevalence distribution analyses showed that being teased or called names by other students was the most frequent form of victimisation except at university, in which the most frequent victimisation behaviour was being left out of a group or ignored by peers on purpose. In the same vein, all victimisation behaviours reached their highest rates at the first cycle of secondary (12–14 years old), except for hit, push, or physically hurt, which occurred mostly at a previous level (9–12 years old) and aggressions via the Internet, which occurred mostly a bit later (14–16 years old). These patterns are congruent with previous literature (Green *et al.*, 2018; Hymel & Swearer, 2015), evidencing that the bullying assessment was accurate.

Regarding group differences, a greater proportion of participants with self-reports of oral language difficulties experienced bullying victimisation at any point in their lives than a comparable control group. Therefore, our results evidence that people with language difficulties are at a higher risk for bullying victimisation, congruently with past research (Conti-Ramsden & Botting, 2004; Knox & Conti-Ramsden, 2003, 2007; McCormack *et al.*, 2011; Øksendal *et al.*, 2021; Redmond, 2011; Savage, 2005; Sureda-García *et al.*, 2021; van den Bedem *et al.*, 2018). The relation between bullying and language difficulties could be due to different reasons. One of them could be that they are more vulnerable due to their diminished comprehension of social situations (Andrés-Roqueta *et al.*, 2016; Fujiki *et al.*, 2013; Sako, 2016); or perhaps their lack of language skills leads to difficulties in emotional understanding skills (Lloyd-Esenkaya *et al.*, 2021); while another explanation is related with lower adequacy in communicative situations derived from some deficit in social cognition (Bakopoulou & Dockrell, 2016; Conti-Ramsden & Botting, 2014).

Although our results cannot discern which of these factors contribute to the relation between bullying victimisation and language difficulties, they add evidence about this relation during all the schooling since the beginning of elementary education. Specifically, results in this study reveal that approximately two in three adults reporting manifestations of oral language difficulties have suffered bullying victimisation in the past. At this point, it is important to note that retrospective prevalence data, such as those in this study, are commonly higher than data reported concerning shorter time periods, but are congruent if extrapolated to equivalent time periods (Knox & Conti-Ramsden, 2007; Schäfer *et al.*, 2004). The present retrospective data, which encompass over 16 years of schooling, would explain, at least partially, the high rates of bullying victimisation found in both groups of participants. Moreover, we feel that the way the survey was distributed (research group's social networks, announced as a 'retrospective behavioural and learning school-associated problems research') could have encouraged the participation of individuals especially sensitive to these issues (bullying, victimisation, and language difficulties, among others).

In absolute terms, analyses revealed an increased probability of risk of 12.2% in participants with language difficulties, which is similar (McCormack *et al.*, 2011) or even a lower figure than those found in past research (Conti-Ramsden & Botting, 2004; Knox & Conti-Ramsden, 2003, 2007; Savage, 2005). In this vein, it should be noted that most people in the language difficulties group of the present study came from the general population and not from clinical settings, in contrast to previously published studies in which their clinical groups were children or adolescents attending therapy services (Conti-Ramsden & Botting, 2004; Knox & Conti-Ramsden, 2003, 2007; Savage, 2005; van den Bedem *et al.*, 2018). Therefore, it is possible that the language difficulties manifested by our participants were not as severe as to demand clinical treatment (only 17.3% reported having attended speech therapy, and almost 60% reached university), leading to possible variations in the discriminatory risk as a function of the differences in social and communication skills (Rose *et al.*, 2011; Rose & Gage, 2017). At this point, it is worth remarking that, probably, our sample would better represent the psychosocial outcomes of subclinical or 'successful' individuals with oral language difficulties, so the actual impact in well-being could be different than that identified in clinical settings (Hobson & Bird, 2019). Accordingly, this study covers the gap about the factors related to non-diagnosed oral language difficulties. In any case, the observed differences were statistically significant.

Concerning developmental bullying patterns, participants with oral language difficulties reported significantly more bullying victimisation rates than individuals without oral language difficulties as early as the initial stage of elementary education, at the age of 6–9 years old, which is congruent with previous studies (McCormack *et al.*, 2011; Øksendal *et al.*, 2021; Redmond, 2011). This suggests that prevention efforts to provide safe inclusive environments for children with language difficulties must be implemented at this educational stage, or even earlier, whenever possible. Moreover, schools should estab-

lish evidence-based assessment protocols at these stages for early detection and intervention, such as specific training in social and communication skills to buffer bullying prevention (Rose & Gage, 2017).

Equally important, differential patterns of bullying victimisation between participants with and without language difficulties were found during the rest of the schooling. Although data show a general decrease across time in victimisation rates in both groups (Hymel & Swearer, 2015; van den Bedem *et al.*, 2018), the increased risk of bullying tends to remain in time in the LD group (although at the university level the differences are only near to significance), putting in relevance the maintained vulnerability to harassment of individuals with language difficulties. Moreover, this result evidences the stability of bullying involvement and the rigidity of the bullying dynamics for the victims (Gumpel *et al.*, 2014; Hymel & Swearer, 2015). Knowing the potentiality traumatic and long-lasting outcomes of bullying (Arseneault, 2018), administrators, therapists, teachers, parents, and students must pay attention to the toxic interpersonal relations that can take place in educational settings and provide support to students with language difficulties during their entire schooling. Additionally, this sustained vulnerability makes us wonder if victimisation behaviours towards people with language difficulties persist later in adult life when schooling has finished. Future studies should further explore peer rejection towards people with language difficulties in other contexts, such as workplace bullying (Fevre *et al.*, 2008).

Regarding specific victimisation behaviour types, individuals with oral language difficulties showed a higher prevalence only at certain educational stages in teasing, social exclusion, physical aggression, threatening, and sexual harassment (in a pattern that shifted across time from direct aggression to indirect or relational bullying), whereas other types of victimisation behaviours were not significantly different between groups. Between-group differences were most evident when considering having suffered any form of victimisation. Therefore, results in this study suggest that researchers and practitioners must be cautious when assessing bullying victimisation, as depending on the behaviours or dimensions assessed, as well as the educational level under consideration, differences might be noticeable or not (Ibáñez-Rodríguez *et al.*, 2021; Redmond, 2011). From the results of this study, we recommend a global traditional assessment, that includes direct physical and verbal harassment and threatening and coercive behaviours, as well as more indirect or relational ways of harassment (Olweus, 2013).

Victims obtained similar values in other victimisation indicators, independently of the language difficulties reported. Victims in both groups reported having experienced a median of three different victimisation forms, in a similar intensity. Also, it is worth noting that victims reported having experienced victimisation in approximately 2–3 different scholar periods, entailing a persistence between 4 and 9 years of bullying involvement as victims across time, which can be associated with an increase of the risk of psychological disturbance (Kumpulainen *et al.*, 1999; Mitchell *et al.*, 2020). Finally, the perceptions of power imbalance and the inability to defend themselves or stop the aggression were also similar in both victim groups. These results seem to evidence that bullying victimisation is different in individuals with oral language difficulties in terms of quantity (prevalence), rather than quality; that is, they are at a higher risk of bullying but, once started, victimisation features are, basically, the same in all individuals. However, these results would be contrary to previous literature (Knox & Conti-Ramsden, 2003, 2007) so we encourage future research to continue investigating the factors involved in bullying dynamics in people with language difficulties or other SEN.

Our results have different implications in the clinical and educational settings. The first of them is the need to make teachers, clinicians, and other childhood professionals aware that, although the exact relation between language problems and peer rejection is still unknown, students with LD are at higher risk of being victimised. This awareness is the first step to developing successful prevention, detection, and intervention bullying programs at school, paying special attention to children and youths with language difficulties. The second refers to the profit of introducing more socioemotional programs, such as the training of prosocial behaviours, social skills, and emotional awareness, especially in the case of students with language difficulties. Finally, it would be relevant to promote programs of close friendship as an important protective factor against risk for the students with language difficulties, which could be useful to decrease their levels of victimisation.

The present study has several limitations. First, the group classification was based on self-reports of language-related difficulties, and no objective data were collected regarding the communicative skills of the participants. Nevertheless, psychometrical indices manifested acceptable reliability of the language-related scale. Developing new self-report tools for assessing language difficulties, as is being done in other pathology-related areas (El-Wahsh *et al.*, 2020), would provide powerful benefits for clinical and research purposes. Also, it is important to consider that individuals with language difficulties may also present problems in reading (Botting, 2020; Buil-Legaz *et al.*, 2015). Future studies should ensure reading comprehension and/or include items specifically aimed to test for self-efficacy in reading.

Moreover, a non-probabilistic sampling method was implemented in the present study, which may have caused that the sample was not accurately representative of the population: for example, the study sample shows an over-representation of people with tertiary education (63.4% in our sample vs. 39.7% in Spanish adults; Ministerio de Educación y Formación Profesional, 2021). We speculate that this over-representation might underestimate the rates of bullying victimisation in the LD group because individuals that reach higher educational levels probably show better language levels and, consequently, fewer difficulties in the social domain (Aguilar-Mediavilla *et al.*, 2019; Sureda-García *et al.*, 2021). Furthermore, the online surveying method did not allow to control for non-response (26.9% of recorded accesses), which might lead to participation bias, also called non-response bias (Gideon, 2012). Thus, the generalisability of these results might be limited. Future research should control for population representativeness by using research stratification strategies and by the implementation of different surveying methods.

Regarding the cross-sectional design, it does not allow determining the causality between presenting oral language difficulties and bullying victimisation. Therefore, one may hypothesise that children with language difficulties might be at an elevated risk of bullying because others perceive them as different, or because they might present difficulties in social competence that prompt peer rejection. On the contrary, a hostile environment at school might lead to social isolation that impedes getting involved in healthy interpersonal relations that are necessary for developing communication skills. However, past research has provided evidence that suggests that presenting communication difficulties, along with other factors (emotional competence, levels of anger, and the level of understanding of one's own emotions), might be the cause of increased peer problems (van den Bedem *et al.*, 2018).

Finally, it is worth noting that, as a result of a retrospective assessment, the data here presented are a picture that might not entirely correspond to the dynamics that are currently taking place at the schools, although research over different time periods suggests no systematic change in prevalence of traditional bullying (Olweus, 2013). However, we encourage researchers to further explore the associations between language difficulties and bullying in toddlers, children, adolescents, and adults.

Independently of these limitations, our study adds valuable evidence of the relation between language difficulties and the risk of bullying victimisation.

CONCLUSIONS

Individuals with oral language difficulties present a higher risk of bullying victimisation. This differential victimisation risk seems to start early, at the initial stage of elementary, and persists during the rest of the schooling. Moreover, this discriminatory victimisation pattern seems to emerge especially when adopting a global bullying assessment approach (considering verbal, physical, and relational behaviours). Disentangling the relations between oral language difficulties and bullying victimisation is in need for developing successful prevention, detection, and intervention programs of bullying for children with language difficulties. Moreover, results evidence the need to support individuals with language disorders in the associated difficulties that bullying may bring.

CONFLICT OF INTEREST
The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are openly available in Open Science Framework at https://osf.io/kpvhj/?view_only=73507d520e3b40f8bd8b7ec802592bb9.

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