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Sexual exploitation among adolescents in residential care: Prevalence and implications for child protection

Noemí Pereda [a,b,*], Alba Águila-Otero [a]

[a] Research Group on Child and Adolescent Victimization (GReVIA), Universitat de Barcelona, Spain
[b] Institute of Neurosciences (UBNeuro), Universitat de Barcelona, Spain

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ABSTRACT

Background: Child sexual exploitation (CSE) is a major public health problem that disproportionately affects children and young people involved in the child welfare system.
Objective: This study estimated the reported prevalence of CSE among adolescents in residential care facilities in a northern region of Spain and identified associated risk factors.
Participants and setting: The sample included 119 adolescents (51.3% male, 45.4% female) aged 14–18 years (M = 15.95), residing in 26 residential care facilities across northern Spain.
Methods: An ad hoc online questionnaire assessed (a) sociodemographic characteristics, (b) child protection history, (c) knowledge and perceptions of CSE, and (d) personal experiences of CSE.
Results: Overall, 17.6% of participants in this regional sample reported experiencing some form of CSE in the past year. The most prevalent form was sharing sexual images or videos, followed by sexual intercourse and sexual touching. Compared with non-victims, those who experienced CSE were more likely to be female, to have run away from the residential facility, to have received prior CSE education, and to know someone involved in CSE.
Conclusions: Findings underscore the urgent need for targeted prevention and intervention strategies addressing CSE among youth in residential care. Comprehensive approaches should include professional training, systematic screening and risk assessment, and direct interventions. These should be implemented through an intersectional framework that acknowledges multiple vulnerabilities and risk factors to better protect young people within the child welfare system.

1. Introduction

Sexual exploitation of children and youth (CSE) is recognized as a major public health problem worldwide. It has profound consequences for those involved, seriously affecting their mental and physical health, sexual behavior, and daily functioning (Le et al., 2018). CSE is generally defined as the involvement of individuals under the age of 18 in sexual activities that occur within contexts of violence, coercion, or unequal power relations, or that take place without their valid consent (Laird et al., 2020). These situations often involve transactional exchanges in which sexual acts are traded for money, shelter, food, alcohol or drugs, affection, protection, or other goods and services. Whether the benefit is obtained by the minor or by third parties, such practices always constitute a violation of children's rights and a form of abuse that exploits their vulnerability (Laird et al., 2023).

This vulnerability is closely tied to the developmental stage of minors, which is frequently instrumentalized by exploiters. Adolescence is characterized by a convergence of biological, psychological, and social changes that heighten susceptibility to victimization (Volk et al., 2006). Pubertal development and the emergence of sexuality increase exposure to sexualized interactions, while early maturation has been linked to higher risks of sexual harassment and exploitation. At the same time, this period often involves the onset of mental health difficulties, such as depression and anxiety, which may reduce risk perception and coping capacity. Developmentally normative shifts, such as decreased parental monitoring and increased reliance on peer relationships, can further amplify vulnerability, particularly when family functioning is poor or peer environments are unsafe (Finkelhor & Asdigian, 1996).

These dynamics are especially pronounced among youth in the child welfare system, who show higher rates of prior victimization, insecure attachment, and unmet emotional and material needs (Mercera et al., 2024). Such experiences can intensify the search for belonging,

* Corresponding author. Faculty of Psychology, University of Barcelona, Passeig Vall d'Hebron, 171, 08035, Barcelona, Spain.
E-mail address: npereda@ub.edu (N. Pereda).

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validation, or resources, making adolescents more susceptible to grooming strategies that exploit these developmental and contextual vulnerabilities. Beyond age itself, exploitation often capitalizes on unmet emotional, social, and material needs, placing young people in unequal exchanges that compromise their wellbeing and even their basic subsistence (McDonald & Middleton, 2019). For many adolescents, exploitation may be perceived as a means of survival in which they believe they retain some degree of control; however, this distorted perception hinders recognition of the situation as abuse and, in turn, reinforces ongoing victimization (Prior et al., 2023).

1.1. Risk factors for CSE

All children are at some risk of sexual exploitation, yet research consistently shows that certain groups of young people are disproportionately vulnerable. Recent review studies provide robust evidence that prior experiences of violence and sexual abuse and running away from home are among the most consistently supported risk factors for both male and female youth worldwide (Fedina et al., 2019; Franchino-Olsen, 2021; Laird et al., 2020; de Vries & Goggin, 2020). Other factors associated with increased vulnerability include insecure attachment and unmet needs for affection and attention (Mercera et al., 2024), identifying as transgender or gender-diverse (Georges, 2023), and knowing someone—particularly peers—who facilitates involvement in sexual exploitation (Reed et al., 2019).

Many of these risk factors are disproportionately concentrated among children and adolescents in the child welfare system, a population characterized by higher prevalence of prior victimization, disrupted caregiving relationships, and unmet emotional and material needs (Greeson et al., 2019). This accumulation of adversities not only increases exposure to potential exploiters but also heightens vulnerability to grooming processes, thereby helping to explain why risk is particularly elevated within this group. However, the nature and nuances of the relationship between CSE and foster care placements remain largely underexplored (Dunnigan & Fusco, 2024).

Within this context, adolescents who perceive their futures as limited—particularly those living in residential care facilities—face an elevated risk of exploitation (Häggman-Laitila et al., 2018). Such perceptions are better understood in light of the structural and developmental challenges that disproportionately affect this group. Young people in care often face an abrupt and less supported transition to adulthood, which is typically more impersonal and less reversible than for peers with stable family backing. This is compounded by lower educational attainment, limited economic resources, housing instability, and a higher prevalence of mental health difficulties (Gunawardena & Stich, 2021). Together, these factors may contribute to a sense of constrained future opportunities, which can increase susceptibility to exploitation, particularly when it is framed as a way to meet immediate needs or gain a sense of control. In this context, the literature has emphasized the importance of transition-related policies, although the scope and quality of services provided to current and former foster youth remains highly variable (Massinga & Pecora, 2004).

Perpetrators exploit these feelings of hopelessness, persuading youth that commercializing their bodies is a viable option. They are adept at emotional manipulation, both to initiate and sustain exploitative relationships (Annitto, 2011). Early experiences of neglect and violence, combined with deliberate strategies of seduction and control, foster a coercive and traumatic bond between victim and exploiter (Sánchez et al., 2019). This bond, rooted in a profound imbalance of power and reinforced by cycles of abuse interspersed with seemingly positive interactions, generates emotional dependency. In this way, exploiters intentionally instrumentalize adolescents' unmet emotional needs as part of a broader strategy of control and manipulation (Casassa et al., 2022).

Moreover, instability within the care system itself represents an additional risk factor for CSE. Multiple placement moves are profoundly destabilizing, as they undermine adolescents' ability to establish trusting relationships and develop a stable sense of belonging (Coy, 2009). This instability increases feelings of insecurity and abandonment, which in turn can heighten susceptibility to exploiters who deliberately target these vulnerabilities. Frequent placement breakdowns have been linked to diminished self-efficacy and self-worth, erosion of trust, and anxiety-dominated relationships (Schofield & Brown, 1999), all of which may facilitate grooming and exploitation dynamics within this population.

Age is another key variable to consider. Research in Europe indicates that adolescents are more likely to be placed in residential care than younger children (del Valle & Bravo, 2013). This placement pattern overlaps with the heightened vulnerability associated with sexual exploitation, the average age of onset of which is around 16 years, although in some cases it can occur as early as 13 or 14 (Jiménez et al., 2015). Developmental characteristics of adolescence—such as heightened susceptibility to peer influence, impulsive behavior, orientation toward immediate rewards, and the search for novel sensations and emotions—further amplify the risk of involvement in sexual exploitation (Steinberg, 2009, 2010).

With regard to gender, existing studies suggest that, in Europe, the prevalence of CSEC is similar among girls and boys in the general population (Benavente et al., 2022). However, research on boys underscores the difficulty of identifying male victims, both by themselves and by professionals, suggesting that their prevalence may be underestimated, thereby contributing to greater invisibility (Mitchell et al., 2017). Social expectations tied to hegemonic masculinity, traditional gender roles, and the stigma surrounding homosexuality further hinder recognition, making a gender-sensitive perspective essential to fully understand this phenomenon (Josenhans et al., 2020).

On the other hand, protective factors such as comprehensive sex education that explicitly addresses sexual exploitation (Rizo et al., 2019) and the presence of a supportive adult (Mauer et al., 2022) —which are often situated within a family context (Bounds et al., 2020)— may be less accessible to adolescents in residential care, given that these settings do not typically provide a family-based environment. The absence of these safeguards further heightens adolescents' vulnerability, highlighting the importance of identifying risk factors and vulnerabilities early in order to enable timely preventive efforts.

1.2. Prevalence of CSE

The exact number of children and adolescents affected by sexual exploitation remains unknown, reflecting both the hidden nature of the phenomenon and limitations in data collection. Nevertheless, empirical studies provide estimates of its scope across different contexts.

In Europe, studies with general adolescent populations suggest that between 1% and 2.5% of youth are involved in commercial sexual activities (Benavente et al., 2022). In the United States, the prevalence of sexual exploitation is also notable, with estimates ranging from 4% to 4.9% of minors having experienced CSE (Ulloa et al., 2016). Comparisons across studies are challenging due to differences in methodology, populations, and operational definitions (Franchino-Olsen et al., 2022).

Within child welfare systems, CSE appears to be particularly prevalent. In a qualitative study of 14 women aged 17–33, Coy (2009) identified out-of-home placement as one of the most common contributors to engagement in commercial sexual activity during adolescence, with six participants directly linking their involvement in prostitution to experiences in care. Similarly, Fedina et al. (2016) found that child welfare involvement and foster care placement were common among individuals in the commercial sex industry: one-quarter of their sample of 115 trafficked minors had been involved with child welfare, and 15.9% had been placed in foster care. Hickle and Roe-Sepowitz (2018) reported that approximately three-quarters of 135 girls victimized by CSE had previously experienced out-of-home placements. In a longitudinal study of 125 adolescents aged 12–17 placed in residential centers, Lanctôt

et al. (2020) found that 56% were involved in CSE within a few months. In Europe, research on CSE within child protection systems remains limited. Studies on sexual abuse (rather than sexual exploitation) indicate higher prevalence rates in out-of-home care compared with the general population, with the highest rates in residential care (Euser et al., 2013). Other studies have used proxy indicators—such as youth homelessness or running away—to identify adolescents at increased risk for CSE (Pereda et al., 2022).

Despite the growing recognition that CSE affects children across Europe (Benavente et al., 2022), reliable prevalence estimates for CSE within residential care settings remain extremely limited. Understanding the scope of CSE is essential for developing effective social and public health interventions (Nemeth & Rizo, 2019). Yet, the hidden nature of exploitation, combined with the paucity of systematic research in residential care, continues to hinder a comprehensive understanding of its prevalence within European child welfare systems.

1.3. Aim of the study

The primary aim of this study was to estimate, for the first time within the Spanish child protection context, the reported prevalence of CSE among adolescents living in residential care facilities in a northern region of Spain, and to investigate the risk factors associated with such experiences. These factors include sociodemographic characteristics, residential instability, knowledge or education about sexual exploitation, peer involvement in exploitative relationships, and running away from care (Mercera et al., 2024). A gender-sensitive perspective was applied throughout the analysis to capture the complexity of these vulnerabilities and provide a nuanced understanding of how risk manifests in this population (Josenhans et al., 2020). By addressing these variables, this study seeks to offer a comprehensive picture of both the prevalence and correlates of CSE, generating critical evidence to inform prevention and intervention strategies.

This research is particularly timely given that the Spanish child protection system serves a substantial number of adolescents in residential care, with figures ranging between 15,000 and 20,000 depending on the year. National policies, including the Organic Law 8/2021 on the Comprehensive Protection of Children and Adolescents against Violence (LOPIVI) and the National Strategy for the Eradication of Violence (Ministry of Social Rights and Agenda 2030; 2022), emphasize the responsibility of child protection facilities to provide safe and nurturing environments. Investigating CSE within this context is therefore an urgent priority, as it addresses a highly vulnerable population and aligns with national efforts to prevent and respond to exploitation.

2. Methods

2.1. Procedure

The regional government of Cantabria, in northern Spain, commissioned this study in response to concerns regarding sexual exploitation linked to residential care facilities, which had been reported in various Spanish communities. Members of the research team organized and conducted several meetings with representatives from the Cantabrian Institute of Social Services, and also engaged with staff from residential care centers and group homes to discuss study procedures. The Institute of Social Services distributed participation instructions via email to the organizations coordinating the centers and to the facility managers. These organizations then forwarded the study materials to each center, which included an explanatory letter, a link to the online survey, and an animated video designed to inform adolescents about the study's objectives and procedures, and to encourage their participation.

The survey remained open for approximately 1 month. A reminder was sent to the center managers after 2 weeks to promote participation. Data collection officially closed on October 10, 2022. Following the closure of data collection, responses were downloaded from the platform, organized, and processed for subsequent statistical analysis.

2.2. Participants

A convenience, non-probabilistic sampling method was used. All organizations managing residential care centers in Cantabria were contacted through the Cantabrian Institute of Social Services (ICASS in Spanish) and asked to distribute the survey to adolescents in their care.

In 2022, the residential care system in Cantabria served 208 children and adolescents (110 boys, 98 girls) across 26 centers managed by nine organizations. Adolescents aged 14–17 years comprised the majority of residents ($n = 148$) and were therefore selected as the focus of the study. Of these, 126 accessed the survey (81.7%), and five declined participation after reading the informed consent, resulting in a final sample of 119 participants. This age range was also selected for legal and ethical reasons: under Spanish law—specifically, the Organic Law 3/2018 of December 5, on the Protection of Personal Data and Guarantee of Digital Rights (LOPDGDD)—adolescents aged 14 years or older can legally and autonomously consent to the processing of their personal data. This provision aligns with the European General Data Protection Regulation (GDPR, 2016/679), which allows Member States to set a lower age of consent between 13 and 16 years. Including younger children would have required parental or guardian consent, which could introduce bias, particularly in a population where family members or guardians may have been involved in cases of exploitation.

Assigned sex at birth was male for 52.9% ($n = 63$) and female for 47.1% ($n = 56$). Most participants (92.4%) were cisgender, while 7.6% ($n = 9$) reported a gender identity different from that assigned at birth. Accordingly, the sample included 51.3% male ($n = 61$), 45.4% female ($n = 54$), and 3.4% identifying with other gender identities, such as non-binary or gender-fluid ($n = 4$). Participants were aged 14–18 years ($M = 15.95$, $SD = 1.19$).

Over their lifetime, participants had lived in multiple settings beyond residential care, including with both biological parents (67.2%, $n = 80$), one parent (50.4%, $n = 60$), other adult relatives (25.2%, $n = 30$), foster families (5.9%, $n = 7$), and adoptive families (5%, $n = 6$). On average, they had lived in 2.6 residential centers ($SD = 1.83$; range = 1–10). The mean age at first entry into residential care was 12.8 years ($SD = 3.62$). Regarding their current center, 33.6% had been there less than 6 months, 34.5% between 6 months and 1 year, 26.9% between 1 and 5 years, 4.2% over 5 years, and 0.6% for their entire lives.

A substantial proportion of adolescents were familiar with running away from care: 87.4% ($n = 104$) knew someone who had left a residential facility without permission, and 28.6% ($n = 34$) reported having done so themselves. Among those who had run away, 79.4% ($n = 27$) had left their current residential center. Frequency varied, occurring a few times per year ($n = 16$), monthly ($n = 5$), or weekly/daily ($n = 3$ each). The duration of absences also varied considerably: 14 participants were away for less than a week, 4 for 1 week, 5 for 2 weeks, 2 for 3 weeks, and 10 for 1 month or longer.

2.3. Measures

An ad hoc online questionnaire consisting of 24 items was designed to assess both demographic characteristics and variables related to CSE.

Seven items collected demographic and background information, including sex (male, female), gender identity (male, female, other), age (in years), and child welfare history. Child welfare history was assessed through a set of items adapted from the extended literature on child welfare and residential care research, which commonly uses demographic and case history indicators to characterize populations in care settings and situate study findings within broader welfare system dynamics (Llosada-Gistau et al., 2015). These items included previous living arrangements (e.g., biological or adoptive parents, foster family, residential center), the number of residential centers attended (continuous variable), age at first entry into residential care (in years), and

length of stay in the current center (ranging from less than 6 months to "all my life"). Such background and placement indicators are standard in child welfare research as they provide essential context for interpreting experiences and outcomes among children and adolescents in care.

The remaining 17 items addressed knowledge of sexual exploitation, experiences of running away, both personal and peer experiences of CSE as well as CSE perceptions and opinions (motivations to be involved in these situations, mechanism to leave and key elements for prevention). Items on personal experiences, covering both contact and non-contact behaviors, were adapted from prior European research (Averdijk et al., 2020; Fredlund et al., 2013). These included the exchange of sexual material (e.g., "In the last year, have you received money, alcohol, drugs, or any gifts or favors from someone to see you naked, take photos of you, or record you on video?"), sexual touching (e.g., "In the last year, have you received money, alcohol, drugs, or any gifts or favors from someone to touch your intimate parts or for you to touch theirs?"), and oral or penetrative sexual activity (e.g., "In the last year, have you received money, alcohol, drugs, or any gifts or favors from someone to engage in sexual relations, including oral sex or penetration?"). All items used a dichotomous response format ("Yes" = 1; "No" = 0). For participants who reported CSE experiences, follow-up questions gathered details about the perpetrator (stranger vs. acquaintance), mode of contact (online vs. offline), and frequency of exposure, rated on a Likert-type scale from "once a year" to "every day." Also, participants reported whether they had experienced CSE in previous placements.

2.4. Ethical aspects

The study received ethical approval from the Bioethics Commission at the University of Barcelona (IRB 00003099) and was conducted in full accordance with the Declaration of Helsinki (WMA, 2013) and the Deontological Code of Psychologists of the General Council of Psychology of Spain (COP, 2010). All procedures were designed to ensure participants' autonomy, confidentiality, and the respectful handling of their responses, in compliance with Spain's Organic Law 3/2018 on the Protection of Personal Data and GDPR. Data on adolescent experiences of violence were collected directly from participants, consistent with ethical guidelines (Laurin et al., 2018). Written informed consent was obtained from all participants, and no financial compensation was provided.

2.5. Data analysis

Following data entry into SPSS, analyses were conducted using descriptive statistics (means and frequencies) and bivariate tests of association. For nominal variables, chi-squared tests were performed, accompanied by analyses of corrected standardized residuals. For continuous variables, Student's t-tests were applied. Statistical significance was set at $p \leq 0.05$ for all analyses. For the interpretation of corrected standardized residuals, values below −1.95 or above 1.95 were considered significant. All analyses were conducted using IBM SPSS Statistics, version 30.

3. Results

3.1. CSE knowledge

Among the 119 adolescents surveyed, 69.7% ($n = 83$) indicated that they understood what it means to be a victim of sexual exploitation. Additionally, 60.5% ($n = 72$) had previously received information or training on CSE. More than half of the participants (58%) reported having received this information within their residential facility, followed by school (29.4%) or other sources (45.4%), mainly day centers or psychologists. Furthermore, 73.1% ($n = 87$) of participants indicated having received education or information related to sexuality and affective relationships, primarily through residential facilities (42%) and schools (46.2%). Regarding their main source of information on sexuality and affective relationships, 44.5% of adolescents reported consulting a trusted adult, 23.5% relied on friends, and 21.8% searched the Internet.

3.2. CSE experiences

Overall, 43.7% ($n = 52$) of participants reported knowing someone who had experienced CSE, 15.1% ($n = 18$) reported knowing someone who had been subjected to threat or violence, and 28.6% ($n = 34$) reported knowing someone who had been involved in sexual exploitation in exchange for money or other rewards.

Regarding their own experiences, 17.6% ($n = 21$) of adolescents reported having experienced some form of CSE during the previous year. The most prevalent form was sharing sexual images or videos (13.4%; $n = 16$), followed by sexual intercourse (oral sex or penetration) (10.9%; $n = 13$). The least frequent form was sexual touching, defined as touching another person or being touched in intimate areas (8.4%; $n = 10$).

Table 1 presents the prevalence and characteristics of CSE experiences among participants.

3.3. Bivariate differences between groups

In general, adolescents who had experienced CSE differed significantly by gender, with girls being more likely to be victims than boys (70.0% vs. 42.1%). No significant differences were observed in child protection history variables, including the number of previous placements, age at first residential admission, or time spent in the current facility. However, victims were significantly more likely to have run away from their residential facility compared to non-victims (47.6% vs. 24.5%). Adolescents who experienced commercial sexual exploitation were also more likely to report knowing someone involved in CSE (90.5% vs. 33.7%) and to have previously received CSE-related education (81.0% vs. 56.1%). Few differences emerged regarding the child

Table 1
Child sexual exploitation characteristics.

	Sexual Images *n* (%)	Sexual Touching *n* (%)	Sexual intercourse *n* (%)
Prevalence	16 (13.4)	10 (8.4)	13 (10.9)
Under threat/using violence	5 (4.2)	2 (1.7)	6 (5)
In exchange for something	11 (9.2)	8 (6.7)	7 (5.9)
CSE experiences in previous placements	15 (12.6)	9 (7.6)	12 (10.1)
Another residential facility	10 (8.4)	8 (6.7)	10 (8.4)
Biological family	2 (1.7)	1 (0.8)	2 (0.8)
Foster family	3 (2.5)	2 (1.7)	2 (1.7)
Adoptive family	4 (3.4)	3 (2.5)	4 (3.4)
Frequency			
Once a year	11 (9.2)	3 (2.5)	6 (5)
Monthly	1 (0.8)	3 (2.5)	3 (2.5)
Weekly	4 (3.4)	4 (3.4)	4 (3.4)
Everyday	1 (0.8)	1 (0.8)	1 (0.8)
Perpetrator			
Unknown: adult	11 (9.2)	6 (5)	6 (5)
Unknown: minor	6 (5)	4 (3.4)	5 (4.2)
Known: family	3 (2.5)	4 (3.4)	3 (2.5)
Known: residential staff	2 (1.7)	2 (1.7)	3 (2.5)
Known: partner	8 (6.7)	4 (3.4)	4 (3.4)
Known: friend	4 (3.4)	3 (2.5)	4 (3.4)
Known: another	3 (2.5)	3 (2.5)	3 (2.5)
Contact			
Online	12 (10.1)	9 (7.6)	10 (8.4)
Offline	13 (10.9)	9 (7.6)	9 (7.6)
Another	4 (3.4)	1 (0.8)	2 (1.7)

protection process. Specifically, victims of CSE involving sexual touching entered residential care at a younger age than their peers (M = 9.7 years vs. 13.05 years) [t (117) = 2.07; p = 0.03]. Table 2 presents group differences across these and other variables.

It is also noteworthy that 6.7% (n = 8) of participants reported having engaged in behavior that led to the sexual exploitation of another person. Half of these adolescents were themselves victims of CSE, while the remaining half were not.

3.4. Perceptions and opinions of CSE

Adolescents were asked about the main reasons that might lead someone to become involved in a CSE situation. The most frequently cited motivations included being in love with a person who involved them (23.5%; n = 28), feeling loved (13.4%; n = 16), being threatened (12.6%; n = 15), obtaining alcohol and/or drugs (10.1%; n = 12), being forced through violence (9.2%; n = 11), and obtaining money (8.4%; n = 10). Other reasons mentioned included receiving material goods such as clothes, shoes, or jewelry (3.4%; n = 4); seeking fun or new experiences (3.4%; n = 4); finding a place to sleep (0.8%; n = 1); or attempting to cope with distress or emotional needs (0.8%; n = 1).

Conversely, when asked about strategies to leave or escape from a CSE situation, adolescents most frequently mentioned asking for help from a residential care professional or educator, reporting the situation to authorities, or seeking support from family members or friends (see Table 3).

Finally, participants were asked to suggest preventive measures to reduce the risk of CSE among adolescents in residential care. The most frequently proposed actions included providing more information about CSE, offering comprehensive sexual and affective education, and increasing emotional support and understanding from residential care staff. Other suggested measures involved enhancing communication between adolescents and staff, as well as providing clearer information about the risks associated with running away, and the use of alcohol and drugs. Table 4 presents the specific prevention strategies identified by participants. Differences between victims and non-victims were analyzed regarding preventive measures, with significant differences found in only one item. Victims more frequently reported the need to show greater affection and understanding towards young people compared to their non-victim peers [χ^2 (1, N = 119) = 10.243, $p \leq$ 0.001].

4. Discussion

The findings of this study indicate a concerning reported prevalence of child sexual exploitation (CSE) among adolescents in residential care within a regional sample from Spain. Nearly one in five participants (17.6%) reported experiencing at least one form of CSE, a rate substantially higher than estimates for adolescents in the general European population (Benavente et al., 2022) and, similarly, compared with Spanish adolescents in the general population, for whom prevalence is estimated at 2.5% in a representative sample (Pereda et al., 2025). These comparisons suggest that adolescents in residential care may constitute a particularly vulnerable group, while also underscoring the need for broader studies across Spain to determine whether similar patterns are observed in other regions. This finding is consistent with prior international research indicating that youth involved in child welfare systems worldwide are disproportionately at risk of sexual exploitation (Greeson et al., 2019).

Regarding the forms of exploitation, the most frequently reported type was sharing sexual images (13.4%), followed by sexual intercourse (10.9%) and sexual touching (8.4%). Nearly half of the reported cases involved online contact, highlighting the growing role of digital environments in facilitating recruitment, coercion, and control. Online interactions can blur the boundaries between consensual and exploitative behaviors, reducing perceived risk and complicating the identification of abuse (Caffo et al., 2021). These findings underscore the evolving digital dimension of CSE and reinforce the need to conceptualize exploitation as a continuum spanning both online and offline contexts.

The profiles of perpetrators reported by participants suggest that CSE often occurs within relationships characterized by trust or familiarity, rather than exclusively involving strangers. This finding is consistent with previous research showing that perpetrators tend to rely on emotional manipulation and coercion to sustain exploitative relationships (Annitto, 2011). Regardless of the recruitment model, a constant feature of CSE dynamics is the emergence of a coercive traumatic bond between victim and exploiter (Sánchez et al., 2019). This bond is rooted in a profound power imbalance that places the victim in a position of helplessness, reinforced through alternating abusive episodes with neutral or even positive interactions, thereby strengthening emotional dependency. Although incidents involving residential staff were

Table 3
Mechanisms that adolescents use to leave CSE.

	n	%
Ask for help from …		
An educator or professional from the RC facility	58	48.7
A professor from educational center	19	16
A family member	41	34.5
A friend or a peer	33	27.7
Report to authorities	51	42.9
Run away from the facility or home	17	14.3
Search on internet or another resource for what to do in that situation	18	15.1
Other	7	5.9

Table 4
Measures of CSE prevention addressed to adolescents in residential care.

	n	%
More sexual-affective training	56	47.1
More information about CSE	65	54.6
More information about risks of running away	23	19.3
More information about risks of alcohol and drugs	38	31.9
More alerts about areas that should be avoided	19	16
More protective strategies	40	33.6
More communication between adolescents and staff	31	26.1
More affection and understanding towards youngsters	48	40.3
Other measures	5	4.2

Table 2
Differences between victims and non-victims.

	CSE general			CSE images			CSE touching			CSE sexual intercourse		
	Victims	No victims	OR	Victims	No victims	OR	Victims	No victims	OR	Victims	No victims	OR
Gender												
Male	6 (30)	55 (57.9)	3.2*	4 (26.7)	43 (43)	3.6*	4 (44.4)	57 (53.8)	1.5	4 (33.3)	57 (55.3)	2.5
Female	14 (70)	40 (42.1)		11 (73.3)	57 (57)		5 (55.6)	49 (46.2)		8 (66.7)	46 (44.7)	
Running away	10 (47.6)	24 (24.5)	2.8*	7 (43.8)	27 (26.2)	2.2	7 (70)	27 (24.8)	7.1**	6 (46.2)	28 (26.4)	2.4
Receiving training	17 (81)	55 (56.1)	3.3*	13 (81.3)	59 (57.3)	3.2	8 (80)	64 (58.7)	2.8	12 (92.3)	60 (56.6)	9.2*
Known CSE victims	19 (90.5)	33 (33.7)	18.7***	14 (87.5)	38 (36.9)	11.9***	9 (90)	43 (39.4)	13.8**	12 (92.3)	40 (37.7)	19.8***

Note. *$p < 0.05$; **$p < 0.01$; ***$p \leq 0.001$.

relatively uncommon, their occurrence underscores the complex relational vulnerabilities that can emerge even within ostensibly protective environments. Prior trauma has been shown to increase victims' susceptibility to such coercive bonds, which may persist long after the exploitation has ended. Many survivors continue to experience ambivalent feelings of attachment toward their perpetrator, often preventing disclosure or formal reporting. Perpetrators, in turn, deliberately cultivate and exploit this emotional bond as a strategy of control and manipulation (Casassa et al., 2022).

Another noteworthy finding concerns the role of education and information. Paradoxically, adolescents who had experienced CSE were more likely than non-victims to have received prior education or information about exploitation. This pattern may indicate that preventive efforts are often implemented reactively, after exposure to risk, or that current educational approaches do not sufficiently equip adolescents to recognize or resist exploitative situations. These results suggest a gap between the presence of informational initiatives and their actual protective impact.

Participants also highlighted several practical strategies for prevention. They emphasized the importance of fostering strong attachments and open communication between adolescents and residential care staff, which aligns with the primary mechanism identified for leaving a CSE situation—asking for help from a trusted adult or care professional. Additionally, adolescents called for more comprehensive sexual and affective education, as well as targeted information about CSE and its associated risk factors, including running away, substance use, and strategies to protect themselves. These insights point to the need for prevention programs that are both proactive and contextually responsive, strengthening adolescents' capacity to recognize, avoid, and exit exploitative situations.

Gender differences were evident in this sample. Girls were significantly more likely than boys to report CSE experiences overall, and specifically experiences involving sexual images or videos, consistent with prior research documenting the higher visibility of female victims in official statistics and studies compared to males (Josenhans et al., 2020). Nevertheless, the proportion of male victims in this sample was substantial, highlighting concerns that male exploitation remains underrecognized due to societal norms surrounding masculinity and the stigma associated with male sexual victimization (Mitchell et al., 2017). These findings underscore the importance of a gender-sensitive approach that acknowledges both the heightened vulnerability of girls and the relative invisibility of boys in detection and reporting processes.

Age-related factors also appeared relevant. Adolescents who experienced CSE involving sexual touching entered residential care at a younger age than their non-victimized peers, supporting previous evidence that early and prolonged exposure to institutional care may increase vulnerability to exploitation (Euser et al., 2013). Together, these patterns emphasize the need to consider both demographic and developmental factors when designing prevention, screening, and intervention strategies within residential care settings.

Contrary to previous literature (Coy, 2009), no significant differences were observed regarding aspects of the child protection process, preventing the identification of specific vulnerabilities in this area. Given the complexity of child protection trajectories and the fact that most participants had experienced multiple protective measures, a more detailed understanding would likely require data obtained directly from child protection records. Such records could provide information on the types of measures implemented, their duration, any breakdowns in care, and the underlying reasons, offering a more nuanced picture of the factors that may influence vulnerability to CSE within residential care settings.

Consistent with previous research, this study identified running away from care as a significant correlate of CSE victimization. Nearly one-third of participants had run away at least once, and those who had done so were almost twice as likely to report CSE experiences. These findings support evidence that running away can serve both as an indicator of preexisting vulnerability and as a context that heightens exposure to exploitation (Fedina et al., 2019; Franchino-Olsen, 2021). Previous studies have shown that such instability can reduce feelings of trust and belonging, creating conditions in which grooming and coercive control are more likely to develop (Coy, 2009; Schofield & Brown, 1999). Moreover, the high proportion of participants who knew peers who had run away or been involved in CSE underscores the role of peer networks in facilitating and normalizing exploitative dynamics (Reed et al., 2019).

Adolescents' perceptions of the causes of CSE provide additional insight into the mechanisms underlying exploitation. The most frequently cited motivations were being in love with the exploiter, feeling loved, or being threatened, highlighting the emotional dependency and coercive control inherent in grooming processes (Casassa et al., 2022). These narratives suggest that adolescents may interpret exploitative dynamics through an affective or relational lens rather than recognizing them as abuse, potentially perpetuating cycles of victimization (Prior et al., 2023). Similarly, recent research on Spanish youth's perceptions of prostitution, sex work, and sex trafficking indicates that young people differentiate between coercion, choice, and economic necessity when evaluating paid sexual activities (Meneses-Falcón et al., 2024). This suggests that adolescents' interpretations of exploitative experiences are nuanced and shaped by broader societal beliefs, which has implications for prevention strategies, awareness-raising, and educational interventions targeting the recognition of CSE as abuse rather than a relational or voluntary act.

The strong association between peer involvement and individual victimization further underscores the social dimension of exploitation. Nearly half of participants knew someone involved in CSE, and this proportion rose to over 90% among victims. Such findings align with previous research indicating that peer relationships can serve both as sources of support and as pathways into risk (Reed et al., 2019). In residential care settings, where adolescents share living environments and social networks, these dynamics may facilitate the transmission and gradual normalization of exploitative experiences. Exposure to peers' experiences and narratives can shape perceptions of what is acceptable or expected, potentially increasing vulnerability to similar situations and reinforcing patterns of coercion or exploitation. In line with this, 6.7% of participants reported having involved a peer in CSE, echoing prior evidence that peers within residential care can themselves act as perpetrators (Gatwiri et al., 2020).

4.1. Practice and policy recommendations

Given that nearly one in five adolescents in this study reported involvement in commercial sexual exploitation, our findings highlight the urgent need for targeted prevention strategies within child welfare systems. Administrative data should be systematically leveraged to identify populations at greatest risk, enabling the development of early, evidence-based interventions that address specific vulnerabilities. Prevention services must be integrated into the daily practices of residential care facilities, where risk factors such as prior experiences of violence, unstable placements, and unmet emotional or material needs are most prevalent. Importantly, prevention programs should go beyond awareness-raising to foster emotional competence, critical thinking, and personal agency.

Special attention should be given to youth transitioning out of residential care. Research indicates that this group is particularly vulnerable due to the abrupt withdrawal of formal support and the lack of enduring adult connections (Greeson & Thompson, 2017). Transitional and aftercare programs should therefore extend beyond basic independence training, actively promoting sustained, supportive relationships with trusted adults or natural mentors who can serve as long-term protective figures.

Policy initiatives should also incorporate the perspectives of adolescents with lived experience of exploitation. Engaging young people in

the design and evaluation of programs ensures that services are relevant, responsive, and grounded in real needs, while aligning with child rights frameworks that emphasize participation, agency, and inclusion (Dierkhising et al., 2020).

Together, these recommendations call for a multi-layered response that strengthens prevention, enhances protective relationships, and embeds survivor-informed practices within child welfare systems. Implementing such measures could play a decisive role in reducing the incidence of sexual exploitation and supporting the long-term well-being of vulnerable adolescents.

4.2. Limitations and future research

This study has several limitations that must be acknowledged. First, participants were recruited through a non-probability, convenience sample of youth from a specific region in Spain. As such, the findings cannot be generalized to the wider population of adolescents involved in sexual exploitation, either within Spain or internationally. Accordingly, the prevalence estimates should be interpreted as regional estimates situated within the Spanish child protection context, rather than as nationally representative prevalence rates. Future research employing probability-based sampling of residential care centers and including youth from a wider range of facilities would be necessary to enhance external validity. The small sample size, particularly of participants reporting CSE, limited the possibility of conducting more advanced analyses. Future research with larger samples is needed to enable more in-depth examination of the phenomenon and to better identify key variables relevant for prevention and intervention efforts.

Second, all data were obtained through self-report measures, which are subject to well-known biases. Participants may have underreported or misrepresented their experiences due to shame, fear of stigma, or concerns about confidentiality, particularly given the sensitive and potentially traumatic nature of the questions. Male respondents, in particular, may have been more inclined to frame their experiences as consensual rather than exploitative, reflecting both gendered norms and internalized stigma (Josenhans et al., 2020). Incorporating qualitative methods or multi-informant perspectives could help triangulate and deepen understanding of these dynamics.

Third, although the study highlights the importance of a gender perspective in understanding pathways into exploitation, intersectional dimensions were not directly assessed. In this study, the underrepresentation of gender minority populations, particularly transgender adolescents and individuals with non-binary or other diverse gender identities, limits the generalizability of the findings and underscores the need for future research to better include and examine these groups. In addition, racial and ethnic identities, migration status, and cultural stereotypes intersect with gender to shape vulnerability profiles. Previous research has documented how minority ethnic girls are disproportionately targeted by misogynistic stereotypes who portray them as sexually promiscuous or morally deficient (Gerassi, 2015). Moreover, children and youth from racial and ethnic minorities are overrepresented in European child welfare systems (Arruabarrena et al., 2017; Karlsson, 2021), a pattern that likely heightens exposure to exploitation risks but remains insufficiently studied in the European context. Future research should adopt more intersectional approaches to capture these overlapping vulnerabilities.

Fourth, it is important to note that only adolescents aged 14 and older were included in the study, which may have excluded younger victims from the focus of this research. Nevertheless, the literature indicates that the average age in most studies on sexual exploitation is around 16 years, with adolescents representing the group most affected. This focus aligns with developmental risk factors prevalent in this age group, such as initiation of sexual activity, peer influence, substance use, and running away from home (Franchino-Olsen, 2021).

Fifth, variables related to child protection processes did not emerge as significant predictors in this study. This may be due to the limitations of self-report data, as many participants had experienced multiple protective measures. A more detailed assessment obtained through the review of child protection records—including the types, duration, and breakdowns of measures—would likely provide a more accurate understanding of the protective factors and pathways that influence CSE risk.

Finally, the cross-sectional design prevents establishing causal relationships between individual or contextual risk factors and CSE involvement. Longitudinal studies following youth over time would allow for a more nuanced understanding of developmental trajectories, vulnerabilities, and protective processes.

Despite these limitations, this study provides novel evidence on the prevalence, risk factors, and protective processes associated with CSE among adolescents in residential care, highlighting the urgent need for early, gender- and culturally sensitive interventions.

5. Conclusions

This study underscores the urgent need for prevention and intervention services addressing the commercial sexual exploitation of children and adolescents within the child protection system. In our sample, almost one in five participants reported experiences of sexual exploitation, highlighting the heightened vulnerability of youth in residential care. These findings suggest that children already known to child welfare authorities constitute a critical group for targeted responses, as their prior contact with protective services signals both elevated risk and opportunities for early identification.

Enhancing the quality and availability of specialized services within residential care settings enables the child welfare system—tasked with ensuring safety, strengthening families, and promoting stability—to play a decisive role in preventing and reducing sexual exploitation. Effective responses must combine direct interventions with professional training, systematic screening and risk assessment, and a careful consideration of the gender, ethnic, and contextual factors that shape vulnerability.

Although this study is limited by its regional, convenience-based sample, the results provide valuable evidence to inform policy and practice across protection systems. Future research should extend these findings by employing probability-based samples of residential care centers and examining the intersection of gender, ethnicity, and systemic dynamics in greater depth. Advancing prevention and timely intervention within child protection frameworks has the potential to reduce this serious form of victimization and safeguard the rights and well-being of the most vulnerable children and adolescents.

CRediT authorship contribution statement

Noemí Pereda: Writing – review & editing, Writing – original draft, Supervision, Project administration, Investigation, Funding acquisition, Conceptualization. **Alba Águila-Otero:** Writing – original draft, Methodology, Formal analysis, Data curation.

Consent to participate

All participants provided written informed consent prior to participation. No financial assistance or compensation was provided to the participants.

Ethical considerations

The study adhered to the ethical principles outlined in the Helsinki Declaration on research involving human subjects (World Medical Association, 2013). Ethical approval for the research was obtained from the Bioethics Commission of the University of Barcelona (IRB 00003099) on 5 September 2022.

Consent for publication

Not applicable.

Data availability statement

The data that support the findings of this study are securely archived at the University of Barcelona and are available from the corresponding author, upon reasonable request.

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Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Noemi Pereda reports financial support was provided by Instituto Cántabro de Asuntos Sociales (ICAS_) of the Government of Cantabria. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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