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Sociometric distribution in Early Childhood Education: reasons for peer acceptance and peer rejection

Distribución sociométrica en Educación Infantil: razones de aceptación y rechazo a los iguales

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ABSTRACT

Peer rejection has been widely studied in secondary and primary education, given both the present as well as future negative consequences it has on pupils. Nevertheless, the issue has thus far failed to receive as much attention with regard to younger children, despite the fact that infant education is a key stage, since it is when social relations are first forged and in view of fact that this period has a decisive influence on subsequent socioemotional development. This study seeks to ascertain sociometric distribution in the second cycle of infant education, taking into account gender, school year and whether or not pupils have specific educational support needs. We also explore the reasons given by pupils for accepting or rejecting their peers. The study involved 2,116 children from 105 classes spanning the three years of

second cycle infant education. Using a sociometric procedure, we find that 11.5% of pupils suffer rejection, 8.3% are popular, 6.7% neglected, 2.5% controversial, and 71% average. The percentage of boys rejected is similar across the three years and is significantly higher than the figure for girls and for those with specific educational needs. A total of 11,989 reasons were cited, of which 7,876 were related to acceptance and 4,113 to rejection, and which were grouped into 34 categories. The principal reasons for acceptance are feeling affinity, playing together, and personality traits, whereas the reasons for rejection were physical aggressiveness, childish behaviour, or annoying others. Girls cited more reasons related to affective reciprocity, whereas boys were less expressive or were not conscious of the causes. We discuss the educational implications to be taken into consideration in the classroom vis-à-vis boosting acceptance, integration and forging a positive atmosphere in the classroom and thereby preventing and reducing peer rejection.

Keywords: peer acceptance, peer rejection, peer relationships, sociometric method, sociometric status, gender, special educational needs, early childhood

RESUMEN

El rechazo entre iguales es un fenómeno muy estudiando en educación secundaria y primaria, dadas las consecuencias negativas presentes y futuras que tiene en el estudiante. Sin embargo, no ha sido tan estudiando en edades tempranas, siendo la educación infantil una etapa de gran importancia, ya que es cuando se empiezan a forjar las relaciones sociales, y su influencia es decisiva en el desarrollo socioemocional posterior. Este estudio tiene por objetivo conocer la distribución sociométrica en el segundo ciclo de educación infantil, teniendo en cuenta el género, el curso y si los estudiantes tienen, o no, necesidades educativas específicas de apoyo educativo. Además, se profundiza en los motivos que los estudiantes argumentan para aceptar o rechazar a sus iguales. Han participado 2116 niños y niñas de 105 aulas de los tres cursos del segundo ciclo de educación infantil. Mediante un procedimiento sociométrico, se obtiene que un 11.5% son rechazados, 8.3% preferidos, 6.7% ignorados, 2.5% controvertidos, y 71% medios. El porcentaje de niños rechazados es similar en los tres cursos, y significativamente superior al de las niñas, al igual que aquellos que presentan necesidades educativas. Han informado de 11989 motivos, 7876 de aceptación, y 4113 de rechazo, agrupados en 34 categorías. Las principales razones de aceptación son el tener afinidad, disfrutar de juegos compartidos y las características de personalidad, mientras que la de rechazo hace referencia a la agresividad física, junto a las conductas inmaduras, o molestas con los demás. Las niñas argumentan más razones de reciprocidad afectiva, mientras que los niños son menos expresivos o no son conscientes de las causas. Se discuten implicaciones educativas a tener en cuenta en las aulas para mejorar la aceptación, integración y clima de aula.

Palabras clave: aceptación entre iguales, rechazo entre iguales, relaciones entre iguales, métodos sociométricos, estatus sociométrico, género, necesidades educativas específicas, educación infantil

INTRODUCTION

Analysis of peer relations has taken on ever-greater relevance over the last few decades, driven to a large degree by the increasingly early age at which children start school (Luis-Rico et al., 2020) due to the rise in the number of children attending infant education –despite its not being compulsory. As a result, from the moment children first enter the classroom, being accepted and popular with their peers, striking up friendships and integrating become basic child-development tasks that need to be accomplished if children are to achieve the right emotional, cognitive and social development (Monjas et al., 2014). Such development may be adversely affected if a child experiences difficulties in their social relations. Most do establish positive relations with their peers, although not all do so to the same degree. In order to gauge this, sociometric strategies based on peer nomination are normally applied. (Cillessen & Marks, 2017; González & García-Bacete, 2010). Depending on the number and position of preference and rejection nominations, different types of sociometric status can be determined (Coie et al., 1982); (a) popular: with a privileged social position, greatly appreciated by their colleagues, (b) average: they get on well with others and have some friends; (c) neglected: they go unnoticed by the group and are not nominated either positively or negatively, (d) controversial: they have a high number of popular as well as rejection nominations; and (e) rejected: pupils who, for a variety of reasons, fail to fit into the group and who are passively or actively rejected by their peers.

A look at all the stages of compulsory education reveals that between 10-15% of students in each classroom are rejected by their peers (Monjas et al., 2014; Suárez-García et al., 2018), which is a similar percentage to schools worldwide (Hladik & Hrbackova, 2021), although it is determined by the context (Martín-Antón et al., 2016) as well as by social changes, which impact social relation patterns (Chow et al., 2023). This phenomenon also occurs in infant education, where studies carried out to date in Spain reveal a lower percentage compared to later stages of education, with the figure standing at around 10% of children in the classroom (Suárez-García et al., 2018), although the trend increases the older the class (García-Bacete et al., 2008). This lower percentage might –on average– be due to the fact that there tend to be fewer pupils per class, in addition to a more conducive atmosphere of support and interaction with teachers (Prino et al., 2022), which is characteristic of this phase of education and which would act as a shield and a barrier against rejection (Kiuru et al., 2012).

Peer rejection is a major problem since it is a stressing and painful experience for pupils and one that distorts their social self-perception and so impacts their emotional state (Nergaard, 2020) and relationship with their milieu (Martín-Antón et al., 2016). It has both short and long-term consequences (Zarra-Nezhad et al.,

2019) such as: socioemotional difficulties (loneliness, isolation, underperformance); internal problems (low self-esteem, anxiety, depression), external problems (dropping out of school, behavioural problems or antisocial conduct). It also tends to be a situation that endures (LoParo et al., 2023), since around 47% of those rejected in the early stages of compulsory schooling continue to be rejected in later stages (García-Bacete et al., 2008).

Certain groups are more prone to peer rejection. Specifically, boys are more affected (Luis-Rico et al., 2020; Suárez-García et al., 2018) and are between two and three times more likely to be rejected than girls (Suárez-García et al., 2018) and only half as likely to be popular when compared to girls, and for different reasons (Luis-Rico et al., 2020). The most common reasons for being chosen are personality, friendship, and playing, with boys and girls choosing peers who are fun, nice, amusing, who are their friends and those with whom they play, although the kinds of games and the order of preference traits varies between males and females (Luis-Rico et al., 2020). This differential interaction affects social development in the early stages of education (Fabes et al., 2018) since friendships with those of the same sex are more common than those with the opposite sex (Chow et al., 2023; Wang et al., 2019). For some pupils, the preference for interacting and relating with persons of the same sex may limit the possibilities of having varied social experiences (Chow et al., 2022; Hanish et al., 2021), thereby depriving them of the benefits of prosocial behaviour and of being able to curb the aggressiveness involved in exchanges between the sexes (Xiao et al., 2022).

In addition, pupils who have educational needs suffer more rejection than those who have no such needs (Whal et al., 2022). They tend to display social skills and externalising behaviours that are less mainstream and which therefore afford fewer possibilities of relational learning (Ferreira et al., 2019). As a result, it is common for them to receive fewer positive and more negative nominations compared to the rest of their peers and for them to be less popular and more rejected. Specifically, it is estimated that 30% of pupils with needs are not popular with their peers (Monjas et al., 2014). Other studies increase this percentage to 54% (Whal et al., 2022), with the percentage of males rejected within this group also being higher. These pupils' interactions and friendships are different and more difficult for teachers to grasp an understanding of (Peceguina et al., 2022). Prominent amongst this group are pupils with functional diversity linked to intellectual disability, since behaviour towards them is more negative than it is towards peers with or without physical disabilities (Hacıibrahimoğlu, 2022). Much the same can be said of pupils with language difficulties. They engage in less exchange of communication, which also leads to greater social isolation (Chen et al., 2020; Van der Wilt et al., 2018) as a result of them being more vulnerable in class (Lloyd-Esenkaya et al., 2020), which is also the case with pupils who are shy (Sette et al., 2019). Pupils with language

difficulties have been shown to have a 50% less chance of establishing reciprocal friendship links when compared to other pupils (Chow et al., 2022).

Unlike bullying, rejection is not a visible problem. Teaching staff often have a rough idea of the social status and relationships that emerge in the classroom. Nevertheless, their impressions have been shown to be only partly reflected by the reality (Schoop-Kasteler & Müller, 2021). The younger the pupils, the more difficult it is to perceive their situation in the classroom (Peceguina et al., 2022). As a result, asking about each pupil's preference and rejection choices might offer an initial step towards ascertaining the underlying reasons, and thereby yield positive practical implications for teachers (Carter, 2021), and even more so if pupils are allowed an unlimited number of nominations, given the greater validity this would imply (Cillessen & Marks, 2017). It should be remembered that pupils are not always rejected for the same reasons (Hladik & Hrbackova, 2021). Bierman et al. (2014) find that these pupils share some of the following four patterns of behaviour: (a) intense aggressiveness and disruptive behaviour is one of the most common causes (Bengtsson et al., 2022; Coie et al., 1982), although it varies depending on the type of aggression and on age (Yue & Zhang, 2023); (b) low levels of sociability, orientation towards others and prosocial behaviour (low empathy, scant co-operational behaviour, Chávez et al., 2022); (c) high levels of childish behaviour and lack of attention; and (d) social anxiety and avoidance behaviour. All of this leads them to experience everyday social situations in the classroom in a more problematic manner when compared to their colleagues. In addition to aggression, Martín-Antón et al. (2016) found that such pupils displayed more disruptive or childish behaviour, showed less respect for the rules and for authority, exhibited poorer adaptation to prosocial behaviour, and even negative reactions to situations in which they enjoyed success. This is aggravated when their actions do not prove to be successful, with them displaying more intense emotional reactions and negative behaviours, particularly in games or where competition is involved (Parlatan & Sığırtmaç, 2022). Likewise, there are also differing reasons why certain pupils prefer others. Monjas et al. (2008) found that the main reasons for accepting classmates are likeability, fun, mutual satisfaction and the presence of key features in a friendship relation.

There are a number of studies addressing sociometric distribution in secondary education classrooms and, to a lesser degree, in primary education. Nevertheless, there are fewer that focus on infant education, and fewer still that delve into the reasons put forward by the pupils themselves as to why they like or do not like certain peers. Consequently, the principal objective of this work is to gain an insight into the sociometric distribution obtained from a wide sample of second cycle infant education pupils. We compare our findings with the results to emerge from other studies carried out with pupils who are at the same stage of education,

and considering gender, school year and whether or not pupils' evidence specific educational support needs. We also look at the arguments underlying the choices of preference or rejection vis-à-vis gender. We believe that gaining an understanding of the reasons for preference and rejection may help teachers working at this stage of education to implement measures in the classroom aimed at enhancing acceptance and thereby preventing and curbing rejection amongst peers as well as the consequences that arise as a result.

METHOD

Participants

The sample is made up of 2,116 pupils from 105 second cycle infant education classes, with 51.7% of students being male and 48.3% female (table 1). 16.5% are pupils enrolled in the first year of infant education (3-4 years of age), 26.1% in the second year (4-5 years), and the remaining 57.4% in the third year (5-6 years of age). 75.7% of the pupils are enrolled in public schools as opposed to 24.3% enrolled in private or semi-private schools –a percentage similar to the distribution in Spain as a whole (78.8% of pupils in public schools, and 20.2% in private or semi-private schools according to the Ministry of Education and Vocational Training, 2022). 66.7% of the pupils are enrolled in schools located in urban areas (towns and cities with a population of over 15,000 inhabitants), while 30.2% are enrolled in semi-urban area schools (between 2,500 and 14,999 inhabitants), with the remaining 3.1% in rural area schools (Rural Grouped Schools, CRAs). Virtually all of the schools have children enrolled with specific educational support needs (NEAE), with the latter representing 9.2% of the pupils in the sample.

Table 1
Distribution of the sample

Characteristics	*n*	**%**
Gender		
Male	1,093	51.7%
Female	1,023	48.3%
Year		
1st (3-4 years)	349	16.5%
2nd (4-5 years)	552	26.1%
3rd (5-6 years)	1,215	57.4%

Characteristics	*n*	%
Ownership		
Public	1,601	75.7%
Semi-private	525	24.3%
Location		
Urban	1,410	66.7%
Semi-urban	640	30.2%
Rural	66	3.1%
NEAE		
Yes	195	9.2%
No	1,921	90.8%

Note. NEAE = Specific Educational Support Needs.

Instruments

Sociometric questionnaire of peer nominations (GREI, 2009; published in González & García-Bacete, 2010). This is a peer nominations instrument in which pupils choose which classmates they would wish to be with and those they would not, with no restriction placed on the number of nominations within a class. Given the age of the participants, the questionnaire was adapted to a question-answer game in the form of an individual interview in which pupils were shown the picture of a personalised school bus. When shown the photographs of their classmates, each pupil was allowed to bring those classmates with whom they would go on a trip and to remove those they would not wish to go with.

The Sociomet computer program (González & García-Bacete, 2010) was used for correction purposes. This program provides information on the sociometric typology of each pupil: popular, rejected, neglected, controversial or average.

Classroom data, in which each teacher sets out their pupils' relevant sociodemographic data (name, number in class, sex, age, and attendance record) in addition to whether or not they have specific educational support needs, in line with the criteria for gathering and processing data established by the education authorities with regard to the groups mentioned.

Procedure

The research gained the approval of the Research Ethics Committee (CEIM, code 21-2335 NO HCUV) and the education authorities. Schools were chosen at

random from amongst those who expressed a willingness to participate after having been sent a letter detailing the study. Participation increased the older the groups in question. There are two main reasons for this. Since this is a non-compulsory stage of education, the number of pupils enrolled was gradually higher the older the groups in question in infant education. In addition, some teachers felt that there would be more problems in classrooms where the children were younger, as a result of: (a) having to adapt to the arrival of a stranger from outside the classroom, (b) the possible disruption in the everyday dynamic of the classroom, and (c) a belief that the pupils would not be able to identify their social networks or specify their reasons for preferring and rejecting. Once the informed consent forms had been obtained from the tutors or legal representatives, data were collected during the school period. Prior to working individually with each pupil (which took about seven minutes), the researcher introduced themselves to the class, saying that they were going to play with the class. The teachers were given the data forms that were to be completed over the following days. When processing the data, any details of a personal identification nature were codified so as to ensure data protection.

Data analysis

Descriptive analyses were carried out in order to analyse sociometric distribution, and the chi squared statistic (χ^2) was also calculated so as to determine whether there were differences between the distribution found in the study and that reported in other studies conducted with similar ages. An analysis was also performed to ascertain whether or not there were any differences in sociometric distribution in terms of gender, year and whether or not pupils had specific educational support needs. The adjusted standardized residuals (ASR) were also calculated, taking as a criterion the presence of significant differences in the frequency if the value exceeded the range [–1.96, 1.96].

In order to evaluate the reasons for preference and rejection expressed by the pupils, after transcribing each answer literally an initial categorisation of the open responses was conducted by creating cloud points and cluster analysis –applying the derived word search method using the NVIVO v.14 (2023) computer program. The categories were subsequently triangulated and negotiated with six experts: two in educational psychology, two in didactics, and two practising infant education teachers.

Finally, we looked at whether there were any significant differences between the reasons put forward by boys and by girls. Since there was not an exact 50% distribution, as an alternative to a binomial test, we calculated the *Z* score by means of a sample proportion test, applying a continuity correction, given that this was a dichotomous variable. This enabled us to calculate the significance of two tails. We

calculated Cohen's h effect size (1988), taking as cut-off points: (a) < .20 very small, (b) 0.20-0.49 small, (c) 0.50-0.79 moderate, and (d) > .80 large. For this, we used the IBM SPSS Statistics statistical package, v. 29 (2022). A confidence level of 95% was assumed.

RESULTS

Sociometric distribution

Table 2 shows the sociometric distribution of the sample analysed. Specifically, sociometric types are distributed as follows: 11.5% of pupils are rejected by their classmates, 8.3% are popular, 71% are average, 6.7% are neglected, and 2.5% are controversial.

Table 2
Comparison of the distribution of sociometric types obtained in various studies

Sociometric type	*n*(%) in this study *N* = 2116	*n*(%) in EI Suarez-García et al. (2018) *N* = 160	% in EI García-Bacete et al. (2008) *N* = 438	*n*(%) 1st year primary education Monjas et al. (2014) *N* = 1,351
Popular	176 (8.3%)	9 (5.6%)	6.8%	179 (13.3%)
Rejected	244 (11.5%)	13 (8.1%)	9.1%	175 (13.0%)
Average	1502 (71.0%)	94 (51.3%)	67.4%	922 (68.3%)
Neglected	142 (6.7%)	25 (15.6%)	11.4%	52 (3.9%)
Controversial	52 (2.5%)	19 (11.9%)	5.3%	21 (1.6%)

Comparing our distribution to that reported in other studies carried out with pupils at the same stage of education reveals that the percentage of pupils rejected by their peers is slightly higher, although it remains at around 10%. Specifically, it differs significantly from the 9.1% reported in the study carried out by García-Bacete et al. (2008) for the same educational cycle, χ^2 (4, *N* = 2116) = 98.01, *p* < .001, and the 8.1% reported by Suárez-García et al. (2018), χ^2 (4, *N* = 160) = 377.04, *p* < .001., with a higher percentage of pupils rejected but with fewer being neglected. Nevertheless, the percentage is lower than the 13% found in studies conducted with first year primary education pupils by Monjas et al. (2014), χ^2 (4, *N* = 2116) =

97.92, $p < .001$, with a lower percentage of popular pupils but a higher percentage of neglected pupils.

An analysis of the distribution by gender (table 3) reveals statistically significant differences, χ^2 (4, N = 2116) = 74.17, $p < .001$, with more boys than girls being rejected (with a ratio of approximately 3:1), as was also the case with the controversial pupils. Nevertheless, there are more popular and average girls than boys. There are no significant differences in the distribution of those neglected.

There are also significant differences between those with or without specific educational support needs, χ^2 (4, N = 2116) = 146.33, $p < .001$. There is a significantly higher percentage of pupils who are rejected, and a lower number of popular and average pupils amongst those who have educational needs compared those who do not. Nevertheless, there are no significant differences in the percentage of pupils sociometrically neglected or controversial.

Table 3

Comparison of the distribution of sociometric types in terms of gender and specific educational support needs

Sociometric type		Gender		NEAE	
		Male (*n* = 1093)	**Female (*n* = 1023)**	**With NEAE (*n* = 217)**	**Without NEAE (*n* = 1899)**
Popular	n (%)	72 (6.6%)	104 (10.2%)	5 (2.3%)	171 (9.0%)
	ASR	-3.0	3.0	-3.4	3.4
Rejected	n (%)	177 (16.2%)	67 (6.5%)	77 (35.5%)	167 (8.8%)
	ASR	6.9	-6.9	11.7	-11.7
Average	n (%)	736 (67.3%)	766 (74.9%)	110 (50.7%)	1,392 (73.3%)
	ASR	-3.8	3.8	-7.0	7.0
Neglected	n (%)	66 (6.0%)	76 (7.4%)	18 (8.3%)	124 (6.5%)
	ASR	-1.3	1.3	1.0	-1.0
Controversial	n (%)	42 (3.9%)	10 (1.0%)	7 (3.2%)	45 (2.4%)
	ASR	4.3	-4.3	0.8	-0.8

Note. NEAE=Specific Educational Support Needs.

Comparing the year to which the pupils belong –within the second cycle of infant education (table 4)– also reveals statistically significant differences χ^2 (8, N = 2116) = 22.20, p = .005, with significant differences in the distribution of neglected and controversial pupils, the percentage of which decreases the higher the year. However, the percentage of those rejected is similar across the three years.

Table 4
Comparison of the distribution of sociometric types in terms of school year

		School year		
		1st (*n* = 349)	**2nd (*n* = 552)**	**3rd (*n* = 1215)**
Popular	n (%)	27 (7.7%)	38 (6.9%)	111 (9.1%)
	ASR	-0.4	-1.4	1.6
Rejected	n (%)	39 (11.2%)	58 (10.5%)	147 (12.1%)
	ASR	-0.2	-0.9	0.9
Average	n (%)	235 (67.3%)	396 (71.7%)	871 (71.7%)
	ASR	-1.6	0.5	0.8
Neglected	n (%)	32 (9.2%)	47 (8.5%)	63 (5.2 %)
	ASR	2.0	2.0	-3.3
Controversial	n (%)	16 (4.6%)	13 (2.4 %)	23 (1.9%)
	ASR	2.8	-0.2	-1.9

Reasons given for acceptance

The boys and girls gave a total of 7,876 reasons when expressing their preference for certain classmates, with an average of 3.72 classmates being chosen by each interviewee. Figure 1 shows the cloud point map of reasons for preference. The most commonly cited are words related to affinities and playing together (the word family related to play: *plays, we play*; the person involved: plays *with me,* and frequency: *always* plays with me), and with friendship (a description of the relation: *friend;* frequency: we are *always* friends, and the superlative adjective: is my *best* friend).

Figure 1
Word cloud of reasons given by pupils to accept a classmate

Cluster analysis –triangulated and negotiated with experts– reduces the reasons for preference to a taxonomy of 14 categories (table 5). It can be seen that the main reason in the choice of friendships is related to affinities and playing with the peer, which yielded a total of 2,399 arguments that account for 30.5% of acceptance for this reason. The next most represented category contains arguments included in the figures of pre-established relationships. The children choose their peers with a frequency of 12.5% knowing that they are their friends (best friends, popular, etc.). 11.1% of infant education pupils also choose their friendships depending on the satisfaction and emotional support such friendships provide them with.

Table 5
Reasons for preference: category, description and frequency

Category	Description	N	%
Affinities and playing together	The same likes, opinions or suggested games as the peer: e.g. we play dinosaurs, he/she plays the same games, we like digging.	2.399	30.5%

Category	Description	N	%
Pre-established relation figure	Predetermined friendship, pre-established link or bond. e.g.: they are my best friend, we are close friends, they are my favourite friend, they are my boyfriend/girlfriend.	987	12.5%
Satisfaction and emotional support	Beneficial feelings the peer inspires in them. e.g.: I love them, they defend me, they protect me, I like being hugged by them.	873	11.1%
Personality traits liked by the peer	Charisma or a temperament deemed to be positive by the other classmate. e.g.: they are great fun, a good person, nice, affectionate.	842	10.7%
Shared social network or old friendship	Relationship with the classmate through family friendships, extracurricular activities or shared space at the present or in the past. e.g.: we've known each other since kindergarten, we go to the park together with our mothers, he/she lives in my street.	634	8.0%
Companionship and material reciprocity	Caring behaviour that helps the peer: e.g.: they share with me, they teach me to do summersaults, they let me use their things, we give each other things.	521	6.6%
Not revealed or not clear	Does not give the reasons or these are not clear. e.g.: just because, I don't know why, I have no idea.	421	5.3%
Appearance and physical abilities liked by the peer	Appearance, physical features or personality traits of the classmate considered positive or appealing. e.g.: they wear glasses, I like their hair, they are attractive, I like their voice.	296	3.8%
Shared space inside the classroom	Peer distribution in the classroom that leads to them sharing space or moments. e.g.: we sit at the same table, they are in my team, they are my soulmate-partner, they are next to me.	248	3.1%
Interest or benefit	They choose the peer because they obtain some material good or an opportunistic plan from them. e.g.: because they invite me to their birthday party, because they have a house with a garden, because they bring stickers.	215	2.7%

Category	Description	N	%
Preferences in shared friendship	They choose the peer because they share a relationship with another classmate whom they also like. e.g.: they are also a friend of Nico, we are friends of Lucy.	158	2.0%
Academic aspects / behaviours liked by the peer	Behaviours or skills in which the pupil stands out. e.g.: they do the tasks very well, they are clever, they know the alphabet well.	103	1.3%
Absence of disruptive or annoying behaviour	They choose the classmate because they do not (usually) display aggressive, dominant or uncomfortable behaviour. e.g.: we've never had a fight, they don't hit me, they don't annoy or bother me.	91	1.2%
Empathetic peer behaviour	They choose a pupil through compassion or solidarity. e.g.: they are alone, they are new in class, I feel sorry for them.	88	1.1%

If we compare the reasons for preference expressed by boys and girls (table 6), we find significant differences in six of the categories. Girls more often put forward reasons related to satisfaction and emotional support, Z = -5.814, with a moderate size effect, *h* = .28; being drawn by the peer's personality traits, Z = -7.918, with a moderate size effect, *h* = .39; companionship and shared space in the classroom, Z = -3.757, with a moderate size effect, *h* = .24; the peer's empathetic behaviour, Z = -3.757, with a moderate size effect, *h* = .24. In contrast, boys cite more often than girls reasons related to the lack of annoying or childish behaviour by their peers, Z = 1.983, with a moderate size effect, *h* = .31. Also worth highlighting is the significant percentage of boys who experience greater problems than girls when expressing the reasons for their choice, Z = 4.192, with a moderate size effect, *h* = .26.

Reasons given for rejection

Participants gave an average of 1.95 negative nominations for classmates per interviewee, putting forward a total of 4,113 reasons for rejection, prominent amongst which are those related to physical aggressiveness, such as the word 'hit' (figure 2), which emerged on 816 occasions (*hitting, hit, puncher, we fight*…). Other commonly used words are those related to annoying or childish behaviour (*annoying, is a brute, is a real pain, does stupid things*…) and the lack of affinities and playing together (*never wants to play with me, never does things with me, never plays*...)

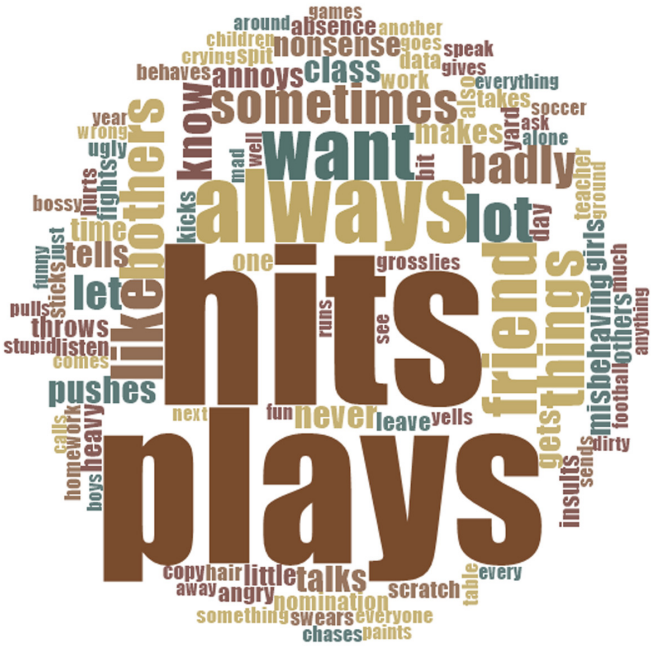
Table 6

Frequency of reasons for positive choices given, by gender

Category	*n* (%) boys	*n* (%) girls	Total	*Z*	*p*	IC95%	Cohen's h
Affinities and playing together	1,269 (52.9%)	1,130 (47.1%)	2399	1.153	.249	[.509, .549]	
Pre-established relation figure	496 (50.5%)	486 (49.5%)	982	-0.715	.475	[.473, .537]	
Satisfaction and emotional support	365 (41.8%)	508 (58.2%)	873	-5.814	<.001	[.385, .451]	.28
Personality traits	320 (38.0%)	522 (62.0%)	842	-7.918	<.001	[.347, .413]	.39
Common social network or old friendship	340 (53.6%)	294 (46.4%)	634	0.932	.352	[.497, .576]	
Companionship and material reciprocity	226 (43.4%)	295 (56.6%)	521	-3.757	<.001	[.390, .497]	.24
Not revealed or not clear	260 (62.1%)	159 (37.9%)	419	4.192	<.001	[.573, .668]	.26
Appearance and physical abilities	149 (50.3%)	147 (49.7%)	296	-0.411	.681	[.445, .562]	
Shared space inside the classroom	112 (45.2%)	136 (54.8%)	248	-1.997	.046	[.388, .516]	.19
Interest or benefit	98 (45.6%)	117 (54.4%)	215	-1.727	.084	[.387, .525]	
Preferences in shared friendship	69 (43.7%)	89 (56.3%)	158	-1.940	.052	[.356, .517]	
Academic aspects and behaviours	53 (51.5%)	50 (48.5%)	103	0.000	1.000	[.413, .616]	
Absence of annoying or childish behaviour	57 (62.6%)	34 (37.4%)	91	1.983	.047	[.524, .719]	.31
Empathetic peer behaviour	34 (38.6%)	54 (61.4%)	88	-2.346	.019	[.291, .491]	.37

Note. Test value = .517.

Figure 2
Word cloud of reasons given by pupils to reject a classmate



These reasons for rejection are grouped into 20 categories (table 7) in which the most frequent arguments cited for peer rejection are related to physical aggressiveness (24.8%), and violent behaviour such as hitting, scratching or pushing. Annoying or childish behaviour accounts for 18.7% of the reasons for rejection, followed at some distance by 8% of negative choices linked to the lack of affinities and not playing together.

Table 7
Reasons for rejection: category, description and frequency

Category	Description	N	%
Physical aggressiveness	Actions that lead to physically harming a classmate or that annoy them. e.g.: they hit me, they push me, they spit at me, they join in the fights.	1.020	24.8%
Childish or annoying behaviour	Behaviour that the pupil does not feel to be appropriate to their age or that make them feel uneasy. e.g.: spitting out food, eating the sand, crying all the time.	768	18.7%

Category	Description	N	%
Absence of affinities and playing together	Lack of shared tastes, opinions or ideas for games to play with the peer. e.g.: I don't like their games, they don't like playing superheroes.	329	8.0%
Personality traits not liked by the peer	Charisma or a temperament deemed negative by other classmates. e.g.: they are always kissing me and I don't like it, I don't like them, they are bad.	235	5.7%
Dominant behaviour	Personality traits that mean they are domineering or arrogant, in which the peer always has to be right and wherein the rest have to do what they say. e.g.: they are bossy, we always have to play what they want, they never let me play in the corner.	216	5.3%
Rude behaviour	Brutish or rough actions by a classmate without intending to cause physical harm, but which make their classmates feel uneasy or which frighten them. e.g.: breaking everything, they are brutish, they hurt me unintentionally.	211	5.1%
Non-shared friendship preferences	Rejecting the peer because they have a relationship with another classmate that the boy or girl doesn't like or because they prefer to choose others. e.g.: they are with other friends, they play with Marcos, they go off with other kids, they love Emma.	188	4.6%
Verbal or gestural aggressiveness	Disruptive behaviour that harms the peer psychologically. e.g.: they make fun of me, they swear at me.	183	4.4%
Not revealed or not clear	They do not state the reasons or are not clear about them. e.g.: well, because it just isn't, I don't know, I have no idea.	166	4.0%
Academic aspects and behaviour in the classroom not liked by the peer	Behaviours or abilities in which the pupil does not stand out or is below the average of the rest of the class. e.g.: they do this task badly, they get the numbers wrong.	139	3.4%
Lack of social interaction	The pupil notices that the social interactions or exchanges with the classmate are poor or deficient. e.g. they are always alone, they don't talk to anyone, they want to play on their own.	135	3.3%

Category	Description	N	%
Appearance and physical abilities not liked by the peer	Physical appearance or features of the classmate felt to be negative or not very attractive to the other classmates. e.g.: running slowly, moving their hands slowly, I don't like the way they smell, they are ugly.	124	3.0%
Pre-established non-relation figure	Predetermined enmity, negative pre-established link or connection. e.g.: they are not my friend, we are not friends.	104	2.5%
Lack of companionship and material reciprocity	Lack of caring behaviour that helps the peer. e.g. they don't share, they never help.	99	2.4%
Lack of loyalty or trust	Peer's lack of loyalty or loss of trust. e.g.: they tell secrets, they lie to me, they snitch on me.	56	1.4%
Gender	Rejection related to not doing what a boy or girl should be doing or due to related prejudice. e.g.: they play with girls, he/she is a boy/girl, they play boys' or girls' games.	41	1.0%
Lack of a common social network or old friendship	They don't choose the peer due to a lack of mutual family friendships, extracurricular activities or shared spaces at the present or in the past. e.g. they didn't go to my kindergarten, our parents are not friends.	36	0.9%
Does not accept superiority or being told what to do	Peer rejection because they do not follow their rules or do not do what they want them to do. e.g.: I tell them to do something and they ignore me, they don't play what I tell them to play.	26	0.6%
Lack of relationship in the past or in external environments	Distant or uneven seating of peers in the classroom which makes it difficult for them to share spaces or moments. e.g.: I never see them, they are not in my team, because they don't sit at my table.	23	0.6%
Saturation	Becoming "jaded" with the peer, too many common and shared situations and spaces. e.g.: because I see them a lot at home, because they are my brother/sister and I get tired of them, because they're always calling me.	14	0.3%

Table 8

Frequency of reasons for making a negative choice by gender

Category	*n* (%) boys	*n* (%) girls	Total	*Z*	*p*	IC95%	Cohen's h
Physical aggressiveness	498 (48.9%)	521 (51.1%)	1019	-1.776	.076	[.458, .520]	
Childish or annoying behaviour	365 (47.5%)	403 (52.5%)	768	-2.779	.023	[.439, .511]	.12
Lack of affinities and playing together	187 (56.8%)	142 (43.2%)	329	1.810	.070	[513, .623]	
Personality traits	107 (45.5%)	128 (54.5%)	235	-1.827	.068	[390, .521]	
Dominant behaviour	114 (52.8%)	102 (47.2%)	216	0.249	.803	[459, .597]	
Rude behaviour	80 (37.9%)	131 (62.1%)	211	-3.938	<.001	[311. .447]	.39
Not the same friendship preferences	80 (42.6%)	108 (57.4%)	188	-2.437	.015	[352, .499]	.26
Verbal/gestural aggressiveness	86 (47.0%)	97 (53.0%)	183	-1.200	.230	[395, .545]	
Not revealed or not clear	107 (64.5%)	59 (35.5%)	166	3.212	.001	[569, .720]	.37
Academic aspects and behaviour	71 (51.1%)	68 (48.9%)	139	-0.062	.951	[424, .597]	
Lack of social interaction	60 (44.4%)	75 (55.6%)	135	-1.601	.109	[357, .532]	
Appearance and physical abilities	66 (53.2%)	58 (46.8%)	124	0.250	.802	[440, .624]	
Pre-established non-relation figure	50 (48.1%)	54 (51.9%)	104	-0.641	.521	[380, .582]	
Lack of companionship and material reciprocity	54 (54.5%)	45 (45.5%)	99	0.466	.641	[442, .649]	
Lack of loyalty or trust	29 (51.8%)	27 (48.2%)	56	0.000	1.000	[378, .658]	
Gender	28 (68.3%)	13 (31.7%)	41	1.970	.049	[529, .805]	.48
Lack of shared space in the classroom	20 (55.6%)	16 (44.4%)	36	0.463	.767	[396, .705]	
Won't accept superiority or being told what to do	18 (69.2%)	8 (30.8%)	26	1.593	.111	[499, .837]	
Lack of relationship in the past or in external environments	15 (65.2%)	8 (34.8%)	23	1.089	.276	[448, .813]	
Saturation	9 (64.3%)	5 (35.7%)	14	0.675	.500	[386, .838]	

Note. Test value = .517.

As regards gender differences (table 8), girls cite far more often than boys those pupils who behave childishly or who annoy them, Z = 2.779, with a very small size effect, *h* = .12; rude behaviour, Z = -3.938, with a moderate size effect, *h* = .39; and non-shared friendship preferences, Z = -2.437, with a moderate size effect, *h* = .26. In contrast, boys more often cite the other's gender, Z = 1.970, with a moderate size effect, *h* = .48. As was the case with the reasons for preference, it can again be seen how boys experience greater difficulty than girls when it comes to expressing their reasons, and that they are less explicit and may hide their reasons, Z = 3.212, with a moderate size effect, *h* = .37.

DISCUSSION AND CONCLUSIONS

The main aim of this study is to gain a deeper insight into sociometric distribution in the second cycle of infant education (pupils aged between three and six) considering the results to emerge from other studies conducted to date– and to ascertain the reasons children give for either accepting or rejecting their peers.

The study finds that peer rejection emerges as a problem from the moment boys and girls begin to relate to one another at school, such that the negative consequences start when they commence their schooling. We find that 11.5% of pupils are rejected, a percentage that is similar in the three years that make up the second cycle. These results concur with those reported in national and international studies, which estimate that between 10% and 15% of pupils are rejected in each class (Bierman et al., 2014), and bearing in mind that findings mostly correspond to research conducted in compulsory education –particularly in secondary education. Previous studies carried out in Spain indicate that the percentage in infant education is lower than at other stages of education and stands at around 10%. The results from this study confirm this trend, although the percentage we find is higher than in the studies carried out by García-Bacete et al. (2008) and Suárez-García et al. (2018), and is closer to the 13% reported by Monjas et al. (2014) for first year primary education. This might lead us to see rejection as a phenomenon that tends to grow in the second cycle of infant education where –according to INE (National Statistics Institute) data– virtually all children are enrolled at school (96%). This result is particularly relevant given that it would suggest that rejection begins to take root at a very early age (Nergaard, 2020) and that it already has a significant presence and could become a chronic issue unless measures are taken to curb and prevent it (Hanish et al., 2021).

Distribution is seen to be unequal in terms of gender, with more boys suffering rejection (16.2%) than girls (6.5%), and which concurs with the scientific literature addressing other stages of education (Luis-Rico et al., 2020; Suárez-García et al., 2018), with the rejection ratio standing at between three and four boys for every

girl (Suárez-García et al., 2018). Much the same is true of the sociometric status of popular children, although in reverse, as there are more popular girls (10.2%) than boys (6.6%).

Also evident is the situation of vulnerability experienced by those pupils who have specific educational support needs, and where we find a much higher percentage of pupils with educational needs being rejected (35.5%) than not rejected (8.8%). This concurs with the findings of Monjas et al. (2014) for first year primary education pupils, where 29.2% of needs students were found to be rejected, although the figure is lower than the 53.8% reported by Whal et al. (2022). It should, however, be remembered that there are more boys with educational needs (13.7%) than girls (6.5%), which agrees with other studies carried out with these age groups (Monjas et al., 2014; Whal et al., 2022). Even when bearing this in mind, the percentage of rejection far exceeds that found for gender. Likewise, there is a significantly lower number of pupils with educational needs who are popular with their classmates (2.3%) than those who do not have such needs (9%). As a result, there are also differences in the average sociometric type, as there are fewer students with educational needs. In sum, this group is less popular with their peers such that –in addition to their own particular situation of vulnerability– they are further hampered by having fewer opportunities for social interaction (Ferreira et al., 2019).

The percentage of pupils rejected by their classmates is similar in the three school years –as occurs with popular children. Nevertheless, the number of neglected and controversial students gradually diminishes. This would seem to point to a consolidation of group relations, wherein pupils who are initially isolated or who have affinities with a range of different groups, finally integrate into some of them (García-Bacete et al., 2008). It should be remembered that –apart from certain exceptions– the pupils spend three years together, which helps them to consolidate the knowledge and expectations each pupil has vis-à-vis the rest.

The reason which is by far most often cited by pupils for accepting their contemporaries –and which accounts for almost a third of all the reasons given– is affinity, both in terms of playing as well as in their opinions. This argument is cited in a similar number by both boys and girls (Luis-Rico et al., 2020). Pupils who know each other and who share ideas and experiences are more likely to be accepted by others. As a result, classroom dynamics that facilitate knowledge and experiences when playing (Sjöblom et al., 2020), which involve the whole class, as well as contexts and shared spaces and activities (Nergaard, 2020; Wang et al., 2019), can aid peer acceptance. It is precisely these situations that may account for why more pupils with educational needs are rejected, since their limitations may hinder communication and prevent them from enjoying shared experiences and games (Ferreira et al., 2019).

The second most commonly cited reason for acceptance is peer reciprocity (Monjas et al., 2008), which is reflected through the establishment of friendship, and which is key to developing social skills (Wang et al., 2019). As a result –and since it is one of the main reasons for acceptance– we must create the right educational perspective with regard to friendship (Carter, 2021) by fostering measures aimed at boosting it (Shin, 2019).

The third most common reason is the satisfaction and emotional support provided by others (Monjas et al., 2008), such that working towards enhancing emotional regulation at these ages proves key (Estrada-Fernández et al., 2023). Furthermore, this reason is more cited by girls than by boys. The same is true with the arguments put forward concerning being attracted by other pupils' features and personality as well as their behaviour in terms of companionship and material reciprocity. Indeed –albeit with a small overall percentage– girls more often cite empathetic behaviour and evidence a greater inclination towards others' feelings, since at this stage of education girls tend to involve themselves in more dyadic interactions than boys (Chow et al., 2023).

As regards the reasons for rejection, those most frequently mentioned are related to physical aggressiveness (25%) as well as annoying and childish behaviour (19%), with the latter being cited to a greater degree by girls. All studies concur when pinpointing aggressive behaviour as one of the main reasons put forward as the cause of rejection (Bengtsson et al., 2022; Coie et al., 1982), although it is not identified so much with what is actual physical aggression. It should be considered that aggressiveness is a major factor, as it is linked to future bullying, since bullies tend to display an impulsive, hostile and dominant profile (Yue & Zhang, 2023).

In infant education, many boys and girls are learning to self-regulate their behaviour and are yet to gain full self-control, which consequently leads to more aggressive behaviour –which is often instrumental in nature. As the trained actors in this scenario, teachers tend to quickly intervene to prevent this kind of behaviour (Cuenca-Sánchez & Mendoza-González, 2017) as it is unacceptable in classroom dynamics. Such intervention does not tend to be so immediate in the case of annoying or childish behaviour, as it is often viewed as the result of the different levels of development evident at these ages. Nevertheless, it can be seen how such behaviour lies at the root of many situations of rejection –particularly for girls– such that it is a key area to be worked on.

Other behaviours related to aggressiveness, such as dominant behaviours (5%) or verbal or gestural aggressiveness (4%), are not cited as often as in other stages of education. The stage at which children find themselves at this early age in terms of their development means that such behaviour is common to all of them and is therefore not considered a very differential motive for rejection. The third most frequently cited motive for justifying rejection is the lack of affinity or

playing together (8%). Here there is therefore an overlap, and the same reason is given for acceptance as for rejection (Sjöblom et al., 2020), as also occurs with the preference for non-shared friendship (5%) and which is also more common amongst girls (Monjas et al., 2008). As a result, planning classroom activities that enable common ground to be found and joint activities to be carried out amongst all the students will enhance acceptance, avoid the exclusiveness that is sometimes sought in friendships and –consequently– prevent peer rejection.

Another major cause –and one far more often cited by girls than by boys– concerns rude behaviour (5%); in other words, behaviour that leads to harm, but without being intentional. This would point to the need to further promote activities related to emotional self-control and empathy (Estrada-Fernández et al., 2023).

Finally, we should point to gender as a reason for rejection. This is far more prevalent amongst boys than amongst girls, evidencing the fact that segregation by sex is more common during the early stages (Chow et al., 2023, Wang et al., 2019). That said, it is not a very frequently cited reason.

Worth highlighting is the large number of boys who are unable or unwilling to express why they choose or reject their peers. This would indicate greater emotional immaturity or difficulties with regard to emotional expression. Social communication and interaction tend to be less favoured when compared to girls, and also tend to be more often linked to negative emotions and peer rejection (Bengtsson et al., 2022).

This study is not without its limitations. Firstly, although we compare the three years of the second cycle of infant education, our design is transversal such that we cannot confirm how sociometric status evolves. Longitudinal studies therefore need to be carried out, with student advancement also being measured at different points during the school year so as to gauge how each pupil progresses. Other aspects that also need to be taken into account concern pupils' particular characteristics –both individually (gender, educational needs, social network, etc.) and contextually vis-à-vis the family environment (extracurricular activities, interactions outside school, availability and use of resources in their environment, etc.). There is also an imbalance in the distribution of the sample between the three years, with there being far fewer pupils in the first year of the cycle, and more in the last year. As a result, the sample of children aged 3-4 years old needs to be increased. Further studies also need to be carried out on sociometric distribution in order to determine whether there is a growing trend of rejection in infant education or whether the differences found with other studies are due to sample characteristics. Another limitation concerns the variable of specific educational support needs. Firstly, we were not able to access exactly what kind of needs students had, as this information was subject to data protection. Second, there was the actual difficulty concerning whether or not to include this in the category. At this stage of schooling,

those children clearly diagnosed as needing such support are generally included. Very likely, others are not included, either because of the difficulty the educational guidance teams have in issuing a report that justifies the child's inclusion, because the diagnosis recommends intervention later on, or because the difficulties are not sufficiently determinant at this stage of the child's schooling, even if the students do already exhibit certain problems in the classroom. Finally, this article examines the frequency and variety of reasons concerning why pupils like or dislike their peers, and which determine whether each pupil accepts or rejects others. However, we do not look at the reasons which lead to a student having a sociometric status that triggers rejection and which lead to them actually being rejected. As a result, a future line of enquiry would involve exploring the reasons from the perspective of those receiving nominations, and specifically those who are actually rejected by their classmates.

In sum, it is vital for infant education pupils to know how to forge positive relations with their peers (Wang et al., 2019), since this fosters the development of social skills. The present study advocates the need to include specific activities aimed at curbing classroom rejection (Molinero-González et al., 2023), with the acquisition of prosocial behaviour proving essential if pupils are to become more popular with their classmates (Chávez et al., 2022). To achieve this, schools must first promote situations that enable boys and girls to share positive experiences, encouraging situations that boost social contact amongst pupils (Nergaard, 2020). Given the stage of schooling in question, games also play a key role in contributing towards well-being and student relations (Sjöblom et al., 2020) and therefore need to be included when designing programmes that help develop each pupil's social skills and emotional intelligence, since emotional control and emotional behaviour help pupils adapt to their environment (Estrada-Fernández et al., 2023). There is also a need to make the most of school break time, as this is a moment when informal relations come to the fore, albeit within a formal context (Rodríguez-Medina et al., 2016). After previously acquiring a knowledge of the children's preferences, predilections, fears and so on, the teacher can here suggest the collaborative games that ensure the participation of all the students and which benefit them socially (Sjöblom et al., 2020).

Second, it is necessary to increase both the amount and the quality of pupils' friendship relations and to create an educational perspective of friendship (Carter, 2021), boosting specific measures to be taken with pupils who are rejected (Shin, 2019). Fostering friendship is a psychosocial resource that helps cushion the impact of rejection (Greco, 2019) and is one of the lines of research to have aroused greatest interest in recent years in education (Chow et al., 2023; Wang et al., 2019). There is a need to create situations that help develop an understanding of others and which reinforce prosocial attitudes that will help children become more popular and liked

by their contemporaries (Chávez et al., 2022). Schools can encourage contexts that boost the possibilities of students forging friendships (Nergaard, 2020), both in varied group activities and dyadic relations, as well as in terms of classroom layout and shared spaces (Wang et al., 2019).

Third, it is important to control aggressive and annoying behaviour, acquire deeper self-knowledge and emotional self-control (Cuenca-Sánchez & Mendoza-González, 2017), since the right emotional control and behaviour will help students adapt to the environment (Estrada-Fernández et al., 2023).

Fourth, it is necessary to foster co-education and exchange amongst children of the same sex and to encourage positive attitudes between boys and girls from early childhood that will favour their social development (Fabes et al., 2018) since exchanges segregated by sex deprive them of many social experiences (Chow et al., 2023, Hanish et al., 2021, Xiao et al., 2022).

Finally, particular importance should be attached to children who have educational needs by implementing more intense and individualised measures (Ferreira et al., 2019) since the latter group's vulnerability –added to the limitations inherent to their particular difficulty– increases the likelihood of them being rejected by their peers (Monjas et al., 2014) and so deprives them of the social experiences they require to properly develop socioemotional skills. As a result, all the actors engaged in the educational community must become involved in ensuring that inclusive practices are applied (Rodríguez-Medina et al., 2016) and which will also help to forge greater multicultural integration (Khalfaoui et al., 2021).

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