The Relationship between Group Class Integration, Socio-emotional Abilities and Disruptive Behaviours: Peer Group Integration Factors

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Abstract
Introduction: School is a socializing environment where a substantial part of children’s socio-emotional development takes place. For many children, their school years are imbued with experiences of rejection by their peers and feelings that the teacher also berates them constantly. But the role that social-emotional skills and disruptive behaviours play in these experiences is not clear. Methodology: This study analyses the relationship between integration in the class group, social-emotional skills and disruptive behaviours in a sample of 149 pupils between the ages of 10 and 12 years, using an EQI test, sociometric test, and a teacher questionnaire. Data analysis has been done using statistic descriptive and inferential tests. Results: The results show that socio-empathy and self-assessment are the best predictors for reciprocity in peer group relationships. Emotional intelligence and disruptive behaviours have a mild effect on peer acceptance and rejection. But there are differences in the rejection factors depending on sex. The most rejected boys are the ones who have poorer emotional intelligence and who overvalue selection by their peers. The most rejected girls are the ones who are less open to the group and make fewer selections. These girls also seem to exhibit lower adaptability than girls more open to the group. Conclusions: In peer acceptance there are multiple factors involved that have synergic effects, creating a loop that could magnify the differences in children's social abilities and in the construction of their peer social network throughout their development.

Keywords
Peer acceptance, peer rejection, disruptive behaviours, emotional intelligence, sociometric test.
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INTRODUCTION

School is a socializing environment where children not only learn to read and sum, but also learn a substantial part of their socio-emotional development, because it is the place where they spend most of their time with their peers. For many children, their school years are imbibed with experiences of rejection by their peers and feelings that the teacher also berates them constantly. The origin of these difficulties of interaction could be explained by deficits in socio-emotional skills, which lead them to disruptive behaviours and could also motivate the rejection by peers. And in turn, peer rejection would lead to a deficit in the socializing experiences which are necessary for the development of socio-emotional skills. In fact, bonds with peers have a positive influence on emotional adjustment (Oliva, Parra, & Sanchez, 2002).

The relationship of socio-emotional skills and disruptive behaviours with peer acceptance has never been studied together. That is why in this study we analyse whether these factors have an impact on integration in the peer group in six classrooms of children from 10 to 12 years of age.

Disruptive behaviours are behaviours that make education processes and peer relationships difficult (Muñoz, Carreras, & Braza, 2004). It seems that emotions are an important factor in disruptive behaviours (Extremera & Fernández-Berrocal, 2004; Hernandez & Fister, 2001). Impulsivity and lack of self-control are underlying factors. In most cases, they are involuntary and respond to pupils’ marked impulsiveness and inability to control themselves (Esturgó-Deu & Sala-Roca, 2010). On some occasions these behaviours are a symptom of a psychological condition, such as attention deficit disorder or a behavioural disorder, but in most cases they are not linked to any disorder (Antrop, Roeyers, Oosterlaan, & Van Oost, 2002).

The ability to regulate emotions is necessary to demonstrate appropriate behaviour in the classroom, like respecting the turn to speak, listening to explanations, etc. These competencies are key to adapting one’s behaviour to the requirements of group relationships. In this regard, Cook, Greenberg and Kusche (1994) found that children who have more behavioural problems present deficits in
emotional understanding, and Cole, Usher and Cargo (1993) found that disruptive behaviour disorders are significantly related to greater difficulty in behaviour regulation.

Social and emotional competences are also necessary for group integration. Lopes, Mestre, Guil, Kremenitzer and Salovey (2012) found some relationship between the ability to manage emotions and indicators of social adaptation to school.

Having friends and friendship quality are very important for children’s emotional wellbeing. The acceptance of others depends on one’s ability to gain membership to the group. In fact, some studies have found that young people who repeatedly experience rejection in primary school are more likely to present externalising problems in adolescence (Laird, Jordan, Dodge, Pettit, & Bates, 2001) and higher absenteeism from school (DeRosier, Kupersmidt, & Patterson, 1994).

Parkhurst and Asher (1992) found that most rejected adolescent pupils were aggressive or submissive, combined with low levels of prosocial behaviour. The submissive–rejected students reported higher levels of loneliness and worry about their relationships with others. But other factors, such as sex, must also be considered. Morrow, Hubbard, Barhight and Thomson (2014) found some differences between the sexes in their reaction to peer rejection. Girls demonstrated greater emotional reactivity in sadness to social manipulation than did boys, and higher levels of peer rejection were linked to greater emotional reactivity to multiple types of victimisation.

While in the review of the literature conducted we have found several studies that indicate the relationship between socio-emotional skills and disruptive behaviour, and with integration in the peer group, we have not found any study that assesses the value of this contribution.

In this study we aim to analyse in some classroom groups the influence of social skills on integration in the peer group, and disruptive behaviour; at the same time that we value the weight that disruptive behaviours can have in the peer group acceptance. Specifically, we are wondering:

• What are the factors that affect children’s integration in the group?
• To what extent do socio-emotional skills and disruptive behaviours affect children’s integration in the group of peers within the school environment?
• Could it be possible that the level of peer group acceptance depends on knowledge of the impact on the group, or the opening or closing the group?
• Are there differences in this relationship depending on the sex of the children?

METHODS
Participants
The sample was made up of 149 pupils aged between 10 and 12 years of primary education in one state school in Catalonia. We selected these ages because Meurling, Ray and Lobello (1999) found that children from grades 5 and 6 make more of a distinction between classroom friends and classroom best friends than do younger children. There were six student groups in total, two from Year 4, two from Year 5, and two from Year 6.

INSTRUMENTS
Questionnaire on disruptive behaviours
To identify the children with disruptive behaviour, a questionnaire with a checklist for teachers was designed. The questionnaire consisted of a list with eight kinds of disruptive behaviours that scientific literature has identified. Teachers reported whether their students presented these types of behaviour.

The disruptive behaviours included in the questionnaire were: 1) to disobey teacher’s instructions, 2) to move without permission, 3) to speak loudly when it’s not allowed, 4) to interrupt the class frequently, 5) not respect the turn to speak, 6) verbal aggression, 7) physical aggression, 8) to damage equipment, 9) other disruptive behaviour.

Eight experts in emotional intelligence and disruptive behaviours validated the questionnaire. They scored on a scale of 1 to 4 points the pertinence, univocity and comprehension of each item. All got 4 points except 5 items which scored 3.5. The agreement level between the experts was .87.

Reuven Bar-On’s EQIyv Test
Like the adult test, the EQIyv (Bar-On & Parker, 2000) provides a general emotional intelligence (EI) score and scores for five components: intrapersonal, interpersonal, adaptability, affective state, and stress management. The test validated by Bar-On & Parker (2000) has a total of 60 items. In the sample studied, the reliability has been checked by obtaining alpha scores for EI (.76). Regarding the components, in the present study alphas have been of .65 for intra-personal components; .76 for interpersonal components; .67 for stress management components; .82 for adaptability components, and .83 for the affectivity scale.

Sociometric test
To measure the integration of the boys in the class group we have used a psychometric test that has its origins in the classical sociometric technique developed by Jacob Levy
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Moreno in the 1950s. With this technique, social structures are studied through the measure of the attraction or repulsion that they feel between them the members of the group. The members of the group are proposed a situation or hypothetical task that has to be done in groups, and are questioned with which members of the group they would like to work and with whom they would not. The selections made have a high stability, showing that it is a reliable instrument. Therefore, for example, Byrd (1951) found that in different retests the stability of the measure was in $Rho$ between .76 and .89.

We utilized a widely used sociometric test (Almar & Gil, 1993) to measure the relationships between pupils in the class group and each pupil’s degree of integration in that group, to what extent they have a good knowledge of their connections within the peer group, and what is their predisposition to create connections among schoolmates.

The children were asked about their peers in four questions:

- If you had to work in a team, which classmates would you choose?
- Which classmates would you not like to be with?
- Which classmates do you think would like to be in your team?
- Which classmates do you think would not like to be in your team?

For each question pupils could list a maximum of 10 classmates.

As we have said, the sociometric test allowed us to calculate different indexes. We have considered seven indexes that we have arranged in three groups to facilitate the analysis:

1. The level of acceptance of classmates, based on two estimators:
   1.1. Popularity index: percentage of selections that a student has received from the class group.
   1.2. Antipathy index: percentage of rejections that a student has received from the class group.

2. The degree of knowledge that their social connections have with the group that shows this test has been included in the analysis of the socio-emotional skills:
   2.1. Socio-empathy index: percentage of guessed selections over supposed. The value let us know the student’s perception of the position that he/she has inside the group. As the value approaches 100, more realistic is this perception.
   2.2. Self-assessment index: percentage of supposed selections over the received selections. If this value is less than 100, the student undervalues him/herself; if this value is greater than 100, the student overestimates him/herself.

3. The willingness to create connections with peers or to be very selective when it comes to relationships.
   3.1. Positive expansiveness index: percentage of selections made over the total number of classmates minus 1. The greater the index is the more open to the group the student is.
   3.2. Negative expansiveness index: percentage of rejections made over the total number of classmates minus 1. The greater the index is the more rejection the student feels from the group.

4. Linking with any classmate. In this case, the estimator that we would use would be the positive reciprocity index (percentage of reciprocal selections over the selections made), categorizing the results in two groups: children who have no reciprocal selections, and those who do.

RESULTS

The results have been structured in five sections: in the first one it is checked if there are differences between sexes in the three components studied, and then, consecutively, the relationships between disruptive behaviours and integration in the class group are analysed, between socio-emotional abilities and integration and disruptive behaviours, and finally, we analyse which are the variables that predict that a child has at least one partner with whom he/she has a close relationship in the classroom. (See figure 1.)

Differences between girls and boys in class group integration, socio-emotional abilities and disruptive behaviour

First of all, we analysed if there were differences between girls and boys in the class group, in disruptive behaviours and in socio-emotional abilities, in order to assess if this variable should be considered in the analysis.

Regarding classmates’ acceptance, boys tend to be more unfriendly than girls ($M = 19.1$ (21) vs. $M = 10$
of classmates or the willingness to create connections with

The analysis of the variance finds some weak relationships between disruptive behaviours and the acceptance of classmates or the willingness to create connections with classmates. Then, the 7.2% of the variability observed in the antipathy index and 4% of the variability in the negative expansiveness index would be associated with the presence of disruptive behaviours. Disruptive students are more unpleasant ($M = 22.4$ (22.3) vs. $11.9$ (14.4); $p = .001$) to their classmates, and at the same time they are also the least selective when choosing a partner ($M = 9.1$ (7.7) vs. $13.4$ (9.1); $p = .015$) (Fig. 1). Yes, as we have indicated before, the analysis shows that boys display more disruptive behaviours, score higher in antipathy and lower in negative expansion than girls, however, the analysis of the variance did not find any significant interaction of the sex variable with disruptive behaviours when it comes to explaining the relationships previously highlighted.

The analysis does not find any difference in disruptive behaviours between students with or without a close partner in class (reciprocity index). (See figure 2.)

**Relationship between socio-emotional skills and integration**

Stepwise regression analysis finds some statistically significant relationships in peer acceptance with the EQI results, but they are very weak. The 9% of antipathy index variability is related to the emotional quotient index ($p < .001$), with interpersonal relationship ability being the only related component. However, the relationship of the emotional quotient with popularity is even weaker ($R^2 = .03; p = .05$).

What is more, this relationship seems to affect only boys. If the analysis is done segregated by sex, 14% of the antipathy corresponding to boys is associated with their results in the emotional quotient ($p = .001$); especially with adaptability components ($R^2 = .11; p = .018$). This quotient is also associated with the 6% of the boys’ popularity index ($p = .028$).

The analysis does not find significant relationships between the results of the EQI test and the predisposition to create connections with peers or to be very selective when it comes to relating with others when the analysis is done without segregating sexes. But then, when the analysis is made only in boys, it is observed that 11.3% of the variability in negative expansiveness would be associated with stress management ($\beta = .336; p = .02$); which means that boys with better scores on stress management would be more selective when choosing a partner to do a group task.

In the case of girls, the analysis shows that 9.4% of the variability in positive expansiveness is related to the adaptability components ($\beta = -.307; p = .038$); therefore, girls with the best scores in adaptability components are those that choose fewer classmates when doing group tasks.

It seems that in class groups knowledge about one’s position in the group is more crucial. The analysis finds that a significant amount of the variability observed in the popularity index ($R^2 = .23$) is related to socio-empa-
that do not have a close partner in class. About their relationships with their peers than students partner in class have better socio-empathy and opinion $p_B = 1; p = .05$.

These variables, socio-empathy and self-assessment, are related in the opposite direction with antipathy, but this relationship is very weak and they only explain the 7.5% of antipathy variability ($R^2 = 0.075; F(2,146) = 5.86; p = .004$). But when the analysis is made segregating sex, the relationship between these variables becomes clearer because they are different. Rejected boys overvalue themselves (self-assessment $\beta = .26; p = .018$), but do not have a good insight about their peers’ feelings towards them (socio-empathy $\beta = -.26; p = .02$) ($R^2 = 0.12$). Notwithstanding, in girls the antipathy depends more on their openness to or exclusion from others ($R^2 = .15$). The less preferences ($\beta = -.42; p = .002$) and the more rejections that girls make ($\beta = .32; p = .015$), the more antipathies they receive.

Variance analysis did not find any statistic differences between students with and without close partners in the Emotional Quotient Inventory (Fig. 2). However, the logistic binary regression finds that socio-empathy is related to 23.7% of the observed variability when having a close partner ($B = 1.03; p < .001$), and this percentage increases to 26.3% when self-assessment is added ($B = 1; p = .05$). Then, students with a close partner in class have better socio-empathy and opinion about their relationships with their peers than students that do not have a close partner in class. (See figure 3.)

**Predictors of close pupil relationships**

The binomial logarithmic regression provides a prognosis model of the fact that a pupil has at least one close relationship with one of their classmates. The stepwise method has been used so that the model assesses which of the variables that had been previously verified were related to positive reciprocity.

The solution offered by the binary regression is a model that would explain 50.6% of the observed variability in positive reciprocity and the variables included are (in this order): positive expansiveness ($Exp (B) = 1.21; p < .001$), and socio-empathy ($Exp (B) = 1.03$, $p = .001$). Positive expansiveness itself could account for 46.5% of the positive reciprocity variability, and socio-empathy explains 23.7%. The model is the same for both sexes.

The model has high sensitivity (93.5%) and specificity (80%) and properly classifies 88.4% of children.

**DISCUSSION**

Good group acceptance is a requisite of the socialisation process of children. The results of our study show that being able to open oneself to others, and especially having a high level of socio-empathy is needed for an individual to be accepted and integrated into a group. Having a good perception of one’s individual position in the peer group is important, because this can influence one’s ability to manage behaviour to integrate into the group.

Having at least one good friend has been highlighted as a key element for social integration and a protector in situations of stress and bullying (Adams, Santo, & Bukowski, 2011; Davidson & Demaray, 2007). That is why, although children can have a good friend outside the classroom, not having a close partner with whom you wish to work and who also wishes to work with you is an aspect that should concern teachers and school leaders. In our study this is the case of 37.4% of the participants. And the situation of the five students in the study who have not received any selections from any classmate is even more serious.

Although it only represents 3.4% of the sample (what would be near one student per classroom), this is a sit-
uation of social isolation that should not be invisible to adult eyes.

In our study we have found that the skill that is more closely linked to reciprocity with classmates is socio-empathy, that is to say, children's knowledge of the predisposition that others have to relate to them. This relationship could have three ways. On the one hand, children who have close relationships are rightly based on these repeated exchanges to assume that their colleagues will choose them. On the other hand, it may happen that children who have a better understanding of the emotions of others (empathy) are the ones who read better which colleagues have the predilection to work with them. In this sense, some studies found that taking a perspective would facilitate the acceptance of peers (Oberle, 2018; Will, Crone, Lier, & Güroğlu, 2018). And finally, it might be that children with greater empathy are the ones who know how to adjust their behaviour to the rhythms and needs of their classmates and, consequently, they are also the ones who are the most popular. The three ways probably work synergistically.

The data from this study shows that children are more likely to reject other children who have less emotional intelligence skills and more disruptive behaviours; although it must be considered that the latter would be partly produced by a low level in emotional abilities. However, when it is analysed separately by sex, it is seen that this relationship mainly takes place with boys, who are also those with lower levels of emotional abilities, but it is virtually non-existent in the case of girls. This could happen because girls could develop emotional abilities before boys and that makes it easier for them to relate to equals.

The most rejected girls would be those who would have lower scores in socio-empathy and adaptive skills, and at the same time they are the least open to the group, the ones that make the fewest choices. It would be necessary to identify the direction of this relationship. Are these girls more unpleasant because they are very selective when choosing colleagues to work with? Or are they reserved because they know they are not accepted? In this sense, Sette, Zava, Baumgartner, Baiocco & Coplan (2017) found significant interactions between peer acceptance and both shyness and unsociability in the association with indexes of socio-emotional functioning. They found that at lower levels of peer acceptance, shyness was positively related to children's preference for solitary play, whereas children's unsociability was associated with externalizing problems. In contrast, these relations were attenuated at higher levels of peer acceptance.

In a similar line Smith, Van Gesell, David-Ferdon and Kistner (2013) found that girls were clearly more demanding when accepting new members, and this became even more sharply marked when accepting individuals of the opposite sex. In this vein, Barcelar (2008) found that boys tend to positively accept girls, but girls do not easily accept any boys.

In the case of boys, the ones who are the most unpleasant are those with lower scores in emotional sociability and intelligence, but at the same time they are not sufficiently conscious of this and overestimate the number of peers who would choose them.

So, it seems that in peer acceptance there are multiple factors involved, and probably they have synergic and feedback effects, creating a loop that could magnify the differences in children's social abilities and in the construction of their peer social network throughout development.

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The relationship between group class integration, socio-emotional abilities and disruptive behaviours peer group integration factors.


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Figure 2. Peer acceptance and disruptive behaviour

- Popularity
- Antipathy
- Reciprocity
- Positive expansiveness
- Negative expansiveness

Disruptive behaviours vs. non-disruptive behaviours

Figure 3. Socioemotional skills and having a close friend

- Self-assessment
- Socioempathy
- Stress management
- Affective state
- Adaptability components
- Interpersonal components
- Intrapersonal components
- Emotional intelligence

Close partner vs. no close partner