



The Effect of Autism Spectrum Disorders, Down Syndrome, Specific Learning Disorders and Hyperactivity and Attention Deficits on the Student-Teacher Relationship

Laura Elvira Prino, Tiziana Pasta, Francesca Giovanna Maria Gastaldi & Claudio Longobardi

Department of Psychology, University of Turin, Turin

Italy

Correspondence: Claudio Longobardi, Department of Psychology, University of Turin, Turin, Via Po 14, 10123 TO, Italy. E-mail: claudio.longobardi@unito.it

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Abstract

Introduction. Despite the clear relevance of the Student-teacher relationship, studies have rarely encompassed subjects with special education needs. Our study focused on the differences perceived by teachers in their relationships with these students.

Method. We described the results obtained with different groups of children with special education needs: ASDs (N = 14), Down Syndrome (N = 18), Learning Disorders (N = 38) and children with hyperactive behaviors and attention deficits (N = 56). Results from each group were then compared with those obtained by children with typical development (N = 254). The teachers were asked to fill out the *Student-Teacher Relationship Scale* (STRS).

Results. Our study found that the social bonds formed by children with special needs differ for at least one relational aspect from those formed by children taken from the Control Group, the sole exception being children with Down's Syndrome.

Discussion and Conclusion. The Closeness dimension was hampered in the case of children who suffered from ASDs, attention deficits or hyperactive behaviors. Furthermore, the relationships with the latter group of children were characterized by a higher level of conflict and dependency. Children with Learning Disorders also suffered an increase in the dependency dimension.

Keywords: Student-teacher Relationship, Special Needs Students, Autism Spectrum Disorders, Down Syndrome, Learning Disorders, Attention-Deficit and Hyperactivity Behaviors

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Incidencia de Trastornos del Espectro Autista, Síndrome Down, Dificultades Específicas de Aprendizaje, y el TDAH en la Relación Alumno-Profesor

Resumen

Introducción. A pesar de la clara importancia de la relación estudiante-profesor, los estudios raramente han abarcado los sujetos con necesidades educativas especiales. Nuestra investigación se centró en las diferencias percibidas por los profesores en sus relaciones con estos estudiantes.

Método. Describimos los resultados obtenidos con diferentes grupos de niños con necesidades educativas especiales: TEA (N = 14), el Síndrome de Down (N = 18), Trastornos del Aprendizaje (N = 38) y TDAH (N = 56).

Resultados. Nuestra investigación encontró que los lazos sociales formados por los niños con necesidades especiales son diferentes al menos en un aspecto relacional de los lazos formados por los niños del Grupo de Control, con la única excepción de los niños con Síndrome de Down.

Discusión y Conclusión. La dimensión Cercanía se vio obstaculizada en el caso de los niños que sufren TEA o TDAH. Además, en las relaciones Dependencia, los niños con Trastornos del Aprendizaje sufrieron un incremento en esta dimensión.

Palabras Clave: relación estudiante-profesor, estudiantes con necesidades especiales, Trastornos del Espectro Autista, Síndrome de Down, Trastornos del Aprendizaje, Trastornos por Déficit de Atención e Hiperactividad.

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Introduction

In the International literature there is consensus on ascribing a significant role in children's development to early relationships with adults. It is not only the attachment to family that is important, but also, in a multiple attachment perspective, the bonds established with other important adult figures, as they can also have repercussions on the development of the child. As an example, the relationship developed during the first years of school between teacher and pupil can be considered crucial. This is altogether a context of development (Howes & Hamilton, 1992; Kauffmann, Pullen, & Akers, 1986; Pianta, 1999; Pianta, Steinberg, & Rollins, 1995) where teachers become a “significant other” for their students. As such, they can interfere with the behavioral models built on the base of the attachment relationship already established with the mother, promoting new models of emotional and behavioral regulation (Cassidy, 1994; Pianta, 1999).

In being dyadic systems, student-teacher relationships include and are defined by various elements. Among the factors that define a relationship there are the individual characteristics of the teacher and the pupil (e.g., age, gender, ethnicity), the internal working models, namely, those models that the subjects have developed on the basis of the relationships established with their attachment figures, which condition their way of relating with others. Finally, we also have to mention the feedback processes of this dyadic system that ensure the exchange of information between two individuals because they include interactive behaviors and the manifestation of the Self and the Other (Pianta, 1999).

Compared to the scholastic adjustment of the pupil, the student-teacher relationship is both a protective factor, that can reduce the impact that risk factors have on development, and a risk-increasing factor (Pianta, 1994). The relationship between teachers and students influences children's emotional development (Howes, 2000), their academic performance (Pianta & Steinberg, 1992) as well as their relational and behavioral conduct with their peers (Birch & Ladd, 1998; Hamre & Pianta, 2001; Hughes, Cavell, & Willson, 2001; Hughes & Kwok, 2006). A positive relationship with the teacher acts as a protective factor against family-related developmental hazards and negative scholastic experiences, particularly in the case of disabled children (Murray & Pianta, 2007).

The impact of the student-teacher relationship on children's development proves to be particularly important during the first years of school, when pupils consolidate relevant competences on how to be successful at school and how to develop accurate cognitive representations of themselves as learners - representations that prove to be decisive for the following years (Entwisle & Hayduk, 1988; Pianta & Walsh, 1996). Such impact is even higher in students with atypical development (Robertson, Chamberlain, & Kasari, 2003). There are studies that show how the student-teacher relationship provides support not only for the insertion of a new student in the classroom (Ahnert, Pinquart, & Lamb, 2006) or for welcoming foreign students (Saft & Pianta, 2001), but also for the integration of disabled children (Henricsson & Rydell, 2004; Lerner, 2003).

Among the defining factors in a relationship, behavioral traits are particularly relevant in the case of students. Relationships are invalidated by the inadequacy of a child's social negotiation abilities, due to difficulties in auto-regulation caused by both externalizing (e.g. aggressiveness, hyperactivity and impulsivity) and internalizing problems (e.g. anxiety and depression) (Baker, 2006; Hendricsson & Rydell, 2004; Mash & Barkley, 1996). According to the literature, the externalizing disorders, in particular, are those that affect the quality of the relationship with the teacher in a negative manner (Birch & Ladd, 1998; Howes, 2000; Meehan, Hughes, & Cavell, 2003).

Furthermore, learning disorders can sometimes hamper the relationship with the teacher (Al-Yagon & Mikulincer, 2004) and put the child at risk of scholastic failure. On the other hand, satisfying relationships with teachers, especially in terms of emotional support, act as protective factors because they can motivate students to participate more in scholastic activities (Baker, 1999; Crosnoe, Johnson, & Elder, 2004; Murray & Malmgren, 2005; Pasta Mendola, Longobardi, Prino, Gastaldi, 2013) and influence their learning abilities in a positive manner (Davis, 2003; Hamre & Pianta, 2001; Hughes, Luo, Kwok, & Loyd, 2008; O'Connor & McCartney, 2007).

Children's difficulties, thus, represent vulnerable points that can lower the quality of the student-teacher relationship. However, there is still the need to analyze the way in which the specific difficulties of the students (both type and extent) affect the teacher's perception of the quality of the relationship (Baker, 2006).

Aim of this study

Despite the clear relevance of the student-teacher relationship, studies have rarely encompassed subjects with special education requirements (Robertson et al., 2003). In this regard, the Italian context is no exception, although great importance has been given to the integration of disabled children as essential elements of the educational and scholastic systems (cf. DL517/1977, DL104/1992 of the Italian Law). Therefore, the aim of this study is to investigate the differences perceived by teachers in their relationships with students who had special needs. In particular, we describe the results obtained with different groups of children with special education needs (i.e., Autism Spectrum Disorders (ASDs), Down Syndrome, Learning Disorders, and Attention-Deficit and Hyperactivity Disorders).

Method

Participants

This research investigated the peculiarities in the quality of the student-teacher relationship between teachers and students with special education needs (i.e., children with ASDs, Down syndrome, learning disorders, hyperactive behaviors and attention deficits), compared to the quality of the same relationship in children with typical development.

Children with ASDs and Down Syndrome. The sample included 32 children (18 with Down Syndrome, and 14 with ASDs), respectively 17 male and 15 female (age: $M = 85.75$ months; $SD = 19.61$), and the same number ($N = 32$) of teachers and teaching assistants (TAs). The sample also included a Control Group formed by four classmates that had been casually sorted (two boys and two girls from each class) for each subject of the Experimental Group, for a total of 128 students (64 males and 64 females, age: $M = 78.54$ months; $SD = 17.58$).

Children with Learning Disorders. The sample included 108 children (age: $M = 100.03$ months; $SD = 6.29$), 63 males and 45 females. All the subjects were Italian nationals. The sample was further articulated into three subgroups: an Experimental Group (EG) formed by 38 students with a Specific Learning Disorder (i.e., were diagnosed or had a pending diagnosis); a first Control Group (CG1), composed by the same amount of classmates ($N = 38$) that did not present Learning Disorders but had the same scholastic performance as the

children in the EG, and a second Control Group (CG2), that was composed of 32 students who had opposite scholastic performance compared to EG members.

The pupils' level of academic achievement was recorded by the main teachers in each class, with reference to Italian and Mathematics, using a 3-point Likert scale (i.e., Low, Medium and High levels of achievement). In order to identify the pupils belonging to the different experimental groups, academic achievement was broken down into two categories: High and Low (where Low had incorporated the Medium levels as well). Ninety-eight-point-six percent of the members of the EG (and, therefore of CG1, as well) presented a low level of school achievement.

Children with hyperactive behaviors and attention deficits. The sample included 112 children (age: $M = 93.40$; $SD = 9.61$), 88 males and 24 females. The Experimental Group was composed of 56 children (44 males and 12 females) that, according to the SDAI, *Scala per l'individuazione di comportamenti di disattenzione e iperattività* [Scale for the Individuation of Distraction and Hyperactive Behaviors] (Cornoldi, Gardinale, Masi, & Pettendò, 1996) compiled by their two teachers, had scored higher than nine in at least one of the two scales. The Control Group was composed of the same number of children ($N = 56$), and by an equal amount of males and females. These children were randomly selected among the remaining students of each class and were inserted in the Control Group (CG).

Measures

To measure the teacher's perception of the quality of his or her relationship with a student we used the Italian version of the *Student-Teacher Relationship Scale* (STRS; Pianta, 2001), as adapted by Fraire and colleagues (2013) and Settanni and colleagues (2015). The scale evaluates three relational dimensions: Conflict, Closeness and Dependency. High scores in the Conflict subscale (theoretical minimum score 10, maximum 50) imply that a student's problematic behavior during class causes a hostile or negative emotional climate; teachers perceive these students as being angry and unpredictable but do not know how to contain either their emotions or their manifestation and, consequently, feel ineffective and frustrated.

The Closeness subscale (theoretical minimum score 8, maximum 40) evaluates the positive emotional aspects of the relationship. If the latter is characterized by reciprocal trust

and good communication, the teacher will see himself or herself as a supportive figure for the pupil, who will turn to him or her in moments of distress. The Dependency subscale (theoretical minimum score 4, maximum 20) measures if the teacher feels that the student is being excessively dependent on him or her in performing any kind of activity; in this case the teacher believes that the pupil asks for help too often or requires attention even when it would not be the case to do so. The Italian validation study for this instrument yielded acceptable levels of reliability: Closeness ($\alpha = .85$), conflict ($\alpha = .92$), and dependency ($\alpha = .69$).

For the purpose of observing the frequency of student distraction or hyperactive behavior, both teachers in charge of every class filled out the SDAI scale (Cornoldi et al., 1996), which consists of 18 items that were based on DSM-IV diagnostic criteria. The first nine items measure the Hyperactivity-Impulsiveness dimension, and the remaining nine measure the child's level of Distraction. For every statement, the frequency of the specified behaviors is evaluated (0 = Never, 1 = Sometimes, 2 = Quite often, 3 = Very often). A score of at least nine points on a single scale identifies a "risk case".

Procedure

The measures were administered at a time agreed upon with the school and with adherence to the requirements of privacy and informed consent requested by Italian law (Law Decree DL-196/2003). Regarding the ethical standards for research, the study referred to the last version of Declaration of Helsinki (Fortaleza, 2013).

Data analysis

Descriptive analyses were carried out for each group with respect to the STRS scores obtained in the various scales. Afterwards, the mean scores obtained by children of each group were compared to the mean scores obtained by the children of the CG by using ANOVA or Student's *t* test. In the case of children with ASDs or Down Syndrome the correlation (Pearson's *r*) between the perception of the relationship with the class teacher and with the teacher's aide was also calculated. Likewise, in the case of children with hyperactive behaviors and attention deficits, the correlation (Pearson's *r*) between the STRS and SDAI scores was calculated. Statistical analysis was undertaken using the Statistical Package for Social Sciences (SPSS version 22).

Results

Children with ASDs and Down Syndrome. Teachers tend to perceive the relationships established with students with Down Syndrome and those from the control group in a similar way (see Table 1). However, there are statistically relevant differences in the teachers' perception of their relationships with children suffering from ASD. In these particular relationships we noticed an increase in the Conflict scores ($F(2,158) = 12.73; p < .001$) and Dependency values ($F(2,158) = 3.73; p < .050$) and a decrease in Closeness values ($F(2,158) = 17.67; p < .001$). The data suggest that teachers perceive more difficulty in developing relationships with children who have autistic behavioral traits. These difficulties could be explained by the fact that autistic children often present typical qualitative compromises in their social relationship skills.

Teaching assistants (TAs) recognize a feeling of higher Closeness in their relationships with children suffering from Down Syndrome, compared to those developed with children with ASDs ($F(1,31) = 6.17; p < .050$). The values on the Conflict and Dependency scales, however, were the same in both Experimental Groups (see Table 1).

Table 1. STRS scores of Teachers and TAs

Relationship with		Teacher's STRS			TA's STRS		
		Conflict	Closen.	Depend.	Conflict	Closen.	Depend.
Students with Down Syndrome (N=18)	Mean	15.39	29.22	7.67	16.39	31.22	8.83
	(SD)	(4.19)	(7.11)	(2.33)	(4.58)	(5.42)	(3.54)
	Min-max	10-26	15-39	4-13	10-25	17-39	4-16
Students with ASDs (N=14)	Mean	21.43	23.36	8.29	18.07	25.36	9.21
	(SD)	(7.65)	(4.50)	(3.67)	(8.45)	(7.93)	(3.19)
	Min-max	10-32	15-30	4-14	10-33	14-40	5-15
Control Group (N=128)	Mean	13.63	32.27	6.41			
	(SD)	(5.42)	(5.36)	(2.86)			
	Min-max	10-37	12-40	4-18			

There were significant correlations between the scores given by both educators in the three STRS subscales (Conflict: $r = .53, p < .01$; Closeness: $r = .55, p < .01$; Dependency: $r = .37, p < .05$). Therefore, it seems that teachers and TAs have a different manner of building

and perceiving the relationships with autistic children. Teachers view these relationships as being more conflictual and perceive lower levels of Closeness, if compared to their relationships with other pupils.

Children with Learning Disorders. Teachers perceive their relationships with students suffering from Learning Disorders as characterized by lower levels of Closeness and higher levels of Conflict (see Table 2), but these differences are not statistically relevant. However, the difference between the perception of the relationship with students from the EG and those from the CGs (considering both CG1 and CG2) is statistically relevant when considering the Dependency dimension (t -distribution = 4.54; $df = 117.585$; $p < .001$). The Dependency score of the EG is statistically higher than the one obtained by CG1 and CG2 ($F(2,106) = 14.252$; $p < .001$). Therefore, the highest level of Dependency is associated with ASDs and not with students who have poor academic performances. However, students' performances seem to influence the levels of Closeness and Conflict perceived by the teachers, even though the differences are not statistically relevant. In fact, teachers tend to perceive a more affectionate and less hostile relationship with pupils who have better school performance.

Table 2. Means, standard deviations, minimum and maximum scores given by the teachers to the STRS dimensions, separately for all three groups.

Relationship with		Conflict	Closeness	Dependency
Students with SLDs (N=38)	Mean	16.18	28.87	7.82
	(SD)	(7.27)	(7.02)	(3.42)
	<i>Min-max</i>	<i>10-45</i>	<i>13-40</i>	<i>4-19</i>
Control Group with low performance (N=38)	Mean	15.32	29.12	6.16
	(SD)	(7.92)	(7.96)	(2.89)
	<i>Min-max</i>	<i>10-40</i>	<i>11-40</i>	<i>4-16</i>
Control Group with high performance (N=32)	Mean	13.51	30.89	5.06
	(SD)	(7.50)	(6.73)	(2.05)
	<i>Min-max</i>	<i>10-42</i>	<i>13-40</i>	<i>4-13</i>

Children with Hyperactive Behaviors and Attention-Deficits. STRS results highlight that teachers perceive their relationships with these children as being more conflictual (t -distribution = 7.51; $df = 96.52$; $p < .001$) and dependent (t -distribution = 4.60; $df = 94.13$; $p <$

.001), and less close (t -distribution = -3.35; $df = 107$; $p < .001$). Conflict level perception in these relationships is positively correlated to the scores obtained in the SDAI scales of Impulsiveness-Hyperactivity ($r = .412$; $p < .01$).

Table 3. Means, standard deviations, minimum and maximum scores given by the teachers to the STRS dimensions, separately for the members of both groups.

Relationship with		Conflict	Closeness	Dependency
Students with Hyperactive Behaviors and Attention-Deficits (N=56)	Mean	24.41	27.79	9.09
	(SD)	(8.85)	(6.40)	(4.05)
	<i>Min-max</i>	<i>10-41</i>	<i>11-40</i>	<i>4-20</i>
Control Group (N=56)	Mean	13.62	31.70	6.11
	(SD)	(5.93)	(5.75)	(2.58)
	<i>Min-max</i>	<i>10-39</i>	<i>13-40</i>	<i>4-14</i>

Discussion

The data presented in this study show the difference perceived by teachers between the quality of their relationships with children with specific learning difficulties and those with children presenting typical development. The social bonds formed with children who suffer from specific difficulties differ for at least one relational aspect from those established with children taken from the Control Group, the sole exception being children with Down Syndrome. The three dimensions of the relationship do not register significant differences for children with Down Syndrome and their other classmates in the teachers' perception.

The Closeness dimension is hampered both in the case of children who have been diagnosed with an ASD, and in the case of children who present high scores of attention deficit and hyperactivity. Therefore, the relationships between teachers and these children appear to be less warm and affectionate, as well as less characterized by the sharing of feelings and narrations.

Relationships with children with hyperactive behaviors and attention deficits are also characterized by a higher level of Conflict and Dependency. The discrepancies in all three of the relationship dimensions that characterize these children compared to those with typical development are in line with the findings of the studies carried out with preschool-aged children (Thijs & Koomen, 2009). The results are also in line with what has emerged from the international literature with respect to the inverse correlation between the quality of the children's relationship with their teachers and the presence of "problem behaviors" (i.e., attention deficits, conduct disorders and hyperactive behaviors) in the students (Baker, 2006; Birch & Ladd, 1997; Pianta et al., 1995; Silver, Measelle, Armstrong, & Essex, 2005).

Concerning children with Learning Disorders, only a difference in the Dependency dimension has been registered. The teacher, in fact, sees these children, as being less autonomous than their classmates and thus requiring support and assistance more frequently. This datum can be interpreted by referring to the literature (Nielsen, 2011) that suggests that children with learning disorders need their teachers to provide them with the guidance and tools that are necessary for them to become self-sufficient and independent in their learning goals.

Conclusions

The Closeness dimension seems to be compromised for both children with ASDs, and those with hyperactive behaviors and attention deficits. However, the latter present a mean score that is higher and less discrepant than the one of the control group.

Therefore, if we compare these results, we see that the teachers' relationships with children suffering from ASDs seem to be the ones that deviate the most from the typical relationships established with normally developed children, since in these cases the possibility of sharing and communicating is compromised. Furthermore, the literature shows that teachers admit to not being trained enough on how to provide adequate support for this particular kind of children (Robertson et al., 2003). In these cases, the presence of TAs may be a valuable resource as they can develop a more intimate relationship with the child and mediate between child and teacher, facilitating the student's integration with the rest of the

class (Hemmingsson, Borell, & Gustavsson, 2003; Howes, 2003; Longobardi, Prino, Pasta, Gastaldi, & Quaglia, 2013; McVittie, 2005).

The present study has focused only on the first three years of elementary school, in the light of the importance that they have on the scholastic adjustment and the development of children.

At the present time, we are continuing our research activity with the aim of comparing the perception of the relationship with children with special education needs and the average data registered among the Italian population (Fraire, Longobardi, Prino, & Sclavo, 2013). The aim is to analyze the peculiarity of these social relations in depth and from a statistical point of view. Furthermore, it would be interesting to apply this research to different age groups, while employing a longitudinal approach to further analyze the clusters' level of predictability of social development, scholastic adjustment and performance.

Finally, in the light of the results that have emerged, it would be interesting to focus any future research on other trajectories of atypical development in order to study their specificities. This additional consideration could yield useful results for teachers as well, because it could highlight peculiarities in their relationships with atypically-developed children and allow them to gain a better focus on the different interventions that can be planned for improving the quality of the relationship and the student's general wellbeing in class. Our study has relevant and notable implications for those who deal with research and/or education in school settings. The relationship characteristics that we have identified allow us to grasp the complexity of the classroom, and give teachers and school psychologists a useful framework through which to interpret relationship dynamics, while providing helpful information for teacher's aides.

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