

## **EXPERIENCE OF ATTACHMENT TO SCHOOL: THE RELEVANCE OF A PERSON-CENTRED APPROACH FOR IDENTIFYING ADJUSTMENT DIFFICULTIES AND GENDER - AND AGE-RELATED DIFFERENCES DURING EARLY ADOLESCENCE**

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### *Abstract*

*Feelings of attachment to school represent one of the main adjustment-related factors during early adolescence. The aim of this study was to identify different patterns of students' experience of attachment to school through a person-centred approach by analysing differences in socio-emotional and academic adjustment scores and gender- and age-related cluster composition. To this end, a self-reported questionnaire was administered to an Italian sample of early adolescents attending 15 public middle schools. In total, 2,916 students were included in the study. Cluster analysis and multivariate analysis of variance were run to identify patterns of students' attachment and differences in socio-emotional and academic adjustments. Chi-square statistic was developed to detect differences between gender and age groups. The cluster analysis revealed the presence of three clusters which were differently associated with socio-emotional and academic wellbeing, where the more functional attachment profile was associated with better adjustment scores. Moreover, the analysis revealed that females and younger students were in the more functional cluster. These findings highlight the relevance of the person-centred approach for identifying meaningful early adolescents' feelings of attachment to school, which can facilitate identifying adjustment difficulties and assessing the quality of school life.*

**Keywords:** school connectedness; student-teacher relationship; cluster analysis

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## **Introduction**

The quality of school experience is a focal interest in a growing body of research, as it plays a pivotal role in students' academic, socio-emotional and behavioural adjustments. A construct proposed in the literature as an indicator of the quality of school life is school connectedness.

As Maddox and Prinz (2003) stated, the construct of school connectedness comprises commitment, involvement and attachment dimensions. The commitment dimension reflects the presence of a personal investment in curricular activities and a positive belief in school meaning. The involvement dimension reflects the degree to which the student is behaviourally involved in extracurricular activities organised by the school. The dimension of attachment, finally, refers to students' feelings about the school and the degree to which they care about it.

Studies (Cernkovich & Giordano, 1992; Murray & Greenberg, 2000, 2001) aimed at identifying the complexity and multidimensionality of attachment highlights that this dimension comprises two independent factors. The first one focuses on attachment to the general school experience, and the second one to the feelings of attachment to the people in the school setting. Therefore, this differentiation reflects the degree to which the student experiences feelings of belonging, pride, safety and comfort in the institution on one hand, and the sense of interconnection and support experienced in relationships with teachers and staff on the other hand.

The importance given to the interpersonal attachment dimension has been extensively outlined in a number of studies based on the attachment paradigm (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1982), directing particular attention to the quality of the relationships between students and teachers (Pianta, 1999). According to Murray and Greenberg (2000), children's perceptions of the school environment are shaped by both the quality of their interpersonal relationships with teachers and their sense of connectedness to the school in general.

The aim of this study was to analyse these attachment experiences together, following a person-centred approach, to identify meaningful categories of students and possible difficulties in socio-relational aspects of school life in an Italian context, extending what has been previously highlighted by Murray and Greenberg (2000) in the North American context. Specifically,

we measured experience of school attachment during early adolescence through the dimensions of the Italian version of the *Student-Teacher Relationship Questionnaire* (STRQ) (Tonci, De Domini, & Tomada, 2012), originally developed by Murray and Greenberg (2000). These dimensions are *Affiliation with Teachers* and *Dissatisfaction with Teachers*, which both reflect the quality of attachment to teachers, and *Bond with the School*, which reflects the sense of connectedness to the school in general.

Except for the study proposed by Murray and Greenberg (2000), no studies have to date analysed how both of these attachment experience to school could shape meaningful categories of student in different cultural context. Moreover, the study entailed examining the differences in cluster assignment between genders and age groups as well as the differences between students' categories of emotional adjustment and adjustment to school, giving further consideration to the association between the quality of school life and psychosocial wellbeing.

*Connectedness to the school and the student-teacher relationship: their role in the developmental process*

Although school connectedness is based on a set of distinct dimensions (Cernkovich & Giordano, 1992; Murray & Greenberg, 2000; 2001), many operationalizations have been derived from a combination of attachment dimensions and involvement and commitment measurements, converging in a summed score. These studies have shown that high levels of school connectedness influence different elements of the developmental process, such as better academic performance, intrinsic motivation, self-regulation and more positive attitudes towards school (Goodnow, 1993; McNeely, Nonnemaker, & Blum, 2002; Osterman, 2000). At the same time, other studies have identified relationships between school connectedness and emotional distress, depressive and anxiety symptoms, and disruptive and risk-taking behaviours (Bond et al., 2007; Kuperminc, Leadbeater, & Blatt, 2001; Shochet, Dadds, Ham, & Montague, 2006). In a longitudinal study, Giannotta and Özdemir (2013) uncovered reciprocal relations between school bonding and risky behaviours, as their effects changed at different ages during early adolescence. Interestingly, it emerged that school bonding played a central role at the beginning of middle school in particular, functioning as a protective factor during the transition from

elementary school. Moreover, measuring school bonding as a feeling of attachment to the school context, other studies have identified that school connectedness is associated with increased optimism and lower levels of depression and problem behaviours (Anderman, 2000; Lester & Cross, 2015; Murray & Greenberg, 2001).

The variable of attachment to school staff, and specifically teachers, has been assessed mainly using teachers' reports. Within this framework, different studies have revealed that levels of closeness, conflict or dependence that characterise the teacher-child relationship are significantly associated with academic performance, school involvement and negative school affect (Birch & Ladd, 1997; O'Connor, Collins, & Supplee, 2012; Pianta, Hamre, & Stuhlman, 2003; Pianta & Steinberg, 1992). Although most of the evidence of the role played by teacher-student relationships has relied on teacher reports only, some studies have indicated that students' reports could be more reliable, as teachers' ratings are affected by students' demographic characteristics, student-teacher ethnic match (Kesner, 2000; Murray, Murray, & Waas, 2008) and the teacher's gender (Quaglia, Castaldi, Prino, Pasta, & Longobardi, 2013). Moreover, there is a lack of concordance between teachers' and students' ratings of teacher support, converging in stronger 'within-rater' than 'cross-rater' associations (Murray et al., 2008). Finally, Murray and Murray (2004) highlighted that the students' behavioural orientations could affect the way in which teachers report attachment to their students. Conversely, as emerged from studies within the occupational health field, teachers' mental health is an important issue (Guidetti, Viotti, Badagliacca, & Converso, 2015; Guidetti, Viotti, Gil-Monte, & Converso, 2017; Viotti et al., 2016) that could bias teachers' evaluations of their students. In this vein, burnout symptoms could lessen empathy and emotional intelligence, which negatively affect closeness and warmth behavior in the daily interaction with students (e.g., Yoon, 2002).

Another issue emerging from recent literature concerns the need for understanding patterns of school experiences among students by adopting a person-centred approach, instead of the more widespread variable-centred one. Although the latter approached guided much of the research cited above, it could be stressed that identifying patterns of support from teachers and school connectedness experiences can lead to a major comprehension of real students' affective context (Granot, 2015).

Within this framework, some studies have been done to assess typologies of students' experience of school attachment. Adopting teachers' ratings only, Pianta (1994) identified six types of teacher-child relationships (Dysfunctional, Angry/Dependent, Dependent, Positively Involved, Functional Average and Uninvolved) during kindergarten, based on the dimensions underlying the *Student-Teacher Relationship Scale*. Dysfunctional and Angry/Dependent groups were associated with greater levels of social and learning problems compared with the Positively Involved group. Another study (de Kruif, McWilliam, Maher-Ridley, & Wakely, 2000) revealed a cluster solution defined by the quality of teachers' interactions with young children in the classroom setting using the *Teaching Style Rating Scale* (McWilliam, Scarborough, & Bagby, 1998).

Considering primary school students' perspective, Lynch and Cicchetti (1997) identified five patterns according to degrees of relatedness and psychological proximity seeking that children expressed when thinking about teachers. Murray and Greenberg (2000), using the original version of the STRQ on a sample of elementary school students, identified four clusters - namely, Functional Average, School Anxious, Dysfunctional and Positively Involved. The first subgroup comprised children with near-average scores on all four dimensions, while the School Anxious profile reported the highest scores on *School Dangerousness*. Conversely, the Positively Involved profile represented the majority of the children, who reported the highest scores on *Affiliation with Teachers* and *Bond with the School*, and below average levels in negative relationships with teachers (*Dissatisfaction*) and *School Dangerousness*, opposite to the Dysfunctional group that represented students with the highest levels of social and school bonding problems. The results of this study revealed that the attachment profile could reflect students with different levels in socio-emotional adjustment, as the Dysfunctional subgroup reported the lowest levels of social competence, and the highest levels of delinquency and symptoms of disorders, compared to the other clusters.

More recent studies adopted a person-centred approach to examine multiple perspectives of teacher-child relationship quality, considering students' and teachers' reports simultaneously. Wu, Hughes and Kuok (2010) identified a typology based on the consistency of relational quality between elementary students' and teachers' reports, whereas Granot (2015) identified two clusters, labelled 'Secure attachment-like style' and 'Insecure attachment-

like style', evidencing that the former showed lower levels of emotional and behavioural problems, as well as academic and social adjustment difficulties. Finally, Gregoriadis and Grammatikopolous (2014) identified and validated meaningful groups of teacher-child relationships which were differently derived from teachers' and children's reports in kindergarten, and these showed similar characteristics to those identified by other relevant studies (Lynch & Cicchetti, 1997; Murray & Greenberg, 2000; Pianta, 1994).

### **Objectives**

Although there is increasing interest in identifying student typologies, and despite the potentialities inherent in the measurement of students' reports, to date, there has been only one study, conducted in the North American context, investigating typologies based on both attachment dimensions of school connectedness as perceived by students (Murray & Greenberg, 2000).

Moreover, many of the studies cited above that adopted a person-centred approach were conducted among kindergarten or primary school students. However, early adolescence is still relatively unexplored. In Italy, similar to other Western cultures, early adolescence coincides with the transition to middle school, where relationships with teachers become more informal and normative (Barbieri, Guerrini, & Manfrina, 2006). Compared to elementary school, the training for middle school teachers is indeed more closely related to the subject than to educational or psychological issues.

Confirming data obtained in other cultural contexts, which highlighted a broad, progressive decline in school bonding after the transition to middle school (Hawkins, Guo, Hill, Battin-Pearson, & Abbott, 2001; Niehaus, Rudasill, & Rakes, 2012), a longitudinal Italian study using the Italian version of the STRQ (Tonci et al., 2012) showed a decrease in scores for *Affiliation with Teachers*, *Bond with the School* and motivation at the beginning of the first year of middle school (Schneider, Tomada, Normand, Tonci, & de Domini, 2008). These results support the argument that the transition to middle school constitutes a critical developmental period (Eccles et al., 1993) and that the absence of adequate intervention programmes could undermine school adjustment during subsequent years (Hawkins et al., 2001).

Finally, past research that applied a variable-centred approach has shown that compared to boys, girls have stronger feelings of school belonging

(Diaz, 2005), a stronger sense of relatedness with teachers (Furrer & Skinner, 2003) and more positive perceptions of teacher support (Rueger, Maleky, & Demarary, 2010). Schneider et al. (2008) provided evidence of a similar trend in the Italian context, where boys reported significantly lower scores on *Affiliation with Teachers* and *Bond with the School* and higher levels of *Dissatisfaction with Teachers* and enjoyment of learning. It may be suitable to further investigate these issues, since within the person-centred approach, the only study investigating differences in cluster assignment between genders did not yield statistically significant differences (Granot, 2015), and no age differences were analysed.

Therefore, since the research thus far underlines the relevance of both connectedness to the school in general and the student-teacher relationship during early developmental years, and there is a paucity of research identifying patterns of both of these students' experience of school attachment, the first aim of the present study is to identify patterns of relational and contextual experience in a sample of Italian middle school students, based on the dimensionality proposed by the Italian version of the STRQ (Tonci et al., 2012).

Moreover, this study aims to identify gender- and age-related differences in cluster composition and to identify differences in school and socio-emotional adjustment associated with school experience profiles, since within the person-centred approach, only two studies (Granot, 2015; Murray & Greenberg, 2000), to our knowledge, had analysed meaningful differences in adjustment levels.

The following hypotheses were then tested for each aim:

*H1*: The quality of the relationships with teachers and the level of school connectedness will converge in a meaningful pattern of school experience. As the Italian version of the STRQ (Tonci et al., 2012) does not include the *School Dangerousness* subscale, it could be hypothesised that a different cluster solution would emerge in this Southern European context, compared to the one illustrated by Murray and Greenberg (2000) in North America, namely, the absence of the School Anxious profile.

*H2*: Females and younger students will be represented mainly within more positive school attachment experience profiles.

*H3*: Students' profiles with the highest scores for *Affiliation with Teachers* and *Bond with the School*, together with the lowest scores for *Dissatisfaction with*

*Teachers*, will report significantly better emotional, behavioural and academic adjustment compared to students' profiles with the lowest scores for attachment to teachers and the school environment.

## Method

### *Participants*

The sample comprised 2,916 middle school students (68.09% of the entire population) attending 15 public middle schools: 1,465 females and 1,426 males with a mean age of 12.27 years ( $SD=.975$ ; min: 10, max: 16). As middle school lasts for three years (comprising three grades) in the Italian education system, 32.3% of students were attending the first year, 34.4% the second year, and 33.3% the third year. No gender differences between grades were evinced ( $\chi^2=1.794$ ,  $p>.05$ ).

### *Instruments*

School connectedness and student–teacher relationship were measured with the Italian version of the STRQ (Tonci et al., 2012), which is an adaptation of the wider *People in My Life* (Greenberg, Kusche, Cook, & Quamma, 1995) proposed by Murray and Greenberg (2000). The instrument comprised 17 items (4-point scale ranging from 1='Never True' to 4='Always True'), divided into 3 independent dimensions: (a) *Affiliation with Teachers*, assessing closeness and support perceived in the relationship with teachers (7 items, e.g. 'My teacher understands me';  $\alpha=.847$ ); (b) *Dissatisfaction with Teachers*, assessing the presence of 'negative affective/cognitive experiences of anger or hopelessness resulting from unresponsive or inconsistently responsive attachment figures' (Armsden & Greenberg, 1987) (4 items, e.g. 'I feel angry with my teachers';  $\alpha=.782$ ); and (c) *Bond with the School*, measuring the sense of comfort and belonging expressed regarding the school environment (6 items, e.g. 'Most mornings I look forward to going to school';  $\alpha=.805$ ).

Academic and socio-emotional adjustment indicators were measured with different subscales. Negative emotionality towards school was measured using a subscale of 'Cognitive-Emotional Assessment of Academic Success' (*Analisi degli Indicatori Cognitivo-Emozionali del Successo Scolastico, ACCESS*) (Vermigli, Travaglia, Alcini, & Galluccio, 2003). The scale consisted of 9 items (4-point scale ranging scale from 1='Completely False' to

4='Completely True') (e.g. 'For most of the time I spend at school, I am agitated and tense';  $\alpha=.831$ ).

Positive attitudes towards school (7 items, e.g. 'I go willingly to school';  $\alpha=.721$ ) and intrinsic motivation to study (6 items, e.g. 'I like to study to learn new things';  $\alpha=.688$ ) were analysed using two subscales of the *Approach to Study Questionnaire* (*Questionario sull'Approccio allo Studio, QAS*; 3-point scale ranging from 1='Not True' to 3='Very True') (Cornoldi, De Beni, Zamperlin, & Meneghetti, 2005).

Internalised symptoms (13 items, e.g. 'I am nervous or tense';  $\alpha=.845$ ) and externalised symptoms (13 items, e.g. 'I am often involved in fights or quarrels';  $\alpha=.821$ ) were measured using two subscales of an Italian short version of the *Youth Self-Report* (Achenbach & Rescorla, 2001; Frigerio, Giannotti, Cortesi, & Milone, 2001).

#### *Procedure and Design*

Schools administrators and teacher representatives for each school evaluated and authorized the data collection after collegial meetings, allowing researchers to use the data for scientific purposes. Students volunteered to participate in the research, without receiving any reward, after presenting a statement of informed consent signed by their parents and agreeing to anonymously complete the questionnaire. A self-reported questionnaire was administered to the students while they were in school, after researchers from the Department of Psychology (University of Turin) explained the aims of the study to them.

The research conforms to the Declaration of Helsinki of 1995 (as revised in Edinburgh, 2000) and all ethical guidelines were followed as required for conducting human research, including adherence to legal requirements of the study country.

#### *Data Analysis*

In order to identify homogeneous groups of students' school attachment profiles, a clustering-by-cases procedure was carried out using SPSS 22. In this procedure, the three dimensions of the STRQ z-transformed scores were used as criteria variables. A hierarchical cluster analysis was carried out from an explorative perspective in order to determine the number of clusters, selecting the squared Euclidian distance as a similarity measure, and using Ward's

method to form the initial clusters. Then a k-means (non-hierarchical) method was carried out to finally form and confirm the ideal number of clusters. The level of concordance between the two solutions was evaluated with K-Cohen's coefficient. Once the number of clusters was determined, analyses of variance involving the single dimensions of the STRQ were carried out to test for statistical significance of the cluster solution (Barbaranelli, 2006). To identify statistically significant differences in gender and age group (10-11, 12-13, over 13) composition across clusters, contingency tables were created to calculate the  $\chi^2$  statistic. Finally a multivariate analysis of variance (MANOVA) was conducted to analyse if differences between clusters were occurring on self-reported measures of academic and socio-emotional adjustment as criterion variables.

### **Results and discussion**

Internal consistency analysis indicated adequate levels of Cronbach's alphas for each subscale (Table 1). Moreover, correlational analysis indicated that all variables significantly correlated with each other and in the expected direction (Table 2).

A hierarchical cluster analysis was performed on the whole sample using the three dimensions of the Italian version of the STRQ (Tonci et al., 2012). A subjective inspection of the different branches of a dendrogram (Aldenderfer & Blashfield, 1984) was undertaken first to find the cluster solution that yielded an ideal number of profiles, and this produced a three-cluster solution. A non-hierarchical confirmatory cluster analysis (k-means), conducted according to the number of clusters obtained from the hierarchical solution, revealed good concordance levels (Cohen's  $K=.730$ ) with the previous one.

Table 3 presents the cluster solution. It depicts three different profiles of school attachment experience based on standardised scores. Each profile characterises a distinct group of students. Cluster 1 ( $n=1,447$ ; 49.63%) represents the largest number of students, who reported the highest scores for *Bond with the School* and *Affiliation with Teachers*. Conversely, this cluster contains the lowest scores for *Dissatisfaction with Teachers*. This profile characterises those students defined as 'Positively Involved'. Cluster 2 ( $n=1,178$ ; 40.39%) represents those students with near-average scores on all the single variables. This profile characterises those students defined as 'Functional Average'. Cluster 3 ( $n=291$ ; 9.98%) represents the smallest group of students,

who reported the lowest scores for *Affiliation with Teachers* and *Bond with the School* as well as the highest scores for *Dissatisfaction with Teachers*. This profile characterises those students defined as ‘Dysfunctional’.

One-way ANOVAs were performed to highlight significant differences between the three clusters. A post-hoc Tamahane test was performed to determine between which means there were significant differences. The Positively Involved cluster showed the highest levels of *Bond with the School* when compared with the other two clusters. Otherwise, Functional Average showed significantly higher levels compared to Dysfunctional [Welch  $F(2, 784.089)=1131.174$ ;  $p<.00$ ]. At the same time, scores for *Affiliation with Teachers* were significantly higher in the Positively Involved cluster compared to the other two clusters, where Functional Average reported higher scores compared to the Dysfunctional cluster [Welch  $F(2, 722.520)=2115.345$ ;  $p<.00$ ]. Finally, scores for *Dissatisfaction with Teachers* were significantly the lowest in the Positively Involved cluster compared to the other two clusters, where Dysfunctional showed the highest scores [Welch  $F(2, 751.492)=1512.566$ ;  $p<.00$ ].

As shown in Table 4, girls were represented to a greater extent than boys, in the Positively Involved group. On the contrary, boys outnumbered girls in the Functional Average and Dysfunctional groups ( $\chi^2=37.894$ ,  $p<.001$ ).

Table 5 reports age differences between clusters. The  $\chi^2$  statistic highlights a high proportion of younger students (10-11 years old) in the Positively Involved cluster, but a significantly lower proportion of these students appears in the Functional Average group. Finally, the proportion of older students (12-13 and over 13 years old) is significantly higher in the Dysfunctional cluster, compared to the younger age group.

Table 1. Means, standard deviations and Cronbach’s alphas for each subscale

Subscale	M	SD	$\alpha$
Affiliation with teacher	3.02	.567	.844
Dissatisfaction with teacher	1.78	.677	.785
Bond with school	2.68	.622	.804
Negative emotionality toward school	23.76	5.93	.831
Positive attitudes toward school	14.94	2.98	.721
Intrinsic motivation	15.55	2.85	.688
Internalizing symptoms	18.69	4.86	.845
Externalizing symptoms	17.29	4.10	.821

Table 2. Pearson's correlations between all of the variable inserted in the analysis

	1	2	3	4	5	6	7	8
1 Affiliation with teacher	1	-.624**	.560**	.447**	.536**	-.293**	-.234**	-.322**
2 Dissatisfaction with teacher		1	-.406**	-.387**	-.467**	.335**	.261**	.396**
3 Bond with school			1	.601**	.720**	-.321**	-.173**	-.327**
4 Intrinsic motivation				1	.527**	-.395**	-.159**	-.409**
5 Positive attitude toward school					1	-.307**	-.156**	-.306**
6 Negative Emotionality toward school						1	.584**	.416**
7 Internalizing symptoms							1	.470**
8 Externalizing symptoms								1

Note: \*\* p < .01.

Table 3. Means and standard deviations of the variables in students' profiles

Clusters	Bond with school		Affiliation with teacher		Dissatisfaction with teacher	
	M	SD	M	SD	M	SD
1 Positively Involved	3.07	.45	3.40	.32	1.36	.37
2 Functional Average	2.39	.45	2.83	.34	1.98	.53
3 Dysfunctional	1.87	.52	1.96	.41	2.97	.54

Table 4. Cluster composition by gender in each of the three clusters

	Females	Males	Total
Positively Involved	797 <sub>a</sub> (54.4%)	643 <sub>b</sub> (45.1%)	1440
Functional Averaged	563 <sub>a</sub> (38.4%)	601 <sub>b</sub> (42.1%)	1164
Dysfunctional	105 <sub>a</sub> (7.2%)	182 <sub>b</sub> (12.8%)	287

Table 5. cluster composition by age groups in each of the three clusters

	10-11	12-13	Over 13
Positively Involved	451 <sub>a</sub> (62.1%)	867 <sub>b</sub> (45.9%)	129 <sub>b</sub> (42.6)
Functional Averaged	223 <sub>a</sub> (30.7%)	828 <sub>b</sub> (43.9%)	127 <sub>b</sub> (41.9%)
Dysfunctional	52 <sub>a</sub> (7.2%)	192 <sub>a</sub> (10.2%)	47 <sub>b</sub> (15.5%)

To identify possible differences between clusters in academic and socio-emotional adjustment scores, a MANOVA was conducted, where the cluster assignment was the predictor variable with three levels, and the scores for academic and socio-emotional adjustment were criterion variables. Preliminary analyses identified possible multivariate outliers that might invalidate the test's reliability (Barbaranelli, 2006). Consequently, 65 cases that had a value greater than 15.08 in the level of Mahalanobis distance were

omitted. Thus, the subsequent analysis was conducted on a sample of 2,851 cases. Table 6 reports the mean and standard deviation of each criterion variable in the different clusters. Using Lambda Wilks ( $\lambda$ ), there was a significant effect of cluster assignment on levels of adjustment variables [ $\lambda=.555$ ,  $F(10, 4508)=154.385$ ,  $p<.001$ ]. Separate univariate analyses revealed significant effects on intrinsic motivation [ $F(2, 2257)=405.656$ ,  $p<.001$ ], positive attitudes towards school [ $F(2, 2257)=681.220$ ,  $p<.001$ ], negative emotionality towards school [ $F(2, 2257)=172.717$ ,  $p<.001$ ], internalised symptoms [ $F(2, 2257)=57.732$ ,  $p<.001$ ] and externalised symptoms [ $F(2, 2257)=163.013$ ,  $p<.001$ ]. Follow-up comparisons with the Tamahane test showed significant differences between all three clusters for all criterion variables, evincing that the Positively Involved group reported the highest scores on positive adjustment variables (intrinsic motivation and positive attitudes towards school) and the lowest on negative adjustment variables (negative emotionality towards school, internalised symptoms and externalised symptoms). On the contrary, the Dysfunctional group revealed the lowest scores on positive adjustment variables and the highest on negative adjustment variables, compared to both the Positively Involved and Functional Average groups.

Table 6. Cluster comparison on students' self-reported scores in academic and socio-emotional and socio-emotional adjustment

	<b>Cluster</b>	<b>M (SD)</b>
Intrinsic Motivation	Positively Involved	17.08 (2.35)
	Functional Averaged	14.66 (2.45)
	Dysfunctional	12.85 (2.57)
Positive attitudes toward school	Positively Involved	16.72 (2.32)
	Functional Averaged	13.65 (2.27)
	Dysfunctional	11.54 (2.54)
Negative emotionality toward school	Positively Involved	21.32 (5.43)
	Functional Averaged	24.82 (4.94)
	Dysfunctional	27.35 (6.22)
Internalized symptoms	Positively Involved	17.44 (3.91)
	Functional Averaged	18.92 (4.59)
	Dysfunctional	20.56 (5.29)
Externalized symptoms	Positively Involved	15.81 (2.75)
	Functional Averaged	17.55 (3.62)
	Dysfunctional	19.91 (4.19)

As outlined, no studies, except for the one of Murray and Greenberg (2000) identified cluster composition based on both the dimension of attachment to the school context and attachment to teachers outlined by the STRQ. Even if teacher-student relationship constitutes one of the most important attachment experience during the developmental process, most of the studies considered only the dimension of connectedness to the school context in general (e.g., Goodnow, 1993; McNeely, Nonnemaker, & Blum, 2002; Osterman, 2000). Moreover, concerning the quality of the attachment to teachers, studies mostly considered the teachers' point of view, which, as previously shown, is affected from different bias.

Finally, studies on the attachment experience to teachers have been conducted only in the kindergarten or elementary school grade (Lynch & Cicchetti, 1997; Murray & Greenberg, 2000; Granot, 2015). This could represent an important limitation for the knowledge concerning how attachment experiences in the school context are shaped during the early adolescence.

The first aim of this study was to identify different groups of Italian students in early adolescence according to self-perceptions of experienced connectedness to school in general and to teachers, using the Italian version of STRQ (Tonci et al., 2012). This study constituted the first attempt to compare the results obtained in the North American context (Murray & Greenberg, 2000) with those of another cultural context, such as that of Southern Europe. Three clusters emerged from the cluster analysis. These results are consistent with those of Murray and Greenberg (2000), excluding their fourth cluster, defined as 'School Anxious'. This difference is owing to the absence of the *School Dangerousness* subscale in the Italian version of the STRQ (Tonci et al., 2012).

Considering the cluster composition, it is also possible to draw some conclusions about the reasons why students fell into the different clusters. Consistent with Murray and Greenberg's (2000) study, the majority of students were grouped into the Positively Involved cluster, from which it could be deduced that many of the students perceived their school as a positive environment where they experienced supportive relationships with teachers. However, the elevated percentage in the Functional Average group reveals that a large number of students perceived the middle school context and the relationships with their teachers as less positive and supportive. On the contrary, a lower percentage of students defined as Dysfunctional (9.98%)

emerged in this study compared to the North American one (25%). This particular result probably underscores the cultural and educational differences between the two contexts. First, the high percentage of non-Caucasian students in Murray and Greenberg's (2000) study might represent possible data against which to interpret their results. Although the authors did not investigate ethnic differences between clusters, several other studies, as reported above, have shown that ethnic differences between teachers and students negatively affect the quality of the student-teacher relationship (Kesner, 2000; Murray et al., 2008). Second, in contrast to the American context, classrooms in Italy have smaller numbers of students, who attend the same class with the same teachers for an extended period of time. These features, despite the more formal educational approach adopted by teachers in middle school (Barbieri et al., 2006), could therefore facilitate the stabilisation of better relationships with teachers through greater mutual knowledge, favoured by more face-to-face interactions between teachers and individual students (Baumeister & Leary, 1995).

Moreover, the present study investigated gender- and age-related differences in the cluster compositions. As emerged from the analyses, and consistent with previous variable-centred studies (Diaz, 2005; Rueger et al., 2010; Schneider et al., 2008), boys reported less positive attachment experiences to school, since they were mostly grouped into the Functional Average and Dysfunctional clusters. Moreover, there were significant differences in age-group compositions, highlighting that less positive attachment experiences of school (Functional Average cluster) were associated with the majority of students starting from 12 years old, whereas the Dysfunctional cluster was mainly composed of older students (over 13), confirming the linear trend of a decline in school attachment shown in previous longitudinal studies (Hawkins et al., 2001; Schneider et al., 2008). Finally, results from this study concur to the extant literature about the role of feeling of attachment to school in explaining the developmental process. It improves the knowledge about differences in negative emotionality toward school and attitudes toward school between clusters, which were mainly neglected from previous studies that adopted a person centred-approach.

## **Conclusions**

The results confirm and extend the knowledge regarding the usefulness of the person-centred approach as a suitable epistemological tool for identifying critical issues in students' experiences of attachment to school and confirming the pattern identified by Murray and Greenberg (2000) even in this Italian context. School administrators, teachers and other professionals working in the field of school quality of life can indeed assess and monitor the real affective context of students by investigating students' patterns of experience of attachment and taking into account gender- and age-related differences when developing targeted intervention programmes.

Consistent with the results, identifying patterns of students' experiences of school could help teachers and school administrators identifying critical adjustment situations, promoting communication with families and other school professionals for more targeted interventions aimed at improving attitudes towards school, managing the quality of emotions experienced towards school and monitoring socio-emotional adjustment during early adolescence. However, even if it is not possible to arrive at conclusions about the presence of a developmental model of attachment to school, we can otherwise underline, in light of the decline during middle school, the relevance of assessing school attachment profiles in the first year of middle school as a primary intervention and monitoring action.

### *Limitations*

The present study was not free of limitations. First, despite the large sample size, the absence of a randomised sampling procedure means that the results cannot be generalised to the entire Italian early adolescent population. Second, the cross-sectional nature of the study design did not allow for making casual inferences about the relations between the studied variables. Moreover, the absence of longitudinal data did not allow for testing the presence of a developmental path in experiences of school attachment, to which future studies could devote attention. Finally, further research could increase the comprehension of the model proposed by Murray and Greenberg (2000) for assessing students' and teachers' reports, comparing and clustering

the self-perception of both students and teachers.

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