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## Article info

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# Students' and teachers' emotions. A study with children's drawings

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## **Abstract**

The study describes the emotions of students and teachers in positive and negative interpersonal situations, as they are depicted in the drawings of 245 children from 2<sup>nd</sup> to 5<sup>th</sup> grade of primary school (7 to 11 years of age). The Scale of Emotions from PAIR was used to categorize the emotions of pupil and teacher in two situations (positive and negative) and to derive the correspondent Emotional climates. Chisquared was employed for various comparisons. (1) The distribution of Emotions categories showed, as expected, a prevalence of positive, shared emotions in the positive situation and a prevalence of negative, often contrasting emotions in the negative situation. (2) Gender difference emerged only in the positive situation, in which girls represented themselves as happy more frequently than boys: (3) Grade difference emerged only in the negative situations, in which children of the 5<sup>th</sup> grade represented their teacher with a neutral face more often than children of the 2<sup>nd</sup> grade, who tended to represent her as happy or sad. These results are interpreted in the light of boys and girls school adaptation and their increasing ability to understand and represent problematic interpersonal situations in school.

Keywords: Students' and teachers' emotions; Interpersonal situations; Children's drawings.

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## Introduction

This exploratory study aims to describe the emotions of primary school pupils and teachers in different interpersonal situations, as they are pictorially represented by pupils. Children's conjunct descriptions of themselves and their teachers have not been frequently addressed, in particular from the standpoint of young children.

Overall, we know more about pupils' emotions than about those of teachers. In the context of school emotions associated with learning are the most important. These are related to the expectations for one's own results (hope for success, fear of failure, etc.) or, in retrospect, to the achieved results (pride or shame). Moreover, different moods can accompany school activities, such as curiosity and joy, but also boredom or anger (Putwain et al. 2108). The development of emotional regulation in primary school has also been widely studied (see Schlesier, Roden and Moschner, 2019 for a review). In particular, the ability to express joy, sadness and anger with moderate intensity can influence many aspects of school life, especially learning (Kwon, Hanrahan and Kupzyk, 2017).

The emotions associated with teacher-pupil interactions, however, were mainly studied with adolescents. For example, a large survey recently conducted by Mainhard et al. (2018) has shown that teachers capable of acting as "warm demanders", in order to promote agency and communion, arouse in their students positive emotions which can be useful in addressing successfully various school activities. On the other hand, pupils' emotions affect teachers' behavior: for example, the perception of emotional difficulties in some of their primary school pupils leads teachers to change the type of feedback they provide these students, making it "softer" than it would be if looking only at the children's performance, in an impersonal way (Glen et al, 2004).

In a review at the beginning of the millennium, Rosemary Sutton and Karl Wheatley (2003) noted the almost total absence of teachers' emotions in three of the most important Handbooks of educational and teaching psychology. Breaking the ice were some qualitative surveys, with individual interviews or focus groups, in which participants described a variety of emotions and feelings. On the positive side, they mentioned affection for the pupils and caring for them, but also joy and satisfaction for their own work and, although more rarely, surprise and fun. On the negative side frustration and anger were named most often, followed by anxiety (more common for beginners), sense of helplessness or guilt for the difficulty of satisfying the increasing demands of one's role, and finally sadness, especially for pupils' poor conditions that went beyond their helping efforts (Sutton and Wheatley, 2003). Quantitative studies have been subsequently developed, especially about negative emotions in relation to risks of burnout (cfr. Mérida-López and Extremera, 2017 for a review). In a study including also a group of Italians, Fiorilli et al. (2015) investigated the effect of anger, fear, sadness and disgust on various aspects of the work burnout of primary school teachers. The authors found that the intensity of these emotions during and after some critical moments of the school day significantly predicted emotional exhaustion and contributed to induce a sense of failure in personal fulfillment.

The research on teachers' positive emotions is still relatively scarce: even in a manual entirely dedicated to emotions (Hall and Goetz, 2013) the possible sources of well-being are linked almost exclusively to the down-regulation of negative emotions. However, some interesting data have begun to appear. For example, a longitudinal research on joy (Frenzel, Becker-Kurz and Pekrun, 2018) has shown that, over time, the teacher's enthusiasm acts positively on the students' emotions and motivations, who in turn increase the well-being of the teacher herself in a virtuous circle. Another recent study (Keller et al., 2018), conducted like the previous one with high school students, showed that the perception of the teacher's genuine enthusiasm tends to spread to pupils and is a powerful antidote to boredom.

Pupils' views on teachers' emotions, both positive and negative, are relatively understudied, especially in young children. In fact, various studies (e.g. Becker et al., 2014; Jiang et al., 2016) including that of Keller el al. (2018) mentioned just above, have been based on interviews or questionnaires with adolescents, whose ability to report on the emotions of their teachers seems quite obvious. The data about young children are not many, and partly derived from information on behavior rather than emotions as such. For example, two studies have shown that children are sensitive to shouting or harshly reprimanding, i.e. manifestations of teachers' negative emotions (Thomas and Montgomery, 1998; Lewis 2001). Nancy Perry and her colleagues (2002), in a study aimed at promoting self-regulated learning in kindergarten and primary school children, found that about half of the young participants initially believed that their mistakes saddened the teachers, an idea not necessarily realistic and certainly not very useful. Andersen, Evans and Harvey (2012) also found a limited awareness about teachers' emotions in the youngest of the participants in their survey (pupils from 8 to 12 years old, with whom they conducted focus groups about school life); until an intermediate age children did not even try to explain the teachers' moods; only older children were generally able to describe these feelings accurately and also to understand their importance for relationships in the classroom. In addition, while younger children tended to overestimate the effects of bad moods, older children understood their transitory nature. However, the perception of teachers' emotions by primary school pupils remains a largely unexplored territory.

In some previous researches, to assess children's ideas about theirs and their teachers' emotions, we used the drawing of oneself with a teacher following the PAIR system (Bombi, Pinto and Cannoni, 2007) devoted – as the name suggests – to the Pictorial Assessment of Interpersonal Relationships. The PAIR scales are well adapted to the pictorial skills of children aged 5 and over and have been successfully used in various studies (e.g. Cannoni & Bombi, 2016; Corsano et al., 2013; Dimitrova, 2016; Laghi et al. 2013; 2104; Misailidi, Bonoti, & Savva, 2012).

In addition to requiring the drawing of at least two persons, a salient feature of the PAIR approach is to circumscribe the task in order to reduce the great variability typical of children's drawings. To this end it is useful to adopt a contrasting task, i.e. the request of two drawings that compare two relationships,

or two different circumstances of the same relationship. In the present study, we compare two common instances of teacherchild relationships: a positive vs. a negative moment of school life. We expected that children would represent both themselves and their teacher with a happy expression in the positive situation; sadness of the pupils should prevail in the negative situations, while for the teachers we expected in these cases a variety of expressions (neutral, angry, sad) but rarely happiness. We also expected that the emotional climate would change, with shared joy of child and teacher in the positive situations, and more varied combinations of emotions in the negative situations. Age can impact the representations, because of children's increasing awareness of their teachers' emotions which we have mentioned above (Andersen, Evans and Harvey, 2012). It is also possible that girls will stress their happiness more than boys, given their more successful adaptation to school already evident in primary school (for recent reviews, see Koca, 2016; Ribeiro, Pereira, & Pedro, 2019).

## Method

#### **Participants**

Fifteen primary school classes from 2<sup>nd</sup> through 5<sup>th</sup> grades in a Sicilian town took part in the study. The school had four classes per grade, each class including an average of 25 pupils. All classes agreed to participate, with the exception of a 4<sup>th</sup> grade class. Participants were distributed per classes as follows: 83 students in 2<sup>nd</sup> grade (41 boys), 61 students in 3<sup>rd</sup> grade (35 boys), 44 students in 4<sup>th</sup> grade (24 boys) and 57 students in 5<sup>th</sup> grade (28 boys).

The majority of children, whose ages ranged from 7 to 11 years old, came from lower- and middle-class families; about half of the mothers were housewives. The fifteen teachers involved, one per class, were all women and had an average of 16 years of service (range: 7 to 30 years); since the Italian school tends to follow a looping system, most of these teachers had taught the same class beginning with first grade. After the acceptance of the school authorities, the written consents of the teachers and parents were obtained; each child consented in oral form. The research project complied with the requirements of the first author's Ethical Committee.

## Procedure

After a short familiarization, children were asked to make two drawings showing us something about their relationship with their teachers. Each child then received two pages, blank except for the following instructions written at the top: "Me and my teacher [target teacher's name] when we're getting along" (P drawings) and "Me and my teacher [the same teacher's name] when we're not getting along" (N drawings). The request to represent a positive moment and a negative moment with a teacher evokes different emotions, without openly suggesting their presence and quality.

Since coloring the drawing would have take longer than the school allowed (30'), pencil drawings were collected; no time limits were assigned, but all participants completed the drawing within 20'. To avoid risks of copying or even involuntary suggestion, the children were divided into small groups, with spaced tables, and were encouraged to work individually since it was important for us to obtain a variety of drawings, not necessarily masterpieces. It was also made clear that this was not a school task and that no grades would be given. As in many previous experiences with the PAIR procedure, no cases of identical or very similar drawings have been found.

#### Measures

We used two of the PAIR scales: Emotions and Emotional Climate. The scale of Emotions comprises four nominal categories to be applied separately on each figure in the drawing. These categories are: Neutrality (when no emotion is detectable); Contentment (to be assigned for any positive emotion, such as joy, serenity, enthusiasm); Discontent (to be assigned for negative emotion leading to retreat from the relationship, such as sadness, fear, pain); Hostility (to be assigned to emotions linked to aggression, such as anger, menace, contempt). The scale was originally devised and validated by Bombi and Pinto (1993) in a pilot study with 100 children (balanced for gender and age in five groups from 6 to 11 years) who were asked to draw themselves with a friend (F drawing) and with a nonfriend (NF drawing). The inter-rater agreement was 92% for F drawing and 88% for NF drawing; discrepancies were always over Neutrality vs. presence of an emotion, never resulting from the attribution of different emotions. The quality of the partner affected the figures' emotions: in the F drawings, sadness or anger were extremely rare; in the NF drawing, negative emotions (Discontent + Hostility) were significantly more frequent than Neutrality plus Contentment. A comparison between the two groups of emotions in the F vs. NF drawings with the McNemar test showed a significant prevalence of negative emotions in the NF drawings.

The scale of Emotional Climate is derived combining the emotions shown by each figure within the same drawing. There are four categories, ordered by increasing similarity of the partners' emotional state: Contrasting Emotions (Contentment vs. Discontent, or Contentment vs. Hostility; or Discontent vs. Hostility); Unilateral Emotion (i.e. one neutral figure vs. the other showing an emotion); Shared Neutrality (i.e. both figures neutral); Shared Emotion (i.e. both figures Content, or both Discontent, or both Hostile). A comparison between the non shared emotions (Unilateral + Contrasting) vs Shared emotions plus Shared neutrality in the F vs. NF drawings the McNemar test showed a significant prevalence of non shared emotions (p = .031) in the NF drawings.

In the present study data were scored by the second author. Two boys and two girls were randomly chosen from each class, for a total of 60 participants and 120 drawings (22% of the collected data). The first author scored these 120 drawings. The two raters reached a significant level of interrater reliability (Cohen's Kappa ranging from 0.80 to 0.95, with p <0.001).

## Data analysis

Since the Emotions scale requires assigning one of four nominal categories to each figure in each drawing, the following four distributions were generated: Self in P, Self in N; Teacher in P; Teacher in N. The Emotional Climate scale requires assigning one of four ordinal categories to each drawing; hence two more distributions were generated, one for P and one for N drawings. Chi-square statistics were used first to compare the distribution of each figure's Emotions categories for determining whether some of these categories were over-represented, and then the same individual Emotions categories were considered in cooccurrence with gender, and separately with school year, in order to investigate the hypotheses that individual Emotions categories might be over-represented as a function of gender or school year. The same set of analyses were then performed on the categories of Emotional climate. Considering the fact that multiple tests were planned, we adopted a conservative p-level of  $\ge .001$ .

# Results

## Positive situations

In the P drawings only two of the possible four categories of the Emotions scale have been found: Contentment and Neutrality. Contentment, shown by smiling faces and/or by positive words (of the child's joy or pride, and of the teacher's satisfaction), was largely dominant (Self:  $\chi^2$  [1] = 116,58; p < .001; Teacher:  $\chi^2$  [1] = 136,69; p < .001): in fact, for the Self, Contentment appeared in 207 cases (84%) vs. 38 cases of Neutrality (16%); for the Teacher the frequencies were respectively 214 (87%) vs. 31 (13%). There were no differences relative to grade (Self:  $\chi^2$ [3] = 2,25; p = .52; Teacher:  $\chi^2$  [3] = 5,49; p = .14). Gender differences emerged only in the Self representation ( $\chi^2$  [1] = 11,62 with Yates correction; p = .001) with girls showing Contentment in 109 cases over 117 (93%) while for boys the corresponding figures were 98/128 (77%). The comparison of teachers' Emotions by gender was not significant ( $\chi^2$  [1] = 1,62 with Yates correction; p = .204).

Given the fact that only positive emotions were found, both for Self and for Teacher, Contrasting Emotions did not emerge when the Emotional Climate was examined. The two figures typically showed the same mood (Shared Emotions, in fact shared happiness = 195 cases over 245, 80%; Shared Neutrality = 19 cases, 7%); in the remaining 31 cases (13%) of Unilateral Emotions one of the figures was happy (a bit more often the adult) while the other was neutral ( $\chi^2$ [2] = 236.80; p < .001). There were no differences related to grade ( $\chi^2$  [6] = 8,067; p = .233). Girls tended to show Shared Emotions (happiness) in 102 out of 117 cases (87%), while for boys Shared Emotions were 93 out of 128 cases (73%); boys instead showed more often than girls a Shared Neutrality (15 cases vs. 4; 12% vs. 3,5%), or a Unilateral Emotion (20 cases vs.11; 15% vs. 9,5%) typically depicting a smiling teacher when their own face was neutral. The statistical analysis, however, produced a p-value higher than

that we had set ( $\chi^2$  [2] =8,92; p = .012), hence the described differences must be considered with caution.

# Negative situations

In the N drawings all the four Emotions categories were found, with different accents for the two figures. Children's prevalent emotion was Discontent (124 cases out of 25; 51%), mainly in the form of sadness, shown by tears and sulky mouths, and a few times in the form of fear, shown by open mouth, staring eyes and wrinkled eyebrows. Hostility was rare (17 cases, 7%). Contentment and Neutrality were equally represented with 52 cases each (21%) ( $\chi^2$  [3] = 99,05; p < .001). Also for the Teacher some emotions were over-represented ( $\chi^2$ [3] = 15.06; p = .002), but the two predominant expressions were Contentment, shown by a seemingly unchanging smile (33%), and Hostility (29%) or - more precisely - anger, clearly shown by frowning eyebrows, mouths wide open to shout, and often also by balloons with harsh words, sometimes in block letters to suggest rage; Neutrality (21%) was as frequent in teachers as in pupils, while Discontent (17%) ranked last in frequency. Raw frequencies can be seen in the total of columns in Table 2. For the Self, no differences emerged by gender ( $\chi^2$ [3] = 6,112; p = .106) or by school year (( $\chi^2$  [9] = 10,965; p = .278). Gender had no effect also for the Teacher ( $\chi^2$  [3] = 0,949; p = .814), while the Teachers Emotions changed according to grade ( $\chi^2$  [9] = 31,559; p < .001), as shown in Table 1.

**Tab. 1.** Distribution of Teacher's Emotions in negative situations by grade (in brackets, percentages by column)

	2 <sup>nd</sup> grade	3 <sup>rd</sup> grade	4 <sup>th</sup> grade	5 <sup>th</sup> grade	Total
Neutrality	8 (9)	10 (16)	12 (27)	22 (39)	52 (21)
Contentment	33 (40)	17 (28)	15 (34)	16 (28)	81 (33)
Hostility	24 (29)	19 (31)	17 (39)	10 (17)	70 (29)
Discontent	18 (22)	15 (25)	0 (0)	9 (16)	42 (17)
Total	83 (100)	61 (100)	44 (100)	57 (100)	245 (100)

In the Teachers' faces, Contentment decreased from first to fifth grade; negative emotions (Discontent and especially Hostility) followed a reversed U shaped trend; Neutrality instead gradually increased, becoming the most frequent representation in the fifth grade.

The Emotional Climate "when things don't go well" showed Contrasting Emotions in 94 out of 245 cases (38%), and there were also 52 cases of Unilateral Emotion (21%); Shared Emotion appeared in 73 drawings (30%), and Shared Neutrality in 26 drawings (11%). These frequencies are significantly different ( $\chi^2$  [3] = 41,45; p < .001). A closer inspection of the data showed that 76 of the 94 cases of Contrasting Emotions were based on child's Discontent vs teacher Hostility (42 cases) or Contentment (34 cases); a happy child who faced a sad or hostile teacher appeared only in 12 drawings and even more rare (6 cases) was an hostile child opposed to a happy or

sad teacher. The 73 cases of Shared Emotions also deserved an in-depth inspection. Here we found 30 cases of shared Discontent and 10 cases of shared Hostility; but, surprisingly, the more frequent case was that of shared Contentment (33 cases). Gender did not affect this distribution ( $\chi^2$  [3] = .968; p = .809) while school year differences emerged ( $\chi^2$  [9] = 23,93; p = .004), as shown in Table 2.

**Tab. 2.** Distribution of Emotional Climate in negative situations by grade (in brackets, percentages by column)

	2 <sup>nd</sup> grade	3 <sup>rd</sup> grade	4 <sup>th</sup> grade	5 <sup>th</sup> grade	Total
Contrasting emotions	36	28	16	14	94
	(43)	(46)	(36)	(25)	(38)
Unilateral	10	10	13	19	52
emotion	(12)	(16)	(29)	(33)	(21)
Shared neutrality	4 (5)	6 (10)	6 (14)	10 (17)	26 (11)
Shared emotion	33	17	9	14	73
	(40)	(28)	(21)	(25)	(30)
Total	83	61	44	57	245
	(100)	(100)	(100)	(100)	(100)

Both Contrasting Emotions and Shared Emotion tended to reduce with the advancing of school years while a recognition of the possible figures' neutrality was reflected in the gradual increase of Shared Neutrality and Unilateral Emotion.

# **Discussion and Conclusions**

The drawings of positive situations yielded some quite obvious information: when things are going well there is no discontent or hostility; children and teacher share a positive emotional state, especially joy, pride and satisfaction. The lower frequency of joy in boys, and their lesser emotional communality with teachers, correspond to the well known better adaptation of girls to school, and to their easier relationship with teachers of their own sex (Koca, 2016). What this research adds is simply that many children seem to be aware of these emotions, at least at a tacit level, since they reveal them in their drawings.

The representation of difficult moments appears more informative. First, there are relatively few young artists who represent themselves as immune to negative feelings (almost always sadness and rarely hostility). Teachers, on the other hand, are more often characterize by anger and hostility than sadness and this shows some ability to grasp the emotional situation of the adult; in fact, the "surface" emotional regulation that many teachers think they are successfully doing is far from easy (Sutton & Harper, 2009). Also the positive emotions attributed to the teacher could be interpreted as as a teachers' difficulty to rule adequately their emotional expressions: pupils would perceive as happy a teacher who simply keeps himself calm when the interpersonal situation is not easy. However, it is also possible for a pupil to paint the teacher happy while he cries to highlight, with this contrast of feelings, the temporary breakdown of the interpersonal relationship.

This somewhat coarse representation becomes more nuanced over time: this could be explained by the increasing dominance of the pictorial medium in the last classes of the primary school, or with an actual greater ability to tolerate the contrast of emotions in times of difficulty. Also the less frequent representation of sad teachers points to an increasing emotional competence of children, in line with Perry et al. (2002).

The lack of further information on emotional experience (for example, through interviews or observations) is evidently the greatest limitation of this study. The number of participants is also a limit, as it did not allow to quantitatively analyze all possible combinations between the emotions of the participants in the two situations. However, we believe that, limited to its exploratory nature, the study confirms the usefulness of the pictorial medium and directs towards further and broader investigations of pupils' views on emotions in primary school.

#### **Author Contributions**

The indvidual contributions of the authors were as follows: A.S. Bombi: literature review and design of the study, second judge for the drawings, writing the text; E. Cannoni: co-design of the study, first judge of the drawings; F. Gallì: data collection; A. Di Norcia: co-design of the study and statistical analyses.

# Compliance with Ethical Standards

### Conflict of interest

The authors declare that they have no competing interests.

### Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

### Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

## **Informed Consent**

Each participant dealt with the process of informed consent.

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