Comprehension and verbal expression of emotions by Greek-speaking preschoolers

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The emotional development of preschool children is one of the main pillars of the Greek Preschool Education Curriculum. This is in line with research that has shown correlations, of varying strengths, linking preschoolers' emotional development and the degree of their socialization. A large part of this research has mainly focused on the perception and comprehension of emotions, as well as their non-verbal expression. Similarly, there is an accumulated corpus of evidence that suggests various and at times contradictory insights and linkages regarding age, linguistic intake and expression, interlingual and intercultural differences, and more. This study investigates if emotions are perceived and how accurately they are labelled and verbally described by preschoolers whose first language is Modern Greek. A mixed methodology was applied to process the data, i.e. both quantitative and qualitative approaches were used. Our findings reveal aspects of preschoolers' linguistic and emotional development that critically extend their upbringing and schooling, since verbal expression enables children to "talk through" their emotions rather than act them out.

1.   Introduction: recognition and expression of emotions by children

Emotions have been defined as non-permanent bio-psycho-social reactions to events that may have an impact on people's lives and require immediate action/response (Matsumoto & Hwang 2012) or as personal experiences that cause psychophysiological and behavioral changes (Izard 2007). Therefore, emotions might influence behavior both for oneself and for others (Lazarus 1991). The manifestation of emotions is not merely an appraisal of events and situations but also a confrontation with them, a process which directly links it with situational processing skills. Seen through this lens, the study of the role of emotions during childhood is particularly worthwhile, because childhood is an age when the skills associated with experiencing, recognizing, and expressing emotions are all still developing (Flom & Bahrick 2007). According to much research that has dealt with emotional awareness at young ages, children who demonstrate better skills in recognizing their emotions and the emotions of others, and in expressing and justifying them in linguistic and non-linguistic ways, a. manage their own behavior and the behavior of others in relatively more appropriate ways, and b. demonstrate higher adjustment and socialization skills (Denham et al. 2007; Harris 2008; Denham et al. 2013). It is for this reason that the comprehension, manifestation and management of emotions constitutes a central goal in Greek Preschool Education Curricula (2014).

Research on children has generally shown that the perception of emotions in recognition tasks (for example, matching an emotion term with a face expression) appears to be easier than description, i.e. tasks that require using emotion descriptive language (Ridgeway et al. 1985; Denham & Couchoud 1990); therefore, the former has been more extensively investigated. The children's ability to identify and label (name) emotions shows age-related variation, with considerable improvement associated with age growth (Denham & Couchoud 1990). On the other hand, findings regarding gender differences have been less conclusive. Some studies have failed to find differences in the performance of the two genders (Walden & Field 1990), while others have observed that girls are more accurate in identifying and verbally labelling (at least some) emotions, although these differences do not cross the threshold of statistical significance (Schultz et al. 2000; Denham et al. 2012).

Based on research findings to date, children aged 2-5 y.o. are already capable of talking about their emotions and the emotions of others, by mentioning that they "feel happiness/love/anger/fear", or that they "feel good/OK/bad" etc. (Wellman et al. 1995). Many attempts have been made to confirm the hypothesis that universal "basic" emotions (cf. Plutchik 1980; Ekman 1999) such as *happiness, sadness*, and *anger* are established at an early age, whereas socio-culturally defined emotions such as *shame,* or *compassion* etc. develop later (Widen & Russel 2010). In many cases, findings seem to suggest that the "basic level" emotions that are recognized by children earlier and more frequently usually include *happiness, sadness, fear*, and *anger* (Miller et al. 2006; Denham et al. 2007).

Ridgeway et al. (1985) note that, by the age of 3 y.o., 38%-97% of children use the four above-mentioned emotions in their speech. Additionally, observations and recordings of interactions with children indicate spontaneous mentions of emotions by children aged between 1.5 and 3 y.o., both in reference to themselves and in describing the emotions of others (Bretherton et al. 1986). Within this set of four emotions, it has been suggested that some develop earlier than others. For example, *happiness* and *sadness* are considered less complex than *anger* and *fear*, and they therefore appear in speech at an earlier age (Widen & Russel 2003; Bosacki & Moore 2004; Brechet et al. 2009).

More specifically, there is empirical evidence suggesting that children demonstrate the greatest ease of comprehension for *happiness,* followed by *sadness*, which is in turn followed by *anger* and *fear* (Bosacki & Moore 2004). As regards to expression and labelling, there is considerable evidence that *happiness* is the relatively easiest to name. *Happiness*, along with *sadness,* are easier to name than *anger* and *fear* (Denham & Couchoud 1990; Wellman et al. 1995; Widen & Russel 2010), and considerable difficulty has been documented regarding *fear*. Thus, the empirically established developmental trajectory appears to be *happiness* > *sadness* > *anger* and *fear* (Widen & Russel 2003; Brechet et al. 2009). *Fear* is placed in a developmental position subsequent to

the other three emotions, based on evidence regarding free labelling by preschoolers and their spontaneous speech (Widen & Russel 2008, 2010).

Lastly, common mistakes have been recorded regarding specific emotions: for example, *anger* and *fear* are not just challenging to label (since most mistakes pertain to these emotions); they are also commonly confused with each other (Bullock & Russel 1984) or substituted by *sadness* (Denham & Couchoud 1990). However, it has been suggested that negative emotions, rather than positive ones, tend to be mentioned in narratives (i.e., in unstructured parent-child interaction) (Lagattuta & Wellman 2002) and that negative emotions are easier to distinguish from each other (Trabasso et al. 1981).

Previous research has tended to methodologically focus on the non-verbal identification of emotions, rather than their labelling and linguistic production. For instance, children would be asked to identify and name emotions while observing dolls or depictions of people in visual aids, which were sometimes supported by a story. Alternatively, they might have been asked to select a card or photograph that corresponded to a named emotion, or engage with other, similar tasks (Denham & Couchoud 1990; Pons et al. 2004; Miller et al. 2006; Ornaghi et al. 2015). To document production, a commonly used method involved the recording of spontaneous speech by researchers, and its subsequent study. These processes were assisted by parents and teachers, e.g., using questionnaires (Lagattuta & Wellman 2002; Denham et al. 2003).

Techniques that have been used for emotion elicitation and production include short scenarios (vignettes) with puppet dramatization, accompanied by facial expressions and sounds. These would typically be followed by questions about the puppets' supposed emotions (Denham & Couchoud 1990) or the emotion of the person who was acting the dramatization and displaying specific facial expressions (Widen & Russel 2010). Another technique involves the narration of short stories, often with a visual support in the form of a puppet; these would be followed by a request to identify the feelings of the main characters of the story (Bosacki & Moore 2004; Miller et al. 2006). In addition, some studies have suggested that stories are more suitable as prompts for some emotion labels, such as fear, compared to photographs, images or facial expressions (Widen & Russel 2010).

This study examines how accurately emotions are labelled and verbally described by preschoolers whose first language is Modern Greek. In addition, our analysis will focus on the different naming strategies adopted by children, which are reflected in the way in which they label emotions: we will consider categories of specificity in emotion descriptive language, except for the substitution mentioned in earlier surveys.

2.   Study goals and hypotheses

As suggested above, the linguistic expression of emotions (i.e., their description

and labelling/naming) has been less extensively studied than non-verbal identification and comprehension. In addition, research on verbal labels of emotions has not been systematic, and it is often limited to relatively restricted research designs (e.g., research with a tight focus on whether emotions were being correctly or incorrectly named). Lastly, evidence in literature is at times contradictory, such as – indicatively – with findings regarding the ability to differentiate negative emotions, or any gender-related differences.

In an attempt to address some of the limitations in the existing literature, an experimental study with a focus on linguistic expression was designed, which explored how Greek-speaking preschoolers talked about their emotions. More specifically, we were interested in finding out:

(a) how children described the emotions of others, i.e. whether they comprehended the experienced emotion and how they verbally expressed it;

(b) how children interpreted these emotions, i.e., whether they could specify the source of the emotion and how it was linguistically expressed; and

(c) how children connected these experienced emotions with their own emotions, and how they justified this connection.

This paper focuses on the first of the above-mentioned research goals, namely the way in which emotions are verbally labeled, the linguistic expressions used and the description of the emotions of others. In doing so, it is our intention to shed light on questions such as when and how children develop emotional management skills, since the comprehension of the emotions of others is directly linked to the cognitive states of others and therefore the development of social skills. At the same time, the description and labelling of emotions develops alongside the ability to abstract and distance oneself from the experienced emotion, because it enables its categorization, as well as a direct reaction through the instrumental use of language. In other words, the linguistic expression of emotions is an aspect of emotional interaction and a manifestation of emotional skills, a sub-set of social skills. The ability to express emotions and talk about them constitutes an indicator of a developing emotional awareness, which usefully contributes to overall social adjustment as well as the attainment of educational outcomes, as seen in research (Garner & Estep 2001; Denham et al. 2003; Miller et al. 2006; Denham et al. 2007; Harris 2008). One must note, however, that the ability to name others' emotions might also relate to the ability to comprehend one's own emotions: there is evidence to suggest that the production of emotional words about the self and others develop simultaneously, and are cognitively similar processes (Bretherton et al. 1986).

The research questions that this paper aimed to address are the following:

(1) Do preschoolers comprehend and label/name the "basic level" emotions of *happiness, sadness, fear*, and *anger*?

(2)   Is there any differentiation in the way that the four emotions are labelled?

(3)   Are there any trends related to age difference?

(4)   Are there any trends related to gender difference?

Considering the existing literature, it appears that, from the age of 2 y.o. onwards, children are capable of expressing some emotions, especially when these are contextualized. Our tentative hypothesis is that differences exist in the way in which emotions are verbally labeled. Specifically, we hypothesize that the accuracy and linguistic means of expression will differ depending on the type of emotion; and that there will be an age-related performance improvement. However, we refrain from formulating a hypothesis regarding any gender-related performance differentiation, because existing evidence is scarce and inconclusive.

3.   Method

3.1   Participants

This study involved the participation of 58 preschoolers, 29 boys and 29 girls, with an average (M) age of 5 years and 3 months (Table 1). All the preschoolers who participated in the experiment were enrolled in the same classes, in kindergartens in the center of Volos, an urban center in Greece. The schools from where the sample was drawn were randomly selected.

Age group	Gender	N	Age (M)
4-5	Total	14	4.5
	Boys	9	4.5
	Girls	5	4.4
5-6	Total	38	5.5
	Boys	18	5.5
	Girls	20	5.4
6-6.3	Total	6	6.1
	Boys	2	6.1
	Girls	4	6.1
All ages	Total	58	5.3
	Boys	29	5.2
	Girls	29	5.4

Table 1: Demographic Data

3.2   Data collection instrument

The "Description and Justification - Emotion Elicitation Test", or PAiDES (an acronym formed by the initial letters of the name in Modern Greed), was created based on techniques that have been previously exploited for emotion elicitation

/ production (Section 1). This test employed two variants of an illustrated story, featuring a boy named Yiannis and a girl named Maria. The two variants of the story were administered to boys and girls respectively, because there is evidence suggesting that the children's responses are facilitated when the main characters of the prompt match the gender and age of the participating children (Shantz 1975). Yiannis' and Maria's stories were identical, with the exception of the names and depictions of the featured children. The stories were written in an age-appropriate way: the text was relatively concise, the vocabulary and topics were familiar to children, and the sentences were short and structurally simple. The images accompanying each story were printed out so that they could be displayed separately. Each story began by describing the featured child, and went on to narrate four events in her or his life, which connected with the appearance of a specific emotion, namely *happiness, sadness, anger* and *fear*. In other words, every story comprised four brief scenarios, one per emotion, and every scenario described a situation that was typical of the corresponding emotion. Following the narration of each scenario, the children were asked to respond to three questions.

The creation of the typical scenarios was suggested in the framework of the "canonical reaction hypothesis" (Gnepp et al. 1987), and it was expected that the description of situations would normally trigger specific emotions. In addition, every scenario used elements that specified the conditions of the emergence of the emotion, such as *+/- intention, +/- animate, emphasis on cause vs emphasis on effect, +/- goal attainment*, which are some of the criteria used to differentiate the basic emotions that this study focused on, as described by Deconti & Dickerson (1994), and Stein & Trabasso (1992). The following extract, translated from Modern Greek, is a typical example of such a scenario: "It is Maria's birthday. Her mum has prepared a party at a playhouse, and she has invited her friends to play. She has also prepared a big chocolate cake. Mum and Dad have bought her a bicycle as a present". Every participating child listened to the scenario and viewed the corresponding picture (in the scenario above, it displayed a birthday party).

Following that, the researcher asked the following questions:

- How does Maria feel?
- Why does she feel this way?
- Do you remember feeling happiness at some point?

Scaffolding questions were permitted for the last question only in case the participating child was not able to immediately respond, or if he or she provided one-word positive or negative responses. Examples of such scaffolding questions included: *When did you feel happiness? What had happened?* The participating children were required to respond to the same three questions for all four scenarios of the story.

In this experiment, the aim is to elicit free labelling by the participating child (as

opposed to forced choice tasks). Similar methods have been used in other studies (e.g. Widen & Russel 2003; Brechet et al. 2009), where linguistic input (i.e., a story rather than a picture or photograph) was employed in order to prompt the verbal expression/description. The advantage of this method is that it indirectly provides information or the cause that leads to the identification of the emotion. In other words, it presupposes situation knowledge, and it is not a mere recognition of visual cues in a face or image.

3.3   Procedure

After appropriate briefing had taken place regarding the aims and methods of the study, the researchers contacted the teachers of the participating children. Their instructions were to inform the children that they had some cards with pictures that showed a story, and that they had some questions about this story, and to ask whether any children would be willing to assist them in answering these questions. For the administration of the task, each participating child was individually invited to a quiet space, in order to maximize her or his attentional focus. Prior to the start of the task, some time was set aside to establish a rapport with the participating children.

Following that, the researchers narrated the story. The cards corresponding to each of the four scenarios were placed on the table before each scenario was narrated. After each scenario, the researchers asked the participating child the post-narration questions, in order to elicit responses about the emotion that the scenario was designed to elicit. The sequence of scenarios and questions was identical for all children.

Each session lasted between 10 and 15 minutes. All the sessions were recorded, but no personal data about the participating children were collected, except for their given name and their exact age, expressed in years and months. The recordings were transcribed by the researchers, and the answers that the children provided were transferred on protocol forms.

3.4 Coding

The transcribed answers were coded by the authors, using the scale below, which captures the accuracy and way in which emotion were labeled (cf. similar coding schemes in Bosacki & Moore 2004):

0=   *non-labelling*, e.g. "I don't know"/no response/response not relevant to topic;

1=   *labelling substitution*, e.g. naming of an emotion other than the one that the scenario was designed to elicit, e.g., "sad" or "sadness" rather than "anger";

2=   *indirect labelling/non-specific response*, e.g., "she feels good", rather than "happy";

3=   *direct labelling*, e.g., for happiness: "he feels happiness", "she is happy" etc.

Initially, independent judgements about the coding of the children's responses were made, and disagreements were resolved by discussing the responses until a consensus was reached.

The coded data were subjected to quantitative and qualitative processing. Regarding the quantitative treatment, the frequency distribution was measured in absolute numbers and in percentages. This processing interprets participants' responses and organizes them into "repeated patterns" (Willig 2013), in order to assess the central tendency (mean value). To add nuance to our understanding of how emotions were labeled, the responses in each category were also subjected to a supplementary qualitative analysis for each of these categories, and patterns of responses were inductively identified. This enabled us to interpret the findings in a way that was not based solely on the use of pre-specified variables.

4.   Results

4.1   Manner and types of verbal labelling

Since one of the main goals of this study was to document the linguistic means and strategies that preschoolers employ in order to label emotions, the findings that pertain to the second research question will be discussed with reference to both quantitative and qualitative data. We have already mentioned (in Section 3.4) that the way in which emotions are labeled provides evidence of the accuracy and appropriacy of designation for each emotion (which also relates to situational awareness), and it also indicates children's varying linguistic performances, i.e., the linguistic means through which they describe the notional categories of *happiness, sadness, anger*, and *fear*.

Taking a more focused look into the children's responses, we documented three types of discourse. Labelling category 3 (*direct labelling of emotion*) and category 1 (*substitution of the labelling of an emotion by another*), evidenced a type of discourse that can be described as *purely emotional.* This was expressed with a predicate (e.g. "he was happy"*,* "she feels sadness"). Category 2 (*indirect labelling*) was mostly associated with *evaluative discourse.* This involved adjectives, adverbs and predicates which indexed an attitude towards the emotion, but stopped short of naming it (e.g. "he feels bad"). Finally, in a small number of instances, predicates were used which suggested evaluation of the experience, or a connection to some event, rather than direct labelling (e.g. "she's not playing fair" or "he's cheating", rather than "he's feeling anger/angry"). We might call this type of discourse *experiential*.

First, we assessed similarities in the proportion of responses within each labelling category across the four emotions. The descriptive quantitative analysis (Table 2; double answer to the elicitation tasks are summarized in Table 3) shows that there is not any noticeable difference in the accuracy of labelling between the emotions of *happiness*, *sadness* and *fear*, since similar performances were documented for each type of labelling (1/2/3) across the three emotions. However, *anger* differed from the other three emotions as regards the performance of the participating children in categories 1 and 3: the highest performance was observed in category 1 (labelling substitution) and the lowest in category 3 (direct/accurate labelling).

Emotions	Gender	Non-labelling (Category 0)		Substitute labelling (Category 1)		Indirect labelling (Category 2)		Direct labelling (Category 3)	
		N	%	N	%	N	%	N	%
HAPPINESS	*Boys*	0	0.0%	5	17.2%	8	27.6%	12	41.4%
	Girls	1	3.5%	1	3.5%	8	27.6%	17	58.6%
	Total	1	1.7%	6	10.3%	16	27.6%	29	50.0%
SADNESS	*Boys*	2	6.9%	2	6.9%	5	17.2%	19	65.5%
	Girls	1	3.5%	1	3.5%	6	20.7%	21	72.4%
	Total	3	5.2%	4	6.9%	11	19.0%	40	69.0%
ANGER	*Boys*	0	0.0%	12	41.4%	9	31.0%	8	27.6%
	Girls	4	13.8%	10	34.5%	8	27.6%	7	24.1%
	Total	4	6.9%	22	37.9%	17	29.3%	15	25.9%
FEAR	*Boys*	2	6.9%	3	10.4%	4	13.8%	19	65.5%
	Girls	2	6.9%	3	10.4%	2	6.9%	22	75.9%
	Total	4	6.9%	6	10.4%	6	10.3%	41	70.9%

Table 2: Manner of verbal labelling (accuracy)

Next, we investigated differences across labelling within each emotion. As shown in table 2, a noticeable tendency for difference was documented between categories 1 and 3 with regard to *happiness*. The lowest performance was recorded in Category 1 and the highest in Category 3. For this emotion the difference between Categories 2 and 3 was not noticeable (p<.008). This suggests that performance in labelling emotions was high, but there was a preference for indirect rather than direct labelling, with a high prevalence of evaluative discourse (e.g., "she feels perfect/nice/good"). We should also note that two participating children used both direct and indirect labelling, as follows "Happy. He feels good", and "Very happy and nice". These responses are presented as special categories in Tables 4.1, 4.2, 4.3 and 4.4.

There was also a visibly trending difference between category 3 and the other categories (p<.001) for the emotions of *sadness* and *fear*. For these emotions, the children performed much better in direct labelling and not as well in indirect labelling and substitution. This finding might suggest that these emotions are much easier to comprehend. In these cases, evaluative discourses (usually expressed as "s/he feels bad") were much scarcer, and emotional discourses seemed to be preferred instead.

The emotion that was named with the least precision was *anger*: A similar proportion of responses was evident across the three types of labelling (p<.678 for 3 vs 2, p<.163 for 3 vs 1, and p<.326 for 2 vs 1). In this case, substitution most commonly involved *sadness* (e.g., "s/he's sad", "s/he's miserable"). Evaluative discourses were also very present in this case (e.g., "s/he feels bad/terrible") and there were also some examples of experiential discourse ("he's cheating"/"she feels that he's not playing fair").

A small number of the participating children provided a double answer to the elicitation tasks. This was either an initially inaccurate labelling followed by a direct one (e.g. "she feels alone, I mean she feels sadness", "sadness… No, she is afraid"), or an indirect labelling which was later specified with a direct one (e.g. "she feels good, happy"). This information is summarized in Table 3.

Emotions	Gender	Substitution and direct labelling		Specification of labelling	
		N	%	N	%
HAPPINESS	*Boys*	1	*3.5%*	3	*10.3%*
	Girls	1	*3.5%*	1	*3.5%*
SADNESS	*Boys*	1	*3.5%*	0	*0.0%*
	Girls	0	*0.0%*	0	*0.0%*
ANGER	*Boys*	0	*0.0%*	0	*0.0%*
	Girls	0	*0.0%*	0	*0.0%*
FEAR	*Boys*	1	*3.5%*	0	*0.0%*
	Girls	0	*0.0%*	0	*0.0%*

Table 3: Double labelling

4.2   Age and way of labelling

The following evidence was documented regarding the relation between performance and age: For *happiness* (Table 4.1), the only noticeable difference was at the age of 6 y.o., when almost all the children used direct labelling, whereas in all of the other ages the results were more or less similar.

Ages	0		1		2		3		3 & 2		2 & 1	
	N	%	N	%	N	%	N	%	N	%	N	%
4 to 5	0	0.0%	2	14.3%	5	35.7%	6	42.9%	1	7.1%	0	0.0%
5 to 6	1	2.6%	4	10.5%	11	29.0%	18	47.4%	3	7.9%	1	2.6%
6	0	0.0%	0	0.0%	0	0.0%	5	83.3%	0	0.0%	1	16.7%

Table 4.1: Manner of labelling for *happiness* by age

For *sadness* (Table 4.2), the older the participating children were, the more precise the designation became: by the age of 5-6 y.o., the differentiation between direct and indirect labelling was statistically significant ($p<.001$), and from the age of 6 y.o. onwards, only direct labelling was used.

Ages	0		1		2		3		3 & 1	
	N	%	N	%	N	%	N	%	N	%
4 to 5	0	0.0%	2	14.3%	5	35.7%	7	50.0%	0	0.0%
5 to 6	3	10.5%	1	2.6%	6	15.8%	27	71.5%	1	2.6%
6	0	0.0%	0	0.0%	0	0.0%	6	100%	0	0.0%

Table 4.2: Manner of labelling for *sadness* by age

Children of all ages experienced challenges with naming *anger*, and no observable connection between age and facility or difficulty of labelling was found (Table 4.3).

Ages	0		1		2		3	
	N	%	N	%	N	%	N	%
4 to 5	0	0.0%	4	28.6%	7	50.0%	3	21.4%
5 to 6	3	7.9%	15	39.5%	10	26.3%	10	26.3%
6	1	16.7%	3	50.0%	0	0.0%	2	33.3%

Table 4.3: Manner of labelling for *anger* by age

Lastly, regarding *fear* (Table 4.4), increased age seemed to correspond with improvement in direct labelling, but no tendency for a considerable difference was found between ages; all the types of answers were observed in younger ages. By the age of 6 y.o., almost all of the participating children used direct labelling.

Ages	0		1		2		3		1 & 3	
	N	%	N	%	N	%	N	%	N	%
4 to 5	2	14.3%	2	14.3%	2	14.3%	8	57.1%	0	0.0%
5 to 6	2	5.3%	4	10.5%	4	10.5%	28	73.7%	0	0.0%
6	0	0.0%	0	0.0%	0	0.0%	5	83.3%	1	16.7%

Table 4.4: Manner of labelling for *fear* by age

4.3   Gender and way of labelling

As regards the possibility of differentiation between the performance of preschoolers of different gender, results for girls and boys were at similar levels, as seen in Table 3.

5.   Discussion and conclusions

Our findings are in line with existing research regarding the onset of appearance of the four emotions (*happiness, sadness, anger* and *fear*) in child speech. Broadly speaking, the four emotions were successfully elicited from the situational prompt, and they were labelled in a relatively adequate way by the preschoolers (Plutchik 1980; Ridgeway et al. 1985; Wellman et al. 1995; Ekman 1999; Miller et al. 2006; Denham et al. 2007).

As far as the facility and accuracy of labelling is concerned, our findings partially confirm previous studies. Specifically, we found that *happiness* and *sadness* have an early onset and are the easiest emotions to name (Denham & Couchoud 1990; Wellman et al. 1995; Bosacki & Moore 2004; Widen & Russel 2010). However, despite the fact that the percentages for non-labelling of *happiness* are the lowest of the four emotions, our data indicate that sadness is connected with higher percentages of emotional discourse (direct labelling), so it is more precisely designated.

In contrast to many previous studies (Widen & Russel 2008, 2010; Brechet et al. 2009), our data does not suggest that *fear* is the most challenging emotion to label. In fact, similarly to *sadness*, it shows the highest percentages of emotional rather than evaluative discourse. On the other hand, our findings are in line with research that has found that *fear* is commonly substituted by *sadness* (Denham & Couchoud 1990).

In our data, *anger* is associated with the most challenges in labelling accuracy and the highest percentages of evaluative discourse. This emotion is very commonly substituted by *sadness*, and the percentages of non-labelling are similar to *fear*, which is corroborated by previous research as well (Bullock & Russel 1984; Denham & Couchoud 1990; Widen & Russel 2010). However, Trabasso et al. (1981) have shown that, while 3-y.o. children distinguish the causes and effects of positive and negative emotions, as well as the causes of *fear* (but not *anger* and *sadness*), they very often justify *anger* and *sadness* in similar way.

Concerning the interpretation of the findings above, one should be mindful of certain limitations of the study. These relate to: (a) the relatively low number of participating children, which suggests a need to replicate the procedure with more participants; and (b) the short scenarios that were used, which might be addressed with further studies that employ different scenarios. With these

limitations in mind, an argument might be made that the emotion of *anger* could at times overlap with *sadness*. Such an interpretation could take into account the intensity gradation of the emotion, and the possibility that some events might trigger both emotions. For example, expressions like *I'm frustrated* and *I'm in a bad mood* indicate some overlap between sadness and anger. It is likely that the triggering causes for these two emotions share a foundational base, and that they are related to similar situations (Trabasso et al. 1981; Izard et al. 1998). It is also possible that children are not able to adequately distinguish variables like *+/-intention, +/-animate,* and especially *emphasis on cause vs. emphasis on result, possibility of goal attainment vs. impossibility of goal attainment*, which are the main points differentiating these two emotions (Deconti & Dickerson 1994). Another possible explanation is that the overlap between *sadness* and *anger* relates to the degree of action or confrontation of the emotion by the subject. In sadness, anger is of low intensity and internalized, but as the intensity of the experience increases, sadness is converted to anger, externalized, and causes a reaction by the subject (e.g., *I blew my lid* etc.*)*, or be converted to a different emotion (e.g. frustration or guilt). It is important to note that the researchers involved in the study reported that some children asked what the difference was between *anger* and *sadness*. Lastly, cultural differentiation and the way in which each language encodes emotions contributes to their comprehension and experiencing, and therefore their labelling (cf. Mesquita & Walker 2003; Motsiou & Valetopoulos 2017). On the whole, it is likely that there is a developmental categorization that is based on the *pleasant/positive vs. unpleasant/negative continuum,* coupled with the degree of arousal, and that this is gradually converted into basic and, eventually, culturally specified emotions (Shaver et al. 1987; Widen & Russel 2003, 2008).

In our data, negative emotions of *fear* and *sadness* were the ones that were most unambiguously named: they were associated with low percentages of non-labelling, a noticeable preponderance of direct over indirect naming and a low prevalence of evaluative discourse. Some research suggests that negative emotions are relatively easier to differentiate (Trabasso et al. 1981), and data from unstructured child-parent interactions include more negative than positive emotions (Lagattuta & Wellman 2002). One possible interpretation is based on the intensity of the experience: it has been suggested that there are specific developmental processes which facilitate environmental adjustment, and which are geared to provoke a stronger response and intake of negative stimuli (negativity bias, cf. Vaish et al. 2008). At the same time, the role of family environment is also important, especially with regard to how extensively emotions are discussed, and which emotions are mostly discussed in intra-family interaction (Lagattuta & Wellman 2002). There is strong evidence that parents socialize children differently, depending on their gender, and that part of this differentiation includes the expression of emotions, due to the established stereotypes that associate emotion and gender. Besides, adults also perceive and express emotions in differentiated ways (verbally, behaviorally etc.), at least

in Western cultures (van der Pol et al. 2015). This might be the reason why some research has found that girls have a slight, though not statistically significant, advantage in labelling emotions (Bosacki & Moore 2004), as the finding could reflect stereotypical gendered behaviors, such as the expectation that mothers discuss emotions more with their daughters. Such a pattern, however, was not evident in our own data. That said, there were some socially influenced stereotypes associated with age and gender in some of the children's responses, such as the statement by a boy (aged 4y2m) that "I am never afraid, I'm a big boy", in response to the question about whether he had ever experienced fear.

If we extend the findings of this study, we can claim that an understanding of the accuracy and the linguistic means used to designate emotions has practical implications for preschool education and later schooling. According to the Teacher's Guide in the Greek Kindergarten Curriculum, "personal empowerment aims to help preschoolers function with increasing autonomy and confidence, to develop a positive self-image, to identify and manage their emotions, to care for others and to adjust to challenges in a positive manner" (2014: 14, translated). Therefore, teachers are expected to "encourage recognition, acceptance and processing of emotions" (*ibid.*) and to "record the wealth of (verbal and non-verbal) expressive means that children use in order to communicate with others and express their emotions" (2014: 26, translated). With regard to other activities, teachers aim to develop empathy, as they encourage children to guess the emotions shown in faces, and to name others' emotions, as well as to eventually be able to describe and elicit these emotions. Based on our findings, we can infer that if a preschooler is able to name an emotion as *sadness*, they might also be able to describe a slightly different emotional experience (*anger*). Or, conversely, that if they are able to describe an emotion as *anger* they should be able to place it in a broader category of emotions that also includes *sadness*. The implications of such differentiated expressions also involve the interpretation of adult emotions by preschoolers, i.e., to what extent the children's interpretations overlap with the actual emotions that adults manifest towards them and towards each other. As suggested by Widen & Russel (2008), understanding the children's developmental trajectory for emotions can help parents and teachers to understand children and to help children to better understand their emotions.

Therefore, understanding the linguistic ways in which emotions are labelled contributes towards understanding the age and the manner in which children develop the ability to manage these emotions. Emotional awareness is directly linked to the acquisition of social skills, whereas the way in which emotions are designated suggests how these are experienced and the ability to distance oneself from the experience and to manage it. The direct reaction through the instrumental use of language is an aspect of emotional interaction and the development of emotional skills, as a part of social skills. As has been shown by

previous research, this ability is a factor in school adjustment, and there is a direct correlation between prosocial behavior, emotional awareness and preschoolers' linguistic skills (Denham et al. 2003; Denham et al. 2007; Miller et al. 2006; Harris 2008; Ornaghi et al. 2015). This is something that would be useful to bear in mind when specifying the content and teaching methodology of a Kindergarten curriculum.

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