Department of Human Sciences for Education "Riccardo Massa"

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MEASUREMENT AND PROMOTION OF PROSOCIAL BEHAVIOR IN EARLY CHILDHOOD

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Introduction

A baby who softly touches the hand of another crying baby, a toddler who comforts his sibling after a painful fall, a child who shares her crayons with a playmate. All these are examples of prosocial behaviors - broadly defined as a voluntary action intended to help or benefit another - including a wide variety of different actions at a different stage of development.

The present Ph.D. thesis work arises from the consideration of how the ability to act on behalf another appears to have important implications for individual and social wellbeing (Crick, 1996; Sallquist et al., 2012; Anderson & Kilduff, 2009; Zak, 2008; Tomasello, 2009; Pinker, 2011). Prosocial behaviors are an integral part of human life, playing an important role in successful social interactions and peer acceptance (Dekovic & Janssens, 1992; Eisenberg et al., 1996; Hampson, 1984; Raviv, Bar-Tal, Ayalon & Raviv, 1980). Decades of research have shown that children's prosociality relates to many other aspects of social functioning, including positive peer relationship, popularity, sociability, cooperativeness, and positive relationship with teachers and other adults (Eisenberg et al., 2015), as well as academic achievement and adjustment in school (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000). Conversely, children low in prosociality are at risk for a variety of behavior problems, especially aggression and disruptiveness, but also peer rejection and poor academic achievement (Eisenberg, Fabes, & Spinrad, 2006).

Studies in Developmental Psychology attest that the first years of life are crucial for the development of prosocial behaviors. At this age, children can recognize the feelings and emotions of others and respond to the needs or desires of another person by implementing other-oriented behaviors (Eisenberg et al., 2006; Hoffman, 2000). It is generally accepted that early prosocial actions emerge within the first 2 years of life and become more sophisticated and frequent during childhood, a period in which children acquire the ability to provide instrumental help, to share their resources and to respond emphatically to the needs of others (Brownell, Svetlova & Nichols, 2009; Dunfield & Kuhlmeier, 2013; Rheingold, Hay, &West, 1976; Svetlova, Nichols, & Brownell, 2010; Warneken & Tomasello, 2006; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). In the last decades, a growing research interest has investigated the early development of prosocial behaviors, showing different developmental trends (Radke-Yarrow, Zahn-Waxler, & Chapman, 1983) and correlates (Eisenberg-Berg & Hand, 1979) for the specific types of prosocial actions.

From the outset, children exhibit wide variability in the complexity and frequency of prosocial behaviors. Researchers have linked these individual differences to many factors, including both biological and ecological factors. In keeping with theoretical perspectives that have emphasized the social roots of prosocial behavior, it is generally agreed that early socialization plays a critical role in the developmental origins of prosociality (Brownell, 2013; 2016; Brownell et al., 2009; Carpendale et al., 2014; Dunfield et al., 2011; Gross, Drummond, Satlof-Bedrick, Waugh, Svetlova & Brownell, 2015; Nelson, 2010; Paulus, 2014; Rogoff, Mistry, Goncu & Mosier, 1993; Svetlova, et al., 2010). Parents utilize a variety of socialization strategies to encourage young children's developing prosocial behaviors, including scaffolding, praise, reasoning, teaching, and drawing their children's attention to the mental and emotional states of those around them.

Despite increasing interest in this topic, there is a paucity of developmentally appropriate and validated tools for evaluating and measuring children's prosocial actions in early childhood, on one hand, and parental prosocial socialization strategies, on the other hand.

Investigating the contribution of the social context to the development of such skills, recent studies have highlighted the role of the conversation on mental and emotional states as a practice promoting the development of early socio-emotional skills (Brownell, 2013; Grazzani et al., 2016; Ornaghi et al., 2017). Findings from correlational and longitudinal studies conducted with parents have motivated the implementation of school-based prevention and intervention programs conducted in educational contexts involving teachers as key socio-emotional socializers (Denham, Bassett & Zinsser, 2012).

Starting from these assumptions, the Ph.D. research project has had as main objective to investigate the development of prosocial behaviors in early childhood, examining the psychometric properties of two new tools for the assessment of early forms of other-oriented behaviors and parental prosocial socialization strategies, and exploring the possibility to promote prosocial development in early educational context.

The current work has been organized in three studies, each one with a specific focus on prosocial development in early childhood. It was decided to subdivide the material collected in a first part about the theoretical analysis of the literature, able to provide rich and detailed information with respect to the variables taken into consideration, followed by the presentation of the experimental procedures carried out.

Study 1 tested the psychometric proprieties of the *Child Prosocial Behavior Questionnaire* (*CPBQ*), a parent scale aimed at assessing prosociality in early childhood.

The initial review of the literature has allowed us to outline a picture as complete as possible of the multidimensional construct of prosocial behavior, to examine the different forms of other-oriented behaviors (e.g., helping, sharing, and comforting) and their developmental trajectory in early childhood, to investigate the role of gender differences in prosocial behaviors, and finally to explore different methodologies used by researchers to measure these other-oriented behaviors. Based on the paucity of developmentally appropriate and validated tools for evaluating and measuring the different forms of children's prosocial actions during the first three years of life, it was possible to create a new instrument designed to assess the different prosocial behaviors displayed by children in early childhood (helping, sharing, and comforting). Characteristics of the sample and procedure will be illustrated, as well as the presentation of results of the factorial structure of the instrument, the measure of its convergent and divergent validity and the gender invariance. A discussion of findings will follow.

Study 2 presents the psychometric proprieties of the *Parental Prosocial Practices Questionnaire* (*PPPQ*), a parent report tool designed to assess a range of socialization practices concerning prosocial behavior in early childhood.

In the theoretical introduction, a review about the role of socialization in the development of prosocial behaviors will be presented with a focus on both global parenting style and specific strategies that parents use with young children to support and encourage their prosociality. Related to the processes involved in prosocial socialization, we examine different socialization strategies, including scaffolding, reinforcing and talking about emotions. The review of the literature will comprehend also an examination of the role of gender, investigating maternal versus paternal influence on the prosocial development and possible differences between the socialization of boys' and girls' prosocial development. Despite the growing research focus on specific prosocial socialization practices during early childhood, the tools currently in use in this field were designed to measure global parenting style or parents' emotional style. Methodological information about the two sub-studies conducted will be provided and the outcomes will be discussed.

Study 3 is a conversation-based training study conducted with 142 children aged from 22- to 36-months-old aimed at promoting early prosocial behaviors in early childhood.

In the theoretical background, we first will discuss the key role played by emotion knowledge in influencing prosocial development. Recognizing the adaptive role played by prosociality in fostering psychological well-being and social adjustment, a review of different types of interventions adopted by the researchers in order to enhance children's prosocial skills will be presented. Findings of training studies in which children were involved in a conversation about emotions and other inner states will be discussed with the aim to explore the implementations of early educational conversation-based programs in order to foster children's prosocial behaviors. Methodological aspects will be illustrated, including characteristics of the sample, instruments used for the assessment and the training procedure. Discussion of the psychometric results will be conducted in order to explore the efficacy of the intervention - carried out by trained teachers in educational contexts - in fostering the development of emotion knowledge and prosocial behaviors.

Study 1

THE CHILD PROSOCIAL BEHAVIOR QUESTIONNAIRE (CPBQ): A NEW TOOL FOR THE MEASUREMENT OF PROSOCIAL BEHAVIORS IN EARLY CHILDHOOD[1]

Abstract

Prosocial behaviors are generally defined as any voluntary act intended to benefit another. These other-oriented behaviors appear early in human development, emerge within the first two years of life and can take a variety of forms including helping, sharing, and comforting. Despite increasing interest in this topic, there is a paucity of developmentally appropriate and validated tools for evaluating and measuring children's prosocial actions in early childhood. The present study (N = 409) tested the psychometric proprieties of the *Child Prosocial Behavior Questionnaire* (*CPBQ*), a parent scale aimed at assessing prosociality in early childhood. The measurement model for CPBQ and its factorial invariance across children's gender were tested using standard exploratory and confirmatory factor analyses. Highly satisfactory goodness-of-fit indexes were found for a measurement model composed of 10 items loading on three underlying factors: Helping, Sharing, and Comforting. Furthermore, measurement was found to be equivalent across gender groups. These results suggest that the CPBQ is a reliable, easy-to-use instrument for assessing prosocial behaviors (helping, sharing, and comforting) in 16- to 42-month-old children.

Keywords: prosocial behaviors; early childhood; assessment; questionnaire; validation

[1] Part of the present study has been published in:

Brazzelli, E., Farina, E., Grazzani, I., Pepe, A. (2018). La misura dei comportamenti prosociali nella prima infanzia: uno studio di validazione del CPBQ. *Psicologia Clinica dello Sviluppo*, *XXII*(3), 555-570.

1. Introduction

In the last decades, a growing research interest has developed to investigate the early expression of prosocial behaviors. These other-oriented behaviors play an important role in fostering the individual and social well-being (Bowker, Rubin, Burgess, Rose-Krasnor, & Booth-La Force, 2006; Tomasello, 2009). Several findings have highlighted the importance of such positive social behaviors for establishing harmonious relationship. Indeed, prosocial children display more frequently positive interactions with peers (Farver & Branstetter, 1994), including developmentally advanced play (Howes & Matheson, 1992) and cooperation (Dunn & Munn, 1986). Moreover, studies of aggressive children have demonstrated that it is the absence of positive social behavior (rather than the simple presence of aggression) that leads to rejection by peers (Denham, McKinley, Couchoud, & Holt, 1990; Volling, MacKinnon-Lewis, Rabiner, & Baradaran, 1993).

Starting from the first two years of life, children show an exceptional ability to provide aid to others across a variety of context (Warneken & Tomasello, 2009) and in response to a diversity of needs (Dunfield, Kuhlmeier, O'Connell, & Kelley, 2011). As highlighted in recent studies (Dunfield, 2014; Dunfield & Kuhlmeier, 2013; Dunfield et al., 2011), the attribute *prosocial* refers to a wide range of voluntary behaviors aimed at helping, sharing, and comforting others (Brownell, Svetlova, & Nichols, 2009; Dunfield et al., 2011; Svetlova, Nichols, & Brownell, 2010; Warneken & Tomasello, 2006). These different varieties of prosocial behaviors show domain-specific developmental trajectories as well as different social and socio-cognitive correlates (Dunfield et al., 2011; Kärtner, Schuhmacher, & Collard, 2014; Paulus, 2017; Schuhmacher, Collard, & Kärtner, 2016; Svetlova et al., 2010). Based on this evidences, it appears useful to construct robust psychometric tools for the assessment of different prosocial behaviors in early childhood.

1.1. Defining prosocial behavior: a multidimensional construct

Over four decades ago, Wipsé (1972) first introduced the term *prosocial behavior* as the opposite of *antisocial behavior*, including aggressive behavior. In the field of Developmental Psychology, the term "prosocial" is used to refer to any behavior that is intended to benefit another (Eisenberg & Shell, 1986). Since 1977, when Mussen and Eisenberg-Berg defined prosocial behavior as «actions that are intended to aid or benefit another person or groups of people without the actor's anticipation of external rewards», a lot of researchers have provided different definitions and conceptualizations about prosocial behavior. Despite the debate concerning the essence and the nature of prosocial behavior, there is general agreement on the main aspects that characterize prosocial behavior. First

of all, prosocial behaviors are voluntary conducts, as they are acted without any external pressure. Secondly, the prosocial acting is moved by an intention to benefit another, intent that requires purposeful and conscious attention. In addition, prosocial behaviors are motivated by other-concern, as an empathic concern, or the cognitive taking of another's perspective (Eisenberg, Shea, Carlo & Knight, 1991).

In the last years, the field of developmental psychology has moved from a perspective of global prosocial behavior towards the conceptualization of it as a multidimensional construct (Hay & Cook, 2007; Dunfield & Kuhlmeier, 2013; Eisenberg & Spinrad, 2014; Thompson & Newton, 2013; Paulus, 2017). From early childhood, children exhibit a wide range of prosocial behaviors, including everyday acts like help another by bringing or pointing to out-of-reach objects, share toys of food, comfort others in distress, inform, and cooperate with peers (Brownell et al., 2009; Dunfield et al., 2011; Svetlova et al., 2010; Warneken & Tomasello, 2006; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). Examining and comparing these multiple forms of prosocial behavior, it has gradually emerged that different prosocial behaviors display domain-specific developmental trajectories and different social-cognitive correlates, which may explain the absence of correlations among the varieties of prosocial behaviors (Dunfield & Kuhlmeier, 2013).

Consistent with these suggestions, there have been a number of recent attempts to categorize and clarify the varieties of prosocial behaviors that children engage in, providing a framework within which to interpret past findings and to orient future research (Brownell, Svetlova, Anderson, Nichols, & Drummond, 2013; Dunfield, 2014; Dunfield et al., 2011; Hay & Cook, 2007; Svetlova et al., 2010; Thompson & Newton, 2013; Warneken & Tomasello, 2009).

Exploring early prosocial development, Hay and Cook (2007) identified three domains of prosociality, corresponding to three strands of development: feeling for another, working with another, and ministering to another. *Feeling for another* entails the development of other-oriented emotions such as empathic concern, friendliness, and affection. *Working with another* refers to the development of the ability to cooperate to solve problems, provide help to another, and share. Finally, *ministering to another* involves developing the ability to nurture others, provide resources to another, and respond to another's needs and wishes. In this categorization, substantial weight is placed on the child's motivation to interact with another, with little emphasis placed on the role of cognition in identifying a need and determining an appropriate response. As a result, behaviors that may have substantially different cognitive requirements (such as helping and sharing) are combined in a single domain (working with others).

Warneken and Tomasello (2009) proposed a model in which other-oriented behaviors are split into three domains: *helping*, in which an actor aids another in achieving their goal; *sharing*, in which an actor relinquishes ownership of a valuable good; *informing*, that concerns the transmission of information between individuals. This framework is situated within an economic analogy, whereby the varieties of prosocial behavior are intended to provide another with services, goods, and information. Importantly, this categorization relies heavily on the observable behavior that the child engages in, which is problematic because behaviors are multiply determined. In many cases, it is not possible to differentiate the initial intentions that motivated the actions from the observable behavioral outcome. Indeed, a simple behavior like retrieving an out of reach object may have been intended as a helpful act to assist another in the completion of their goal (Warneken & Tomasello, 2006); it may also have been intended to alleviate a negative mood (Svetlova et al., 2010; Vaish, Carpenter, & Tomasello, 2009). One way to avoid the challenges of interpreting behavioral outcomes is to look at the cues that elicited the responses in the first place (Svetlova et al., 2010).

Dunfield and collaborator (Dunfield, 2014; Dunfield et al., 2011) proposed a classification of three types of prosocial behavior based on the identification of the specific need to which the individual is responding. In their studies, the authors have provided evidence of the children's ability to take the perspective of another person and recognize others' different negative states. The variety of negatives states encompasses instrumental need, where an individual has difficulty completing goal-directed behavior; material desire, in which the individual does not have access to a particular resource; and emotional distress, when an individual experiences an unpleasant affective state. The identification of others' need, desire, or distress allows children to determine an appropriate prosocial response. Specifically, each of these negative states can be alleviated by different prosocial behaviors namely helping (Warneken & Tomasello, 2006), sharing (Brownell et al., 2009), and comforting (Vaish et al., 2009; Svetlova et al., 2010), respectively. In order to engage in *instrumental helping* - defined as an action that is intended to alleviate an instrumental need (Dunfield et al., 2011) - a child must interpret another's instrumental need based on the observation of an individual's incomplete action, identify the obstacle and understand how to overcome it. *Sharing*, otherwise, requires the ability and willingness to represent another's unmet material desire. Typically, this involves recognizing and rectifying an unequal distribution of resources. Finally, *comforting* requires the ability to represent another's negative emotional state. Effectively representing another's emotional distress requires the ability to differentiate and identify the various emotional experiences of others. Further, there are a variety of ways in which infants can respond to the observation of emotional need in others (Eisenberg et al., 1991), the complexity of which demonstrates different levels of social cognitive and prosocial maturity (Hoffman, 1982; 2000) and can vary depending on the familiarity of the individual with

whom the child is interacting (Zahn-Waxler et al., 1992).

1.2. The development of prosocial behaviors in early childhood

Recent findings have suggested that early forms of prosocial behaviors occur in the first two years of life, despite children's rudimentary socio-cognitive abilities (Dunn & Munn, 1987; Hay, Castle, Davies, Demetriou, & Stimson, 1999). Researchers have assumed that prosociality increases across the early years, due to a related increase in socio-cognitive abilities, emotional maturation, and the development of self in relation to others (Hoffman, 2000). Developmental changes in the frequency of prosocial behaviors are a matter of some debate. Although meta-analytic findings (Fabes & Eisenberg, 1996) have indicated a general age-related increase in prosocial behavior, longitudinal studies of very young children do not always have supported this view. For example, Hay (1994) suggested that the capacity for prosocial behavior acts emerges in the second year in life and declines thereafter. On the other hand, cross-sectional studies have supported age-related increases in some types of prosocial behaviors from early to middle childhood, such as sharing (Dunfield & Kuhlmeier, 2013; Malti, Gummerum, Ongley, Chaparro, Nola, & Bae, 2016). Despite the debate on prosocial development, researchers have indicated that some varieties of prosocial behaviors appear to emerge early while others require more time, developing along different developmental trajectories. For instance, by 12-14 months of age toddlers show instrumental help by bringing or pointing out-of-reach objects (Liszkowski, Carpenter, Striano, & Tomasello, 2006; Warneken & Tomasello, 2007), while sharing appears to emerge later in the second years, increasing in frequency between 18 and 24 months (Brownell et al., 2013; Svetlova et al., 2010). As mentioned above, the specific forms of prosocial behavior - helping, sharing, and comforting - follow different trajectories of development presumably because of distinct cognitive mechanisms underlying them (Dunfield, 2014). Given these differences, the development of helping, sharing, and comforting will be described separately.

Helping behavior

The ability to respond to another's instrumental need is one of the earliest emerging prosocial behaviors (Warneken & Tomasello, 2006; Zahn-Waxler et al., 1992). From at least 14 months of age, infants begin to help others in different situations, and this increases in frequency and sophistication in the ensuing months (Liszkowski et al., 2006; Warneken & Tomasello, 2007). By 18 months, infants are beginning to identify the situations in which helping behavior is required; that is, they will aid instrumentally by retrieving an item that is out of a person's reach, thus fulfilling another's unmet goal. Around 2 years of age, children respond to others' instrumental needs at a consistently high rate

that shows relatively little variation between individuals. This could be due to the fact that the ability to respond to others' instrumental needs relies on a very early emerging set of social-cognitive factors.

Sharing behavior

Sharing encompasses behaviors of voluntary giving away a valued resource to another individual who has none and needs or desires it (Brownell, Iesue, Nichols, & Svetlova, 2013). Other-oriented sharing occurs to benefit the recipient, typically to change the other's psychological or internal state for the better. For example, an older child may share his cookies with his younger sibling when she is crying to make her happy. By 12 months of age infants bring or show toys to parents in apparent acts of sharing (Hay, 1979; Rheingold, Hay, & West, 1976), and even earlier, by 10 – 12 months, they offer food to adults as a means of affiliation (Eibl-Eibesfeldt, 1989), and participate in object transfers in cultures that routinely socialize object exchange (Bakeman, Adamson, Konner, & Barr, 1990). However, these early social acts may not be prosocial in the sense of behavior that is intended to benefit another. Infants may show a toy to an adult as an act of emotion or attention sharing, or they may be seeking a positive reaction or another form of approval from the adult; they may offer a toy as a way to get the adult to play with them or as part of a regular game or routine, or deposit a toy in the adult's lap to prevent another child from gaining access to it. Other-oriented, prosocial sharing probably appears in the second year of life with both adults and peers. However, previous studies have suggested that, in contrast to other forms of prosocial behavior, sharing resources is relatively rare for young children (Birch & Billman, 1986; Grusec, 1991; Radke-Yarrow et al., 1976). The low rates of providing resources are probably due to a difficulty in recognizing the need for aid and not due to a lack in motivation. Younger children are especially well- known for their reluctance to share (Levitt, Weber, Clark, & McDonnell, 1985). In a recent experimental study with 1- and 2-year-olds, for example, children were much less likely to give up their blanket or special toy brought from home to help a hapless adult than they were to help under identical circumstances without such a sacrifice (Svetlova et al., 2010).

In a recent study, Brownell et al. (2013) have examined other-oriented sharing specifically, because this form of sharing is clearly prosocial in that it is conditioned on another's need, desire, or negative emotion, and it occurs to alleviate that state. Other-oriented resource sharing was demonstrated when children relinquish possession of something that they themselves control, like, and want in direct response to another's desire or need. Their behavior is meant to benefit the other person and it entails some degree of sacrifice.

Among the few studies of resource sharing in very young children, Hay and her colleagues have

observed toddlers' toy sharing in naturally occurring peer play. They defined sharing as offering or giving a toy to the peer or adding an object to an array of toys with which the peer was already playing (Hay, Caplan, Castle, & Stimson, 1991; Hay et al., 1999). Sharing occurred at low rates overall in these studies, but it did increase between 12 and 30 months of age, especially when toys were relatively scarce and sharing may have been costly.

In another study, Brownell et al. (Brownell et al., 2009) proposed different experimental conditions aimed to observe sharing behavior in 1- and 2-year-old children. In their findings, sharing was evident only among the 2-year-olds, while 18-month-olds responded randomly.

Two other recent experimental studies have used more natural scenarios, while still exerting control over key aspects of the situation, and both found some evidence for sharing in 1- year-olds. Dunfield (Dunfield et al., 2011) gave 18- and 24- month-old children a container with several crackers in it while at the same time giving an empty food container to an adult partner. The adult then reached toward the child, palm up, and alternated gaze between her hand and the child until the child either shared some of her own snack or ate all of it. Under these conditions 40% of 18-month-olds and 60% of 24- month-olds shared. Although intriguing, the generality of these findings may be limited. First, food sharing may carry unique demands and may not reflect children's willingness (or unwillingness) to share other physical resources such as toys, books, clothing, and the like – resources that are not immediately consumed and that are less likely to be part of parent-child games or routines. More important, it is unclear whether the children were spontaneously engaging in prosocial sharing, or were simply complying with a direct request conveyed by the adult's outstretched palm and explicit gaze cues.

In a more clearly prosocial task, Vaish (Vaish et al., 2009) gave 18-and 25-month-old children and an adult partner identical toy balloons, but the adult had only one while the child had two. The adult then "accidentally" lost hers (it floated away), becoming visibly upset and trying to get it. Half of the children exhibited some form of positive, potentially prosocial response to the distressed adult such as making a suggestion about what to do ("ladder") or commenting about the situation ("balloon gone"). However, only 12 out of 64 children (19%) actually gave a balloon to the adult, and an additional five children (8%) placed a balloon near the adult or threw it toward her. This is a much lower rate of sharing than found by Dunfield et al. (2011), possibly due to the procedural differences, including the requesting gesture used by the adult in Dunfield et al., and the fact that children had just two balloons making them perhaps especially valuable.

Comforting behavior

Comforting, also known as empathic comforting, includes behaviors intended to alleviate someone's negative emotional state (Zahn-Waxler & Radke-Yarrow, 1990). Researchers have identified two forms of comforting, namely the psychological comforting, which defines actions aimed at regulating others' internal states by praising, calming down, consoling, and encouraging, and the physical comforting, which consists of taking care of others by soothing a physical pain or effort that causes a distress.

Regarding the developmental trajectory of children's comforting behavior, researchers have observed a significant increase in children's ability to provide aid to others experiencing emotional distress from 2 to 3 years of age that stabilized between 3 and 4 years (Dunfield, 2014; Dunfield & Kuhlmeier, 2013). At this age, comforting is more frequent when it is the result of an instrumental cause (for instance, a broken toy) than emotional distress that was the result of physical injury. Specifically, children were better able to aid a distressed experimenter who had a broken toy than a distressed experimenter who had a physical injury. It appears as though it is easier for children to respond to a negative emotional state when there is a clear instrumental response (e.g., the "broken" condition) than when the required intervention is strictly affective, or the appropriate instrumental response is less clear (e.g., the "injury" condition).

1.3. Gender differences in children's prosocial behavior

In deepening the development of prosociality, some scholars have investigated the role of gender differences in prosocial behaviors. Based on stereotypic gender roles, females generally are expected and believed to be more responsive, empathic and prosocial than males (Denham et al., 2012; Dunfield et al., 2011; Eisenberg & Miller, 1987; Eisenberg, Fabes, & Spinrad, 2006; Spence, Helmreich, & Stapp, 1974; Wu & Su, 2014). Cross-cultural works have verified that gender differences in prosocial responding are not limited to only a few cultural and may develop with age. Analysing these differences in the behavior of children aged 3 through 11 in six different cultures, Whiting and Edwards (1973) founded that helpfulness and support giving generally were greater for girls than boys across cultures, although these differences were significant for older but not younger children. This cross-cultural tendency of girls to be more prosocial than boys was confirmed by more recent works (Carlo, Roesch, Knight, & Koller, 2011). Despite the prevailing view that females show a greater propensity to act prosociality compared to males, findings vary depending on the age and the type of prosocial behavior.

From toddlerhood onward, girls express more empathy and engage in more prosocial behavior than do boys (Zahn-Waxler et al., 1992). More specifically, feminine prosocial behavior may be more compassionate and sympathetic, whereas masculine prosocial behavior may be more agents, engaged, and active (Hastings, Utendale, & Sullivan, 2007). In their study, Hastings and colleagues (Hastings, McShane, Parker, & Ladha, 2007) examined gender differences in prosocial behavior and in parental socialization. The toddler- and preschool-aged boys and girls in their sample did not differ in their observed and reported level of prosocial behavior. Their findings replicate some other previous research in which no differences between young boys' and girls' prosocial actions emerged (Hastings, Rubin, & DeRose, 2005).

It would seem that these differences emerge from the third year of life and may increase developmentally especially during the preschool and school years, as shown by the results of a study conducted by Baillargeon and collaborators (Baillargeon et al., 2011) who observed a greater presence of prosocial behaviors in children especially with regard to comfort and help. These trajectories of increasing sex differences over the early years of development may be a function of both biological and environmental influences on behavior (Hastings et al., 2005; Hastings, Zahn-Waxler, Robinson, Usher, & Bridges, 2000; Hastings et al., 2007). There may be a maturational course through which a female predisposition to attend more closely and respond more strongly to the needs of others becomes increasingly evident, and socialization forces may serve to reinforce such response tendencies in girls more than in boys. Parents may subtly alter their parenting styles or behaviors with sons and daughters to encourage sex-typed outcomes, such as different prosocial behaviors that could be considered more masculine or more feminine (Zahn-Waxler, 2000).

Across studies, these gender differences were more robust in studies using report instruments than in those using direct observations and more robust for expressions of sympathetic emotion than for engagement in helpful actions (see Eisenberg & Fabes, 1998 for a meta-analysis). Thus, differences in boys' and girls' prosocial behavior may be more attributable to perception than to reality. Adult reporters may be more likely to notice and remember the prosocial behaviors of girls because these conducts appear correspondent to a cultural stereotype of appropriate feminine behavior.

1.4. Measuring prosocial development

There is considerable debate as to how prosocial behaviors should be assessed in early childhood. Across years, these other-oriented behaviors have been investigated with different methodologies, including observations in naturalistic contexts (Denham, 1986), structured tasks (Dunfield &

Kuhlmeier, 2013; Dunfield et al., 2011; Garner, Dunsmore, & Southam-Gerrow, 2008; Knafo, Steinberg, & Goldner, 2011; Warneken & Tomasello, 2013), and parent-reports (Ensor & Hughes, 2005; D'Odorico, Cassibba, & Buono, 2000; Grazzani, Ornaghi, Pepe, Brazzelli & Rieffe, 2017). Direct observations provided valuable information, but they were typically time-consuming, difficult to standardize and strongly influenced by day-to-day variability in behavior (Hops, Davis, & Longoria, 1995; Jones, Reid, & Patterson, 1975; Stoolmiller, Eddy, & Reid, 2000). Furthermore, findings from naturalistic studies which used observations to measure children's spontaneous prosocial behaviors were constrained by uncontrolled features of the social situation, so developmental patterns from these studies may reflect something else in addition to the growth of prosocial behaviors. Conclusions from experimental studies based primarily on structured tasks were limited by a variety of other factors, such as the use of an artificial apparatus, the use of food rather than potentially more desirable and age-relevant resources such as attractive toys, adult directives governing children's responses. The results from these studies may therefore either over-or under-estimate children's prosocial behaviors, obscuring age-related patterns. In addition to direct measures, different studies explored young children's prosocial behavior through questionnaires completed by parents. However, investigating children's social competence in general, many of these parent-reports measures are no reliable tools to specifically detect the different types of prosocial behavior manifested in childhood. For instance, the Strengths and Difficulties Questionnaire (SDQ: Goodman, 1997) – one of the most frequently used behavioral screening questionnaire for children and youths – contains a prosocial scale that includes diverse actions whose common theme is showing concern for others, however, no distinction is made between the different types of prosocial actions. Furthermore, the SDQ is applicable for children ranging from 3 to 16 years of age. The Empathy Questionnaire (EmQue-I13), on the other hand, assess empathy in toddlers and consider prosocial actions as a general construct.

Given these contrasting advantages and disadvantages, it results important to use both parental questionnaires and direct observations for the measurement of individual differences in children's prosocial behaviors.

2. The present study

Despite the growing research focus on prosocial behavior and its correlates in early childhood, there is a paucity of developmentally appropriate and validated tools for evaluating and measuring the different forms of children's prosocial actions at the time of their emergence, that is during the first three years of life.

The purpose of the current study was to evaluate the psychometric properties of a new instrument, the Child Prosocial Behavior Questionnaire (CPBQ), which was designed to assess the various forms of prosocial behavior displayed by children in early childhood (e.g, helping, sharing, and comforting). Overall, this study pursued three main goals: (1) verify the factorial structure of the instrument; (2) measure its convergent and divergent validity; (3) investigate its gender invariance.

3. Method

3.1. Participants

Participants were 409 Italian parents (mothers = 91.2%), recruited through early childhood education centers in Northern Italy. Parents' mean age was 36 years (*SD* = 5.34 years; range: 21-61 years) and was in line with that of the general population of Italian parents with 1- to-3-year-old children as officially recorded by the National Institute of Statistics (ISTAT 2013). Participants mostly came from middle-class socioeconomic backgrounds and 93.9% held a school leaving diploma or higher educational qualification. The 23.2% of participants were single parents, while 74.5 % were married. They were recruited on site using a convenience sampling method. The children ranged in age from 16 to 42 months (M_{age} = 28.4 months; *SD* = 7.6 months) and the gender composition of the sample was balanced (46.7% girls).

Questionnaires were completed anonymously at home after participants had received careful instructions from our team. The research was conducted following the ethical principles and code of conduct of APA (American Psychological Association, 2010), as well as the indications provided by the Ethics Committee of the University of Milan-Bicocca.

3.2. Measures

In order to assess children's prosocial behavior, participants completed the *Child Prosocial Behavior Questionnaire* (CPBQ, Brazzelli, Farina, Grazzani & Pepe, 2018). With a view to further testing the validity of the CPBQ, participants were also invited to complete the *Empathy Questionnaire-I13* (EmQue-I13, Grazzani et.al., 2017).

The *Child Prosocial Behavior Questionnaire* (CPBQ, Brazzelli et al., 2018; see Appendix A for both the Italian version and its English translation) is a parent-report measure originally composed of 13 items assessing prosocial behaviors in young children. Based on the literature, the items are distribuited into a three-factor structure measuring *Helping* (e.g., *My child helps me of his/her own accord when I am looking for something around the house*), *Sharing* (e.g., *My child willingly shares toys with other children, when asked*), and *Comforting* (e.g., *My child hugs others when they are upset*), respectively. In order to create three conceptually homogeneous factors that covered the three prosocial domains, prior to the analysis, the items were examined including only those items, which (i) could be clearly allocated to only one of the domains of interest, (ii) refer to a specific domain of prosocial behavior in general, without limiting the recipients, (iii) referred to everyday situations. Respondents are asked to rate the degree to which each item applied to their child over the previous two months on a 5-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always). Higher scores reflect higher levels of the corresponding behaviors.

The *Empathy Questionnaire-I13* (EmQue-I13, Grazzani et al., 2017; see Appendix B for the Italian version) is the validated Italian version of the Dutch Empathy Questionnaire (EmQue, Rieffe, Ketelaar, & Wiefferink, 2010), a parent scale assessing empathy-related behaviors in toddlers, across the dimensions of *Contagion* (e.g., *My child also needs to be comforted when another child is in pain*), *Attention to Others' Feelings* (e.g., *My child looks up when another child cries*), and *Prosocial Actions* (e.g., *When two children are quarrelling, my child tries to stop them*). Parents are asked to rate the degree to which each item applied to their child over the previous two months, in this case on a 5-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always).

3.3. Data Analysis Procedure

The steps in the data analysis followed standard procedure for instrument development (Matsunaga, 2010). In order to maximize the number of 'points' used to test the measurement model and to prevent potential over-fitting (Rao, Fung, & Rosales, 2008), cross-validation performance was assessed via

the holdout method (Arlot & Celisse, 2010). To this end, the original dataset was randomly split into two subsets: the 'training' set (n = 205) and the 'testing' set (n = 204).

First, exploratory factor analysis was performed on the 'training' set by means of the principal components method (Kallina & Hartman, 1976) and oblimin rotation (Darton, 1980). Principal component analysis provides an empirical summary of the dataset by maximizing total variance (Tabachnick & Fidell, 2013) and is appropriate in contexts of measure development (Bollen, Van de Sompel, Hagberg, & Chute, 2009). Once the items had been factored, Kaiser's criterion (Kaiser, 1960) was used to determine the most appropriate number of factors to retain, meaning that we retained all factors with eigenvalues greater than 1.0. In addition, only factors composed of at least three items were retained (Yong & Pearce, 2013), only factor loadings (λ) greater than .50 were used (Hair, Black, Babin, Anderson, & Tatham, 2006), and items that loaded on more than one factor after factor rotation were dropped (Costello & Osborne, 2005).

The resulting measurement model was then evaluated on the 'testing' set via Confirmatory Factor Analysis (CFA) (Jöreskog & Sörbom, 2004; Gagne & Hancock, 2006). CFA techniques provide both numerical support for the development of quantitative instruments and evidence of construct validity (Hahs-Vaughn, 2016). In the present study, two different measurement models were tested. First, a unidimensional model (M1) in which all items loaded on a single latent factor was evaluated. Second, the hypothesized tripartite factor model (M2) was tested. This is the procedure recommended by Judd, Jessor, and Donovan (1986) for evaluating discriminant validity: namely, the goodness-of-fit indexes of a baseline multifactor model comprising all the instrument's subscales are compared with those of a nested comparison model consisting of a single global factor. The absolute and relative fit indexes adopted in this study were: $\chi 2$, Normed-Chi Square (NC), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual, Comparative Fit Index (CFI), and Tucker–Lewis Index (TLI) (see Hu & Bentler, 1999 for details). Model fit was considered robust if NC was <2.0, RMSEA < .08, CFI and TLI > .95 (Morin, Marsch, & Nagengast, 2013). To further assess the instrument's reliability in measuring children's prosocial actions, the model supported by CFA was taken as the basis for testing factorial invariance across gender. Measurement invariance between boys and girls would imply that the relations among underlying dimensions and observed variables did not significantly vary as a function of gender. The gender groups were selected for comparison on the grounds that they were expected to differ with regard to key aspects of prosociality (Stolarova & Brielmann, 2014). If the instrument was found to measure the same constructs in boys and girls, this would provide further evidence for its ecological validity and justify greater confidence in generalizing across groups (Hair et al., 2010).

Measurement invariance (MI) (Vandenberg & Lance, 2000) was assessed via multi-group confirmatory factor analysis (MGCFA). In line with best practice for MI (for details, see Cheung & Rensvold, 2002), four levels of invariance were tested: configural invariance, metric invariance, strong invariance, and full construct invariance were all supported. Given that the procedure was applied first to the baseline model and then to the nested model, the MI analysis reflected this hierarchically ordered structure. Measurement equivalence across gender groups was rejected if the $\Delta\chi 2$ between the two models was statistically significant. For the other fit indexes (ΔCFI, ΔRMSEA, ΔTLI), the parameter for rejecting invariance was set at $\Delta > .01$, corresponding to a p level of .01 (Chen, 2007).

Finally, the administered scales were analyzed for reliability [via Cronbach's alpha and composite reliability (Raykov, 1997) measures] and convergent validity. With regard to convergence, we expected to find positive and statistically significant correlations between children's CPBQ scores and their ratings on the dimensions of the EmQue-I13.

Preliminary exploration of the data included testing distribution assumptions (asymmetry and kurtosis values were required to fall within the range −1, +1) and checking for multivariate outliers (Mahalanobis' distance was set at $p < .001$). The proportion of questionnaires returned with at least one missing value was 2.6%: missing values were deleted following a list-wise approach, and in fact the original dataset was composed of 420 questionnaires.

4. Results

4.1. Descriptive statistics

Table 1 presents the means, standard deviations, skewness, and asymmetry values for all the measures of the CPBQ. Preliminary examination of the measures suggested that all indicators were essentially normally distributed. Distribution values were good with a single violation of the most stringent cut-off point of 1 for skewness (Tabachnick & Fidell, 2013) and only a slight violation for kurtosis.

Table 1

Results of the descriptive statistics

	M	SD	Skewness	Kurtosis
1. Willingly shares toys with a parent, even without being asked	3.68	0.96	-.343	-.408
2. Helps me of his/her own accord when I am looking for something around the house	3.44	1.44	-.416	-.523
3. Hugs others when they are upset	3.15	1.18	-.141	-.765
4. Tries to help me with the housework (for example, sweeps the floor, wipes off the table, puts away toys, waters flowers)	3.67	1.13	-.699	-.198
5. Exclaims "Uh oh!!" (or similar) when he/she realizes that somebody else has a problem (is in trouble)	2.65	1.26	.293	-.956
6. Spontaneously offers his/her things to someone who is upset	2.66	1.04	.176	-.485
7. Willingly shares toys with other children, when asked	3.04	0.94	.104	-.400
8. Picks up something that I have accidentally dropped and hands it to me	3.57	1.03	-.446	-.383
9. Willingly shares toys with other children, even without being asked	2.70	0.93	.206	-.171
10. Willingly shares toys with a parent, when asked	3.74	0.93	-.485	-.048
11. Helps me when I am getting him/her dressed (for example, by slipping his/her arm into the sleeve of a garment by him/herself	4.52	0.77	-1.821	3.684
12. Cries or gets upset if somebody else is upset or cries	2.81	1.09	-.029	-.773
13. Exclaims "Uh oh!!" (or similar) when something falls	3.62	1.18	-.700	-.306

4.2. Factor Structure, Construct Validity, and Measurement Invariance

With regard to sampling adequacy, the outcomes of the Keiser Meyer Olkin test (KMO = .738) and Bartlett's sphericity test (819.4, $p < .001$) indicated that it was appropriate to apply factor analysis to the dataset.

The data reduction algorithm extracted four latent dimensions with eigenvalues equal to or greater than 1.0 and accounting for 63.1 % of explained variance.

Oblimin rotation based on the three assumed factors revealed that ten items loaded at > .50 on their corresponding factor (see Table 2), whereas items 11, 12 and 13 were omitted from the subsequent analyses because they did not meet the criteria for inclusion in the measurement model. More specifically, the items '*Helps me when I am getting him/her dressed (for example, by slipping his/her arms into the sleeves of a garment by him/herself)*' and '*Exclaims "Uh oh!!" (or similar) when something falls'* displayed low factor loadings, whereas the item '*Cries or becomes sad if somebody else is sad or cries*' constituted an additional single-item factor in its own right.

Table 2

Results of the Exploratory Factor Analysis of CPBQ items

	Dimensions			
	1(λ)	2 (λ)	3 (λ)	4 (λ)
4. Tries to help me with the housework (for example, sweeps the floor, wipes off the table, puts away toys, waters flowers)	.824			
2. Helps me of his/her own accord when I am looking for something around the house	.773			
8. Picks up something that I have accidentally dropped and hands it to me	.751			
11. Helps me when I am getting him/her dressed (for example, by slipping his/her arm into the sleeve of a garment by him/herself	.481			
9. Willingly shares toys with other children, even without being asked		.814		
7. Willingly shares toys with other children, when asked		.813		
10. Willingly shares toys with a parent, when asked		.710		
1. Willingly shares toys with a parent, even without being asked		.687		
6. Spontaneously offers his/her things to someone who is upset			.824	
5. Exclaims "Uh oh!!" (or similar) when he/she realizes that somebody else has a problem (is in trouble)			.773	
3. Hugs others when they are upset			.751	
12. Cries or gets upset if somebody else is upset or cries			.451	
13. Exclaims "Uh oh!!" (or similar) when something falls				-.693
Eigenvalue	3.81	1.97	1.30	1.13
Variance (%)	29.2	15.1	10.1	8.6
Cumulate variance (%)	29.2	44.3	54.4	63.0

The CPBQ measurement model composed of 10 items and three underlying dimensions (*helping*, *sharing* and *comforting*) identified on the 'training' subset was then used as a baseline model for applying confirmatory factor analysis and measurement invariance tests to the 'testing' subset. The confirmatory factor analysis performed on M1 (the unidimensional comparison model) suggested that it represented a poor fit for the dataset [$\chi 2$ (35) = 329.5, p < .001, NC = 9.41; RMSEA: .045; NFI = .472, NNFI = .346, CFI = .491], with all goodness-of-fit indexes exceeding acceptance criteria values. On the contrary, when confirmatory factor analysis was performed on M2 (the three-factor baseline model), a very good fit was found [$\chi 2$ (31) = 43.81, p = n.s., NC = 1.41; RMSEA: .204; NFI = .942, NNFI = .968, CFI = .978], suggesting that the 10-item/three-factor CPBQ represents a robust measurement model (see Figure 1). All factor loadings were statistically significant (p < .001), suggesting that it was appropriate to fully accept this measurement structure in relation to the 'training' data subset also.

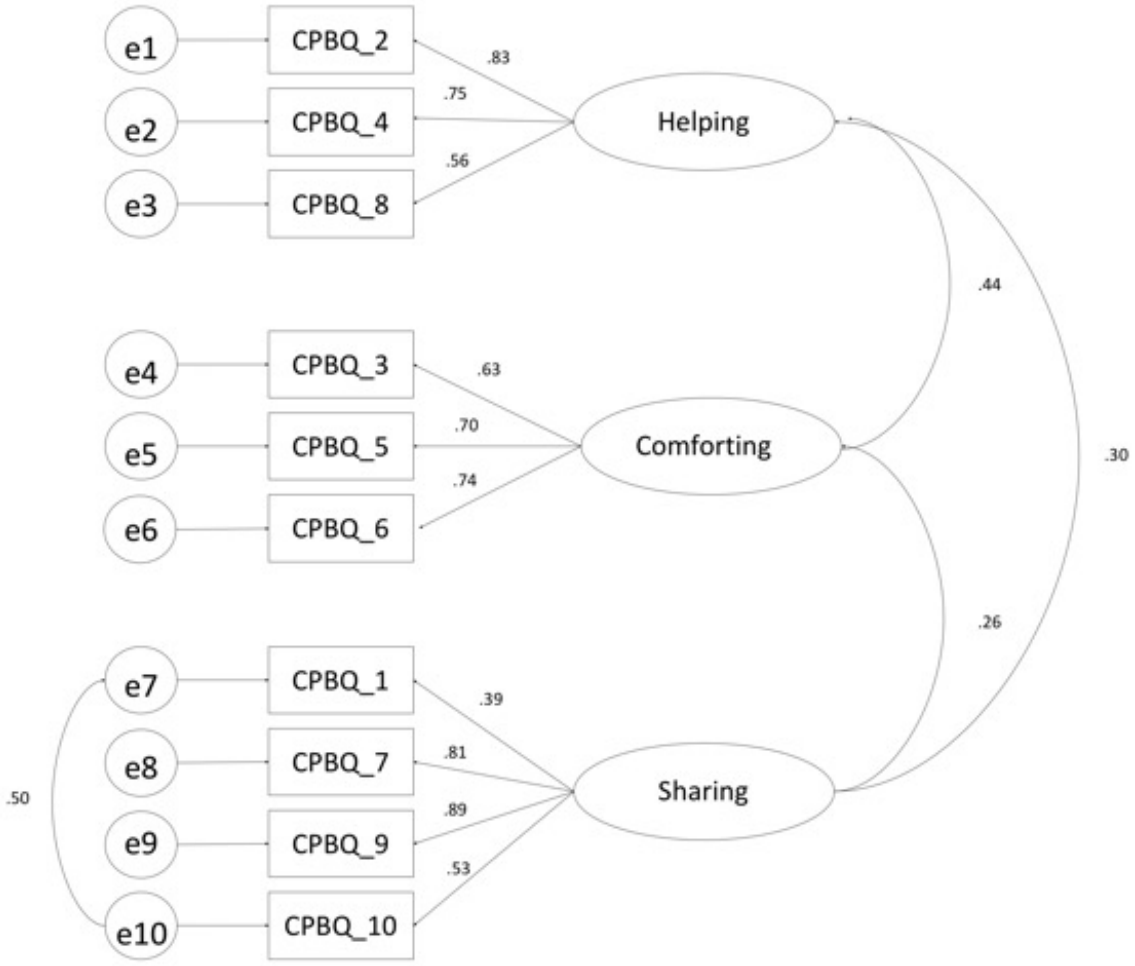

Figure 1. The Child Prosocial Behavior Questionnaire Measurement Model (all factor loadings were statistically significant at p < .001).

The rejection of M1 provided evidence for the discriminant validity of the three-dimensional model. It should be noted here that items displaying correlated error covariances were included in the model. This was justified because 1) the parameter did not substantially alter the measurement model (Bagozzi, 1983, p.2) and 2) it represented non-random error determined by the peculiar characteristics of the sample (Cavalera, Pepe, Zurloni, Diana, & Realdon, 2017; Grazzani, Ornaghi, Pepe, Brazzelli, & Rieffe, 2017; Veronese & Pepe, 2013).

With regard to invariance across children's gender, configural invariance (underlying dimensions measured using the same pool of items for each cohort), metric invariance (factor loadings set to be equal in both groups), strong invariance (factor loadings and item intercepts constrained) and full construct invariance (all parameters constrained to be equal) were tested. The main outcome was that the tested CPBQ measurement model displayed equivalence between boys and girls (see Table 3). Specifically, the data supported all levels of measurement invariance, while the full invariance test [$\chi 2$ (35) = 329.5, $p < .001$, NC = 9.41; RMSEA: .045; NFI = .472, NNFI = .346, CFI = .491] suggested that the questionnaire may be used to test both boys and girls and to compare their respective mean scores.

Table 3

Results of measurement invariance across children's gender

	$\chi 2$	df	p	$\Delta\chi 2$	NC	RMSEA	CFI	NNFI	AIC
Configural invariance	71.4	62	.192	-	1.15	.028	.983	.976	207.4
Metric invariance	73.7	69	.325	2.3	1.06	.019	.992	.989	195.7
Strong invariance	87.8	79	.232	14.1	1.11	.024	.984	.982	189.8
Full invariance	93.7	85	.348	5.9	1.10	.023	.985	.984	183.7

4.3. Descriptive Statistics, Internal Consistency, and Convergent Validity

Table 4 presents the main descriptives for the three CPBQ factors and the three EmQue-I13 dimensions, as well as the first-order correlations among them (after controlling for children's age) and their reliability.

Table 4

Main descriptives, first-order correlations and reliability of CPBQ and Emque-I13 dimensions

	1	2	3	4	5	6	A	CR
1. Helping (CPBQ-I)	-						.73	.76
2. Sharing (CPBQ-II)	.287**	-					.78	.77
3. Comforting (CPBQ-III)	.351**	.251**	-				.72	.73
4. Contagion (EmQue-I13-I)	.159**	.042	.266**	-			.74	-
5. Attention to Others' Feelings (EmQue-I13-II)	.222**	.167**	.231**	.316**	-		.70	-
6. Prosocial Action (EmQue-I13-III)	.294**	.129*	.564**	.402**	.298**	-	.81	-
Mean	10.69	13.16	8.52	9.09	19.77	9.17		
Standard Deviation	2.62	2.93	2.77	3.01	2.80	3.06		
Skewness	-.498	-.144	.066	.325	-.479	.349		

Note: These analyses were carried out on the dataset for the entire sample (N=409), A = Cronbach, CR = composite reliability (Raykov, 1997), ** $p < .001$, * $p < .01$

With regard to internal consistency, all three CPBQ subscales met both of the chosen criteria (Cronbach's alpha and composite reliability) satisfactorily, with values ranging from .72 (*comforting*) to .78 (*sharing*). The set of correlations (convergent validity) between the EmQue-I13 scores and the dimensions of CPBQ were generally moderate and statistically significant. After taking the effect of

children's age into account, correlations between *prosocial actions* (EmQue-I13-III) on the one hand and *comforting* (CPBQ-III) and *helping* (CPBQ-I) on the other were .294 ($p < .001$) and .564 ($p < .001$) respectively. Similarly, the dimension *attention to others' feelings* (EmQue-I13-II) was correlated with all three CPBQ factors. On the contrary, *sharing* (CPBQ-II) was not correlated with Contagion (EmQue-I-13-I). Finally, all three dimensions of CPBQ were normally distributed with skewness values between -1 and +1.

5. Discussion and Conclusion

The outcomes of this study testing the psychometrics properties of the *Child Prosocial Behavior Questionnaire* (CPBQ; see Appendix for both the Italian version and its English translation) provide evidence for a solid 10-item scale loading onto three factors, namely *Helping*, *Sharing* and *Comforting*. The CPBQ also displayed robust psychometric proprieties with respect to construct validity, measurement invariance, discriminant and concurrent validity, and subscale reliability. Interestingly, given that configural, metric and scalar invariance were achieved, it's possible to conclude that this questionnaire may be administered to parents of both boys and girls aged between 16 and 42 months. This means that significant differences in scores across gender reflect true differences in prosocial behaviors among participants with respect to the constructs under measure.

Convergent validity analyses further strengthened the CPBQ's psychometric status. Specifically, after controlling for the effect of age, *helping* and *comforting* behaviors were found to be associated with *prosocial action* as measured by the EmQue-I13: this factor includes items related to active prosocial behavior, such as helping or comforting peers who are experiencing difficulty or feeling sad or frightened. The non-significant relationship between the EmQue-I13 dimensions of *prosocial actions* and *contagion* and the CPBQ measure of *sharing* might be interpreted in light of the specific nature of the items on the *sharing* subscale, which concern sharing toys either spontaneously or on request and therefore measure a type of behavior that is not explicitly included in the EmQue-I13. On the other hand, *attention to others' feelings* was associated with all three CPBQ factors, even when age was taken into account: this result is in line with the literature that posits *attention to others' feelings* as a prerequisite for prosocial behavior in children (Rieffe et al., 2010).

Overall, the results of this study confirmed the validity and reliability of the CPBQ as a tool for parents to measure the frequency of different aspects of prosocial behavior in toddlers and preschool children. However, this study is not exempt from limits. First of all, only parents (mainly mothers)

were involved, whose compilation could be influenced by social desirability. In this regard, the comparison between several observers and the direct detection of prosocial behavior in naturalistic contexts could offer further evidence in favor of the goodness of the results obtained. A second limit concerns the sampling and in particular the geographical area of data collection, limited to Northern Italy, limiting the possibility of generalization of the results also to other cultural contexts. Finally, from the point of view of statistical analysis, it is necessary to point out that the rotation of the solution identified through the analysis of the main components does not allow to maximize the portion of the variance explained (as opposed to the analysis of the main components, Jolliffe & Cadima, 2016).

Despite these limitations, the CPBQ has characteristics of simplicity and agility in the compilation that make it particularly suitable for research in typical and atypical developmental psychology. In particular, the CPBQ could be used both in longitudinal studies, aimed at investigating the relationship between the different prosocial behaviors and various aspects of development psychological, and in research-intervention. Given the CBPQ's power to distinguish between core types of prosocial behavior in very young children, it could be of great value in investigating the interrelations between individual dimensions of prosocial behavior and other key aspects of children's socio-emotional development, such as empathy, emotion understanding, and emotion regulation. Furthermore, the CPBQ may contribute to longitudinal research exploring the impact of early prosocial behavior on socio-emotional development, helping to tease out the different developmental trajectories of helping, comforting and sharing action from toddlerhood to late childhood. Finally, given the significant link between prosociality and psychological well-being, social adjustment, and school achievement (Eisenberg, Eggum, & Di Giunta, 2010; Eisenberg, Eggum, & Spinrad, 2015), the CPBQ is a useful tool for obtaining crucial information from a "prevention" point of view and for identifying atypical manifestations linked to scarcity or lack of attitudes towards others, such as it can be found in evolutionary disharmony and in autism spectrum disorders.

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Study 2

PARENTAL SOCIALIZATION OF PROSOCIAL DEVELOPMENT:

PSYCHOMETRIC PROPERTIES OF THE PARENTAL PROSOCIAL PRACTICES QUESTIONNAIRE (PPPQ)

Abstract

Parents utilize a variety of socialization strategies to encourage young children's developing prosocial behaviors, including scaffolding, praise, reasoning, teaching, and drawing their children's attention to the mental and emotional states of those around them. Despite a growing research focus on prosocial socialization practices during early childhood, to our knowledge, no instruments have been developed for the assessment of such practices. The current research presents the psychometric proprieties of the Parental Prosocial Practices Questionnaire (PPPQ), a parent report tool designed to assess a range of socialization practices concerning prosocial behavior in early childhood. The outcomes of two studies (Study I: N = 409; Study II: N = 214) provided support for a three-factor measurement model (Scaffolding; Coaching; Contingency), comprising nine items and offering robust psychometric proprieties. These findings suggest that the PPPQ is a reliable, easy-to-use instrument for evaluating the socialization practices that parents bring to bear on their young children's developing prosociality, with a view to exploring correlates and predictors of prosocial behavior and to evaluate the effects of intervention programs designed to enhance parents' socialization strategies.

Key words: prosocial behavior; parental socialization; questionnaire; validation; early childhood

1. Introduction

Acting on behalf of others is a core component of childhood social competence and healthy adjustment that is known to emerge at a very early age (Eisenberg, Fabes & Spinrad, 2006). Starting from the second years of life, children are able to engage in a wide range of prosocial behavior, helping others, sharing toys of food with another person and comforting someone in distress (Brownell, Svetlova & Nichols, 2009; Dunfield, Kuhlmeier, O'Connell & Kelley, 2011; Svetlova, Nichols & Brownell, 2010; Warneken & Tomasello, 2006; Zahn-Waxler, Radke-Yarrow, Wagner & Chapman, 1992). From the outset, children exhibit wide variability in the complexity and frequency of prosocial action. Researchers have linked these individual differences to many factors, including parenting style, peer influence, school variables, and temperament. Although biological factors no doubt contribute to children's prosocial ability (Davidov, Zahn-Waxler, Roth-Hanania & Knafo, 2013; Hamlin & Wynn, 2011; Warneken & Tomasello, 2006; 2009), in keeping with theoretical perspectives that emphasized the social roots of prosocial behavior, it is generally agreed that early socialization plays a critical role in the developmental origins of prosociality (Brownell, 2013; 2016; Brownell et al., 2009; Carpendale, Kettner, & Audet, 2014; Dunfield et al., 2011; Gross, Drummond, Satlof-Bedrick, Waugh, Svetlova & Brownell, 2015; Paulus, 2014; Rogoff, Mistry, Goncu & Mosier, 1993; Svetlova, et al., 2010).

The socialization of prosocial behavior has enjoyed a relatively long history of study, with both cross-sectional and longitudinal studies supporting the import of a variety of socialization influences on children's prosocial development (Grusec, 2006; Hastings, Utendale & Sullivan, 2007).

Many agents contribute to promoting children's prosocial development and since the early years, the family represents the principal agent of socialization. Previous work on the early socialization of prosocial behavior has focused on individual differences in global parenting style, such as sensitivity or responsiveness. In recent years, there is a growing interest in the process of socialization, in exploring the specific behaviors and strategies that parents use with young children to support and encourage prosociality. Despite a growing research focus on prosocial socialization practices during early childhood, to our knowledge, no instruments have been developed for the assessment of such practices.

1.1. Parental socialization style

From the pioneering work of Baumrind (1971) and Hoffman (1970) to the present, parenting styles and techniques of discipline have been the most prominent explanatory frameworks for the development of prosocial behavior and have inspired ample research. Based primarily on correlational studies, many studies have generally agreed on defining a profile of parenting that typifies the socialization experiences of more prosocial children (Holmgren, Eisenberg, & Fabes, 1998; Grusec, Davidov, & Lundell, 2002). Their parents were authoritative, they eschewed harsh punishments and strong expressions of hostility or rejection. They were warm toward their children, enjoy shared activities, and provided praise more than criticism. They engaged in prosocial acts themselves, encouraged such behavior from their children, and provided explanations for these expected behaviors. Authoritative parenting could support prosocial behavior by modeling other-oriented behavior that children may emulate, encouraging children to be more considerate and caring, and eliciting affection and connectedness that make children more receptive to efforts to foster concern for others (Hastings, Zahn-Waxler, Robinson, Usher, & Bridges, 2000; Hastings, McShane, parker, & Ladha, 2007). In support of this assumption, other parenting styles have been found to be less related to prosocial behavior and at times even as undermining the prosociality of their offspring. The authoritarian style, for instance, has been described as believing in strict adherence to parental rules, the use of punishment and unlikely to discuss rules with the child, behaviors that may lead children to reject instead of accept parental socialization efforts and undermine children's prosocial behavior by modeling a lack of concern for the needs of others (Hastings, Zahn-Waxler, & McShane, 2006). Parental permissiveness, or indulgence, on the other hand, has been viewed as leaving children without a clear sense of parental and social expectations, unsuitable to instill in children prosocial values as moral imperatives (Baumrind, 1971; Maccoby, Martin, Mussen, & Hetherington, 1983; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994;).

Longitudinal studies supported the suggestion that parenting styles foster children's prosocial development over time, but not always in the straightforward manner researchers have expected. In a study carried out by Hastings et al. (2000), mothers who were more authoritative and less authoritarian with preschoolers had children who showed more observed, mother-reported and teacher-reported prosocial behavior 2 years later. Effects were evident when children's earlier prosocial behavior was controlled, suggesting maternal style contributed to prosocial development over and above the stability of children's behavior. In a study predicting prosocial behavior at 4 years from mother and child characteristics at 2 years, children were observed interacting with a researcher and their mother on one day and with peers but without their mother present on another day. Earlier

maternal authoritative style predicted more prosocial responses to a researcher for girls who had been less inhibited toddlers (Hastings, Rubin, & DeRose, 2005). For girls who had been more inhibited, early maternal authoritarianism predicted more prosocial responses to the researcher but fewer prosocial responses to peers (Hastings, Rubin, Mielcarek, & Kennedy, 2002). These results could suggest that authoritative parenting supports autonomous prosocial behavior in girls who are dispositionally comfortable in challenging social circumstances, whereas authoritarian parenting induces more compliant prosocial behavior in dispositionally reticent girls. Low prosocial behavior in the peer context indicates that inhibited girls could not enact such behaviors spontaneously, without maternal direction or support. Grusec and Goodnow (1994) suggested that authoritative parents must themselves hold prosocial values, or subscribe to an "ethic of care," in order for their children to internalize such an orientation. Authoritative parenting and parental emphasis on caring for others have also predicted more mature values of caring for others over 4 years (Pratt, Skoe, & Arnold, 2004). In turn, young adults' caring values were associated with their engagement in voluntary, other-oriented community activities.

These outcomes indicate that parenting styles make lasting contributions to prosocial development, in accord with the hypothesized processes of internalization of parental expectations and societal values (Grusec, Goodnow & Kuczynski, 2000). However, socialization research on these broad parenting styles has its limits. Specific parenting actions vary widely across contexts and depend on parents' goals (Hastings & Grusec, 1998; Grusec & Kuczynski, 1980). A given parent will not always behave in ways that match with a single defined style (Grusec & Goodnow, 1994). Parenting styles are complex and multifaceted, and measures often combine parenting behaviors with parental attitudes and emotions, such that it can be difficult to infer the likely processes or mechanisms that explain associations between parenting styles and child outcomes. A parenting style may be seen as providing the general context of the parent-child relationship, whereas specific parenting practices convey the means by which parents socialize desired outcomes (Darling & Steinberg, 1993).

1.2. Parental socialization practices

Prosocial socialization involves many processes. Parents often self-consciously attempt to teach their children prosocial response by praising selfish and uncooperative response. They may instruct their children, reason with them, and explain rules or standard of prosocial behavior. Many of the child's prosocial actions are also the products of subtler processes, such as imitation or identification. Previous research has revealed that parents utilize a variety of socialization strategies to encourage young children's developing prosocial behaviors, including negotiation (Crockenberg & Litman,

1990), scaffolding (Hammond, 2011), reasoning and induction (Krevans & Gibbs, 1996), and praise (Grusec, 1991). These different socialization approaches vary with the age of the toddler (Pettygrove, Hammond, Karahuta, Waugh, & Brownell, 2013; Waugh, Brownell, & Pollock, 2015).

1.2.1. Scaffolding

One way to describe the strategies used by parents to promote their children's prosocial development is through scaffolding. Scaffolding refers to the ways in which adult directs children to perform at higher levels than they would show when acting on their own, it concerns the adult's control over elements of a task initially outside the child's abilities in order for the child to concentrate his or her efforts on elements that he or she is currently capable of managing. As scaffolding progresses, the adult remains sensitive to the child's successes and failures, instituting further instruction according to his or her performance (Wood, Bruner & Ross, 1976).

Parents may stimulate and encourage prosocial development by creating situations where they can work together toward other-oriented goals. Children thereby learn by doing, becoming prosocial by participating together in prosocial activity. Few studies have investigated the effects of parental scaffolding on infant helping. Research had shown that toddlers whose mothers scaffolded their everyday helping were more helpful toward an unfamiliar adult (Dahl, Satlof-Bedrick, Hammond, Drummond, Waugh & Brownell, 2017; Hammond & Carpendale, 2015; Pettygrove et al., 2013). Hammond (2011) founded that mothers who included their 18- to 24-month-old toddlers in a cooperative clean-up activity after joint play had children who were later more likely to help an experimenter. In several longitudinal studies, Kochanska and her colleagues observed that when mothers and toddlers routinely engage in positive, mutually responsive affiliative activity, their children exhibit greater prosocial behavior starting in their second year and develop a stronger moral conscience (Kochanska, 2002). In naturalistic observations of infants at home, Dahl et al. (Dahl, Schuck, Hung, Hsieh, & Campos, 2012) founded positive associations between parental encouragement and helping early in the second year.

Later in the second year and into the third, as infants become more skilled helpers, parents rely increasingly on more implicit forms of scaffolding, such as references to needs of the recipient, reasoning, and negotiation (Pettygrove et al., 2013; Waugh et al., 2015). At these older ages, these implicit forms of scaffolding, but not explicit encouragement and praise, are associated with higher helping rates (Brownell, Svetlova, Anderson, Nichols, & Drummond, 2013; Eisenberg, Wolchik, Goldberg, & Engel, 1992; Hammond & Carpendale, 2015; Pettygrove et al., 2013). These findings suggest that the consequences of adult facilitation depend on infants' developmental level in the

second year: explicit scaffolding increases simple instrumental helping early in the second year - when infant helping is just emerging - while it is less effective later in the second year, when basic helping skills are already in place (Warneken & Tomasello, 2008; 2013).

1.2.2 Reinforcing and contingency

Parents also socially reinforce young children's helping behavior, thanking and praising them for helping both in the home (Dahl et al., 2012) and in the laboratory (Eisenberg et al., 1992; Rheingold, 1982).

Consistent with learning theory, concrete and social reinforcement have been found to increase children's prosocial behavior (Eisenberg et al., 1993; Gelfand, Hartmann, Cromer, Smith, & Page, 1975; Grusec & Redler, 1980). The effects of social reinforcement may vary as a function of type of praise and the age of the child. For young children, reinforcement for prosocial behavior does not seem to increase prosocial tendencies in other setting or over time (Eisenberg et al., 1992; Grusec, 1991). Moreover, praise that attributes the children's positive behavior to their dispositional kindness or internal motives appears to be more effective than praise that simply labels the act as positive (Grusec & Redler, 1980; Mills & Grusec, 1989). Although one recent study founded that material rewards reduced toddlers' helping (Warneken & Tomasello, 2008), verbal encouragement did not (Warneken & Tomasello, 2013). In an early study of social reinforcement of prosocial behavior, parents' praise of 1- and 2-year olds' prosocial behavior during a play session was positively related to the children's prosociality with the parent during the session (Eisenberg et al., 1992). Social approval may be especially effective in the context of joint activity where parents may use it to scaffold mastery by informing the child that helping behavior is desirable and encouraging the child to repeat or continue such behavior.

1.2.3 The conversation about emotions and inner-states

Parents use emotion-based language to draw young children's attention to others' emotions and internal states, to intensify children's awareness of their own emotions, and to teach their children how to respond appropriately to emotion-related experiences (Brown & Dunn, 1991; Denham & Auerbach, 1995; Miller & Sperry, 1988; Wang & Fivush, 2005). Talking about emotions helps young children represent, reason about, and respond to them separately from experiencing them. This, in turn, may promote more complex, other-oriented forms of response to others' emotions. Parents' discussion of emotions and internal states with their young children is likely to be especially valuable in fostering prosocial and altruistic behavior because of the salience of emotions and the likelihood

that thinking and talking about them will enhance children's awareness and understanding of their own and others' needs and desires (Brown & Dunn, 1991; Dunn, Brown, & Beardsall, 1991; Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991; Laible, 2004; Ruffman, Slade, & Crowe, 2002; Symons, 2004; Thompson, 2006).

A number of researchers have reported associations between parent-child mental state talk and preschool children's understanding of emotions and other psychological states (LaBounty et al., 2008; Lagattuta & Wellman, 2002; Ruffman et al., 2002; Taumoepeau & Ruffman, 2006), particularly when the discourse occurs within socially connected interchanges (Ensor & Hughes, 2008). The valence of the emotion discussed may also predict children's competence. Although high levels of negative family emotion are detrimental to children's development (Eisenberg, Cumberland & Spinrad, 1998), research has suggested that discussions of negative emotions are richer, more detailed, and more focused on the emotions of others than conversations about positive emotions, which could mean that talk about negative emotions may provide better opportunity for emotion socialization than talk about positive emotions (Lagattuta & Wellman, 2002).

Parental talk about emotions has repeatedly been shown to predict prosocial-related behavior. In particular, research showed that children whose parents engaged them in more emotion-related discourse during joint book reading, and who were particularly asked by their parents to attend to and reflect on others' emotions, helped more quickly and more often on emotionally laden helping and sharing tasks with other adults (Garner, Dunsmore, & Southam-Gerrow, 2008; Brownell et al., 2013; Drummond, Paul, Waugh, Hammond, & Brownell, 2014). Among preschool-age and older children, parents' discussion of emotions is associated with children's prosociality (Denham, Bassett, & Wyatt, 2007; Denham, Cook, & Zoller, 1992; Garner et al., 2008). A small number of studies have examined links between prosocial behavior and parental talk about emotions in very young children in whom both language and prosocial behavior are just emerging. In early research, Zahn-Waxler et al. (Zahn-Waxler, Radke-Yarrow, & King, 1979) showed that 18- to 30-month-old children whose mothers frequently used multiple forms of affective communication exhibited greater concern in response to others' distress and were more likely to try to comfort them. In another pioneering study, Dunn & Munn (1986) founded that mothers' discussion of feelings during family interactions with 18- and 24-month-olds was associated with children's cooperative and conciliatory behavior with siblings. More recently, Garner (2003) observed that 25-month-olds whose mothers more often explained a doll's emotions or asked the children to label the doll's emotions were more attentive to and concerned about an adult's distress when her favorite toy broke. There is thus initial evidence for

relations between parental talk about emotions and toddler-aged children's early prosocial responsiveness.

1.3. Maternal and paternal influences on prosocial behavior

Most studies of parental socialization of prosocial behavior have not focused as much attention on the roles of fathers in children's prosocial development compared to mothers.

The studies that have included fathers indicate that paternal influences may contribute to children's prosocial development. Several correlational studies have documented relations between children's prosocial behavior and fathers' authoritative and authoritarian styles, inductive reasoning, discipline, and warmth that are similar to those seen with mothers (Dekovic & Janssens, 1992; Janssens & Gerris, 1992; Sturgess, Dunn, & Davies, 2001), even though these results have not been as consistent (Hart, DeWolf, Wozniak, & Burts, 1992). The limited set of longitudinal studies involving fathers suggested that the lasting influences of paternal socialization may be more limited than has been documented for mothers. In particular, Volling and Belsky (1992) have shown that earlier paternal supportive parenting predicts more prosocial behavior within sibling. Roberts (1999) founded that boys' prosocial behavior toward peers decreased over 3 years when fathers were more suppressing of their preschool-age sons' emotional expressiveness. Conversely, Hastings, Rubin, and DeRose (2005) did not find any associations between fathers' self-reported authoritarian, authoritative or protective parenting of toddlers and the children's observed prosocial responses to mothers and experimenters 2 years later.

In general, the evidence indicated that paternal influence on prosocial development is weaker than maternal influence (Hastings et al., 2007). This may be because of mothers' greater involvement in rearing young children in most households, such that mothers have more opportunities to socialize prosocial behavior than do fathers. In addition, there is evidence that fathers tend to be less aware of their children's prosocial activities (Grusec, Goodnow, & Cohen, 1996). Their relative unawareness of children's prosocial behavior may offer fewer opportunities for fathers to reinforce or support prosocial development.

1.4. Socialization of boys' and girls' prosocial behavior

In many studies, researchers have found no differences between the socialization correlates of prosocial behavior for boys and for girls. However, a few studies have shown that relations between parental socialization and prosocial behavior are stronger for daughters than for sons (e.g., Eisenberg

et al., 1992; Hastings et al., 2005; Hastings et al., 2007). Girls may be biologically predisposed toward being more prosocial, such that parental socialization can more easily support their nascent tendencies. Parents may wish to encourage sex-typed positive outcomes in their daughters and sons, such that they subtly alter or selectively express parenting styles or behaviors in ways that increase sex differences over time. If researchers have selectively measured more feminine prosocial behavior, as we suggested earlier, then they may have neglected to identify links between socialization and the more masculine forms of prosocial behavior that could be expected from boys. Finally, synthesizing these possibilities, the same socialization experiences may foster different developmental trajectories in boys and girls. Parents of daughters and sons may convey the same authoritative style, internal attributions for good behavior, or supportive responses to good behavior, but these may foster girls' and boys' differing dispositional tendencies to display compassionate versus agentic prosocial behaviors, respectively. Spinrad et al. (1999) provided the clearest support for this latter possibility. They hypothesized that emotional aspects of morality were more feminine, whereas behavioral aspects of morality were more masculine, such that mothers' positive socialization would support the former in daughters and the latter in sons. Indeed, they found that mothers' expressions of positive affect were associated with girls', but not boys', reports of sympathy and with boys', but not girls', resistance to cheating. Mothers' encouraging statements during a challenging task also were associated with boys', but not girls', resistance to cheating, although these statements were associated with both boys' and girls' sympathy. It is noteworthy that mothers of boys and girls did not differ in their expressed emotion or encouragement. Rather, the same parenting behaviors appeared to foster sons' and daughters' different ways of being good.

2. The present studies

Despite the growing research focus on prosocial socialization practices during early childhood, there are few validated instruments available for assessing the different strategies used by parents to encourage young children's developing prosocial behaviors. Indeed, the tools currently in use in this field were designed to measure parenting style (e.g., The Parental Style Questionnaire, Venuti & Senese 2007) or parents' emotional style (e.g., the Maternal Emotional Style Questionnaire, Lagacé-Séguin & Coplan, 2005).

Overall, the aim of the following two studies was to evaluate the psychometric properties of a new tool, the Parental Prosocial Practices Questionnaire (PPPQ), which was designed to assess the various forms of prosocial socialization practices displayed by parents in early childhood.

3. Study I

The purpose of Study I was to identify the factorial structure of the Parental Prosocial Practices Questionnaire (PPPQ) – a new instrument designed to assess the various prosocial socialization strategies displayed by the parents of very young children.

3.1. Method

3.1.1. Participants

The participants were 409 Italian parents (mothers = 91.2%), recruited through early childhood education centers in Northern Italy. Parents' mean age was 35.7 years (*SD* = 5.34 years; range: 21-61 years) and was in line with that of the general population of Italian parents with 1- to-3-year-old children as officially recorded by the National Institute of Statistics (ISTAT 2013). Participants mostly came from middle-class socioeconomic backgrounds and 93.9% held a school leaving diploma or higher educational qualification. The respondents were mainly married (78.4%), there were 88 single-parents (23.2%) and 9 divorced-parents (2.2%). The children ranged in age from 16 to 42 months (M_{age} = 28.4 months; *SD* = 7.6 months) and the gender composition of the sample was balanced (46.7% girls).

All participants were recruited on site using a convenience sampling method. Questionnaire was completed anonymously at home, after participants had received careful instructions from our team. The research was conducted following the ethical principles and code of conduct of APA (American Psychological Association, 2010), as well as the indications provided by the Ethics Committee of the University of Milan-Bicocca.

3.1.2. Measures

Participant completed the *Parental Prosocial Practices Questionnaire* (PPPQ; Brazzelli, Grazzani, & Pepe, 2018; see Appendix C for both the Italian version and its English translation). To assess parental prosocial practices, we drew on the existing literature (Gross et al., 2015; Brownell et al., 2013) to construct the PPPQ, a parent-report measure comprising 12 items describing parents'

socialization behaviors. The items are distributed over the areas of Prosocial Scaffolding (e.g., *I organize with my child activities that require helping behavior*), Coaching (e.g., *I encourage my child to pay attention to his/her feelings or those of other people*) and Contingency (e.g., *I praise my child when he/she shares his/her toys with me or someone else*). In order to create three conceptually homogeneous factors that covered the three prosocial domains, prior to the analysis, the items were examined including only those items, which (i) could be clearly allocated to only one of the domains of interest, (ii) refer to a specific domain of prosocial behavior in general, without limiting the recipients, (iii) referred to everyday situations. Respondents were asked to rate the frequency with which they engaged in each of the described behaviors on a 5-point scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=always).

3.1.3. Data Analysis

The steps in the data analysis followed standard procedure for instrument development (Matsunaga, 2010). In order to maximize the number of 'points' used to test the measurement model and to prevent potential over-fitting (Rao, Fung, & Rosales, 2008), cross-validation performance was assessed via the holdout method (Arlot & Celisse, 2010). To this end, the original dataset was randomly split into two subsets: the 'training' set (n = 205) and the 'testing' set (n = 204).

First, exploratory factor analysis was performed on the 'training' set by means of the principal components method (Kallina & Hartman, 1976) and oblimin rotation (Darton, 1980). Principal component analysis provides an empirical summary of the dataset by maximizing total variance (Tabachnick & Fidell, 2013) and is appropriate in contexts of measure development (Bollen, Van de Sompel, Hagberg, & Chute, 2009). Once the items had been factored, Kaiser's criterion (Kaiser, 1960) was used to determine the most appropriate number of factors to retain, meaning that we retained all factors with eigenvalues greater than 1.0. In addition, only factors composed of at least three items were retained (Yong & Pearce, 2013), only factor loadings (λ) greater than .50 were used (Hair, Black, Babin, Anderson, & Tatham, 2006), and items that loaded on more than one factor after factor rotation were dropped (Costello & Osborne, 2005). The resulting measurement model was then evaluated on the 'testing' set via Confirmatory Factor Analysis (CFA) (Jöreskog & Sörbom, 2004; Gagne & Hancock, 2006). CFA techniques provide both numerical support for the development of quantitative instruments and evidence of construct validity (Hahs-Vaughn, 2016). In the present study, two different measurement models were tested. First, a unidimensional model (M1) in which all items loaded on a single latent factor was evaluated. Second, the hypothesized tripartite factor model (M2) was tested. This is the procedure recommended by Judd, Jessor, and Donovan (1986) for

evaluating discriminant validity: namely, the goodness-of-fit indexes of a baseline multifactor model comprising all the instrument's subscales are compared with those of a nested comparison model consisting of a single global factor. The absolute and relative fit indexes adopted in this study were: $\chi 2$, Normed-Chi Square (NC), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual, Comparative Fit Index (CFI), and Tucker–Lewis Index (TLI) (see Hu & Bentler, 1999 for details). Model fit was considered robust if NC was <2.0, RMSEA < .08, CFI and TLI > .95 (Morin, Marsch, & Nagengast, 2013). To further assess the instrument's reliability in measuring children's prosocial actions, the model supported by CFA was taken as the basis for testing factorial invariance across gender. Measurement invariance between boys and girls would imply that the relations among underlying dimensions and observed variables did not significantly vary as a function of gender. The gender groups were selected for comparison on the grounds that they were expected to differ with regard to key aspects of prosociality (Stolarova & Brielmann, 2014). If the instrument was found to measure the same constructs in boys and girls, this would provide further evidence for its ecological validity and justify greater confidence in generalizing across groups (Hair et al., 2010).

Measurement invariance (MI) (Vandenberg & Lance, 2000) was assessed via multi-group confirmatory factor analysis (MGCFA). In line with best practice for MI (for details, see Cheung & Rensvold, 2002), four levels of invariance were tested: configural invariance, metric invariance, strong invariance, and full construct invariance were all supported. Given that the procedure was applied first to the baseline model and then to the nested model, the MI analysis reflected this hierarchically ordered structure. Measurement equivalence across gender groups was rejected if the $\Delta\chi 2$ between the two models was statistically significant. For the other fit indexes (ΔCFI, ΔRMSEA, ΔTLI), the parameter for rejecting invariance was set at $\Delta > .01$, corresponding to a p level of .01 (Chen, 2007).

Finally, the administered scales were analyzed for reliability [via Cronbach's alpha and composite reliability (Raykov, 1997) measures] and convergent validity. With regard to convergence, we expected to find positive and statistically significant correlations between children's CPBQ scores and their ratings on the dimensions of the EmQue-I13.

Preliminary exploration of the data included testing distribution assumptions (asymmetry and kurtosis values were required to fall within the range −1, +1) and checking for multivariate outliers (Mahalanobis' distance was set at $p < .001$). The proportion of questionnaires returned with at least

one missing value was 2.6%: missing values were deleted following a list-wise approach, and in fact the original dataset was composed of 420 questionnaires.

3.2. Results

3.2.1. Descriptive statistics

Table 5 presents the means, standard deviations, skewness, and asymmetry values for all the measures of the PPPQ. Preliminary examination of the measures suggested that all indicators were essentially normally distributed, except for the items that refer to praise (e.g., Item # 4, #6, #8).

Table 5

Results of the descriptive statistics of the PPPQ – Study I

	M	SD	Skewness	Kurtosis
1. I ask my child to help me even if I do not really need it, just to teach him/her to help others	3.57	0.93	-.732	.631
2. I encourage my child to pay attention to his/her feelings or those of other people	4.02	0.88	-.945	1.119
3. I talk with my child about the importance of helping others	3.23	1.09	-.288	-.546
4. I praise my child when he/she helps me or someone else (eg: "good boy", "very good")	4.70	0.55	-2.492	9.950
5. I talk to my child about his/her feelings or those of other people	3.64	1.01	-.528	-.092
6. I thank my child when he/she helps me or someone else	4.81	0.43	-2.468	6.953
7. I organize activities with my child that require help behaviors (e.g., cleaning or cooking together)	3.50	1.01	-.319	-.298
8. I praise my child when he/she shares his toys with me or someone else	4.45	0.76	-1.376	1.593
9. I use words related to helping behaviors when I speak with my child (e.g., help, helper, helpful)	3.75	0.93	-.570	.117
10. I use specific facial expressions when I ask my child to help me (eg, taking a sad face)	2.97	1.30	-.021	-1.049
11. I ask my child to share his/her toys with me or someone else	4.33	0.68	-.893	1.244
12. I encourage my child to help me put away his/her toys	4.38	0.80	-1.182	.695

3.2.2. Factor Structure, Construct Validity

Exploratory Factor Analysis of the PPPQ-12 data set revealed a factor structure comprising three latent dimensions that accounted for 54.7 % of explained variance. Inspection of structural criteria showed that, with three exceptions, items' saturation values fell above the fixed cut-off point (λ = .50). No items with double factor loadings were found. Thus, three items (item10, item11, item12) were omitted from the measurement model to provide the best trade-off between model parsimony and model complexity. The resulting structure is reported in Table 6 and was adopted as the baseline for the subsequent analyses.

Table 6

Results of the Exploratory Factor Analysis

	Components		
	1	2	3
05. I talk to my child about his/her feelings or those of other people	.829		
03. I talk with my child about the importance of helping others	.778		
02. I encourage my child to pay attention to his/her feelings or those of other people	.738		
10. I use specific facial expressions when I ask my child to help me (eg, taking a sad face)	*.482*		
08. I praise my child when he/she shares his toys with me or someone else		.874	
04. I praise my child when he/she helps me or someone else (eg: "good boy", "very good")		.795	
06. I thank my child when he/she helps me or someone else		.721	
01. I ask my child to help me even if I do not really need it, just to teach him/her to help others			.785
07. I organize activities with my child that require help behaviors (e.g., cleaning or cooking together)			.734
09. I use words related to helping behaviors when I speak with my child (e.g., help, helper, helpful)			.587
11. I ask my child to share his/her toys with me or someone else			*.464*
12..I encourage my child to help me put away his/her toys			*.427*
Eigenvalue	3.45	1.59	1.15
Explained Variance	28.8	13.2	9.61
Cumulate variance.	28.8	42.0	51.7

Note: Keiser Meyer Olkin test of sampling adequacy (KMO = .73) and Bartlett's sphericity test (540.8, $p < .001$) indicated that EFA can be appropriately applied. In *italics* were reported skipped items.

The CFA provided further support for the construct validity of the PPPQ (see Figure 2). The relative fit index [$\chi 2(24) = 27.2$, $p = .297$, NC = 1.13)] confirmed the robust statistical significance of the measurement model. The other fit indexes (NNFI=.987, CFI =.991, RMSEA=.025 p = .82) also supported a tripartite model composed of nine items with uncorrelated error variances. The three-dimensional nine-items structure was thus confirmed as the baseline for testing convergent and discriminant validity in Study 2. The three factors were labeled in keeping with the meaning of the items forming them and their respective saturation values (Nunnally, 1978): Coaching (item 2, 3, 5), Scaffolding (item 1, 7, 9) and Contingency (item 4, 6, 8).

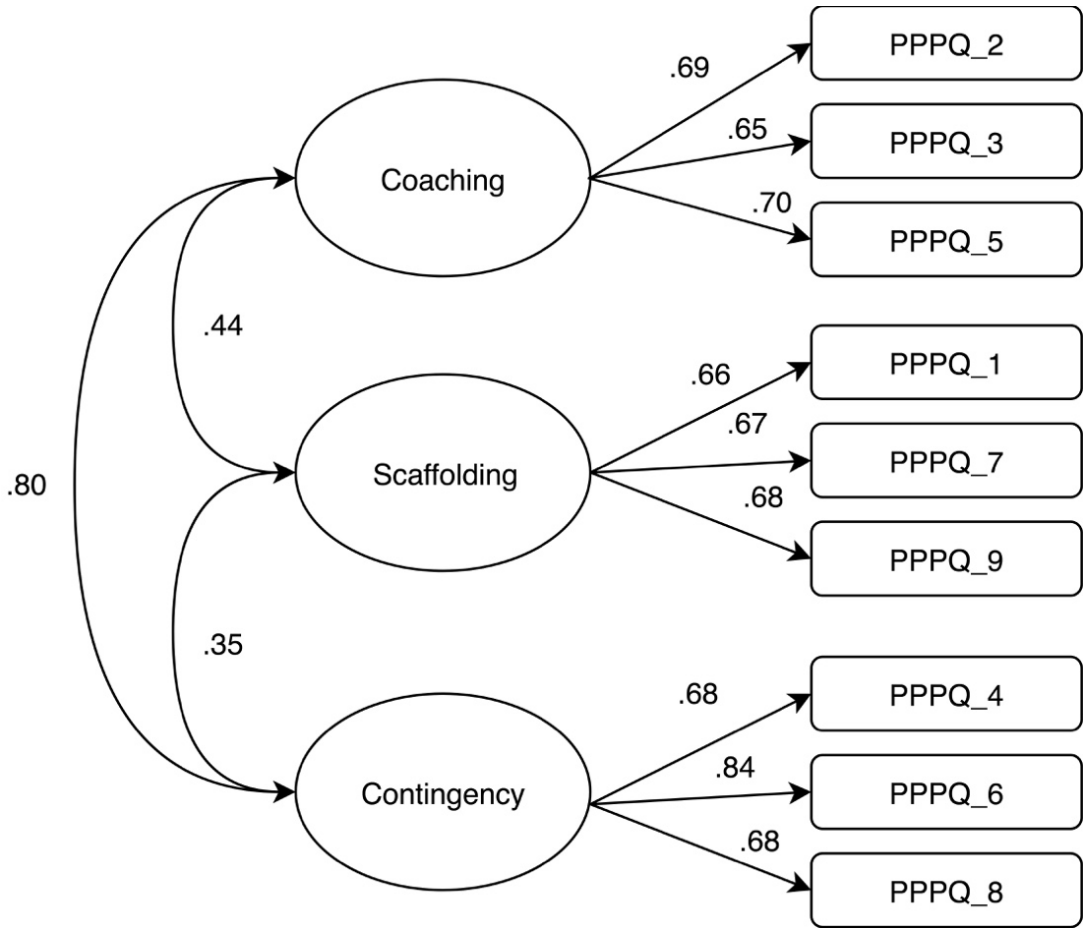

Figure 2. Baseline model of PPPQ measurement as tested via confirmatory factor analyses.

4. Study II

Starting from the outcomes of the Study I, the aim of Study II was to cross-validate and evaluate the resulting measurement model with different cohorts of parents, with a view to further investigating the PPPQ's construct validity and reliability.

4.1. Method

4.1.1. Participants

The participants were 214 Italian mothers recruited at a different set of early education centers, again in Northern Italy. Mothers' mean age was 34.7 years (*SD* = 5.01 years; range: 18 - 46 years) and was in line with that of the general population of Italian parents with 1- to-3-year-old children as officially recorded by the National Institute of Statistics (ISTAT 2013). In this sample, 39.7% of respondents had completed graduate or postgraduate studies and the 71% are married. The children ranged in age from 13 to 41 months (M_{age} = 28.3 months; *SD* = 6.01 months) and the gender composition of the sample was balanced (50.9% boys).

All participants were recruited on site using a convenience sampling method. The questionnaire was completed anonymously at home, after participants had received careful instructions from our team. The research was conducted following the ethical principles and code of conduct of APA (American Psychological Association, 2010), as well as the indications provided by the Ethics Committee of the University of Milan-Bicocca.

4.1.2. Measures

Participants completed both the *PPPQ* (PPPQ; Brazzelli et al., 2018) and the *Maternal Emotional Style Questionnaire* (MESQ, Legacé-Séguin, & Coplan, 2005; Italian version: Ciucci & Menesini, 2008).

The *Parental Prosocial Practices Questionnaire* (PPPQ; Brazzelli et al., 2018) is a parent-report measure for the assessment of parental prosocial socialization practices. The items are distributed over the areas of Prosocial Scaffolding, Coaching, and Contingency. Respondents were asked to rate the frequency with which they engaged in each of the described behaviors on a 5-point scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=always).

The *Maternal Emotional Style Questionnaire* (MESQ, Legacé-Séguin, & Coplan, 2005; Italian version: Ciucci & Menesini, 2008; see Appendix D for the Italian version) is a measure of maternal emotional behaviors associated with children's emotion displays. The 14 items are distributed over the areas of Emotion-Coaching and Emotion-Dismissing style of parenting. Responses were solicited on a 5-point Likert scale anchored from 1 (strongly disagree) to 5 (strongly agree).

The *Parental Style Questionnaire* (PSQ, Venuti & Senese, 2007; see Appendix E for the Italian version) measures parental behaviors (maternal and paternal). The 19 items are distributed over three central parenting domains: Social, Didactic and Disciplinant. Respondents were asked to rate the frequency with which they engaged in each of the described behaviors on a 5-point scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=always).

4.1.3. Strategy of analyses

The model of measurement was investigated using a combination of Exploratory Factor Analyses (EFA) and Confirmatory Factor Analysis (CFA) (Matsunaga, 2010; Mertler, & Reinhart, 2017; Pepe, Addimando & Veronese, 2017). In Study I, EFA was applied to a randomly-selected half of the data (training set) and CFA to the remaining half (testing set). The resulting measurement model was adopted as a 'baseline' for conducting additional analyses of reliability, convergent and discriminant validity on the data collected in the Study II.

EFA was performed by applying principal components analyses (PCA; Tabachnick & Fidell, 2013) and Oblimin rotation (Darton, 1980). Kaiser's criterion (Kaiser, 1960) was applied to establish the most appropriate number of factors to retain. As additional selection criteria, only factor loadings (λ) greater than .50 were considered (Hair, Black, Babin, Anderson, & Tatham, 2006), while items that loaded on more than one factor were omitted (Costello & Osborne, 2005). The Kaiser-Mayer-Olkin (KMO) test and Bartlett's test of sphericity were run to ensure that the data were suitable for factor analysis (Field, 2005).

In order to further investigate the instrument's construct validity (Gagne & Hancock, 2006), the factor structure identified via the EFA was next analyzed via CFA; this technique is used to assess the empirical and numerical support for quantitative instruments by testing the fit of a given model of measurement with empirical data (Kline, 2010). The following absolute and relative fit indexes were adopted: $\chi 2$, Normed-Chi Square (NC), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual, Comparative Fit Index (CFI) and the Tucker-Lewis Index

(TLI) (see Hu & Bentler, 1999 for details). Model fit was considered robust if NC was <2.0, RMSEA < .08, CFI and TLI > .95 (Morin, Marsch, & Nagengast, 2013).

Measurement invariance (MI) (Vandenberg & Lance, 2000) was assessed via multi-group confirmatory factor analysis (MGCFA). In line with best practice for MI (for details, see Cheung & Rensvold, 2002), four levels of invariance were tested: configural invariance, metric invariance, strong invariance, and full construct invariance were all supported. Given that the procedure was applied first to the baseline model and then to the nested model, the MI analysis reflected this hierarchically ordered structure. Measurement equivalence across gender groups was rejected if the $\Delta\chi 2$ between the two models was statistically significant. For the other fit indexes (ΔCFI, ΔRMSEA, ΔTLI), the parameter for rejecting invariance was set at $\Delta > .01$, corresponding to a p level of .01 (Chen, 2007).

Finally, we tested the instrumental's internal consistency [via Cronbach's alpha (Cronbach, 1951) and composite reliability (Raykov, 1997) measures], and convergent and discriminant validity. With regard to convergence validity, in Study II we expected to find positive and statistically significant correlations between the PPPQ and the coaching style (MESQ) scores; while in terms of discriminant validity, we predicted that there would be no significant correlations between the PPPQ and dismissing style (MESQ) scores.

Preliminary exploration of the data included testing distribution assumptions (asymmetry and kurtosis values were required to fall within the range −1, +1) and checking for multivariate outliers (Mahalanobis' distance was set at $p < .001$). In both studies, the mean proportion of questionnaires returned with at least one missing value was 0.25%; consequently, missing values were randomly replaced with admissible values (Raghunathan & Arbor, 2016).

4.2. Results

4.2.1. Descriptive statistics

Table 7 presents the means, standard deviations, skewness, and asymmetry values for all the measures of the PPPQ. Preliminary examination of the measures suggested that the items # 4, #6, #8 were not normally distributed.

Table 7

Results of the descriptive statistics of the PPPQ – Study II

	M	SD	Skewness	Kurtosis
1. I ask my child to help me even if I do not really need it, just to teach him/her to help others	3.76	0.97	-.624	.113
2. I encourage my child to pay attention to his/her feelings or those of other people	4.02	0.88	-.625	-.297
3. I talk with my child about the importance of helping others	3.56	1.02	-.301	-.503
4. I praise my child when he/she helps me or someone else (eg: "good boy", "very good")	4.74	0.51	-1.851	2.622
5. I talk to my child about his/her feelings or those of other people	3.64	0.96	-.509	-.040
6. I thank my child when he/she helps me or someone else	4.81	0.46	-2.697	8.937
7. I organize activities with my child that require help behaviors (e.g., cleaning or cooking together)	3.69	0.95	-.445	-.156
8. I praise my child when he/she shares his toys with me or someone else	4.48	0.68	-1.330	2.344
9. I use words related to helping behaviors when I speak with my child (e.g., help, helper, helpful)	3.97	0.80	-.508	-.117

4.2.2. Factor structure, construct validity, and measurement invariance

The factor structure identified in Study 1 was further examined in Study II, in terms of its reliability, convergent and divergent validity. The relative fit index [$\chi 2(24) = 44.1$, $p = .013$, NC = 1.83)] confirmed the robust statistical significance of the measurement model. The other fit indexes (NNFI=.96, CFI =.96, RMSEA=.063 p = .21) also supported a tripartite model composed of nine items with uncorrelated error variances. These results (as well as descriptive statistics for the study measures) are summarized in Table 8.

Table 8

Zero-order correlations, reliability scores and convergent validity of variables

	1	2	3	4	5	6	7	8	9	10
1. PPPQ - Coaching	-									
2. PPPQ - Scaffolding	.306**	-								
3. PPPQ - Contingency	.600**	.313**	-							
4. MESQ - Coaching	.152*	.270**	.134*	-						
5. MESQ - Dismissing	.055	.046	.027	.328**	-					
6. PSQ - Social	.325**	.370**	.339**	.355**	.105	-				
7. PSQ - Didactic	.254**	.216**	.196**	.217**	.039	.496**	-			
8. PSQ - Disciplinant	.309**	.382**	.259**	.209**	.274**	.479**	.273**	-		
9. Mothers Age (years)	-.098	-.090	-.062	-.142*	-.122	-.035	-.053	.479**	-	
10. Children Age (months)	.162*	.160*	.013	-.033	.097	-.144	-.098	-.002	.169*	-
Mean	11.24	14.04	11.42	28.66	23.55	21.68	31.96	17.49	34.69	28.27
Standard Deviation	2.24	1.28	2.18	3.48	5.61	2.16	5.61	2.02	5.01	6.02
Cronbach's reliability	.71	.70	.77	.75	.63	.69	.56	.68	-	-
Raykov's composite reliability	.72	.71	.78	.77	.65	.70	.63	.69	-	-
Skewness	-.307	-1.34	-.398	-.263	-.130	-.586	4.642	-.712	-.417	-.215

Note: * $p < .05$, ** $p < .01$

In general, the correlational analyses confirmed both the convergent and divergent validity of PPPQ scores. In fact, participants' scores on all three PPPQ sub-scale (Coaching, Scaffolding, and Contingency) were positively associated with their coaching emotional style, with correlations ranging from .134 to .270. The results show also statistically significant correlations between the PPPQ sub-scale and the Parental Style measured through the PSQ, with correlations ranging from .196 to .382. With regard to divergent validity, the zero-order correlations between participants' dismissing emotional style scores and PPPQ scores were negligible in magnitude and generally not statistically significant. Finally, the PPPQ scores were normally distributed (i.e. all fell within the [-2;+2] range; George & Mallery, 2010) and obtained robust reliability coefficients.

With regard to invariance across children's gender, configural invariance (underlying dimensions measured using the same pool of items for each cohort), metric invariance (factor loadings set to be equal in both groups), strong invariance (factor loadings and item intercepts constrained) and full construct invariance (all parameters constrained to be equal) were tested. The main outcome was that the tested PPPQ measurement model displayed equivalence between boys and girls (see Table 9). Specifically, the data supported all levels of measurement invariance, while the full invariance test suggested that the questionnaire may be used to test both boys and girls and to compare their respective mean scores.

Table 9

Results of measurement invariance test of PPPQ by gender of child

	$\chi 2$	df	p	$\Delta\chi 2$ (p)	NC	RMSEA	PCLOSE	CFI	NNFI
Configural invariance	66.58	46	.025	-	1.44	.046	.58	.96	.96
Metric Invariance	73.23	52	.028	6.64 (.35)	1.41	.044	.65	.96	.96
Scalar Invariance	75.76	61	.097	9.17(.86)	1.24	.034	.87	.97	.97
Residual Invariance	76.97	67	.190	10.38(.97)	1.15	.026	.95	.98	.98
Full invariance	88.41	77	.176	21.81(.89)	1.15	.026	.96	.98	.98

5. Discussion and conclusion

The current study was designed to devise and validate an innovative questionnaire for investigating parental socialization practices around prosocial behavior in early childhood.

The findings of the two studies reported above offer evidence for the validity of the Parental Prosocial Practices Questionnaire (PPPQ; see Appendix for both the Italian version and its English translation).

In particular, the Explorative Factor Analysis conduct in the Study I identifies a measurement model with 3 factors (namely Scaffolding, Contingency, and Coaching) and 9 items, model supported by the Confirmatory Factor Analysis. The reliability analysis reveals some critical issues related to the factor called "Scaffolding".

The results of the Study II support the final 3-factor measurement model and 9 item (construct validity), show a robust reliability analysis and a convergent analysis in the expected direction. In sum, the PPPQ displayed robust psychometric proprieties with respect to construct validity, measurement invariance, discriminant and concurrent validity, and subscale reliability. Interestingly, given that configural, metric and scalar invariance were achieved, it's possible to conclude that this questionnaire may be administered to mothers of both boys and girls in the three years of life. This means that significant differences in scores across gender reflect true differences in socialization strategies among participants with respect to the constructs under measure. Convergent validity analyses further strengthened the PPPQ's psychometric status. Specifically, *Coaching, Scaffolding,* and *Contingency* practices were found to be associated with *Coaching* strategies as measured by the MESQ, while there was non-significant relationship between the PPPQ dimension and the MESQ measure of *Dismissing* strategies.

Overall, the results of the two studies confirmed the validity and reliability of the PPPQ as a tool for parents to measure the frequency of different aspects of prosocial socialization practices in early childhood. This suggest that the PPPQ may be used in both longitudinal and experimental research. Specifically, on the one hand, it may be administered to parents with a view to exploring correlates and predictors of children's prosocial behavior; on the other, it may be used to evaluate the effects of intervention programs designed to enhance parents' socialization strategies, and consequently their children's socio-emotional competence.

However, this study is not exempt from limits. First of all, the sample only comprise mothers. Although previous evidence indicated that paternal influence on prosocial development is weaker

than maternal influence, further studies should also include fathers with the aim of investigating their prosocial socialization strategies. Secondly, mother's responses could be influenced by social desirability. In this regard, the comparison between several observers and the direct detection of prosocial behavior in naturalistic contexts could offer further evidence in favor of the goodness of the results obtained. A third limitation concerns the sampling and, in particular, the geographical area of data collection, limited to Northern Italy, limiting the possibility of generalization of the results also to other cultural contexts.

In conclusion, future research should set out to validate the PPPQ across different cultural contexts and in association with behavioral data.

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Study 3

PROMOTING PROSOCIAL BEHAVIOR IN EARLY CHILDHOOD:

A CONVERSATION-BASED INTERVENTION AT NURSERY

Abstract

Recent years have seen the development and implementation of training programs aimed at improving children's socio-emotional skills (Brownell, Svetlova, Anderson, Nichols & Drummond, 2013; Giménez-Dasí, Fernández-Sánchez, & Quintanilla, 2015; Ornaghi, Brazzelli, Grazzani, Agliati, & Lucarelli, 2017). Within the flourishing area of research demonstrating the role of emotional conversation in increasing early emotional and prosocial skills, the aim of the present study is to verify the efficacy of an intervention based on emotion-based conversation carried out by trained teachers in educational contexts in fostering the development of emotion knowledge and prosocial behaviors in early childhood.

142 children (M_{age} = 29.78 months; range: 22-36) participated in a 2-month intervention in which trained teachers read emotion-based stories to small groups of children and then either involved them in conversations about emotions and prosocial behavior (Emotional Conversation Group), or in conversations about concrete actions and physical states (Physical Conversation Group) or involved them in free play activities (Play Group).

The children in the Emotional Conversation Group were found to outperform their peers in the Physical Conversation Group and in the Play Group on measures of emotion knowledge and prosocial behaviors.

The results confirm the effectiveness of the intervention based on emotional conversation in favoring the development of emotional and prosocial skills and encouraging the implementation of early educational programs focused on emotion knowledge in order to foster children's prosocial behavior toward peers.

Keywords: Prosocial behaviors; training study; emotion conversation intervention; early childhood; nursery

1. Introduction

From infancy and toddlerhood, children are able to recognize the feelings and emotions of others and they can respond to the needs or desires of the other by implementing prosocial behaviors (Eisenberg, Fabes & Spinrad, 2006; Hoffman, 2000). These behaviors become more sophisticated and frequent during childhood, a period in which children acquire the ability to provide instrumental help, to share their resources and to respond emphatically to the needs of others (Dunfield & Kuhlmeier, 2013). Several longitudinal and intervention studies (Denham et al., 2003; Eggum et al., 2011; Ensor & Huges, 2005; Grazzani, Ornaghi, Agliati, & Brazzelli, 2016; Ornaghi et al., 2017) have shown how the ability to understand own and others emotional states represents an important predictor of prosocial actions (Brownell, et al., 2013; Cigala, Mori & Fangareggi, 2015; Dunfield & Kuhlmeier, 2013; Farrant, Devine, Maybery, & Fletcher, 2012; Garner, Dunsmore, & Southam-Gerrow, 2008; Giménez-Dasí et al., 2015).

The evidence about the adaptive role played by prosociality in fostering psychological well-being and social adjustment (Bowker, Rubin, Burgess, Rose-Krasnor & Booth-La Force, 2006; Tomasello, 2009) encouraged those involved in early childhood education to understand ways to enhance young children's emotional and prosocial development. Being able to promote prosocial development in early childhood and, in particular, finding effective ways of doing so through training and intervention programs are very significant objectives from an educational point of view. Therefore, preventive intervention programs targeting emotional and prosocial development in early childhood may show numerous benefits in terms of children's later behavioral and academic adjustment.

Investigating the contribution of the social context to the development of such skills, recent studies have highlighted the role of the conversation on mental and emotional states as a practice of socialization to prosociality, aimed at encouraging the development of early socio-emotional skills (Brownell, 2013; Grazzani et al., 2016; Ornaghi et al., 2017). Findings from correlational and longitudinal studies conducted with parents have motivated school-based prevention and intervention programs conducted in educational contexts, involving teachers as key socio-emotional socializers in a similar way to parents (Denham, Bassett, & Zinsser, 2012).

Increases in prosocial behavior, although not always a specific focus of these programs, are often outcomes related to social and emotional skill building which emphasizes many of the important precursors for prosocial behavior such as empathy and comprehension of own and others' emotions.

1.1. Emotion knowledge and prosocial behavior

Numerous scholars have pointed to the key role played by emotion knowledge in influencing prosocial development, observing that the ability to understand the emotional states of oneself and others promotes the development of helping, sharing, and comforting behaviors (Denham et al., 2003; Eggum et al., 2011; Ornaghi, Grazzani, Cherubin, Conte, & Piralli, 2015).

Emotion knowledge (EK) has long been viewed as a core dimension of emotional competence, which is defined as the capacity to understand one's own and others' emotions and to regulate and make appropriate use of emotions in one's cognitive processes and social exchanges (Denham, 1998). Scholars have included in the concept of emotion knowledge a set of skills enabling the child ability to identify facial expressions of emotions, to recognize emotional terms, and to understand the nature and causes of emotions and the fact that emotions may be regulated through specific behavioral and cognitive strategies (Denham et al., 2003; Maló-Machado, Verissimo, & Denham, 2012; Pons, Harris, & de Rosnay, 2004; Saarni, 1999). Denham (1986; 1998) proposed breaking down the abilities making up the emotion knowledge construct into the following components: the ability to use an appropriate emotional lexicon to identify and name the basic emotions in judging facial expressions (expressive emotion knowledge), the ability to understand emotional language and therefore to recognize emotions by their verbal labels (receptive emotion knowledge), the ability to understand both stereotypical (stereotypical situation knowledge) and non-stereotypical (non-stereotypical situation knowledge) emotions arising from given situational antecedents, and the ability to identify the causes of basic emotions in oneself and others (causal emotion knowledge).

Many authors have argued that the development of emotion knowledge hinges on mastery of the ability to recognize and label expressions of the basic emotions (joy, sadness, anger, and fear), to comprehend the situational antecedents of emotions (the external causes that elicit them), and to foresee their possible consequences (Bassett, Denham, Mincic, & Graling, 2012; Denham et al., 2003; Pons et al., 2004). In particular, studies have shown that recognizing emotions (receptive emotion knowledge), that is to say the ability to identify the different facial expressions of emotion and interpret the associated emotional signals, emerges early in development and does not necessarily require verbal abilities (Dunn, Brown, & Beardsall, 1991). In contrast, the other components of emotion knowledge are more strongly influenced by lexical competence and the acquisition of emotion terms, which enhance the ability to categorize emotions and therefore to comprehend their nature and causes. Expressive emotion knowledge emerges at around 18 months, developing rapidly throughout the preschool period, during which children learn to label the different emotions thanks

to their more advanced overall linguistic competence. Situational emotion knowledge, concerning children's understanding of the situations that elicit the emotional responses of happiness, sadness, anger, or fear, also emerges in the preschool period, continuing to develop throughout the school years (Denham et al., 2003).

These aspects of emotional competence - which develop rapidly during early childhood - are important for the prevention of behavior problems and the promotion of prosocial behavior in middle and late childhood. A number of studies have reported significant relationships between emotion knowledge and specific aspects of prosocial orientation. Children draw on their emerging ability to recognize and comprehend the emotions, feelings, desires, and thoughts of others in order to interpret their interlocutors' instrumental and emotional needs and enact appropriate and positive social responses (Thompson & Newton, 2013). In a pioneering study, Denham (1986) observed a significant correlation between the emotion knowledge of 3-year-old children and their prosocial behaviors in a semi-structured situation. Positive correlations between children's emotional competence and their prosocial behaviors were also observed in many later studies with both preschoolers and school-age children (Cassidy et al., 2003; Conte, Grazzani, & Pepe, 2018; Denham, 2007; Eisenberg et al., 2006; Farrant, Devine, Maybery, & Fletcher, 2012). This relationship is already present in early childhood, as borne out by the predictive studies of Ensor and colleagues (Ensor & Hughes, 2005; Ensor, Spencer, & Hughes, 2011), which identified a strong association between emotion understanding at 3 years and the propensity to engage in actions that benefit others at 4 years of age. In addition, Cassidy et al. (2003) have found a strong correlation between 3- and 5-year-old children's emotion understanding and their tendency to engage in cooperative play with peer sand carry out prosocial actions. Similarly, Garner and Waajid (2012) have pointed to the predictive role of emotional competence in preschoolers' development of social skills. In a longitudinal study with 3- to 5-year-olds, Eggum et al. (2011) observed that emotion understanding at 42 months was a predictor of children's prosocial orientation over time. Even Denham and colleagues (2012) found that emotion knowledge measured when children were 3 - 4 years old contributed to prosocial behaviors some months later. In line with findings from longitudinal studies, a meta-analysis by Trentacosta and Fine (2010) provided further evidence for a close relationship between knowledge of the basic emotions and social competence in preschoolers. Specifically, children who are better at identifying and regulating their own emotions display greater competence in their interpersonal interactions, are more readily accepted by their peers and are more skilled in resolving interpersonal conflict.

1.2. Promoting prosocial development

Numerous studies have pointed to the importance of emotional and social competence in young children's adaptive functioning, supporting a growing research interest in studying ways in which prosocial behavior can be fostered in young children. Based on this interest, numerous school-based prevention programs have been developed with the goal of promoting social and emotional competence.

With the aim to improve socio-emotional abilities in children from disadvantaged backgrounds or with emergent mental health problems, in the last decades several prevention programs have been successfully implemented in the preschool population (Domitrovich, Cortes, & Greenberg, 2007; Fitzgerald & Edstrom, 2006; Webster-Stratton & Reid, 2004). One first approach to preventing children's behavior problems was to provide them with positive parenting strategies that will build their preschool children's social competencies. An example is the Incredible Years parenting program (Webster-Stratton, 1998; Webster-Stratton & Taylor, 2001), that resulted efficiently in strengthening parenting and reducing children's externalizing behaviors. With a focus on educational context, the second line of intervention proposed different school-based prevention programs aimed at promoting children's social competence starting from the kindergarten. Among them are Al's Pals Kids Making Healthy Choices (Lynch, Geller, & Schmidt, 2004), the Chicago School Readiness Project (Raver et al., 2009), the Emotion-Based Prevention Program (EBP; Izard, Trentacosta, King, & Mostow, 2004; Izard et al., 2008), I Can Problem Solve (Shure, 2001), the Incredible Years Dina Dinosaur Classroom Curriculum (Webster-Stratton, Reid, & Stoolmiller, 2008), the Preschool Promoting Alternative Thinking Strategies Program (PATHS; Domitrovich, Cortes, & Greenberg, 2007; Hamre, Pianta, Mashburn, & Downer, 2012), and the Second Step Preschool/Kindergarten curriculum (Frey, Hirschstein, & Guzzo, 2000). Although the outcome measures varied across the different studies, a number of positive effects on children's development were observed, in particular on their social and emotional competence, problem-solving abilities, and general classroom behavior.

Alongside the development and the implementation of prevention programs designed to foster socio-emotional skills in children from disadvantaged backgrounds, another line of research has focused on the specific mechanisms for enhancing emotional and prosocial abilities in typically developing children from a very young age. An example of such mechanism is *conversations about emotions and other inner states*.

1.2.1. Conversation-based intervention

Investigating the specific mechanism to promote the development of social and emotional skills, researchers have highlighted the role of the conversation about mental and emotional states on improving prosociality.

Correlational and longitudinal studies conducted in the home showed that parents' emotional dialogue with their children promotes the development of emotion understanding and prosocial behaviors (Brownell et al., 2013; Denham, Bassett, & Wyatt, 2007; Dunn et al., 1991; Garner et al., 2008; Ontai & Thompson, 2002; Van Bergen, Salmon, Dadds, & Allen, 2009). Parents use emotion-based language to draw young children's attention to others' emotions and internal states, and to intensify children's awareness of their own emotions (Brown & Dunn, 1991; Miller & Sperry, 1988; Wang & Fivush, 2005). Parental talk about emotions has repeatedly been shown to predict prosocial-related behavior. In particular, researchers have showed that children whose parents engaged them in more emotion-related discourse during joint book reading, and who were particularly asked by their parents to attend to and reflect on others' emotions, helped more quickly and more often on emotionally laden helping and sharing tasks with other adults (Brownell et al., 2013; Drummond et al., 2014; Garner et al., 2008). Based on this evidence, several researchers have developed training studies aimed at exploring the effects of emotional conversations on children's early emotion knowledge and prosocial responsiveness. Tenenbaum, Alfieri, Brooks, and Dunn (2008) conducted a training study with 5- to 8-year-olds using story reading, followed by guided conversation in which an adult provided an explanation of the different situations presented in the stories (explanatory conversation). In the control condition, the children were asked to summarize the events of the story. In one experimental condition, the children were asked to identify and explain the emotional reactions of the protagonist in each story in response to prompts from the researcher, and in the other experimental condition, the researcher provided an explanation of the various emotional reactions of the story's protagonist. The results of the study showed that understanding other people's emotional perspectives is influenced both by listening to explanations given by an adult and by actively explaining the emotional content of stories rather than simply listening to the story. These authors emphasized the two points of weakness of this intervention: firstly, although the experimenter–child dialogs were modeled on spontaneous parent-child interactions, they were still more artificial. Secondly, because the child's explanations were guided by the experimenter's prompts, the study was unable to explore how effective totally spontaneous explanations would be at promoting children's understanding of emotions. In a training study with preschoolers, Van Bergen, Salmon, Dadds, and Allen (2009) examined the impact of training mothers in high-elaborative, emotional reminiscing on children's

autobiographical memory and emotion knowledge. The authors encouraged mothers in an experimental group to label their child's emotions and discuss the causes of emotion during reminiscing conversations, while in the control condition mothers were encouraged to play by following their children's lead. Six months later, the children in the experimental group produced a greater number of causes in an emotion-cause-knowledge task than their peers in the control condition. The findings suggest that an elaborative and emotion-rich reminiscing style can be taught to parents, with potential benefits for children's emotion knowledge development. In a more recent study with a sample of families from low SES backgrounds, Aram, Fine, and Ziv (2013) demonstrated the potential of shared reading to elicit richer conversations between parents and their preschooler children and enhance the latter's social cognition abilities. All parents were given four books, one new book weekly, and were instructed to read each book four times per week to their children. Parents in the control group were given no further guidance, whereas parents in the intervention group were guided in reading the books interactively with their children. These parents were taught a four-reading model that guided them to first focus on the book's plot aspects (vocabulary, the sequence of events, story structure) and then move on to its socio-cognitive aspects (mental terms, mental causality, references to the child's life). After the intervention, parents and children in the intervention group referred more than their control counterparts to both the book's plot and its socio-cognitive themes.

In light of empirical evidence obtained in this field, a number of authors have set out to test the effects of intervention programs designed to promote children's socio-emotional competence in childhood education contexts. This area of research has included conversational training studies conducted with school-age children (Ornaghi, Brockmeier, & Grazzani, 2014) and - only in recent years - with preschoolers (Giménez-Dasí et al., 2015; Ornaghi et al., 2017; Grazzani Gavazzi & Ornaghi, 2011). For instance, Grazzani Gavazzi and Ornaghi (2011) investigated whether training preschool children in the active use of emotional state talk plays a significant role in bringing about greater understanding of emotion terms and improved emotion comprehension. During the intervention phase, the children were read stories enriched with emotional lexicon. After listening to the stories, children in the experimental group took part in conversational language games designed to stimulate use of the selected emotional terms. In contrast, the control group children did not take part in any special linguistic activities after the story readings. Analyses revealed that the experimental group outperformed the control group in the understanding of inner state language and in the comprehension of emotion. In recent years, researchers were interest in investigating the effects of emotion-based intervention on toddlers' social competence and prosocial prosocial development. Another example is the study of Giménez-Dasí, Fernández-Sánchez and Quintanilla (2015), aimed at exploring the efficacy of an educational intervention program to improve emotion knowledge, emotion regulation,

and social competence in 2-year-old Spanish children. The program was carried out in the classroom in 30-min weekly sessions over a 6-month period. The findings showed significant progress in emotion knowledge and social competence as well as slight progress in emotion regulation. Within the area of research demonstrating the efficacy of emotion-based interventions carried out by trained teachers in educational contexts in increasing children's emotional skills, Ornaghi et al. (2017) carried out a study focused on the effects of this kind of intervention on toddlers' prosocial and aggressive behavior. Toddlers participated in a 2-month intervention in which trained teachers read emotion-based stories to small groups of children and then either involved them in conversations about emotions (experimental condition) or did not (control condition). The children in the experimental condition were found to outperform the control group on measures of emotion knowledge and emotional-state talk. Furthermore, the intervention fostered gains in prosocial behavior, whereas it did not have a significant effect on the frequency of aggressive actions, which was lower at posttest in both groups.

Summarizing, more recent interventions were conducted in the naturalistic context of nursery or kindergarten and were led by one or two researchers or by trained teachers. Training studies based on the conversational approach used discussions about emotions following the reading of one or more stories based on illustrated books in which the emotions of the protagonists are emphasized (Grazzani et al., 2016; Ornaghi et al., 2017; Tenenbaum et al., 2008). The format of training session differed across the studies, some training was conducted individually (Tenenbaum et al., 2008), other in small groups (Grazzani et al., 2016; Ornaghi et al. 2017) or with an entire class (Esteban et al. 2010). Also the duration varied, from a minimum of 2 weeks (Cigala & Fangareggi, 2011) to a maximum of 2 months (Grazzani Gavazzi & Ornaghi, 2011; Ornaghi et al., 2017) with training sessions taking place two or three times a week.

These findings showed that conversational activities about the mental state - like emotions, feelings, beliefs, and thoughts - have significant effects on children's emotional and prosocial competence. Involved in emotional conversations and reflective interactions, children play an active role in improving their ability to comprehend emotions and to understand how to help others (Esteban, Sidera, Serrano, Amadò, & Rostan, 2010; Knoll & Charman, 2000; Ornaghi et al. 2017; Peskin & Astington, 2004). These results encourage the implementation of early educational programs focused on emotion knowledge in order to foster children's prosocial behavior toward peers.

2. The present study

The review of the literature discussed above highlight a paucity of intervention programs based on emotional conversations specifically aimed at promote the development of prosocial skills in early childhood. In line with this evidence, the study presented here was designed to assess the efficacy of a conversation-based intervention in enhancing young children's prosocial behaviors and emotion knowledge. The conversation-based intervention was conducted by the trained teacher with small groups of five to seven children in the nursery context. With the primary purpose to develop a training for fostering early prosocial development, the intervention included story reading followed by conversation about emotions and prosocial actions, namely helping, sharing, and comforting.

In order to test the efficacy of a specific form of conversation – the conversation about emotions, feelings, desires, and prosocial behaviors – in fostering emotional and prosocial development, in the present study the participants were divided into three experimental conditions: Emotional Conversation Group, Physical Conversation Group, and Play Group. Based on previous findings obtained with toddlers and preschoolers, we expected that the Emotional Conversation Group would outperform the other two groups on the administered measures.

3. Method

3.1. Participants

A total of 141 toddlers (71 girls and 70 boys; M_{age} at the pre-test = 28.53 months; SD = 3.92 months; range: 21-36 months) participated in the study. The children were native Italian speakers whose linguistic and cognitive development fell within the standards for their age group. They attended ten different nursery-schools in the province of Varese, which were all under the same management and shared the same educational programs. All of the children came from low- and middle-class socioeconomic backgrounds. The majority of their parents held a high school diploma or university degree (85.2% of mothers and 71.1% of fathers) and were in white-collar employment (51.4% of mothers and 41.5% of fathers). Other parents were manual workers (18.3% of mothers and 30.3% of fathers), executives or self-employed professionals (13.4% of mothers and 18.3% of fathers), while the remainder were unemployed (14.8% of mothers and 4.9% of fathers). In addition, 33.1% of participants were only children, 47.5% had one sibling, 14.4% had two siblings, and the remaining

5% had three or more siblings. The sample was divided into three conditions: Emotional Conversation Group (n = 53), Physical Conversation Group (n = 47) and Play Group (n = 41).

The 25 teachers who participated in the study had a mean age of 49,27 years (range: 24-62) and 84% have more than 15 years' teaching experience. The teachers assigned to the three conditions did not differ significantly in terms of mean age or length of teaching experience. Given that they all worked for the same group of early childhood education centers, they followed the same educational approach. They were selected based on their teaching experience and on their motivation to learn a new educational format involving story reading and eliciting conversation with and among children. They too were assigned to either the three experimental conditions. Teachers in the Physical Conversation Group and in the Play Group were told that they would have the opportunity to receive the training at the end of the study.

3.2. Ethical considerations

Before participating, all families were provided with written information about the study and were required to give written consent in order to included their children in the research. The study received ethical approval by the Ethical Committee of the University of Milano-Bicocca. The research was conducted in accordance to American Psychological Association ethical principles and code of conduct.

3.3. Research design and instruments

The study had a quasi-experimental design with three phases: pre-test, training, and post-test. The participants were divided into three groups: Emotional Conversation Group, Physical Conversation Group, and Play Group. Overall development, emotion knowledge and prosocial behavior were all measured before and after the training was implemented.

All the teachers were instructed how to read the book to the children. The teachers in the Emotional Conversation Group were supervised to make sure that the program was being carried out properly. Supervision meetings took place through every 2 weeks over a 3-months period. In these meetings goals and activities were determined. This fidelity check ensured that the planned activities were

carried out as intended. The teachers in the Physical Conversation Group and in the Play Group were told that they would have the opportunity to receive training in the conversation-based intervention at the end on the study.

The evaluation tests during the pre- and the post-test were administered individually during school hours. Children were evaluated one by one in a quiet room of the school. Each evaluation session lasted 20 or 25 minutes. The initial evaluation (pre-test) took place in November, while the final evaluation (post-test) took place in May, one month after the training phase. The tests were conducted in counterbalanced order. The tasks were presented as games supported by attractive materials. Children were attentive and interested in the tasks presented.

3.3.1. Pre- and post-test measures

Before and after the training phase, parents - who were informed during a meeting with the teachers and gave consent for their children to participate in the study - were asked to complete two instruments assessing their children's empathic and prosocial competences. The children themselves were individually administered a series of measures to assess their linguistic and socio-emotional competences.

Measures completed by parents

The *Italian version of the Empathy Questionnaire* (*EmQue-I13*) (Grazzani et al., 2017; see Appendix B for the Italian version). This scale is the validated Italian version of the Dutch Empathy Questionnaire (EmQue, Rieffe, Ketelaar, & Wiefferink, 2010), a parent scale assessing empathy-related behaviors in toddlers. It is composed of 13 items representing three facets of empathy that may be observed in very young children: *Emotion contagion* (e.g., "My child also needs to be comforted when another child is in pain"), *Attention to others' feelings* (e.g., "My child looks up when another child cries"), and *Prosocial actions* (e.g., "When two children are quarrelling, my child tries to stop them"). Parents are asked to rate the degree to which each item, reflecting a specific type of behavior, applied to their child over the previous 2 months, using a 5-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always). The scores obtained range from 0 to 65. Reliability coefficients were $\alpha = .76$ at pretest and $\alpha = .80$ at posttest. Three partial scores may also be calculated, corresponding to the three dimensions of empathy evaluated by the instrument: Emotion contagion (four items; maximum score = 20), Attention to others' emotions (five items; maximum score = 25), and Prosocial actions (four items; maximum score = 20). The respective reliability coefficients for

the three subscales were as follows: α = .69 at pretest and α = .65 at posttest; α = .63 at pretest and α = .70 at posttest; and α = .79 at pretest and α = .79 at posttest.

The *Child Prosocial Behavior Questionnaire* (*CPBQ*) (Brazzelli, Farina, Grazzani & Pepe, 2018; see Appendix A for both the Italian version and its English translation). It is a parent-report measure originally composed of 10 items assessing prosocial behaviors in young children. The items divide into a three-factor structure measuring *Helping*, *Sharing* and *Comforting*, respectively. Respondents are asked to rate the degree to which each item applied to their child over the previous two months on a 5-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always). Higher scores reflect higher levels of the corresponding behaviors. The scores obtained range from 0 to 50. Reliability coefficients were α = .78 at pre-test and α = .84 at post-test. Three partial scores may also be calculated, corresponding to the three dimensions of prosocial behavior evaluated by the instrument: Helping (three items; maximum score = 15), Sharing (four items; maximum score = 20), and Comforting (three items; maximum score = 15). The respective reliability coefficients for the three subscales were as follows: α = .72 at pretest and α = .74 at posttest; α = .75 at pretest and α = .84 at posttest; and α = .54 at pretest and α = .58 at posttest.

Measures administered to children

The *PinG* (Parole in Gioco/Words in Play; Bello, Caselli, Pettenati & Stefanini, 2010). In order to control children's verbal abilities in the three conditions, we administred the PinG, a standardized tool for direct observation of the language. This test evaluates the receptive and expressive lexical knowledge with a specific attention to the semantic rather than phonological components. The tool consists of four sub-tests: *Understanding Names* (CN), *Producing Names* (PN), *Understanding Predicates* (CP) and *Producing Predicates* (PP). The PinG involves the use of two sets of color photographs: a set of 60 specific photographs for the names (20 items) and a set of 60 specific photographs for the predicates (20 items), as well as 12 photographs of training. The total scores obtained range from 0 to 80. Higher scores reflect higher levels of linguistic abilities. Reliability coefficients were α = .96 at pre-test and α = .95 at post-test.

Coding. For both the four subtests, the child will score 1 point for the correct answer and 0 points for an incorrect answer.

The *Affect Knowledge Task* (AKT; Denham, 1986; see Appendix F). Children were administered the Italian validated version (Camodeca & Coppola, 2010) of the AKT (Denham, 1986). The materials required are two puppets with blank faces and four felt discs, each depicting the facial

expression corresponding to a distinct basic emotion. Five subtasks from the battery were used: the expressive task, receptive task, affective perspective-taking task, non-stereotypical situation knowledge, and causes task. Respectively, these examined the ability to label emotions (four items), recognize emotion (four items), deploy emotion knowledge in stereotypical (eight items) and non-stereotypical situations (twelve items), and identify/comprehend the causes of emotions (eight items). Each child was assigned a total score ranging from 0 to 72 and five subscores relative to the five sections of the test (expressive task: maximum = 8, receptive task: maximum = 8, affective perspective-taking task: maximum = 16, non-stereotypical situation knowledge task: maximum = 24, and causes task: maximum = 16). Reliability coefficients for the overall measure were α = .90 at pre-test and α = .94 at post-test. Coefficients for each of the five sections of the AKT were also calculated: a = .69 at pre-test and a = .79 at post-test for the expressive task; a = .71 at pre-test and a = .80 at post-test for the receptive task; a = .70 at pre-test and a = .80 at post-test for the affective perspective-taking task; a = .82 at pre-test and a = .84 at post-test for the non-stereotypical situation knowledge task; and a = .69 at pretest and a = .83 at posttest for the emotion causes task.

Coding. For each Prosocial Tasks (Helping, Sharing, and Comforting), 2 points were given for the correct identification of the emotion, 1 point if the child identified an incorrect emotion that was within the same emotional valence (e.g. 'sadness' instead of 'anger'), and 0 points when the chosen emotion was incorrect and with the opposite valence (e.g. 'happiness' instead of 'fear').

Figure 3. Administration of the AKT

The *Prosocial Tasks* (adapted from Dunfield & Kuhlmeier, 2013; Warneken & Tomasello, 2006, 2007; see Appendix G). In order to assess prosocial behaviors, three experimental situations were created to elicit helping, sharing and comforting behaviors. The situations varied in the type of problem and the type of help that the child could provide. The prosocial tasks were interspersed between other tasks (i.e., language abilities, emotion knowledge). The children were brought into the testing room on their own and they were situated at a small table across from a female experimenter in the middle of a testing room. Participants were presented with three prosocial tasks (helping task, sharing task and comforting task). Each child was assigned a total score ranging from 0 to 6 and three subscores relative to the the single task (helping task: maximum = 2, sharing task: maximum = 2, and comforting task: maximum = 2). Reliability coefficients for the overall measure were $\alpha = .40$ at pre-test and $\alpha = .60$ at post-test.

- Helping task

The ‘‘out of reach’’ task closely replicated the methods used by Warneken and Tomasello (2006). In this helping task, the experimenter picked up a small plastic toy, playfully ‘‘walked’’ it across the table, but then dropped it over the far edge while vocalizing ‘‘Oops!’’. The experimenter then reached toward the toy with an outstretched arm and hand. For the first 5 seconds after the toy fell, the experimenter focused her gaze on the toy. After 5 seconds, she alternated gaze between the toy and the child until the child provided a response or the trial ended. Trials ended when 10 total seconds had elapsed. The experimenter never directly asked for help.

In the *Helping task*, the target behavior was retrieving the toy from the ground and placing it in the experimenter’s hand. Nontarget behaviors included ignoring the toy, picking up the toy and playing with it, or explicitly refusing to help (e.g., shaking head or verbally saying ‘‘No’’).

- Sharing task

In the sharing task, the experimenter received an empty container while the participant received a box full of colored pencils. Upon giving the container to the child, the experimenter showed her container to the infant and said, “Look what I have”. The child was then given his or her container. The experimenter then made a sad face and placed her hand out, palm facing up. For the first 5 seconds, the experimenter focused on her container followed by a period of gaze alternation (5 seconds) between her box and the participant. The experimenter never verbally requested pencils. The experimenter acknowledged the receipt of items with a neutral “Thank you”.

In the *Sharing task*, the target behavior entailed the infant taking a pencil from his or her container and giving it to the experimenter. The nontarget behaviors included ignoring the experimenter, taking the pencils away from the table, or saying ‘‘No’’ (i.e., verbally or through a head shake).

- Comforting task

In the comforting task, the experimenter hit her knee (a finger in the post-test session) on the edge of the table, which in turn hit a metal brace, making a loud noise. The experimenter then sat down with a look of distress on her face. She rubbed her knee, vocalizing pain (e.g., “Oh! My knee, I banged my knee”). For the first 5 sec, the experimenter focused on her knee followed by a period of gaze alternation (5 sec) between her knee and the participant. The experimenter never directly requested aid.

In the *Comforting* task, the target behaviors were related to appropriate other-oriented interventions including approaching the experimenter (e.g., patting, hugging, or kissing), giving items to the experimenter (e.g., toys), or concerned vocalizations (e.g., asking about the experimenter’s welfare ‘‘You okay?’’). Nontarget behaviors included staring at the experimenter, ignoring the experimenter, or engaging in negative behavior toward the experimenter (e.g., hitting).

Coding. Each session was video-taped and coded by a research assistant who was blind to the group condition. Each prosocial task was coded for the target behavior. In particular, 2 points were given for the correct target behavior showed in the first 5 second, 1 point if the child showed the correct target behavior in the next 5 second, and 0 points when the participant showed a non target behavior.

A

B

C

Figure 4. Illustrations of (a) helping task, (b) comforting task, and (c) sharing task.

3.3.2. The training procedure

The children assigned to the Emotional Conversation Group (ECG) took part in training sessions conducted three times a week with small groups (4-6 children per group) over a 2-month period. Composition of the working groups was based on teacher nomination. The teachers formed small groups, which were maintained for the entire training period, based on the following criteria: each group contained a mix of boys and girls and was made up of children who were friendly with one another and used to doing educational activities together. At each session, the children first listened to a brief illustrated story based on an emotional script and then took part in a conversation about the emotion and the prosocial behaviors featured in the story, as explained just beyond. The children assigned to the Physical Conversation Group (PCG) also took part in daily activities in small groups over the same 2-month period. In contrast, after listening to the same stories, the children in the Physical Conversation Group take part in conversation about concrete actions, physical states, descriptions of inanimate things. Finally, the children assigned to the Play Group (PG), after listening to the same stories, did not take part in conversation but were offered a selection of toys such as Lego, building blocks, and jigsaw puzzles and were allowed to engage in free play.

The participating teachers in the Emotional Conversation Group were provided with ad hoc training over a 3- month period. They were all asked to follow the same set of guidelines when reading the stories to the children. In particular, the story reading was required to meet the following criteria: the teacher was to read the whole text, verbatim and without varying it in any way, and to adopt a sufficiently lively tone of voice and pace of reading to maintain the children's attention and curiosity. Furthermore, during the training phase all the teachers, who also received a short book outlining the key features of either the experimental or control condition as appropriate, were videotaped while practicing the relevant activities with a pilot group of children. Specifically, the teachers who had been assigned to the training condition received feedback from the research team on both the reading and conversation activities, whereas the teachers in the Physical Conversation Group and in the Play Group were trained in the reading only. Supervision of the video-recorded reading/conversation sessions continued throughout the research proper, for all the teachers.

The stories were developed ad hoc for the study and presented in a book called "Tom & Bea" (see Appendix I). The book contained four stories whose age-tuned intelligibility and appeal had been pilot-tested with children that did not take part in the study. The main characters are a cat and a dog who in the course of a series of adventures feel scared, happy, angry, or sad in turn and they show helping, sharing and comforting behaviors. The narratives follow the standard story schema: after the

scene has been set, a critical situation eliciting a particular emotion arises, and action is required to resolve the crisis. Specifically, the stories depict the protagonists as deploying prosocial action to solve their problems. In addition, the story texts are enriched with inner-state language (Bartsch & Wellman, 1995), primarily emotional language (gets mad, is scared, is surprised, is happy, and so on), but also perceptive (they can't see anything), volitional (that train I really wanted), and cognitive (e.g., decide) terms.

The training sessions with the Emotional Conversation Group involved a four-step procedure: creation of a suitable context in which to introduce the activity, the story reading, conversation about the emotion and the prosocial behaviors thematized in the story, and a windup stage. The crucial element of the procedure was the conversation about emotions and prosocial actions, conducted with small groups of young children. In the course of this conversational activity, the teacher drew on the story content to focus on the expression, causes, and regulation of emotion (Denham, 1998), as well as on prosocial actions such as helping, sharing and comforting others.

The stimulus questions, as illustrated in the Appendix, were designed to encourage the participation of all the children in the group, giving them the opportunity to narrate situations in which they themselves, their family members and friends, or familiar cartoon/story characters had experienced the emotion being discussed.

Fidelity of the Intervention

All the teachers were instructed how to read the book to the children; furthermore, the teachers in the Emotional Conversation Group were videotaped while practicing the conversational activities with children and received feedback from the research team. The teachers in the Physical Conversation Group and in the Play Group were told that they would have the opportunity to receive training in the conversation-based intervention at the end on the study. Supervision to make sure that the program was being carried out properly took place through meetings with the teacher every 2 weeks (8 meetings, for a total of 10 hours). In these meetings goals and activities were determined. This fidelity check ensured that the planned activities were carried out as intended.

In order to evaluate the fidelity with which the trained teaching staff actually implemented the program, every intervention session was videotaped in Emotional Conversation Group, while in the Physical Conversation Group and in the Play Group 40% of the intervention sessions were video/audiotaped. Two researchers with specific expertise in video observation independently evaluated all of the recorded footage using a shared rating procedure. For both groups, the raters

assessed teachers' levels of compliance with the guidelines for laying out the setting and delivering a verbatim reading of the story text; in addition, for the Emotional Conversation Group, the judges rated the extent to which teachers had correctly implemented the instructions for conducting the conversation on emotions. For each of these areas, the judges awarded a fidelity score on a 5-point scale ranging from not at all faithful to completely faithful. The teachers in the Emotional Conversation Group were found to display a high level of fidelity across all of the areas under evaluation: creating the setting (90%), faithfulness to story text (88%), and implementation of the guidelines for the conversational activity (89%). Similarly, the teachers in the two other conditions displayed strong fidelity in 90% of cases with regard to preparing the setting and in 87% of cases in relation to respecting the guidelines for the story reading. Overall, the judges attained 84% agreement ($\kappa = .75$).

3.4. Data analysis

Data were analyzed by mean of a set of multivariate statistical tests. First, procedures of data cleaning (missing values analysis, detection of uni- and multi-variate outliers) were conducted. Then, correlation analysis among scores were conducted in order to check the viability of other analysis. With the aim of verifying the comparability of the sample divided into the three experimental groups, independent sample t-tests were calculated on the demographic statistics and on the children's skills (linguistic, emotional and social competences) at the pre-test in order to test potential differences within the three conditions. In order to verify the impact of the intervention on the competences under study, a series of Generalized Linear Model (GLM) for repeated measures were computed. Such kind of analysis is useful in measuring the effect of a "treatment" at different time points and in different groups. Furthermore, GLM allowed to evaluate the main effect within and between the subjects as well as interaction effects between factors. Finally, GLM estimated the magnitude of effect sizes for all variables. In the present study, the GLM model were in such a way that pre/post measures were the within-subject factor (i.e. time: pre- and post-test) whereas the condition (Emotional Conversation Group versus Physical Conversation Group vs Play Group) was the between-subject factor. Age and gender of the participants were included as covariate variables.

4. Results

The Results section is divided into three subsections outlining descriptive statistics and correlations between the study variables, the impact of the intervention on participants' emotion knowledge, and the effect of the emotion-based training program on participants' prosocial behavior. All statistical analyses were conducted using SPSS (Version 25).

4.1. Descriptive statistics

Means and standard deviations for all variables as a function of group condition at both the pretest and posttest stages are presented in Table 10. Independent sample t-tests - conducted at the pre-test - revealed no statistically significant differences in participants' age and language abilities. Participants in the Physical Conversation Group showed a statistically significant difference in AKT's scores compared to the other two groups. No differences between groups in prosocial abilities - measured with parent-reports and prosocial tasks - were revealed.

Table 10

Pre- and Post-test Means and Standard Deviations for all variables by group condition.

	Pre-test			**Post-test**		
	Emotion Conversation Group	Physical Conversation Group	Play Group	Emotion Conversation Group	Physical Conversation Group	Play Group
Age in months	27,66 (3,57)	28,77 (3,83)	29,39 (4,30)	33,66 (3,57)	34,77 (3,83)	35,39 (4,30)
PinG	32,96 (17, 64)	33,60 (18,07)	29,46 (18,06)	48,47 (13,88)	38,04 (17,11)	41,07 (15,45)
AKT	15,53 (12,77)	20,64 (11,00)	16,15 (13,53)	36,44 (13,83)	26,50 (12,66)	27,57 (14,84)
EmQue-I13	36,62 (6,56)	36,72 (7,49)	36,85 (5,56)	39,70 (6,00)	37,26 (6,68)	37,22 (6,78)
CPBQ	33,55 (5,77)	33,36 (7,27)	33,80 (5,56)	36,51 (5,18)	33,52 (6,85)	35,00 (6,58)
Prosocial Tasks	1,47 (1,37)	1,36 (1,39)	1,56 (1,50)	2,92 (1,71)	1,15 (1,23)	1,56 (1,58)

Note. Numbers in parentheses are standard deviations.

In addition, correlations among variables were run. As shown in Table 11, significant relations were found among age, language, and EK; in contrast, empathy and prosocial behavior showed very modest and not significant correlations with the other measures.

Table 11

Correlations between variables

	1	2	3	4	5	6	7
1. Age	-						
2. Gender	-.025	-					
3. PinG	.565**	-.034	-				
4. AKT	.513**	.047	.784**	-			
5. EmQue-I13	-.025	.097	-.035	-.016	-		
6. CPBQ	-.041	-.036	-.117	-.077	.223**	-	
7. Prosocial Tasks	.280**	-.063	-.427**	.368**	-.058	-.008	-

Note.

Correlations were calculated on the pre-test data.

* $p < .05$; ** $p < .01$

4.2. Training effects on children's emotion knowledge

In order to verify the impact of the intervention on participants' emotion knowledge, Generalized Linear Model for repeated measures was used to test whether and to what extent the pre-post differences on emotion knowledge abilities were related to experimental or control conditions. In the GLM repeated measures, AKT scores was the dependent variable while time and group conditions were the independent variables; age in months and gender were included as covariates.

Considering the total score of the AKT, a significant Time × Group Condition interaction emerged, Wilks's $\lambda = .68$, $F(2, 75) = 13.63$, $p < .001$, $\eta^2 = .32$. As shown in Table 12, the children in the Emotional Conversation Group displayed greater gains from pre- to post-test stages than children in the Physical Conversation Group and Play Group. With regard to the covariates, none statistically significant effect was revealed.

Table 12.

Comparison between the AKT pre-post means scores in the three group condition

		Emotional Conversation Group	Physical Conversation Group	Play Group
1. Expressive task	M (pre)	.94	1.09	.83
	M (post)	3.87	1.19	1.41
	Δ pre-post	2.93	.10	0.58
2. Receptive task	M (pre)	3.17	4.26	3.17
	M (post)	6.75	4.34	4.88
	Δ pre-post	3.58	.08	1.31
3. Affective perspective-taking task	M (pre)	4.68	5.87	4.80
	M (post)	9.13	4.57	5.63
	Δ pre-post	4.45	-1.30	.83
4. Non-stereotypical situation knowledge task	M (pre)	5.44	7.85	6.05
	M (post)	13.67	6.57	9.31
	Δ pre-post	8.23	-1.28	3.26
5. Causes task	M (pre)	1.53	1.57	1.29
	M (post)	5.79	1.87	1.71
	Δ pre-post	4.26	.30	.42
Total score	M (pre)	19.33	23.75	22.76
	M (post)	36.44	26.50	27.57
	Δ pre-post	17.11	2.75	4.81

Moreover, in order to obtain more detailed insight into the efficacy of the intervention for improving the different emotion knowledge abilities evaluated by the AKT, a series of GLM repeated measures analyses were performed. As shown in Table 12, the children in the Emotional Conversation Group displayed significantly higher pre- to post-test gains than the other groups on all sections of the AKT: expressive task, Wilks's $\lambda = .74$, $F(2, 134) = 22.94$, $p < .001$, $\eta^2 = .25$; receptive task, Wilks's $\lambda = .72$, $F(2, 134) = 26.24$, $p < .001$, $\eta^2 = .28$; affective perspective-taking task, Wilks's $\lambda = .71$, $F(2, 134) =$

27.65, $p < .0001$, $\eta^2 = .29$; non-stereotypical situation knowledge task, Wilks's $\lambda = .66$, $F(2, 133) = 34.54$, $p < .001$, $\eta^2 = .34$; and causes task, Wilks's $\lambda = .78$, $F(2, 134) = 18.63$, $p < .001$, $\eta^2 = .22$.

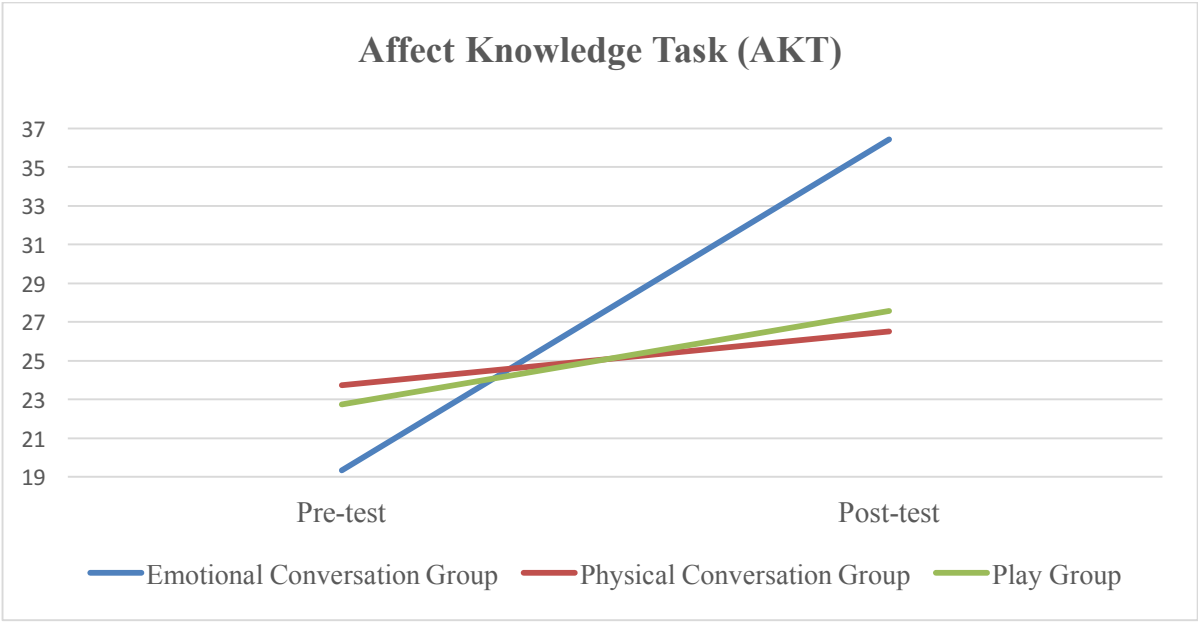

Figure 5. Children's pre-test to post-test improvement in emotion knowledge (AKT total score) as a function of Group Condition

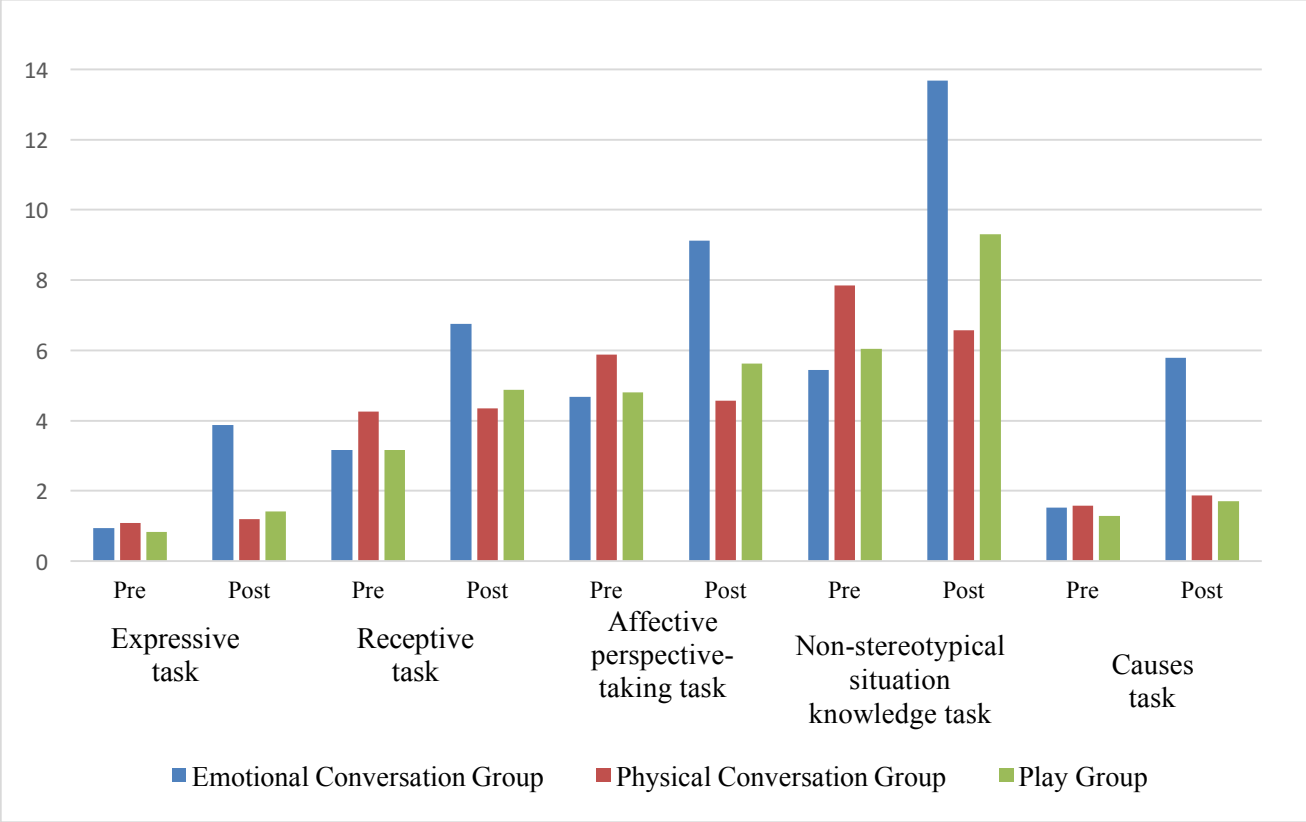

Figure 6. Participants' pre- to post-test gains in the different categories of emotion knowledge (AKT) as a function of Group Condition.

4.3. Training effects on children's prosocial behavior

To test the effect of the conversational intervention on participants' prosocial behavior, a series of Generalized Linear Model for repeated measures with time and group conditions as independent variables and prosocial behavior (EmQue-I13 – CPBQ – Prosocial Tasks) as the dependent variables were run. Again, age in months and gender were included as covariates.

- **EmQue-I13**

A significant effect of Time and a significant Time × Group interaction (effect size small) emerged: Time, Wilks's $\lambda = .95$, $F(1, 133) = 6.00$, $p = .016$, $\eta^2 = .043$; Time × Group interaction, Wilks's $\lambda = .94$, $F(2, 133) = 3.628$, $p = .029$, $\eta^2 = .042$. The training played a positive role in improving the frequency of overall empathic abilities toward others (higher in the Emotional Conversation Group). Analyses of the simple main effects (see Table 13) showed that for the group condition factor, no significant differences emerged between the three groups at pretest. With regard to the covariates, a significant effect of children's Age and a significant Time × Group × Gender interaction emerged: Time × Age interaction, Wilks's $\lambda = .94$, $F(1, 133) = 8.02$, $p = .005$, $\eta^2 = .057$; Time × Group × Gender interaction, Wilks's $\lambda = .91$, $F(2, 133) = 6.52$, $p = .002$, $\eta^2 = .089$. Girls in the Emotional Conversation Group displayed significantly higher pre- to post-test gains than the boys.

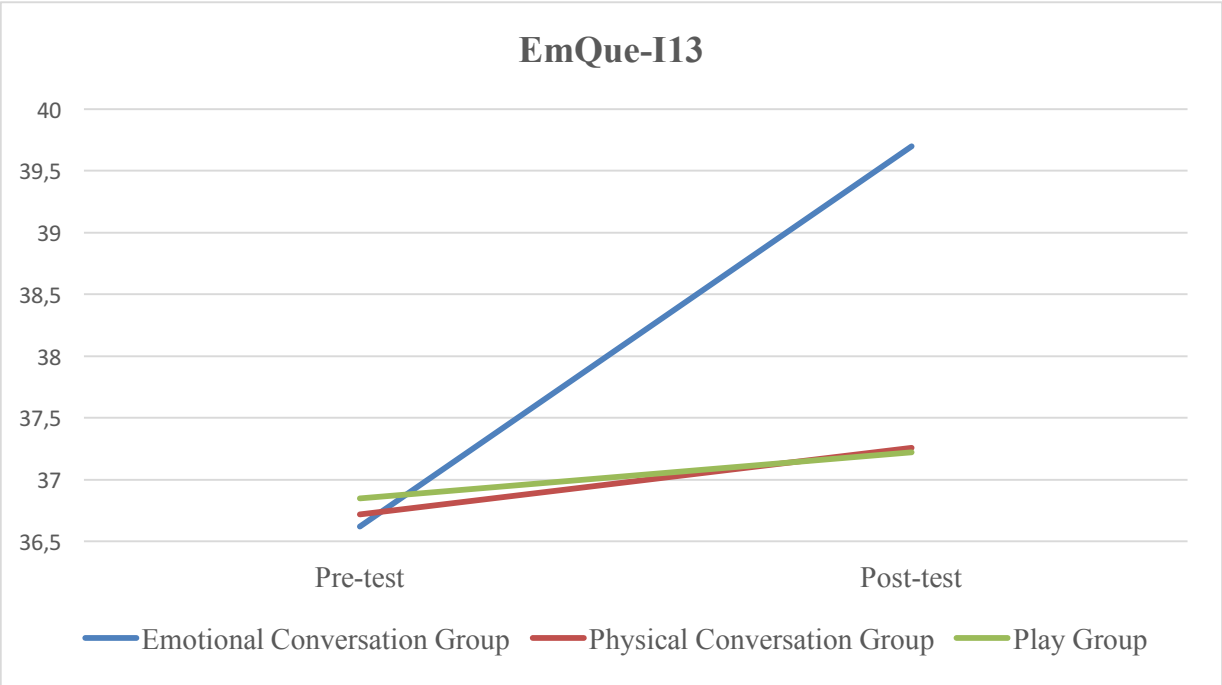

Figure 7. Children's pre-test to post-test improvement in empathy as a function of Group Condition

Table 13

Comparison between the EmQue-I13 pre-post means scores in the three group condition

		Emotional Conversation Group	Physical Conversation Group	Play Group
Contagion	M (pre)	8.60	8.39	8.39
	M (post)	9.49	8.91	8.93
	Δ pre-post	0.89	0.52	0.54
Attention to other's feelings	M (pre)	19.15	18.83	19.27
	M (post)	19.74	18.28	19.20
	Δ pre-post	0.59	-0.55	-0.70
Prosocial Actions	M (pre)	8.87	9.65	9.20
	M (post)	10.47	10.07	9.46
	Δ pre-post	1.60	0.42	0.26
Total score	M (pre)	36.62	36.72	36.85
	M (post)	39.70	37.26	37.22
	Δ pre-post	3.08	0.54	0.37

With regard to the different dimensions of empathic behavior, there was no statistically significant effect of Time × Group interaction, although the Emotional Conversation Group participants displayed greater gains than the children in the Physical Conversation Group and in the Play Group for all three forms of empathy measured by EmQue-I13, and particularly for Prosocial Actions (1.60 versus 0.42 and 0.26).

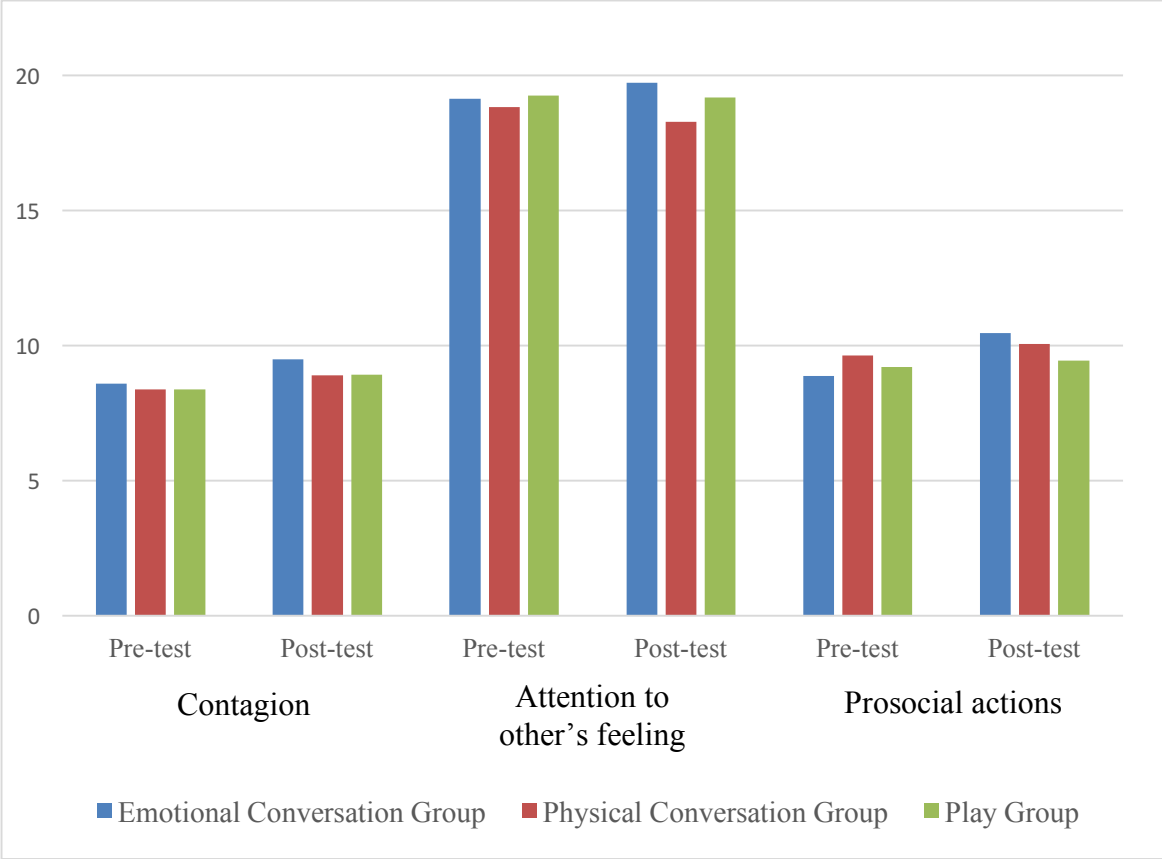

Figure 8. Participants' pre- to post-test gains in the different categories of empathic abilities as a function of Group Condition.

- **CPBQ**

Regarding prosocial behavior reported by parents through CPBQ, in general all the scores of the questionnaire tend to increase between the pre- and the post-test (tendency to significance for Time effect) (see Table 14). However, the three groups show a different dynamic, observing a significant effect of Time × Group interaction (effect size small): Wilks's $\lambda = .95$, $F(2, 133) = 3.39$, $p = .037$, $\eta^2 = .049$. The training played a positive role in improving the frequency of overall prosocial actions toward others: children in Emotional Conversation Group get the highest scores at post-test, compared to the other two groups (Physical Conversation Group and Play Group). Looking at the post-test, children in Physical Conversation Group get the lower scores. Considering Age and Gender as covariates, only a tendency to statistical significance for Age emerged.

Table 14

Comparison between the CPBQ pre-post means scores in the three group condition

		Emotional Conversation Group	Physical Conversation Group	Play Group
Helping	M (pre)	11.38	11.13	11.27
	M (post)	11.96	10.85	11.63
	Δ pre-post	0.58	-0.28	0.36
Sharing	M (pre)	13.51	13.48	13.71
	M (post)	14.75	13.43	13.93
	Δ pre-post	1.24	-0.05	0.22
Comforting	M (pre)	8.66	9.07	8.83
	M (post)	9.79	9.24	9.44
	Δ pre-post	1.13	0.17	0.61
Total score	M (pre)	33.55	33.36	33.80
	M (post)	36.51	33.52	35.00
	Δ pre-post	2.96	0.16	1.20

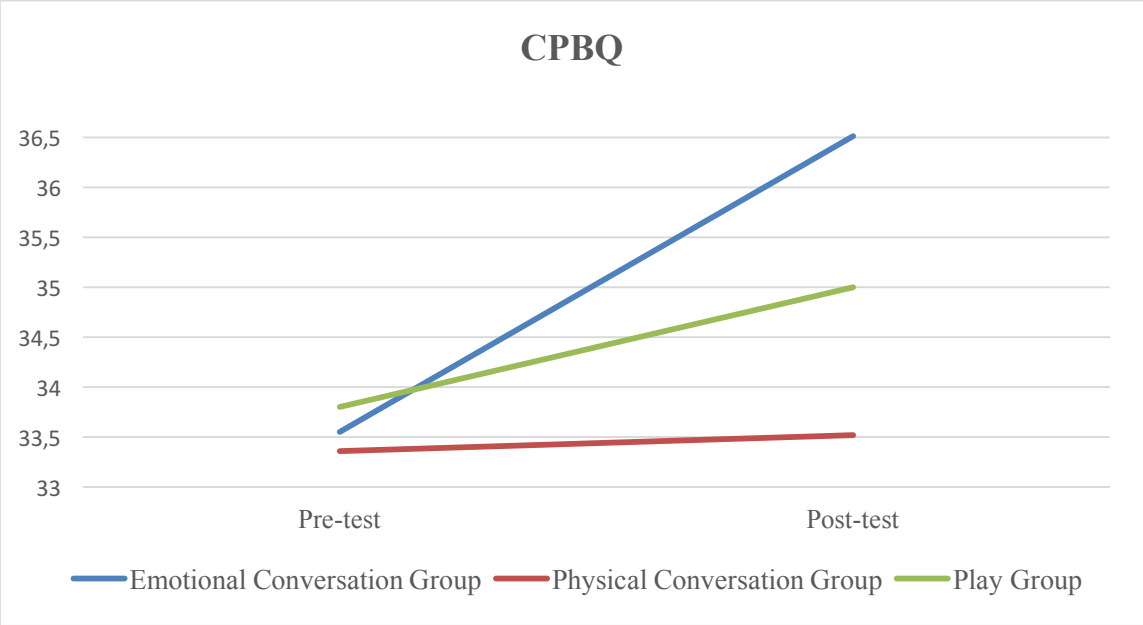

Figure 9. Pre-test to post-test improvement in Prosocial Behaviors as a function of Group Condition

With regard to the different types of prosocial behavior, there was no statistically significant effect of Time × Group interaction, although children in the Emotional Conversation Group displayed greater gains than their peers in Physical Conversation Group and those in Play Group for all three forms of prosociality, and particularly for sharing (1.24 versus -0.05 and 0.22) and comforting behaviors (1.13 versus 0.17 and 0.61).

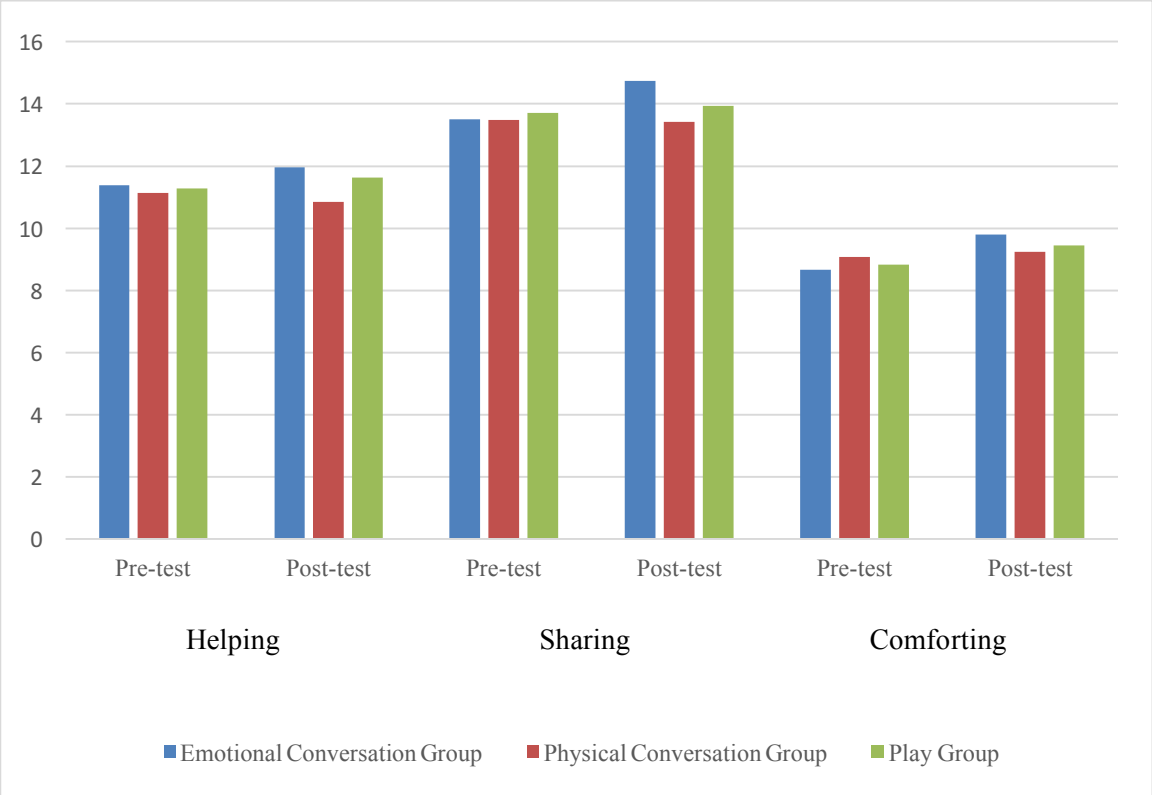

Figure 10. Participants' pre- to post-test gains in the different categories of prosociality (CPBQ) as a function of Group Condition.

- **Prosocial Tasks**

Regarding prosocial behavior showed by toddlers during Prosocial Tasks, a significant effect of Time and Time × Group interaction emerged: Time, Wilks's $\lambda = .96$, $F(1, 134) = 4.71$, $p = .032$, $\eta^2 = .034$; Time × Group, Wilks's $\lambda = .84$, $F(2, 134) = 11.97$, $p < .001$, $\eta^2 = .152$. The training played a positive role in improving the frequency of overall prosocial actions toward others (see Table 15).

Table 15

Comparison between the Prosocial Tasks pre-post means scores in the three group condition

		Emotional Conversation Group	Physical Conversation Group	Play Group
Helping	M (pre)	0.98	0.96	0.95
	M (post)	1.55	0.83	0.90
	Δ pre-post	0.57	-0.13	-0.05
Sharing	M (pre)	0.34	0.28	0.49
	M (post)	0.94	0.28	0.44
	Δ pre-post	0.60	0	-0.05
Comforting	M (pre)	0.15	0.13	0.12
	M (post)	0.43	0.04	0.22
	Δ pre-post	0.28	-0.09	0.10
Total score	M (pre)	1.47	1.36	1.56
	M (post)	2.92	1.15	1.56
	Δ pre-post	1.45	-0.21	0

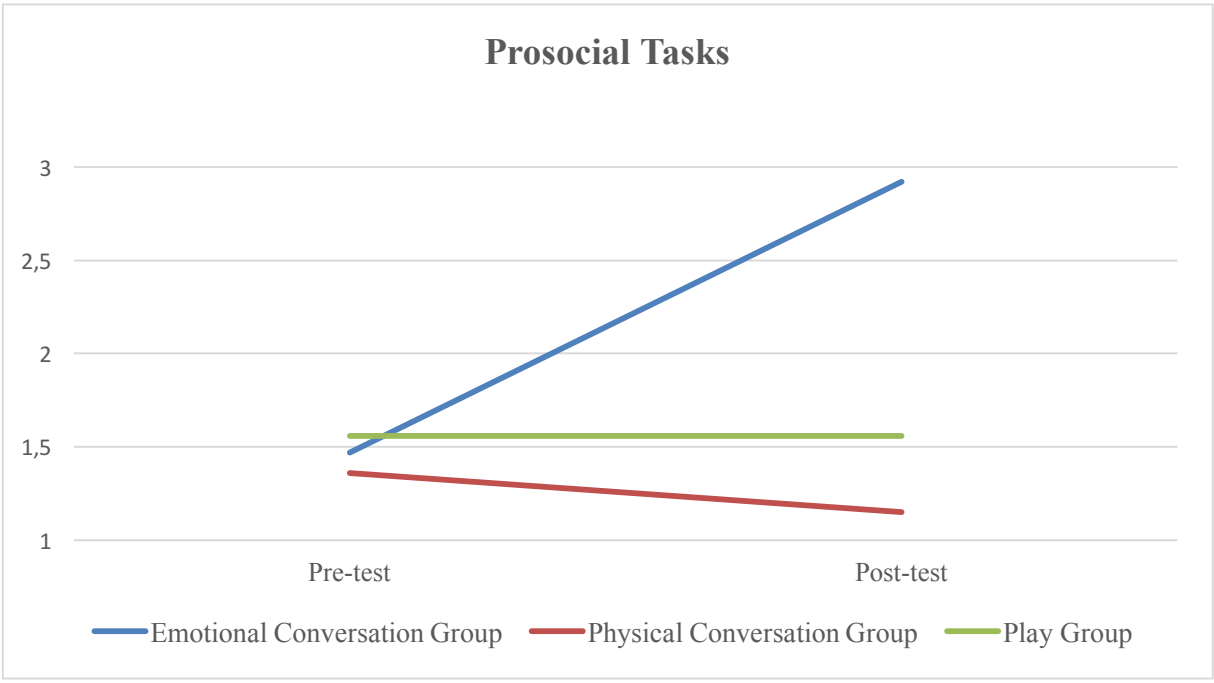

Figure 11. Pre-test to post-test improvement in prosocial behavior as a function of Group Condition

In order to obtain more detailed insight into the efficacy of the intervention for improving the different prosocial behaviors evaluated by the Prosocial Tasks, a series of GLM repeated measures analyses were performed. As shown in Table 6, the children in the Emotional Conversation Group displayed significantly higher pre- to post-test gains than the other groups on all prosocial behaviors: Helping task, Time × Group, Wilks's $\lambda = .93$, $F(2, 134) = 4.32$, $p = .015$, $\eta 2 = .06$; Sharing task, Time × Group, Wilks's $\lambda = .88$, $F(2, 134) = 9.32$, $p < .001$, $\eta 2 = .12$; Comforting task, Time × Group, Wilks's $\lambda = .95$, $F(2, 134) = 3.36$, $p = .037$, $\eta 2 = .04$.

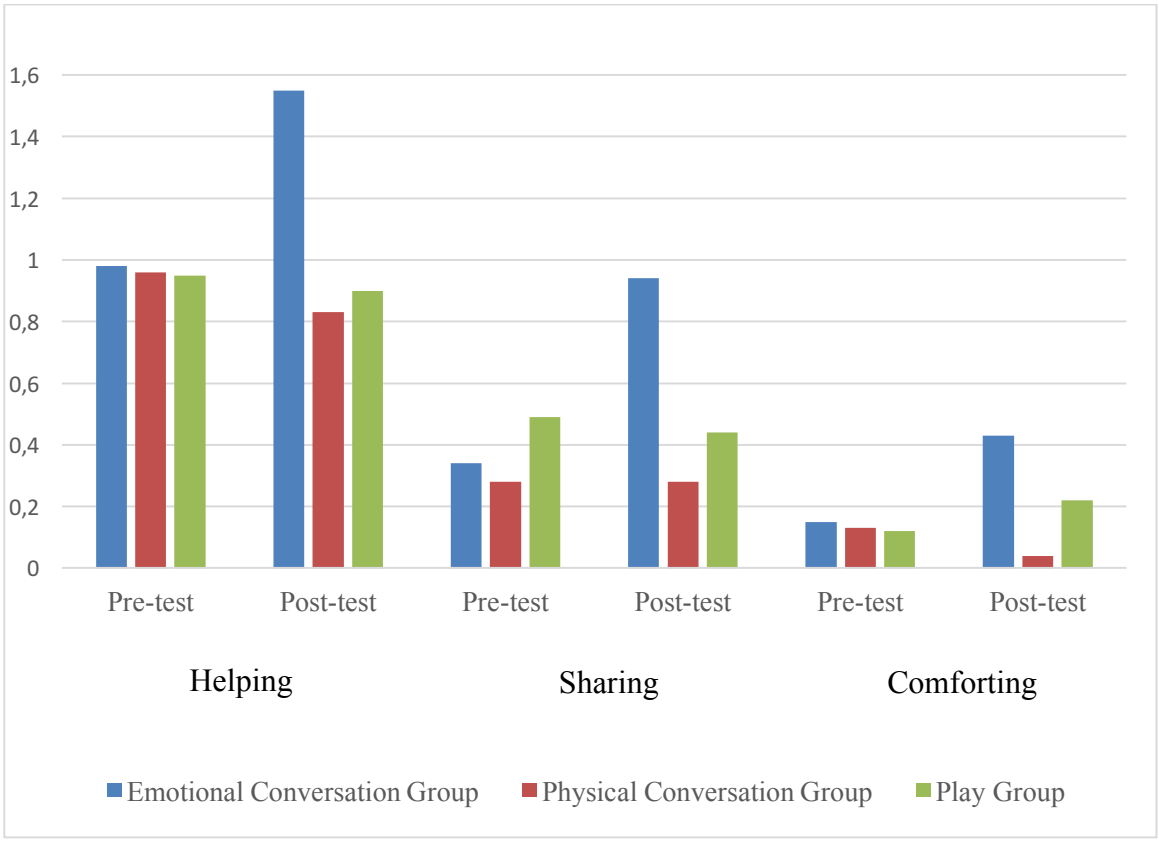

Figure 12. Participants' pre- to post-test gains in the different Prosocial Tasks as a function of Group Condition.

5. Discussion

The current study was carried out to evaluate the efficacy of a conversation-based intervention in promoting young children's development of socio-emotional skills at nursery. The results suggest that the intervention based on storybook reading and conversation on emotions and other inner states with small groups of children led to a significant improvement both in children's emotion knowledge and in their prosocial skills. Overall, the participants in the Emotional Conversation Group increased their ability to label emotions and comprehend emotions and displayed enhanced in prosocial responding with respect to the children in both the Psychical Conversation Group and Play Group, who respectively listened to the same stories but were involved in conversation about concrete actions or did not engage in conversational activities.

More specifically, we obtained two main findings. A first major finding of this study was the positive effect of the conversational training on participants' emotion knowledge. In particular, children in the Emotional Conversation Group displayed enhanced performance in the emotion knowledge task (AKT) at the post-test, compared to their peer in the other groups. The second main finding regards the effects of the training in improving children's prosocial behavior. More precisely, the participants in the Emotional Conversation Group showed significant gains in their prosocial abilities for all the measurement taken into account (both parents report and experimental tasks). These outcomes will be discussed extensively in the following sections.

5.1. Evidence of the role of emotional conversation in fostering emotion knowledge

In line with previous studies conducted with older children, the emotional conversation training resulted efficacy in promoting young children's emotion knowledge. Compared to their peers, children in the Emotional Conversation Group showed an improvement in their ability to use an appropriate emotional lexicon, to identify the basic emotions in judging facial expressions, and to understand emotional language recognizing emotions by their verbal labels. Discussing emotional stories and the discuss with teachers and peers about the causes of emotional experiences allowed participants to better understand both stereotypical and non-stereotypical situational antecedents. Finally, the training was useful to enhance the ability to identify the causes of basic emotions.

During the conversational activities, children were exposed to and had the opportunity to use internal-state lexicon and to converse on emotions and other inner states. Listening to the stories and to the stimulus questions of the teacher, children took an active part in the conversation that helped them to consolidate their emotion knowledge (Grazzani et a., 2016; Ornaghi et al., 2017). Listening stories based on emotional and prosocial scripts and discussing the expression and causes of emotion with small groups of children gave these very young children the opportunity to use the emotions of the story characters as a starting point to discuss about their own and others emotional experience.

The training activities were designed to maximize conversational exchange among children, as illustrated in the following extract. It has been drawn from our corpus of video-recorded data, specifically from a session exploring the causes of sadness and the way to express this emotion:

> Teacher: *In this story, the protagonist feels very sad. When do you feel sad?*
> Sofia: *I'm sad when mummy goes to work.*
> Teacher: *And do the rest of you do the same?*
> Andrea: *When dad goes out to play football I'm sad.*
> Aurora: *I'm sad when my sister plays with my toys.*
> Carlotta: *Me too. When I'm sad I cry.*
> Aurora: *Me too, I start to cry and I make a face like this.*

Interestingly, this example demonstrates that children learn about emotions not only by hearing stories about emotional situations but also through their peer's contributions to the discussion and the conversation.

The video-recordings document the fact that the children displayed interest and involvement, remaining attentive throughout the conversational activities. During the two-month intervention, children had been adequately familiarized with the intervention format, the teachers first began to gradually direct their attention towards the story characters' facial expressions *(«What kind of face is Bea making here?»; «What is Tom doing here? Look at his eyes»*). During this phase, the children's input to the conversation was relatively limited. They mainly repeated the emotion words uttered by the teachers *(«She's sad»*), imitated the story characters' facial expressions when invited by the adult to do so (*«Show me what you do when you're angry»; «And what about you, Sofia, let's see what kind of face you make when you're sad …»*). Next, the teachers increased the complexity of the conversation, helping the children to relate the story plot with their own personal experience by focusing on the causes of emotions. The children's initial responses to these questions were linked to the story characters' experiences, as though they were activating a mechanism of repetition and

imitation of what they had just heard from others. Finally, towards the end of the intervention, the children gave the impression of improving their linguistic production in terms of both the length of their utterances and the quality of their attempts to talk about themselves, by linking aspects of the emotional script to their personal experience (*«I get angry when I play with the blocks and the tower falls down»*). This transition from imitating the language of others to making more personal and original contributions could be facilitated by the fact that the activity was shared with peers in a small group setting.

5.2. Evidence of the role of emotional conversation in enhancing children's prosocial skills

The intervention based on conversation about internal states results efficacy in enhancing children's prosocial actions, as assessed via parental ratings (through the EmQue-I13 and the CPBQ) and observed in experimental situations (Prosocial Tasks). In both direct and indirect measures considered, at the post-test children in the Emotional Conversation Group displayed prosocial actions more frequently than their counterparts in the two control conditions.

Parents in the Emotional Conversation Group identified better prosocial skills in their children after the training, particularly related to sharing behaviors. These findings were confirmed by results in the Prosocial Tasks. In relation to prosocial behavior assessed via prosocial tasks to children, the intervention had a statistically significant effect on improving helping, sharing, and comforting behaviors. For instance, in the helping task, children in the Emotional Conversation Group helped the experimenter retrieving the toy from the ground more frequently and more rapidly. In the sharing task, they quickly shared some of their pencils with the adult, even giving up everything they have in their box. Furthermore, children involved in training activities displayed more appropriate other-oriented interventions – like patting, hugging, or kissing – in response to a physical distress. Concerning the different types of prosocial behaviors elicited by Prosocial Tasks, although the Emotional Conversation Group displayed gains in all categories, we found a lower pre- to post-test improvement for comforting behaviors, which the literature reports to be more difficult and later developing than other kinds of prosocial conduct (Dunfiled, 2014). Comparing the performance of the other two groups, children in Play Group displayed greater gains in prosocial abilities than their peers in Physical Conversation Group. Probably, children in the Play Group had the opportunity to practice their positive social abilities in social exchanges with peers, during the free play activities.

In keeping with the outcomes of studies on conversation in the family setting (Brownell et al., 2013), the findings of the present study have shown that talking about emotions with young children in an early childhood education setting facilitates their prosocial development. Given the well-established relationship between emotional competence and prosocial behavior (Eggum et al., 2011; Ensor & Hughes, 2005; Ensor et al., 2011), it might be argued that the experience of the children in the Emotional Conversation Group over the 2-month period allowed them to internalize new knowledge about emotions, reinforcing their awareness and comprehension of others' feelings and needs and thus increasing their propensity to engage in prosocial behaviors, such as comforting, helping, and sharing (Ornaghi et al., 2017). The training activities favored both the exchange of viewpoints among participants and their reflection on the link between the individual's internal world (cognition, emotion, intentions, desires etc.) and manifest other-oriented behaviors aimed at benefiting another. Participating in conversations with the peer group may have provided the children with the opportunity to decenter and recognize points of view as distinct from their own, a crucial step in developing prosocial behaviors. The story structure and content may have also played a key part in fostering their ability to comprehend others point of view. As shown by Adrián et al. (2007), not all stories are equally suitable for promoting conversation with children about internal states. The stories developed ad hoc for the present study are short and easy for young children to memorize. Each story has a focus on a specific prosocial behavior - like helping, sharing and comforting - and depicts the protagonists as deploying prosocial action to solve others' problems. They also narrate episodes that young children can readily identify with, due to their similarity with children's everyday lives. For example, during a conversation about a story on the theme of sharing toys with a friend, one child said: *«I have given some Lego of mine to Leonardo because he didn't get any, and we played together»*. In the following extract, the teacher guided the discussion about how respond to another need or desire in everyday nursery life:

> Teacher: *What could you do if you see Anna sad? Do you give her some of your ice-cream?*
> Lorenzo*: No, I eat it all, as I did with candy!*
> Teacher: *Exact, I feel sad because Lorenzo has not even brought me his candy. You have eaten all of them.*
> Lorenzo: *Yes, but I'll bring them to you tomorrow*
> Teacher: *Uh thanks!*
> Lorenzo: *I'll tell to my mum. When she comes to pick me up I'll say she must remind me to bring the candy.*
> Teacher: *What do you say to your mom? How do I feel?*
> Lorenzo: *Sad.*

Teacher: *Sad, right, because I wanted to eat a candy, but Lorenzo has eaten all of him.*
Lorenzo: *No, I'll bring them to you tomorrow, when my mum comes to pick me up I'll ask her to remember me to take them.*
Teacher: *Thank you. Then I will not feel sad anymore. How will I feel?*
Lorenzo: *Happy.*

Overall, our results suggest that specific interventions during early childhood, conducted in a group context, may promote the acquisition of important prosocial abilities. Given the associations that have been documented at various stages of development between these abilities and social well-being (Cassidy, Werner, Rourke, Zubernis, & Balaraman, 2003; Ensor & Hughes, 2005), school readiness (Bierman et al., 2008; Denham, 2006), and reduced behavioral problems (Domitrovich et al., 2007), we believe that early intervention aimed at strengthening them can be of crucial value, particularly when based on the conversational approach.

5.3. Role of children's age and gender

In addition to these two main outcomes, the results of the psychometric analysis show two other interesting findings related to the role of the children's age and their gender. In particular, age differences among participants did not significantly impact on the effectiveness of the intervention. In other words, the training led to similar gains in both younger and older children. Nonetheless, it would be interesting to repeat the intervention with a larger sample and broader age range in order to verify whether some abilities improve more than others at given ages. Moreover, we did not find the results to vary as a function of gender with only one exception for empathic-related behaviors reported by parents, that resulted greater for girls in Emotional Conversation Group. As highlighted by several studies, girls express more empathy and engage in more prosocial behavior than do boys (Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). More specifically, feminine prosocial behavior may be more compassionate and sympathetic, whereas masculine prosocial behavior may be more agentic, engaged, and active (Hastings, Utendale, & Sullivan, 2007). The absence of variations observed with Prosocial Tasks confirms previous findings of the later emergence of differences in prosocial abilities (Eisenberg & Fabes, 1998). In particular, previous researchers find more robust sex differences when they used report instruments, like the questionnaire for parents, compared to direct observations of children's behavior.

5.4. Limitations, future research directions and educational implications

This study has some limitations that must be pointed out. First, one gap in the research design was not having included a follow-up phase to ascertain how long the effects of the training last. A second limitation of the present study was the fact that it did not include measures of professional change in the Emotional Conversation Group teachers - examining key parameters such as increased socio-emotional competence, enhanced observational skills. In this study, educators were given the opportunity to explore and use by their own an innovative practice devised for implementation with toddlers. Finally, although the sample is consistent, to make more sophisticated psychometric analyzes the number of participants should be more extensive. Future research with a larger sample would be necessary in order to test the mediating effect of emotion knowledge on children's social behavior.

Despite these limitations, we believe that the current work contributes in many ways to the existing literature. To the best of our knowledge, the current intervention study is one of the few conducted with 2- and 3-year-olds that has tested the role of conversing about emotions in fostering both emotion knowledge and prosocial development. Furthermore, the current study adopts a quasi-experimental paradigm in order to draw data from multiple sources, namely children's performance on a battery of socio-emotional tasks and parental ratings. This research, characterized by a focus on group conversation, contributes to our knowledge of the development of prosocial behaviors in early childhood and provides practical direction for innovative modes of intervention in socio-educational contexts. In fact, our findings suggest that intervention based on the format successfully implemented with early children in the current study is a viable option that should be seriously taken into account by educational programmers.

Conventionally, as underlined by Aram et al. (2013), the conversational practices surrounding shared story reading at day-care center still focus predominantly on the external, physical and material aspects of story characters, rather than on psychological states, such as emotional and affective states. In contrast, the stories used in our research, enriched with psychological lexicon and themes, can facilitate educational activities aimed at enhancing socio-emotional abilities in early childhood education centers (Misailidi, Papoudi, & Brouzos, 2013). Implementing effective prosocial socialization practices in a context in which young children spend several hours a day could be a key protective factor against difficulties in external and disruptive behaviors (Brophy-Herb, Stansbury, Bockneck, & Horodynski, 2012; Gimenez-Dasi, Fernandez-Sanchez, & Quintanilla, 2015). Training

with a small group of children, conducted in a familiar context, such as nursery, could facilitate the acquisition of skills and especially the possibility to maintain and generalize the achieved progress.

In conclusion, our research outcomes suggest the value of early intervention with children in extra-familial educational contexts, conducted with a view to promoting the development of young children's emotional abilities and prosocial skills, and harnessing the benefits of story reading and conversing about psychological contents.

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Conclusion

Within the flourishing area of research in studying early prosocial behaviors, the purpose of this Ph.D. research project was to investigate the development of prosocial behaviors in early childhood, with a special focus on the contributor of the social context – both familiar and extra-familiar contexts – in prosocial growth.

Having discussed the results, highlighting the limits and indicating the future directions of research in the individual studies, we report below only a summary of what has been described.

The first study - involving 409 Italian parents - investigated the psychometric properties of the Child Prosocial Behavior Questionnaire (CPBQ), a parent-report tool for the assessment of helping, sharing and comforting behaviors in early childhood. In line with previous research showing children's ability to provide aid to others in response to a diversity of needs, the development and the validation of a new instrument able to distinguish between core types of prosocial behavior in very young children could be useful for research in typical and atypical developmental psychology. In particular, the CPBQ could be used both in longitudinal studies, aimed at investigating the relationship between the different prosocial behaviors and various aspects of development psychological, and in research-intervention.

The second study was aimed at investigating the psychometric properties of a new tool designed to assess a range of socialization practices concerning prosocial behavior in early childhood: the Parental Prosocial Practices Questionnaire (PPPQ). As highlighted in this study, the interest shown by developmental psychologist towards the theme of prosocial socialization has been translated into a considerable line of empirical studies oriented to the analysis of the mechanisms and the processes underlying the origin of prosocial behaviors in children. The results of the two sub-studies – involving a total of 623 Italian parents – suggests that the PPPQ is a reliable and easy-to-use instrument to better investigate parental socialization practices in early childhood.

The third study tested the efficacy of a conversation-based intervention in promoting prosocial development in 2- to 3-years-old. The intervention - conduct by the trained teacher in early educational context - was effective in enhancing children's ability to recognize and understand emotions (emotion knowledge) and in fostering early prosocial abilities. The results of this study confirm also the crucial role played by teachers in the development of prosocial skills. Despite the limitations, it is possible to affirm that we have verified the validity and effectiveness of a

conversational intervention based on empirical evidence that makes it possible to transfer it to other educational contexts with children of 2- to 3-years-old. Overall, the present study has tried to deepen the knowledge on prosocial behaviors and the socialization of prosociality in early childhood educational contexts, demonstrating how the nursery competes alongside the family for the acquisition and enhancement of children's prosocial skills. The conversation with the reference teacher has in fact represented for children an important opportunity for prosocial learning: taking an active role in the dialogue, the children have had the opportunity to share their emotional experiences with peers and with the teacher, they are being encouraged to express themselves, to challenge their conversational skills and to train in the communication of internal states in a protected and welcoming context. As an environment extremely rich in communication exchanges both between peers and between children and adults, the nest can be a good "gym" for children to learn, exercise and improve their skills in the expression and understanding of emotions: assuming a guiding role and support, the educator has the possibility of transforming any moment of play or interaction into an opportunity for reflection on the emotions experienced, on the ways in which those emotions are expressed, on the words used to express verbally the emotional experiences, on the link between them and events that produced them.

In conclusion, it is, therefore, possible to state how the present Ph.D. work could contribute to the study of prosocial behavior in early childhood, offering an original methodological contributor with the development and the validation of two new questionnaires for measure children's prosocial behavior and parental prosocial socialization strategies.
Alongside this theoretical and methodological interest, the current work has been guided by application purposes, so that scientific research can translate into everyday educational practices to be applied to life contexts that are meaningful to people children.

Appendix A - The Child Prosocial Behavior Questionnaire (CPBQ)

CPBQ

The Child Prosocial Behavior Questionnaire

(Brazzelli, Farina, Grazzani & Pepe, 2018)

Lo scopo del presente questionario è indagare con quale frequenza i bambini mettono in atto comportamenti di aiuto.

Come illustrato qui sotto, ogni item o affermazione del questionario è affiancato da 5 numeri, che corrispondono alla frequenza con cui i comportamenti descritti accadono nella vita quotidiana. Nel corso della compilazione, Le chiediamo di indicare con una crocetta la scelta effettuata per ogni singolo item.

1	2	3	4	5
Mai	Raramente [*una/due volte al mese*]	Qualche volta *[alcune volte al mese]*	Spesso *[alcune volte alla settimana]*	Sempre *[tutti i giorni]*

Quanto spesso mio figlio/a:						
1	Condivide volentieri i giocattoli con un genitore, anche senza che gli/le venga richiesto di farlo	1	2	3	4	5
2	Cerca di aiutarmi spontaneamente quando sto cercando qualcosa in giro per la casa	1	2	3	4	5
3	Abbraccia le persone, quando sono dispiaciute	1	2	3	4	5
4	Cerca di aiutarmi nei lavori di casa (ad es., spazza, pulisce il tavolo, mette via i giocattoli, annaffia i fiori)	1	2	3	4	5
5	Dice “oh no” (o esclamazioni simili) quando si accorge che qualcuno ha un problema (è in difficoltà)	1	2	3	4	5
6	Offre spontaneamente i suoi oggetti quando qualcuno è turbato	1	2	3	4	5
7	Condivide volentieri i giocattoli con altri bambini, quando gli/le viene richiesto di farlo	1	2	3	4	5
8	Raccoglie un oggetto che mi è caduto inavvertitamente e me lo porge	1	2	3	4	5
9	Condivide volentieri i giocattoli con altri bambini, anche senza che gli/le venga richiesto di farlo	1	2	3	4	5
10	Condivide volentieri i giocattoli con un genitore, se gli/le viene richiesto di farlo	1	2	3	4	5

English translation:

The questionnaire consists of 10 items that describe children helping behavior..

As illustrated below, each item or statement of the questionnaire is flanked by 5 numbers, which correspond to the frequency with which the behaviors described occur in everyday life. During the compilation, we ask you to indicate with a cross the choice made for each item.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

How often my child:						
1	Willingly shares toys with a parent, even without being asked	1	2	3	4	5
2	Helps me of his/her own accord when I am looking for something around the house	1	2	3	4	5
3	Hugs others when they are upset	1	2	3	4	5
4	Tries to help me with the housework (for example, sweeps the floor, wipes off the table, puts away toys, waters flowers)	1	2	3	4	5
5	Exclaims “Uh oh!!” (or similar) when he/she realizes that somebody else has a problem (is in trouble)	1	2	3	4	5
6	Spontaneously offers his/her things to someone who is upset	1	2	3	4	5
7	Willingly shares toys with other children, when asked	1	2	3	4	5
8	Picks up something that I have accidentally dropped and hands it to me	1	2	3	4	5
9	Willingly shares toys with other children, even without being asked	1	2	3	4	5
10	Willingly shares toys with a parent, when asked	1	2	3	4	5

Appendix B – The Italian version of the Empathy Questionnaire (EmQue-I13)

EmQue-I13

Questionario sull'empatia dei bambini

(Grazzani, Ornaghi, Pepe, Brazzelli & Rieffe, 2017)

Lo scopo del presente questionario è quello di valutare l'empatia e il comportamento prosociale dei bambini. Nel corso della compilazione, Le chiediamo di indicare con una crocetta la scelta effettuata per ogni singolo item, in relazione alla frequenza con cui i comportamenti descritti accadono nella vita quotidiana.

		Mai	Raramente	Qualche volta	Spesso	Sempre
1	Quando mio figlio/a vede altri bambini ridere, anche lui/lei comincia a ridere					
2	Quando un altro bambino/a soffre, anche mio figlio/a ha bisogno di essere confortato					
3	Quando un adulto si arrabbia con un altro bambino/a, mio figlio/a osserva con attenzione					
4	Quando un altro bambino/a fa una brutta caduta, subito dopo anche mio figlio/a finge di cadere					
5	Quando un altro bambino è contrariato, mio figlio/a cerca di rallegrarlo/a					
6	Quando un altro bambino/a ride, mio figlio/a volge lo sguardo verso di lui/lei					
7	Quando un altro bambino/a è turbato, anche mio figlio/a ha bisogno di essere confortato/a					
8	Quando un altro bambino/a inizia a piangere, mio figlio/a cerca di confortarlo/a					
9	Quando gli adulti ridono, mio figlio/a cerca di avvicinarsi a loro					
10	Quando due bambini stanno litigando, mio figlio/a cerca di fermarli					
11	Quando un altro bambino è spaventato, mio figlio/a si blocca o comincia a piangere					
12	Quando un altro bambino/a si spaventa, mio figlio/a cerca di aiutarlo/a					
13	Quando un altro bambino/a piange, mio figlio/a volge lo sguardo verso di lui					

Appendix C - The Parental Prosocial Practices Questionnaire (PPPQ)

PPPQ

The Parental Prosocial Practices Questionnaire

(Brazzelli, Grazzani & Pepe, 2018)

Lo scopo del presente questionario è indagare le strategie utilizzate dai genitori per incoraggiare i figli ad aiutare gli altri.

Come illustrato qui sotto, ogni affermazione o item del questionario è affiancata da 5 numeri, che corrispondono alla frequenza con cui i comportamenti descritti accadono nella vita quotidiana:

1	2	3	4	5
Mai	Raramente [*una/due volte al mese*]	Qualche volta *[alcune volte al mese]*	Spesso *[alcune volte alla settimana]*	Sempre *[tutti i giorni]*

Quanto spesso:						
1	Chiedo a mio figlio/a di aiutarmi anche se non ho veramente bisogno, affinché impari ad aiutare gli altri	1	2	3	4	5
2	Incoraggio mio figlio/a a prestare attenzione ai suoi sentimenti o a quelli delle altre persone	1	2	3	4	5
3	Parlo con mio figlio/a dell'importanza di aiutare gli altri	1	2	3	4	5
4	Elogio mio figlio/a quando aiuta me o qualcun altro (ad es.: "bravo", "bravissima")	1	2	3	4	5
5	Parlo con mio figlio/a dei suoi sentimenti o di quelli di altre persone	1	2	3	4	5
6	Ringrazio mio figlio/a quando aiuta me o qualcun altro	1	2	3	4	5
7	Organizzo con mio figlio/a attività che richiedano comportamenti di aiuto (ad es., pulire o cucinare insieme)	1	2	3	4	5
8	Elogio mio figlio/a quando condivide i suoi giocattoli con me o con qualcun altro	1	2	3	4	5
9	Uso parole legate ai comportamenti di aiuto quando parlo con mio figlio (es., aiuto, aiutare, aiutante)	1	2	3	4	5

English translation:

The questionnaire consists of 9 items that describe the behaviors implemented by the parent. As illustrated below, each item or statement of the questionnaire is flanked by 5 numbers, which correspond to the frequency with which the behaviors described occur in everyday life. During the compilation, we ask you to indicate with a cross the choice made for each item.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

How often:						
1	I ask my child to help me even if I do not really need it, just to teach him/her to help others	1	2	3	4	5
2	I encourage my child to pay attention to his/her feelings or those of other people	1	2	3	4	5
3	I talk with my child about the importance of helping others	1	2	3	4	5
4	I praise my child when he/she helps me or someone else (eg: "good boy", "very good")	1	2	3	4	5
5	I talk to my child about his/her feelings or those of other people	1	2	3	4	5
6	I thank my child when he/she helps me or someone else	1	2	3	4	5
7	I organize activities with my child that require help behaviors (e.g., cleaning or cooking together)	1	2	3	4	5
8	I praise my child when he/she shares his toys with me or someone else	1	2	3	4	5
9	I use words related to helping behaviors when I speak with my child (e.g., help, helper, helpful)	1	2	3	4	5

Appendix D – The Maternal Emotional Style Questionnaire (MESQ)

MESQ

The maternal emotional style

(Coplan, 2005; Ciucci & Menesini, 2008)

Le chiediamo di leggere attentamente le affermazioni qui di seguito e indicare il suo grado di accordo facendo una croce sul numero dell'alternativa prescelta, seguendo la scala di risposta che troverà qui di seguito.

Non esiste una risposta giusta o sbagliata, la risposta migliore è quella sincera e immediata.

Per nulla d'accordo	*Poco d'accordo*	*Né in accordo né in disaccordo*	*Abbastanza d'accordo*	*Molto d'accordo*
1	2	3	4	5

1. Quando mio/a figlio/a è triste, è il momento di aiutarlo e risolvere il suo problema	1	2	3	4	5
2. La rabbia è un'emozione che merita di essere esplorata	1	2	3	4	5
3. Quando mio/a figlio/a è triste, ci si aspetta che io risolva il problema e aggiusti tutto	1	2	3	4	5
. 4. Quando mio figlio/a è triste, è il momento di essergli/le vicino	1	2	3	4	5
5. La tristezza è qualcosa che si deve superare e non qualcosa sulla quale soffermarsi	1	2	3	4	5
6. Preferisco che mio figlio/a sia tranquillo piuttosto che eccessivamente emotivo/a	1	2	3	4	5
7. Aiuto mio figlio/a a superare i momenti di tristezza velocemente così può passare ad altro	1	2	3	4	5
8. Quando mio/a figlio/a è arrabbiato, è un'opportunità per essergli/le vicino	1	2	3	4	5
9. Quando mio/a figlio è arrabbiato mi prendo un po'di tempo per condividere con lui/lei questo sentimento	1	2	3	4	5
10. Cerco di cambiare lo stato d'animo di rabbia di mio/a figlio/a in un stato d'animo d'allegria	1	2	3	4	5
11. L'infanzia è un periodo in cui si prendono le cose come vengono, non un periodo in cui sentirsi tristi o arrabbiati	1	2	3	4	5
12. Quando mio/a figlio/a è arrabbiato, il mio scopo è di fermarlo e farlo /a riflettere	1	2	3	4	5
13. Quando il mio/a bambino/a è arrabbiato, voglio sapere a cosa sta pensando	1	2	3	4	5
14. Quando mio figlio/a è arrabbiato/a, è il momento di risolvere il suo problema	1	2	3	4	5

Appendix E – The Parental Style Questionnaire (PSQ)

QSP

Questionario sugli Stili Parentali

(Venuti & Senese, 2007)

Madri diverse forniscono al figlio diverse esperienze iniziali. Con il presente questionario siamo interessati a conoscere i comportamenti che più da vicino La caratterizzano come madre.

Qui di seguito Le viene presentata una lista di comportamenti che le madri mettono in atto con il proprio figlio. Le chiediamo di valutare quanto frequentemente mette realmente in atto ciascuno dei comportamenti descritti.

Cortesemente, valuti i seguenti comportamenti assegnando un punteggio da 1 a 5, come indicato nella scala riportata di seguito:

1	*2*	*3*	*4*	*5*
Mai	*Raramente*	*Qualche volta*	*Spesso*	*Sempre*

1. Trascorro del tempo a giocare con mio figlio	1	2	3	4	5
2. Rispondo in maniera pronta e adeguata quando mio figlio esprime disagio o turbamento	1	2	3	4	5
3. Lascio a mio figlio del tempo in cui possa esplorare ed imparare da se stesso in maniera indipendente	1	2	3	4	5
4. Soddisfo in maniera efficiente i bisogni giornalieri di mio figlio (ad esempio, farlo mangiare, fargli il bagno, vestirlo e altre necessità relative all'accudimento)	1	2	3	4	5
5. Sottolineo a mio figlio l'importanza di tener fede alle regole	1	2	3	4	5
6. Fornisco a mio figlio diverse esperienze sociali e di interazione (ad esempio, attraverso gruppi di gioco organizzati e incontri con i suoi coetanei, ecc.)	1	2	3	4	5
7. Trascorro del tempo parlando o conversando con mio figlio	1	2	3	4	5
8. Fornisco a mio figlio una veloce e positiva risposta alle sue richieste di attenzione	1	2	3	4	5
9. Fornisco a mio figlio un ambiente strutturato, organizzato e prevedibile	1	2	3	4	5
10. Fornisco la disciplina e la fermezza necessarie per insegnare a mio figlio il rispetto per l'autorità	1	2	3	4	5
11. Fornisco a mio figlio regolarmente attività programmate fuori casa (ad esempio, corsi di nuoto, corsi di ginnastica, ecc.)	1	2	3	4	5

12. Fornisco a mio figlio opportunità di apprendimento del linguaggio (ad esempio, denominando e descrivendo le proprietà degli oggetti, degli eventi, delle attività, o leggendo fiabe, libri, ecc.)	1	2	3	4	5
13. Fornisco a mio figlio una varietà di giocattoli o oggetti per giocare ed esplorare	1	2	3	4	5
14. Sono paziente quando mio figlio non si comporta in maniera corretta	1	2	3	4	5
15. Do a mio figlio dimostrazioni di affetto attente e calorose	1	2	3	4	5
16. Sono flessibile rispetto ai tipi di comportamento che mio figlio può mettere in atto	1	2	3	4	5
17. Sono consapevole di quello che mio figlio desidera o sta provando	1	2	3	4	5
18. Insegno a mio figlio ad adattarsi alle abitudini della famiglia	1	2	3	4	5
19. Insegno a mio figlio a comportarsi in modo educato	1	2	3	4	5

Appendix F - The Affect Knowledge Task (AKT)

Foglio di scoring
Nome del bambino:.....**Data di somministrazione:**.....

Sessione 1. Riconoscimento espressivo: *"Come si sente?"*. Cerchiare il punteggio ottenuto per ogni emozione

	Etichetta e tonalità corrette	Etichetta sbagliata, tonalità corretta	Etichetta e tonalità sbagliate
Felicità	2	1	0
Tristezza	2	1	0
rabbia	2	1	0
Paura	2	1	0

Procedi sempre a correggere le risposte da 1 e da 0.

Sessione 2. Riconoscimento recettivo: *"Mostrami la faccetta …"*. Cerchiare il punteggio ottenuto per ogni emozione

	Etichetta e tonalità corrette	Etichetta sbagliata, tonalità corretta	Etichetta e tonalità sbagliate
Felicità	2	1	0
Tristezza	2	1	0
rabbia	2	1	0
Paura	2	1	0

Procedi sempre a correggere le risposte da 1 e da 0.

Sessione 3: Identificazione delle emozioni stereotipiche a partire dagli antecedenti situazionali. Segnare una crocetta per ognuna delle due competenza per ogni storia: "Come si sente?" o "Scegli una faccina per il protagonista" (nel caso il bambino abbia difficoltà espressive). Descrivere la risposta del bambino OPPURE attribuire un punteggio sulla seguente base: emozione e tonalità corretta (2); emozione sbagliata ma tonalità corretta (1); emozione e tonalità sbagliate (0).

	etichetta (*etichetta verbalmente* l'emozione corretta)*	riconosce (*indica/sceglie* la faccia corretta)
storia 1: felicità		
storia 2: tristezza		
storia 3: rabbia		
storia 4: paura		
storia 5: felicità		
storia 6: tristezza		
storia 7: rabbia		
storia 8: paura		

*Le autrici della versione italiana hanno deciso di prevedere un punteggio diverso per la capacità di etichettamento verbale e la capacità di identificazione in forma non verbale, mediante il gesto dell'indicare. Tale distinzione non è prevista nella versione originale di S. Denham

Sessione 4: Identificazione le emozioni non stereotipiche a partire dagli antecedenti situazionali. Segnare una crocetta per ognuna delle due competenza per ogni storia: "Come si sente?"o "Scegli una faccina per il protagonista" (nel caso il bambino abbia difficoltà espressive). PRIMA DELLA SOMMINISTRAZIONE: evidenziare l'emozione scelta dal genitore e quella usata nel racconto della storia al bambino. Trascrivere la risposta del bambino OPPURE attribuire un punteggio sulla seguente base: emozione e tonalità corretta (2); emozione sbagliata ma tonalità corretta (1); emozione e tonalità sbagliate (0).

Storia	Emozione indicata dal genitore	Emozione raccontata nella storia	etichetta (*etichetta verbalmente* l'emozione corretta)*	riconosce (*indica/sceglie* la faccia corretta)
1	Felice Triste	Felice Triste		
2	Felice Triste	Felice Triste		
3 cibo preferito: ..... cibo meno preferito:	Arrabbiato Felice	Arrabbiato Felice		
4	Felice Arrabbiato	Felice Arrabbiato		
5	Felice Spaventato	Felice Spaventato		
6	Felice Spaventato	Felice Spaventato		
7	Arrabbiato Triste	Arrabbiato Triste		
8	Arrabbiato Triste	Arrabbiato Triste		
9	Arrabbiato Spaventato	Arrabbiato Spaventato		
10	Arrabbiato Spaventato	Arrabbiato Spaventato		
11	Triste Spaventato	Triste Spaventato		
12	Triste Spaventato	Triste Spaventato		

*Come nota sopra

Sessione 5 Identificazione delle CAUSE: Segnare negli appositi spazi le cause identificate. Quindi attribuisci il punteggio corretto, secondo il criterio noto: causa per emozione e tonalità corretta (2); causa per emozione sbagliata ma tonalità corretta [es. riporta una causa adeguata per la rabbia in risposta alla tristezza] (1); emozione e tonalità sbagliate [es. riporta la causa della felicità per la rabbia] (0).

NB: poiché qui si valutano risposte a domande aperte sulla base del giudizio del codificatore, è necessario calcolare l'indice di accordo tra codificatori indipendenti

1. ***"Secondo te, perché si sente così"***
2. ***"Cosa ti farebbe sentire così"***

	Protagonista	Bambino (cause riferite a se)
Felicità		
Tristezza		
Paura		
Rabbia		

Punteggio cause riferite al protagonista:

	Causa per emozione e tonalità corrette	Causa per emozione sbagliata ma tonalità corretta	Causa per emozione e tonalità sbagliate
Felicità	**2**	**1**	**0**
Tristezza	**2**	**1**	**0**
rabbia	**2**	**1**	**0**
Paura	**2**	**1**	**0**

Punteggio cause riferite a se stesso:

	Causa per emozione e tonalità corrette	Causa per emozione sbagliata ma tonalità corretta	Causa per emozione e tonalità sbagliate
Felicità	**2**	**1**	**0**
Tristezza	**2**	**1**	**0**
rabbia	**2**	**1**	**0**
Paura	**2**	**1**	**0**

Totale punteggio:	
totale sessione 1	
totale sessione 2	
totale sessione 3	
totale sessione 4	
totale sessione 5	
totale complessivo	

Appendix G - The Prosocial Tasks

COMPITI PROSOCIALI

(Adattamento da Dunfield & Kuhlmeier, 2013; Warneken & Tomasello, 2006)

Indicazioni generali

La batteria comprende la costruzione di 3 opportunità prosociali, cui il bambino può rispondere mettendo in atto comportamenti di aiuto, di condivisione di oggetti o di conforto e consolazione.

È necessario familiarizzare prima con il bambino e con il contesto nel quale vi inserite; spiegare all'educatrice o maestra che avrai bisogno di portare fuori dalla classe ogni bambino per circa 10 minuti, chiedendo quando sarebbe meglio e più comodo per lei. Inoltre, chiedere quale potrebbe essere il posto migliore per fare le prove con il bambino, il quale verrà fatto sedere ad un tavolino accanto allo sperimentatore.

Materiale necessario

- Tavolo e sedia a misura di bambino
- Puzzle (in alternativa schede illustrate tipo Memory)
- Scatola con le matite colorate
- Costruzioni

HELPING TASK

Comportamento di aiuto in risposta ad un bisogno strumentale

Introduzione:

Questa prova valuta la capacità del bambino di riconoscere un bisogno strumentale, manifestato da un'altra persona, e rispondervi offrendo aiuto.

In particolare, il compito prevede la costruzione di una situazione in cui il bambino osserva un adulto (lo sperimentatore) che esprime un bisogno strumentale. Nello specifico, lo sperimentatore è in possesso di un determinato oggetto, che poi smarrisce.

Procedura:

"Out-of-reach Task" (Warneken & Tomasello, 2006)

Mentre lo sperimentatore riordina il puzzle, un pezzo cade a terra fuori dalla sua portata. Lo sperimentatore vocalizza "*Ops*!" e allunga braccio e mano verso il pezzo a terra.

Per i primi 5 secondi guarda direttamente il pezzo di puzzle a terra, dopo di che secondi alterna lo sguardo tra il giocattolo e il bambino sino a quando quest'ultimo non risponde o fino al termine della prova (dopo circa 10 secondi).

Lo sperimentatore non chiede mai direttamente aiuto al bambino.

La prova termina dopo che siano trascorsi 10 secondi.

Attribuzione del punteggio:

2	Il bambino recupera l'oggetto target e lo porge allo sperimentatore entro i primi 5 secondi
1	Il bambino recupera l'oggetto target e lo porge allo sperimentatore dopo i primi 5 secondi
0	Tutte le altre risposte

SHARING TASK

Comportamento di condivisione delle risorse in risposta ad un bisogno materiale

Introduzione:

Questa prova valuta la capacità del bambino di riconoscere un bisogno materiale, manifestato da un'altra persona per la mancanza di risorse (oggetti o cibo), e rispondervi condividendo i propri beni materiali.

Procedura:

Toys sharing Trial

Come il compito precedente, variando l'oggetto da condividere: allo sperimentatore viene consegnata una scatola vuota mentre al bambino viene data una scatola contenente delle matite colorate (o figurine/giochini). Lo sperimentatore mostra disagio, aggrottando la fronte.

Per i primi 5s, lo sperimentatore guarda la sua scatola vuota, poi per i successivi 5s alterna lo sguardo tra la scatola e il bambino. La prova continua sino a che siano trascorsi circa 30s.

Come per il compito precedente, la condivisione viene codificata quando il bambino prende almeno un elemento dalla sua scatola (almeno un pastello colorato in questo caso) per offrirlo allo sperimentatore.

Attribuzione del punteggio:

2	Il bambino prende almeno un biscotto/pastello dalla sua scatola per offrirlo allo sperimentatore entro i primi 5 secondi
1	Il bambino porge allo sperimentatore almeno uno dei suoi biscotti/pastelli dopo i primi 5 secondi
0	Tutte le altre risposte

COMFORTING TASK

Comportamento di consolazione in risposta ad un disagio emotivo

Introduzione:

In questa prova ai partecipanti vengono presentati due situazioni di stress emotivo (una derivante da un piccolo incidente/trauma fisico e la seconda conseguente alla rottura di un giocattolo), in modo da elicitare nei bambini la messa in atto di comportamenti di conforto o consolazione, sia verbale che fisica.

Procedura:

Banged knee Trial (o "*Slammed fingers*")

In questa prova, lo sperimentatore si avvicina alla porta per porre un elemento fuori dalla stanza e mentre fa ritorno al tavolo picchia con il ginocchio contro lo spigolo del tavolino (in alternativa, può fingere di schiacciarsi un dito con la porta). Lo sperimentatore si siede sulla sedia, mostrando un'espressione di dolore sul volto, strofinando il suo ginocchio e vocalizzando il proprio dolore (ad esempio, *"Oh! Il mio ginocchio, ho sbattuto il mio ginocchio!").*

Per i primi 5s lo sperimentatore guarda fisso il suo ginocchio, poi per i successivi 5s alterna il suo sguardo tra il bambino e il ginocchio. Dopo i primi 10 s lo sperimentatore chiede "*Cosa dovremmo fare?* ", lasciando altri 10s al bambino più per rispondere.

Attribuzione del punteggio:

2	Il bambino conforta verbalmente ("Va tutto bene? Ti sei fatto male? Vuoi un cerotto? Vuoi fare un'altra torre? Vuoi il mio gioco?") o fisicamente (accarezza o abbraccia o bacia) lo sperimentatore entro i primi 5 secondi
1	Il bambino conforta verbalmente o fisicamente lo sperimentatore dopo i primi 5 secondi
0	Tutte le altre risposte(es: guardare con angoscia, strofinare il proprio ginocchio, ridere)

COMPITI PROSOCIALI

Foglio di scoring

Nome del bambino:…….	N°: …….
Data di somministrazione: ……..	

COMPITI PROSOCIALI		Risposta entro 5 secondi	Risposta tra 5 e 10 secondi	Altre risposte non appropriate
Helping	Out-of-reach Trial	2	1	0
Sharing	Toys sharing Trial	2	1	0
Comforting	Banged knee Trial	2	1	0

Appendix H – Guidelines for the teachers

INDICAZIONI GENERALI PER IL TRAINING

(Adattamento da Agliati, Grazzani & Ornaghi, 2015)

SPAZI

L'attività viene condotta nell'angolo morbido della stanza o nello spazio che l'educatrice ritiene più opportuno.

L'educatrice siede di fronte ai bambini affinché essi possano osservare le immagini delle storie. I bambini si dispongono in cerchio per agevolare la conversazione.

Limitare il più possibile elementi di disturbo durante l'attività (rumori, presenza di altri bambini che si avvicinano, e così via).

TEMPI

Il training conversazionale sulle emozioni viene condotto tre volte la settimana, per sei settimane circa. L'educatrice propone ai bambini l'attività preferibilmente nello stesso momento della giornata.

La durata di ogni incontro di training è di circa 15/20 minuti.

Ogni incontro, che andrebbe audio-registrato, si snoda attraverso 4 momenti principali che verranno di seguito approfonditi ad uno ad uno.

Momenti dell'attività di training	
INTRODUZIONE	Introdurre l'attività
LETTURA di una storia	In ogni incontro di training, viene letta una sola storia della raccolta
CONVERSAZIONE	Animare la conversazione fra bambini partendo dalla storia appena letta e ponendo domande stimolo.
CONCLUSIONE	Tirare le fila di quanto emerso e anticipare ai bambini che l'attività si ripeterà il giorno successivo.

1. INTRODUZIONE

Raccogliere i bambini nell'apposito spazio, anticipando l'attività che verrà svolta (ad esempio, dicendo: "*Bambini, come al solito verso quest'ora ci raccogliamo per leggere le storie di Tom e Bea…*").

2. LETTURA DI UNA STORIA

Le storie sono uno spunto per supportare e incoraggiare la conversazione con e fra i bambini riguardo alle emozioni, ai desideri e pensieri, ai comportamenti di aiuto, consolazione e condivisione. È la conversazione emotiva, infatti, lo strumento alla base del training.

Leggere le storie animandole, ma mantenendosi il più possibile fedeli al testo.

Ogni storia permette di focalizzarsi su un'emozione in particolare (felicità, tristezza, rabbia, paura) - detta emozione target – e su un comportamento prosociale specifico (aiuto, conforto e consolazione, condivisione di giocattoli o di cibo), che saranno il focus della conversazione di quel giorno.

3. CONVERSAZIONE

La conversazione deve riguardare l'emozione e il comportamento prosociale target su cui si lavora quel giorno.

Al termine della lettura della storia, l'educatrice dà il via alla conversazione 'agganciandola' ad una frase o parola della storia stessa.

L'educatrice pone domande stimolo per alimentare la conversazione riguardo all'**emozione target** di quel giorno. In particolare, i bambini sono spinti a conversare circa:

- **l'espressione delle emozioni** (che può essere verbale e non verbale);
- **la comprensione delle emozioni** (che porta soprattutto a indagare le cause che provocano le emozioni e le loro conseguenze);
- **la comprensione dei punti di vista altrui, dei pensieri e dei desideri dell'altro;**

Inoltre, oggetto di conversazione sarà il **comportamento prosociale**, collegato ai contenuti emotivi:

- il **comportamento di aiuto** (fisico o verbale, messo in atto in risposta ad un bisogno strumentale e concreto):
- il **comportamento di condivisione** (che porta a mettere in comune con l'altro le proprie risorse, come i giocattoli o altri materiali);
- il **comportamento di conforto o consolazione** (che riguarda le manifestazioni dirette ad alleviare lo stato di malessere o disagio altrui, consolando, rassicurando o tranquillizzando l'altro).

Le domande stimolo, di cui vengono riportati alcuni esempi (vedi oltre), hanno lo scopo di far intervenire i bambini raccontando situazioni della loro esperienza personale in cui hanno provato l'emozione target o hanno messo in atto un comportamento d'aiuto. L'importante è che la conversazione non perda di vista l'emozione target, gli stati emotivi del o dei protagonisti, i pensieri e i desideri di questi ultimi e le azioni che vengono messe in atto per aiutare e confortare.

Cercare di coinvolgere nella conversazione tutti i bambini presenti.

Se i bambini, soprattutto le prime volte, intervengono poco, l'educatrice può riportare le sue esperienze circa l'emozione e il comportamento target (ad esempio, *"Sapete che cosa mi rende triste?"... "Sapete che quando non riesco a fare un castello con le carte mi arrabbio un po'?"... "Sapete chi mi consola e conforta quando mi faccio male?"*, ecc.).

Favorire l'arricchimento lessicale attraverso l'utilizzo di termini emotivo-affettivi alternativi per indicare l'emozione target (per esempio, se si sta conversando sulla felicità usare, nelle domande stimolo, anche termini come gioia, contento, eccitato, ecc.).

La conversazione sulle emozioni e il riferimento ai protagonisti delle storie potranno interessare anche altri momenti non strutturati della giornata. Se è possibile, tenerne una traccia.

4. CONCLUSIONE

L'educatrice riprende i punti, a suo avviso, più significativi emersi dalla conversazione e pone fine all'attività. Può, inoltre, anticipare l'attività del giorno successivo (per esempio: "*Bambini, domani leggeremo un'altra delle storielle di Tom e Bea e parleremo ancora insieme delle loro emozionanti avventure, vedremo cosa faranno per aiutarsi a vicenda*"…) per tenere viva la curiosità nei bambini.

Esempio di conduzione dell'attività sul comportamento di CONFORTO

Storia *"Giochiamo a nascondino"*

- Emozione target: dolore fisico (paura - tristezza)
- Comportamento prosociale: conforto

	Domande stimolo
1. Richiamo alla storia appena letta	"*Avete visto che cosa è successo a Bea? È caduta e si è fatta male alla zampina."* *"E Tom cos'ha fatto? Ha sentito Bea piangere e si è preoccupato… Poi cosa ha fatto Tom? Ha consolato Bea… la aiuta a rialzarsi e insieme tornano a giocare*" [richiamare i passaggi centrali della storia, ponendo domande ai bambini in modo da favorirne l'appropriazione della trama narrata]
2. Riconoscimento e identificazione delle emozioni	"*Come si sente Bea in questa storia? Che emozioni ha provato?"* [invitare i bambini a nominare le emozioni, ad attribuire un'etichetta all'esperienza emotiva] "*Che espressione aveva Bea?"* *"Com'è la faccia di una persona che prova dolore (paura-tristezza)?"* [invitare i bambini a riprodurre l'espressione della rabbia e a confrontarsi tra loro – si può utilizzare l'illustrazione come spunto, l'espressione facciale mostrata dall'educatrice o lo specchio]
3. Comprensione delle cause delle emozioni	*"Come mai Bea prova dolore/tristezza/paura?"* *"A voi è mai successo di farvi male? E come vi siete sentiti?"* *"Cosa vi fa paura? A casa c'è qualcosa che vi spaventa? E qui al nido?"* [invitare i bambini a pensare le possibili cause delle emozioni, alle situazioni che scatenano in loro paura/tristezza, ai momenti in cui hanno provato dolore]
4. Percezione delle emozioni e dei desideri dell'altro	*"Come fate a capire se un altro bimbo è triste/prova dolore/non sta tanto bene?"* *"Avete visto che Tom ha sentito Bea piangere e si è preoccupato… capita anche a voi?"* [invitare i bambini a prestare attenzione ai segnali emotivi altrui, stimolare in loro la riflessione sui pensieri e i desideri dell'altro]
5. Risposta alle emozioni, desideri e bisogni dell'altro: azioni prosociali	*"Se vedete un altro bambino che si è fatto male, che cosa fate? E se ha paura?"* *"Che cosa potete fare per farlo stare un po' meglio?"* *"Se qui al nido qualcuno è un po' triste e vuole la mamma, cosa possiamo fare?"* [favorire la riflessione sulle azioni di conforto e consolazione, da mettere in altro per aiutare chi si è fatto male o chi ha paura o chi è triste]

Esempio di conduzione dell'attività sul comportamento di CONDIVISIONE DI GIOCHI

Storia *"Il gomito di Bea"*

- Emozione target: tristezza
- Comportamento prosociale: condivisione di giocattoli (oggetti)

	Domande stimolo
1. Richiamo alla storia appena letta	"*Avete visto che cosa è successo a Bea? È rimasta senza il suo gomitolo preferito… è finito sotto al mobile e non riusciva a riprenderlo." "Avete visto che faccina triste? Tom ha visto che la sua amica era proprio triste, non aveva più niente con cui giocare…" "E allora Tom cosa ha fatto per aiutarla? Ha aiutato Bea ad essere meno triste facendola giocare con il suo gomitolo, condividendo il suo giocattolo… e Bea è tornata felice"* [richiamare i passaggi centrali della storia, ponendo domande ai bambini in modo da favorirne l'appropriazione della trama narrata]
2. Riconoscimento e identificazione delle emozioni	"*Come si sente Bea in questa storia? Che emozioni ha provato?"* [invitare i bambini a nominare le emozioni, ad attribuire un'etichetta all'esperienza emotiva] "*Che espressione aveva Bea? Triste?" "Com'è la faccia di una persona triste?"* [invitare i bambini a riprodurre l'espressione della rabbia e a confrontarsi tra loro – si può utilizzare l'illustrazione come spunto, l'espressione facciale mostrata dall'educatrice o lo specchio]
3. Comprensione delle cause delle emozioni	*"Come mai Bea è triste?"* *"A voi è mai successo di non poter giocare con il vostro giocattolo preferito? Come vi siete sentiti?"* *"Cosa vi rende tristi? A casa…? E qui al nido?"* [invitare i bambini a pensare le possibili cause delle emozioni, alle situazioni che scatenano in loro tristezza, ai momenti in cui hanno desiderano un oggetto e non lo possono avere]
4. Percezione delle emozioni e dei desideri dell'altro	*"Come fate a capire se un altro bimbo è triste?" "E da cosa capiamo che un nostro amico vuole giocare con qualcosa ma non ha il suo gioco?"* *"Avete visto che Tom si è accordo che Bea era triste, ha visto la sua faccina e ha visto come si è rintanata nella sua cesta. Capita anche a voi di vedere qualche amico triste?"* [invitare i bambini a prestare attenzione ai segnali emotivi altrui, stimolare in loro la riflessione sui pensieri e i desideri dell'altro]
5. Risposta alle emozioni, desideri e bisogni dell'altro: azioni prosociali	*"Se vedete un altro bambino triste, che cosa fate?"* *"Che cosa potete fare per farlo stare un po' meglio?"* *"Cosa possiamo fare se un nostro amico vuole giocare ma è senza giochi?"* [favorire la riflessione sulla condivisione di oggetti, su come sia possibile giocare insieme, sull'effetto positivo della condivisione]

Esempio di conduzione dell'attività sul comportamento di CONDIVISIONE DI CIBO

Storia *"Oh no! Il mio gelato!"*

- Emozione target: tristezza
- Comportamento prosociale: condivisione di cibo

	Domande stimolo
1. Richiamo alla storia appena letta	*"Avete visto che cosa è successo a Tom? Voleva così tanto mangiare il gelato e invece è finito per terra!"* *"Ma Bea ha visto che Tom era molto dispiaciuto... Allora cosa ha fatto? Gli ha chiesto se voleva un po' del suo gelato. Così hanno mangiato insieme il gelato felici"* [richiamare i passaggi centrali della storia, ponendo domande ai bambini in modo da favorirne l'appropriazione della trama narrata]
2. Riconoscimento e identificazione delle emozioni	*"Come si sente Tom in questa storia? Che emozioni ha provato?" "Era triste vero? Era proprio abbattuto."* [invitare i bambini a nominare le emozioni, ad attribuire un'etichetta all'esperienza emotiva] *"Guardiamo un po', che espressione ha Tom?" "Com'è la faccia di una persona triste?"* [invitare i bambini a riprodurre l'espressione della rabbia e a confrontarsi tra loro – si può utilizzare l'illustrazione come spunto, l'espressione facciale mostrata dall'educatrice o lo specchio]
3. Comprensione delle cause delle emozioni	*"Come mai Tom era così dispiaciuto? A voi è mai capitato di non poter avere qualcosa che desideravate tanto?"* *"Vi è mai successo di volere un dolcetto o una caramella che stava mangiando un vostro amico?"* [invitare i bambini a pensare le possibili cause delle emozioni, alle situazioni che scatenano in loro tristezza, ai momenti in cui desiderano un cibo che non possono avere]
4. Percezione delle emozioni e dei desideri dell'altro	*"Come fate a capire se un altro bimbo è triste? Come si fa a capire che una persona è triste?"* *"Avete visto che Bea ha notato quanto Tom era triste, ha visto la sua faccina demoralizzata. Capita anche a voi di vedere qualche amico triste?"* [invitare i bambini a prestare attenzione ai segnali emotivi altrui, stimolare in loro la riflessione sui pensieri e i desideri dell'altro]
5. Risposta alle emozioni, desideri e bisogni dell'altro: azioni prosociali	*"Se vedete un altro bambino triste, che cosa fate? Che cosa potete fare per farlo stare un po' meglio?" "Se a casa la mamma o il papà vogliono assaggiare la vostra pappa, voi cosa fate? E qui al nido, quando giochiamo in casetta a preparare la pappa?"* [favorire la riflessione sulla condivisione di oggetti, su come sia possibile giocare insieme, sull'effetto positivo della condivisione]

Esempio di conduzione dell'attività sul comportamento di AIUTO

Storia *"Il castello di Tom"*

- Emozione target: rabbia
- Comportamento prosociale: aiuto

	Domande stimolo
1. Richiamo alla storia appena letta	*"Avete visto che cosa è successo a Tom? Si è arrabbiato perché non riusciva a costruire il castello di sabbia."* *"Chi ha visto che Tom era sempre più arrabbiato? E cosa ha fatto il papà per aiutare Tom a far passare la rabbia?"* [richiamare i passaggi centrali della storia, ponendo domande ai bambini in modo da favorirne l'appropriazione della trama narrata]
2. Riconoscimento e identificazione delle emozioni	"*Come si sente Tom in questa storia? Che emozioni ha provato?" "Era arrabbiato vero? Cosa fa Tom quando si arrabbia?"* [invitare i bambini a nominare le emozioni, ad attribuire un'etichetta all'esperienza emotiva] *"Guardiamo un po', che espressione ha Tom?" "Com'è la faccia di una persona arrabbiata?"* [invitare i bambini a riprodurre l'espressione della rabbia e a confrontarsi tra loro – si può utilizzare l'illustrazione come spunto, l'espressione facciale mostrata dall'educatrice o lo specchio]
3. Comprensione delle cause delle emozioni	*"Come mai Tom era così arrabbiato? A voi è mai capitato di non riuscire a fare qualcosa che vi piace tanto?"* *"Cosa vi fa arrabbiare?"* [invitare i bambini a pensare le possibili cause delle emozioni, alle situazioni che scatenano in loro rabbia, ai momenti in cui desiderano un aiuto per completare un'azione che da soli non riescono a portare a termine]
4. Percezione delle emozioni e dei desideri dell'altro	*"Come fate a capire se un altro bimbo è arrabbiato per qualcosa? Come si fa a capire che una persona è arrabbiato?" "Avete visto che il papà ha notato quanto Tom era arrabbiato, ha visto la sua faccina diventare sempre più rossa e lo ha sentito urlare. Capita anche a voi di vedere qualche amico arrabbiato?"* [invitare i bambini a prestare attenzione ai segnali emotivi altrui, stimolare in loro la riflessione sui pensieri e i desideri dell'altro]
5. Risposta alle emozioni, desideri e bisogni dell'altro: azioni prosociali	*"Se vedete un altro bambino arrabbiato, che cosa fate? Che cosa potete fare per farlo stare un po' meglio?" "Se un altro bimbo non riesce a costruire la torre/finire il puzzle/prendere qualcosa, cosa potete fare?"* [favorire la riflessione sulla condivisione di oggetti, su come sia possibile giocare insieme, sull'effetto positivo della condivisione]

Storia *"Il gomito di Bea"*

Bea e Tom stanno giocando con i gomitoli di lana, sono tutti colorati e morbidi.	**Contesto**
Si divertono a farli rotolare per tutta la casa, correndo e saltando ovunque! "Guarda Tom come lo lancio lontano!", dice Bea.	**Emozione iniziale**
A un certo punto, il gomitolo di Bea finisce sotto il mobile del salotto.. La gattina cerca di riprenderlo: si sdraia, allunga la sua zampina ma niente da fare, non riesce proprio a raggiungere il gomitolo!	**Evento scatenante**
Scoraggiata, Bea si rintana nella sua cesta.. È davvero **dispiaciuta** di non poter giocare con il suo giocattolo preferito e guarda con **desiderio** il gomitolo di Tom.	**Esperienza emotiva**
Tom vede che Bea ha proprio un'aria **triste.**	**Riconoscimento delle emozioni dell'altro**
Allora il cagnolino si avvicina all'amica e le chiede "Vuoi giocare con me? Possiamo tirarci il mio gomitolo".	**Comportamento prosociale**
Bea accetta volentieri. I due amici iniziano a giocare insieme con il gomitolo di Tom, lo lanciano da un angolo all'altro della stanza.. Stando ben attenti a non farlo finire sotto i mobili!	**Effetto comportamento di condivisione sullo stato di benessere altrui**

- Emozione target: tristezza
- Comportamento prosociale: conforto e consolazione

Appendix I - The stories of Tom & Bea

The stories of Tom & Bea
Two furry friends

Tom & Bea
Amici per il pelo

Let's play hide-and-seek

Giochiamo a nascondino

Tom and Bea are playing hide-and-seek at the playground.
They are happy and having great fun together!

[Tom e Bea sono al parco e stanno giocando a nascondino.
Sono felici e si divertono tanto insieme]

Bea counts "One, two, three… here I come!".
Bea looks for Tom behind the rocking horse but he's not there.
She checks under the slide but he's not there either.

[Bea conta "Uno, due, tre… arrivo!".
Bea cerca Tom dietro il cavallo a dondolo ma non c'è,
controlla sotto lo scivolo ma non lo trova neanche lì.]

Bea runs over to the trees, but she trips over a stone and falls.
"Ouch!", yells Bea. She starts to cry, because she really hurt her paw.

[Allora corre verso gli alberi, ma ecco che inciampa in un sasso e cade.
“Ahiaaaaa!”, grida forte Bea piangendo. Si è fatta proprio male alla zampina.]

Tom hears Bea crying from his hiding-place behind a bush.
He wonders what's wrong.
Tom is worried, so he comes out of hiding and goes over to his friend.

[Tom, nascosto dietro il cespuglio, sente Bea piangere.
Si chiede che cosa sarà successo.
Tom è preoccupato, così esce dal suo nascondiglio e va dall'amica.]

"Bea, did you hurt yourself?" asks Tom. The kitten nods, rubbing her paw.
Tom speaks kindly to her, saying "Please don't cry, I'll help you get back on your paws".
The two friends go back to their game and play happily together once more.

["Bea, ti sei fatta male?", domanda Tom. La gattina annuisce, massaggiandosi la zampina.
Tom la consola "Non piangere dai, ti aiuto io ad alzarti".
Insieme i due amici riprendono a giocare felici.]

Bea's ball of wool

Il gomitolo di Bea

Bea and Tom are playing with balls of wool. The wool is colourful and soft.
They are having fun rolling the balls around the house, running and jumping as they go!
"Tom, look how far I can throw mine!", says Bea.

[Bea e Tom stanno giocando con i gomitoli di lana, sono tutti colorati e morbidi.
Si divertono a farli rotolare per tutta la casa, correndo e saltando ovunque!
"Guarda Tom come lo lancio lontano!", dice Bea.]

But Bea's ball rolls under the dresser.
She tries to get it back by moving close to the dresser and stretching out her paw...
but it's no good, she can't reach her ball of wool!

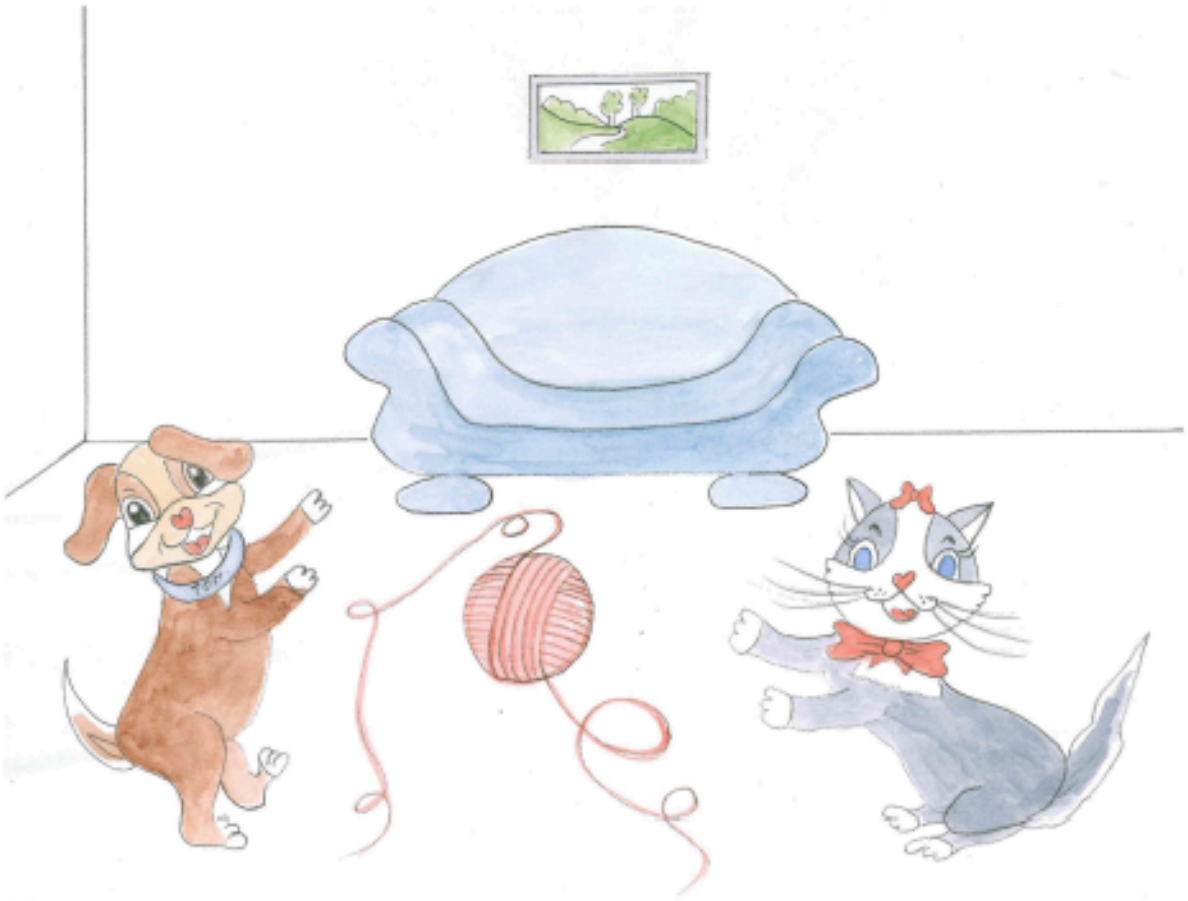
[A un certo punto, il gomitolo di Bea finisce sotto il mobile del salotto.
La gattina cerca di riprenderlo: si sdraia, allunga la sua zampina…
ma niente da fare, non riesce proprio a raggiungere il gomitolo!]

Feeling disappointed, Bea goes back to her basket.
She's upset because she can't play with her favourite toy any more.
Bea looks longingly at Tom's ball of wool.

[Scoraggiata, Bea si rintana nella sua cesta.
È davvero dispiaciuta di non poter giocare con il suo giocattolo preferito e guarda con desiderio il gomitolo di Tom.]

Tom sees that Bea is looking very sad.
So, he goes over to his friend and asks her
“Do you want to play with me? We can play catch with my ball".
Bea is happy and says OK.

[Tom vede che Bea ha proprio un’aria triste.
Allora il cagnolino si avvicina all’amica e le chiede
“Vuoi giocare con me? Possiamo tirarci il mio gomitolo”.
Bea accetta volentieri.]



The two friends begin to play with Tom's ball of wool,
throwing it from one side of the room to the other.
But they are very careful now not to let it roll under the furniture!

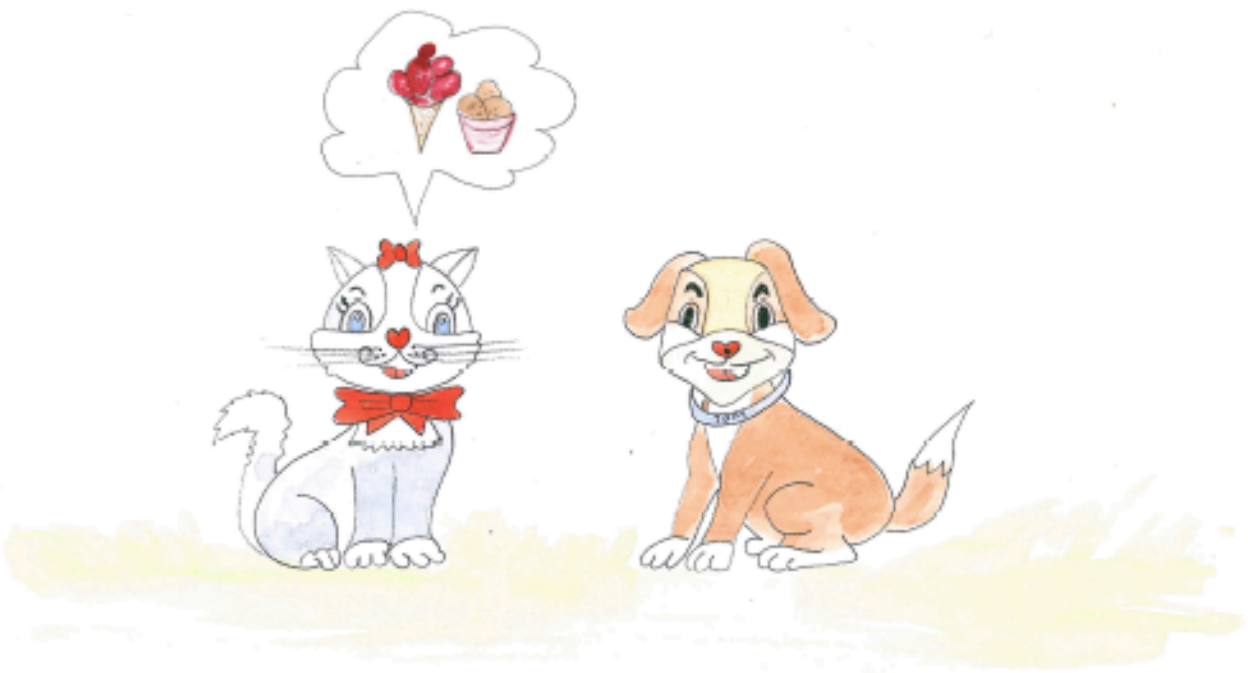
[I due amici iniziano a giocare insieme con il gomitolo di Tom,
lo lanciano da un angolo all'altro della stanza,
stando ben attenti a non farlo finire sotto i mobili!]

Oh no! My ice cream!

Oh no! Il mio gelato!

It’s a very warm summer day.
Tom and Bea are feeling so hot that they haven’t even got the energy to play tag!
They are bored, and can’t think of anything to do ...

[È un’afosa giornata estiva.
Tom e Bea hanno così caldo che non trovano nemmeno l’energia per giocare a rincorrersi!
Sono annoiati, non sanno cosa fare…]



Suddenly, Bea has an idea:

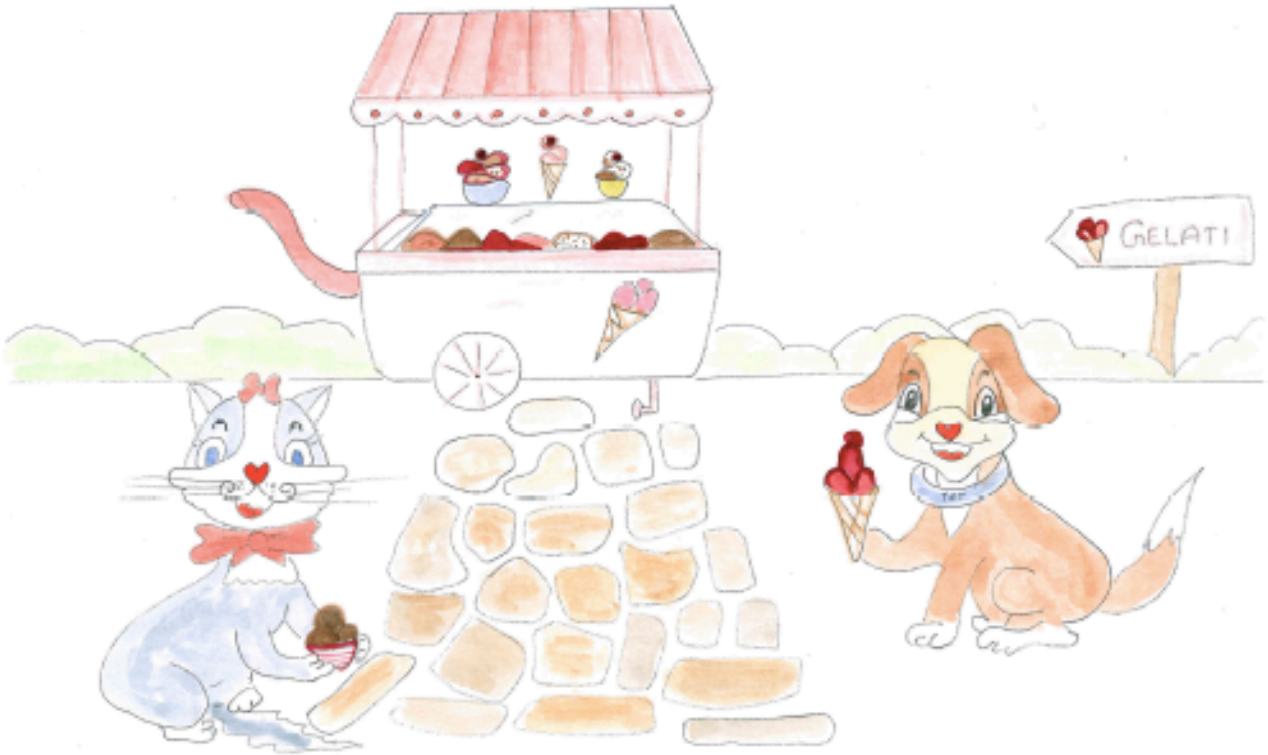
"Why don’t we go for an ice cream?".

"Great idea, Bea! An ice cream is exactly what we need to cool down".

[Improvvisamente a Bea viene un’idea:

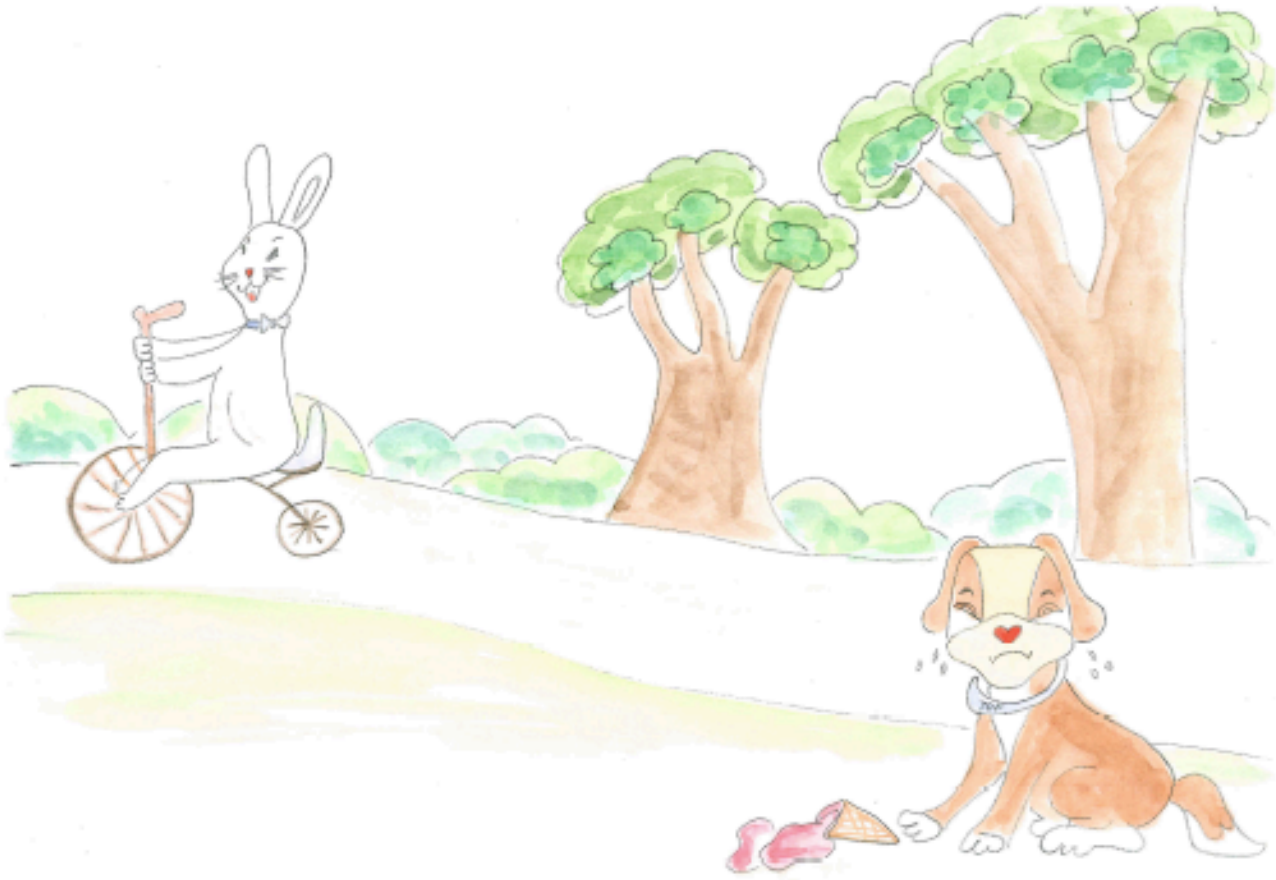
“Perché non andiamo a prendere un gelato?”.

“Ottima idea Bea! Un bel gelato è proprio quello che ci vuole per rinfrescarci”.]



The two friends set off for the ice-cream stand.
Bea orders a bowl of chocolate ice cream.
Tom chooses strawberry ice cream in a cone.

[I due amici si dirigono allora alla gelateria.
Bea prende una coppetta di gelato al cioccolato,
Tom invece preferisce un cono alla fragola.]



Tom is just about to taste his ice cream,
when a rabbit on a bicycle crashes into him.
Luckily, no one is hurt. But Tom's ice-cream cone gets knocked on the ground.
Tom is very sad… he was so looking forward to his yummy strawberry ice cream.

[Tom sta per assaggiare il suo gelato,
quando un coniglio in bicicletta lo urta.
Per fortuna, nessuno si è fatto male. Ma nello scontro il cono gelato di Tom finisce per terra.
Tom è molto triste… non vedeva l'ora di assaporare il gusto fresco del gelato alla fragola.]

Bea sees that Tom is very disappointed, so she decides to give him some of her ice cream.

"Would you like to share my ice cream?" she asks

Tom thinks for a moment, then says yes.

"Thanks. Mmm, that's good! I was really longing for some ice cream", Tom barks happily.

[Bea vede Tom molto abbattuto e decide allora di condividere un po' del suo gelato con l'amico.

"Ti va di mangiare insieme il mio gelato?"

Tom ci pensa qualche istante, poi accetta.

"Grazie. Mhhh, che buono! Avevo proprio voglia di gelato", dice felice Tom.]

Tom's sand castle

Il castello di Tom

It is a beautiful sunny day.
Tom is at the beach with his Mom and Dad.

[È una bellissima giornata di sole.
Tom è al mare con mamma e papà.]

Tom loves playing with sand and wants to build an enormous castle.
He picks up his bucket and spade… and sets to work!

[A Tom piace molto giocare con la sabbia e vuole costruire un castello grandissimo.
Prende secchiello e paletta… e via che si comincia!]

He fills the bucket with sand, turns it upside down, and taps it on the bottom. But as soon as he lifts the bucket, the castle falls apart. He tries again and again, but it’s no good... The sand castle just won’t stay standing! Tom is getting angrier and angrier, he goes red, throws away his bucket and spade, and yells "Bother! I can't do it!".

[Riempie il secchiello di sabbia, lo capovolge, picchietta sul fondo. Ma appena toglie il secchiello il castello crolla su se stesso. Ci riprova… ancora e ancora, ma niente.. Il castello di sabbia proprio non ne vuole sapere di stare in piedi! Sempre più arrabbiato, Tom diventa tutto rosso in volto, lancia lontano secchiello e paletta e urla “Uffaaaaa! Non ci riesco!”.]

"Tom must be feeling really mad" - thinks his Dad - "Maybe he needs help to build his sand castle".

And so, Tom's Dad goes over to Tom and says:

"Tom, can I help you? Come on, you'll see that *together* we can build an enormous castle!

Are you OK with that?" asks Dad.

["Tom deve essere proprio arrabbiato" – pensa il papà di Tom – "Potrebbe aver bisogno di aiuto per costruire il suo castello di sabbia".

Così il papà si avvicina al suo piccolino.

"Tom, ti posso aiutare? Dai vedrai che insieme riusciremo a costruire un castello grandissimo!

Ci stai?", domanda il papà.]

Tom accepts his Dad's help and together they get to work. They fill the bucket, turn it over, and whack it really hard. "Ready? One, two… three! Just look at our castle!", cries Dad triumphantly. Tom is overjoyed! With his Dad's help, he has built a wonderful enormous castle at last!

[Tom accetta l'aiuto del papà e insieme si mettono al lavoro. Riempiono il secchiello, lo capovolgono e picchiettano per bene sul fondo. "Pronto? Uno, due… e tre! Ecco il nostro castello!", esulta il papà. Tom è contentissimo! Con l'aiuto del papà, è riuscito a costruire un castello bellissimo]

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