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Enhancing social cognition by training children in emotion understanding: A primary school study

Veronica Ornaghi [a,*], Jens Brockmeier [b], Ilaria Grazzani [a]

[a] Department of Human Sciences, University of Milano–Bicocca, 20126 Milan, Italy
[b] Department of Psychology, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada

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ABSTRACT

We investigated whether training school-age children in emotion understanding had a significant effect on their social cognition. Participants were 110 children (mean age = 7 years 3 months) assigned to training and control conditions. Over a 2-month intervention program, after the reading of illustrated scenarios based on emotional scripts, the training group was engaged in conversations on emotion understanding, whereas the control group was simply asked to produce a drawing about the story. The training group outperformed the control group on emotion comprehension, theory of mind, and empathy, and the positive training outcomes for emotion understanding remained stable over 6 months. Implications of the findings are discussed.

Introduction

Our study follows in the well-established line of inquiry into the development of social cognition (Hughes, 2011), an area that includes children's theory of mind (ToM), empathy, and emotion understanding (EU). Specifically, we set out to investigate how training primary school children in EU using a conversational approach might affect their later social cognition. Recent studies on social understanding have increasingly focused on the primary school years (Miller, 2012), highlighting the continued development of social cognitive and meta-reflexive abilities throughout this period. In particular, during middle childhood, key changes may be observed in a range of social cognition skills, including advanced ToM, empathy, and mastery of the more complex components of emotion comprehension.

* Corresponding author.
E-mail address: veronica.ornaghi1@unimib.it (V. Ornaghi).

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Our work was informed by the view that the identification of factors or procedures predicting successful developmental paths can play a crucial role in preventing maladaptation and negative outcomes. In this regard, there has been a shift during recent years from repairing weaknesses and disease during childhood to preempting problems by promoting children's socioemotional and cognitive competence. It is implicit in such a perspective that interventions should be designed not only to address deficits but also to foster positive behaviors and strengths (Denham, Wyatt, Bassett, Echeverria, & Knox, 2009).

Training children's social cognition

Numerous training studies have reported positive outcomes for children's social cognition. Most of the research on gains in ToM has drawn on the *conversation paradigm* introduced by Appleton and Reddy (1996). These authors conducted a study with 3-year-old children who, after being trained in explaining the thoughts and actions of characters in videos, outperformed control group participants on a standard false belief task. Similarly, Guajardo and Watson (2002) manipulated 3- and 4-year-olds' exposure to social discourse centered naturalistically around children's storybooks, examining the implications for theory of mind. The results supported the hypothesis that social discourse influences children's theory of mind. Adopting a similar method, Lohmann and Tomasello (2003) showed that discourse interaction using mental state verbs improved preschool children's social cognition, with the best intervention outcomes being obtained when two factors were combined: presentation of a series of objects, some of which had a misleading appearance (i.e., initially looking like one thing but turning out to be something else) and verbal comments on what people would say, think, and know about the perceptible properties and actual identity of these objects. More recently, improvements in ToM were also found by Veneziano, Hudelot, Albert, and Veyrier (2008) and by Ornaghi, Brockmeier, and Grazzani Gavazzi (2011), whose experimental group children took part in conversations on mental states. Finally, within the same conversational paradigm, Aram, Fine, and Ziv (2013) established the efficacy of an intervention with preschoolers in which parents were given guidelines for the interactive reading of four books with their children, including discussion of sociocognitive aspects of the stories such as mental terms and mental causality. It is to be noted that the majority of the reviewed studies were conducted with preschoolers, whereas there is a lack of this kind of research with children of school age and older.

Empathy, the second component of social cognition examined in our study, is a complex construct and a specific social cognitive ability related to taking part in the suffering of other people (Hoffman, 2000). More specifically, empathy is made up of a cognitive dimension involving the capacity to see things from the perspective of others and an affective dimension that involves sharing other people's emotions, as in the case of emotional contagion. As shown by Strayer (1993), school-age children begin to comprehend, for example, that their sadness may be an emotional reaction to something that has happened to another person and not to them or that their fear can be elicited by the account of a threatening event that happened to someone else. As far as we are aware, few studies have used specific training procedures to enhance the development of empathy in children (apart from recent research on the prevention of bullying such as Şahin, 2012). The small body of work in this direction includes a study by Goldstein and Winner (2012) with children and adolescents, where the use of an active paradigm (role-playing) to train participants led to gains in empathy and ToM. In addition, Schonert-Reichl, Smith, Zaidman-Zait, and Hertzman (2012) examined the effects of a program aimed at enhancing empathy in 7- and 8-year-old children, finding a positive impact on their socioemotional development.

With regard to the third aspect of social cognition investigated here, few studies have examined the effects of training interventions on children's emotion understanding. An early contribution was provided by Bennett and Hiscock (1993), who used a paradigm based on watching videos to improve children's understanding of conflicting emotions. Peng, Johnson, Pollock, Glasspool, and Hams (1992) concentrated on children's understanding of ambivalent emotion. Participants in a training group were asked to consider a story character's emotional state in relation to the positive and negative components of a conflictual event immediately after it had been recounted and again at the end of the story. Children in the control group were invited to identify the character's emotional reaction only