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Nurturing kindness naturally: A humane education program's effect on the prosocial behavior of first and second graders across China

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ABSTRACT

Research suggests that school-based programs can increase the frequencies of children's prosocial behaviors. However, extant research nearly exclusively studies relatively small studies in Western schools. Through a large evaluation conducted over 3 separate years in 25 public elementary schools in 5 cities across eastern China, we tested whether the Caring for Life humane education program—which employs animal- and nature-related content and activities—improved the prosociality of first and second grade students. Students who participated in the program displayed significantly greater gains in prosociality than similar students who didn't. Students who participated in an expanded version of the program appeared to realize even greater gains. The study supports the ability of school-based programs to benefit children in the vast but understudied area of humane education in non-Western cultures.

1. Introduction

Prosocial behaviors, definable as "any act that assists, benefits, or provides support for another" (Honig, 1982, p. 51), are recognized as important components of interpersonal relationships (Staub, 1971). In addition to being sought-after outcomes themselves, prosocial behaviors in children predict lower rates of internalizing and externalizing problem behaviors (Flouri & Sarmadi, 2016), lower rates of future aggression (Kokko, Tremblay, Lacourse, Nagin, & Vitaro, 2006), improved social functioning (Eisenberg et al., 1996; Eisenberg, Fabes, & Spinrad, 2006), and higher academic achievement (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000).

1.1. Development of prosocial behavior

The frequency of prosocial behaviors shows strong (Honig, 1982) but non-linear (House et al., 2013; Staub, 1971) growth throughout childhood. Beginning by at least the second year of life (Roth-Hanania, Davidov, & Zahn-Waxler, 2011; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992), the frequency of these behaviors becomes increasingly affected by external events and contexts (Brownell, Svetlova, & Nichols, 2009; Flouri & Sarmadi, 2016) and is strongly guided by the quality of a child's primary relationships (Carlo, Mestre, Samper, Tur, & Armenta, 2011; Dubeau, Coutu, & Lavigueur, 2013; Newton, Laible, Carlo, Steele, & McGinley, 2014), overall socialization (Brownell, Svetlova, Anderson, Nichols, & Drummond, 2013; Carlo, 2006; Chen & French, 2008), and their interactions with others (Gross et al., 2015). Throughout childhood, their development is further guided by a growing understanding of others' emotions and goals (Thompson & Newton, 2013), the child's active involvement in collaborative

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experiences (Henderson, Wang, Matz, & Woodward, 2013), a growing sense of fairness and reciprocity (Sommerville, Schmidt, Yun, & Burns, 2013), and a motivation to have help given to others (Hepach, Vaish, & Tomasello, 2013).

The types of factors that affect the development of prosociality corroborate what one might expect from such a socially-oriented disposition: Prosociality largely develops through social interactions. These interactions initially center on the quality (Newton et al., 2014; Strayer & Roberts, 2004) and extent (Dubeau et al., 2013) of the primary care giver's involvement with that child. However, the domain of those who affect a child's prosocial development becomes increasingly wider and more diverse as a child develops (1982, Choi, Johnson, & Johnson, 2011; Dubeau et al., 2013; Honig, 1982; Wentzel, Barry, & Caldwell, 2004; Zahn-Waxler et al., 1992). New relationships that the child develops often add to—and don't typically supplant—previous relationships (Flouri & Sarmadi, 2016; Gülay, 2011; Yoo, Feng, & Day, 2013), creating a growing range of interactions through which the child may grow.

1.2. Intervening to improve prosocial behavior

Various programs have used interactions to encourage the development of prosociality throughout childhood. Underlining the role of parental relationships in its development, Menting, Castro, de, and Matthys, (2013) found strong support for benefits of a behavioral training program for new and recent parents on the subsequent prosocial development of their children. Others (e.g., Ogden & Hagen, 2008) have also found that parental training and support programs can promote the development of children's prosociality.

Although both home- and school-based programs can improve children's social functioning (Doescher & Sugawara, 1992), most programs are conducted in schools where children have many opportunities for social interactions and where programs can be more readily implemented and controlled than in children's homes. Bradshaw, Waasdorp, and Leaf (2012) evaluated one such widely-used program in 37 US elementary schools; the program seeks to reduce problematic behaviors in schools by addressing school culture through student support and staff training, and Bradshaw, Waasdorp, and Leaf found that it indeed reduced problem behaviors and improved prosociality. Kramer, Caldarella, Young, Fischer, and Warren, (2014) and Flannery et al. (2003) also both found that school-wide programs could help most children's prosocial development. These and other programs (e.g., Caprara et al., 2014; Caprara, Kanacri, Zuffiano, Gerbino, & Pastorelli, 2015; Fraser & Pakenham, 2008; Jordans et al., 2010; Layous, Nelson, Oberle, Schonert-Reichl, & Lyubomirsky, 2012; Menting et al., 2013; Raver et al., 2008; Samuels & Reinhartz, 2000; Schonert-Reichl et al., 2015) typically find that addressing a class's or school's social dynamics and employing a strength-based approach can promote prosocial development.

1.2.1. The expanding targets of prosociality

As children increase the number and type of others with whom they interact, the need increases not only for more frequent prosocial behaviors, but also to direct them toward members of increasingly different outgroups (Zahn-Waxler et al., 1992). Although the role of intergroup dynamics on prosociality is not simple (Abrams, Van De Vyver, Pelletier, & Cameron, 2015; Stürmer, 2009), heterogeneous social systems may promote prosociality (Kováříik et al., 2012) and well-guided interactions with others can be used to nurture prosocial behaviors. For example, Schonert-Reichl, Smith, Zaidman-Zait, and Hertzman, (2012) report that classroom visits by parents with their infants—who are outgroup members for school-aged children—increased prosocial behaviors among the students. In addition, Thielmann and Böhm (2016) found that showing prosocial behaviors to outgroup members was not done at the expense of showing it to ingroup members (or vice versa). Indeed, Thielmann and Böhm's findings suggest that improving prosociality towards one group may help children extend those same behaviors to other ones.

The presence of an infant in a classroom can be a rather salient stimulus, and this salience may have contributed to the efficacy of the program evaluated by Schonert-Reichl et al. (2012). Animals and animal/nature-related themes may also serve as prominent stimuli since children's attention is also often naturally piqued by animals (Belz, 2012) and since people (Windhager, Atzwanger, Bookstein, ö Schaefer, 2011)–especially children (Kahn, 1997; Serpell, 1999)—typically demonstrate spontaneous interest in animals. Kellert and Wilson (1993) even propose that people have an innate tendency to orient towards nature and animals.

Animal-directed empathy may encourage the development of empathy toward people since those who demonstrate greater empathy toward animals also tend to show greater empathy toward humans (Filippi et al., 2006). In addition, many animals tend to elicit empathic responses that are as strong or even stronger than the responses elicited by other people (Angantyr, Eklund, ö Hansen, 2011), and attachments to animals can elicit the same neuro-endocrinological responses (Miller et al., 2009; Nagasawa, Kikusui, Onaka, ö Ohta, 2009) as attachments to other people. Similarly, properly-guided interactions with animals can increase the prevalence of prosocial behaviors in children and adolescents (e.g., Martin ö Farnum, 2002).

1.2.2. Addressing prosociality through humane education

Indeed, the potential for animals to encourage outcomes like prosocial behavior has long been remarked—and even banked—upon. Unti and DeRosa (2003) note that John Locke discussed the power of teaching children moral virtues through interactions with animals. If this is not done, Locke argued, then "the custom of tormenting and killing other animals will, by degrees, harden their hearts even toward men" (1693, cited in Unti ö DeRosa, 2003). Unti and DeRosa explain how this call was heeded by many in North America and Western Europe. Humane education (education that includes human-, animal-, and environment-related issues to promote care and concern) was championed along with woman suffrage and other social issues in the mid- and late-1800s, eventually becoming a core strategy of the major animal welfare organizations of the time, like the Massachusetts Society for the Prevention of Cruelty to Animals. Humane education even became compulsory in schools in several US states. The world wars highlighted the lack of hard evidence that existed on the effectiveness of humane education while the Great Depression further diverted resources and