

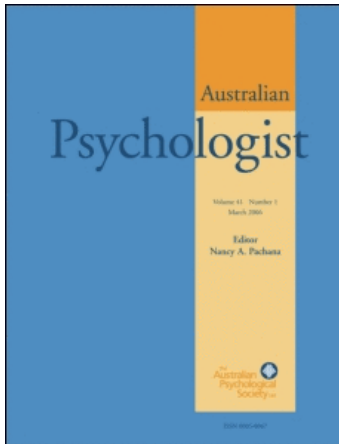
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# Promotion of Empathy and Prosocial Behaviour in Children through Humane Education

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**W**hile the importance of normative levels of empathy and prosocial behaviour is becoming increasingly recognised, it has been suggested that modern western industrialised society is not conducive to the promotion of empathy development in children. Related to this, it has been proposed that one method for contributing to the building of empathy is to encourage direct contact with animals. The rationale for this is the belief that by developing a bond with animals, empathy toward other living beings will be encouraged. Consequently, it has been proposed that empathy directed at non-human animals will transfer to humans. Such cross-species association has been demonstrated for animal abuse. For example, some studies have reported that childhood cruelty toward animals is related to interpersonal violence in adulthood. Humane education programs aim to intervene in the cycle of abuse by decreasing a child's potential to be abusive toward animals, and, as a consequence, to promote prosocial behaviour toward humans.

The normal development of empathy and related behaviours, including prosocial behaviour, has received much theoretical and empirical attention. This is not surprising, given that these constructs are proposed to be essential building blocks for the healthy psychological and social development of children (Bryant, 1987). Despite the attention that these constructs have received, several authors have argued that, in modern western societies wherein individualism is highly valued, children are at risk of compromised empathy development (e.g., George, 1999; Gullone, 2000). Consequently, the value of humane education programs is becoming increasingly recognised, given that their central aim is to promote the development of empathy and humane behaviour. In the current paper, we will briefly review the literature on empathy and its development. Of central focus, however, will be the literature on humane education programs, their aims and the rationale on which they are based.

## Empathy and its Development

According to Hoffman (1975), humans have a biological preparedness to attend to and recognise the emotional needs of others. Commonly defined as an emotional response that stems from another's affective or psychological state (Eisenberg & Strayer, 1987), empathy functions as a social emotion, effectively bridging the affective states of one individual with those of another (Hastings, Zahn-Waxler,

Robinson, Usher, & Bridges, 2000). Similarly, Zahn-Waxler and Radke Yarrow (1990) defined empathy as "an innate, hardwired response connecting us as social beings to the emotional plights of others" (p. 111).

Empathy is a reaction involving both affective and cognitive components (Zahn-Waxler & Radke-Yarrow, 1990). The cognitive component involves understanding or apprehending the other individual's response. It is within the cognitive perspective that empathy is considered to be a highly important and influential dimension of moral reasoning (Hanson & Mullis, 1985). However, empathy does not necessarily need to be mediated by complex cognitive operations. That is, when the affective component is emphasised, empathy may be defined as a vicarious emotional response that is congruent with, and that stems from, the apprehension of another's emotional experience (Zahn-Waxler & Radke-Yarrow, 1990).

The integration of cognitive and affective components is highlighted in models of the expression and development of empathy in children (Barnett, 1987). From birth onwards, infants have been documented to be responsive to the emotions of others. Imitation of others' emotions is present even in the first few days after birth, providing evidence for the proposal that humans are biologically predisposed to experience empathy (Zahn-Waxler & Radke-Yarrow, 1990). Hoffman (1975) postulated that the reflexive crying of infants in response to the sound of another infant crying is a primitive precursor of empathic arousal. Hoffman (1982) later developed a model of empathy that describes the changing and interactive roles played by cognitive and affective factors in the child's social and moral development. According to Hoffman's model, the child's increasing ability to distinguish between the self and the other, and the child's growing awareness that other individuals experience internal states and feelings independent from one's own, lay the foundation for higher levels of empathic responding. Consistent with this view, Eisenberg, Losoya and Guthrie (1997) found that toddlers of approximately 18 to 24 months of age who were capable of recognising themselves in the mirror (and thereby were most likely to have been capable of differentiating themselves from others) were more likely to experience empathy when either their peers or mother were distressed compared to toddlers who could not recognise their own reflection.

Similarly, Thompson (1987) found that children can understand others' emotional experiences by the time they reach the age of 1 year. By the middle of their second year,

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toddlers have become more sophisticated in reacting to others' emotional experiences, a reaction which is often accompanied by verbal expressions of sympathy. It is also at this early age that parents begin to assume intentionality in their children, holding them accountable for their actions, thereby expecting interpersonally appropriate behaviour (Zahn-Waxler & Radke-Yarrow, 1990). However, while these behaviours are not uniformly evident across all 2-year-old children, a *capacity* for empathy develops by the middle of the second year.

Zahn-Waxler and Radke-Yarrow (1990) stated that in addition to early developmental changes in relation to the emergence of empathic responding, there is also evidence for stable, individual differences. These researchers suggested that individual differences raise questions concerning both biological and experiential factors contributing to these variations. In relation to this, they proposed that the child's family environment frames their first experience with their own and others' distress. The family environment may also provide guidance as to how these emotions are dealt with. Specifically, the family environment provides the initial context for children's empathic experiences including the expressed compassion of their caregivers. Nevertheless, although parents are particularly important models for children's social-emotional development, the child's inclination to empathise may be enhanced by exposure to other sensitive and caring role models, such as teachers, siblings, or playmates. Barnett (1987) stated that empathy and related responses thrive in an environment that (a) satisfies the child's emotional needs and discourages excessive self-concern, (b) encourages the child to identify and express a broad range of emotions, and (c) provides numerous opportunities for the child to observe and interact with others who encourage emotional sensitivity and responsiveness to others.

One reason for the considerable interest in the development of empathy is the notion that empathy is a fundamental building block for the positive development and mental health of children (Bryant, 1987). Fortunately, for the vast majority of individuals, the development of empathy progresses along a normative path. However, compromised levels of empathy and related constructs, such as concern for others, have been shown to be characteristic of children with externalising disorders. For example, conduct disordered children have been characterised as being callous and unemotional, lacking both empathy and the ability to experience guilt (Hastings et al., 2000; Luk, Staiger, Wong, & Mathai, 1999).

Another reason for the great interest in the development of empathy is related to its mediating role in prosocial behaviour (Eisenberg & Strayer, 1987). Much research has been conducted in this field, as it has been recognised that prosocial and empathy-related responding is an important component of socially competent functioning in childhood (Eisenberg et al., 1997).

### Prosocial Behaviour and its Relation to Empathy

Prosocial behaviour is commonly defined as moral, voluntary behaviour intended to benefit others, and includes behaviours such as helping, sharing, and comforting (Eisenberg et al., 1997). From a cognitive developmental perspective, the quality of a prosocial action (i.e., the maturity of reasoning governing the behaviour) changes as the child develops the capacity for higher levels of moral judgment (Eisenberg et al., 1987). Moreover, mature moral judgment is believed to be

positively associated with the quantity of prosocial behaviour that takes place (Blasi, 1980).

Zahn-Waxler and Radke-Yarrow (1990) found that from as early as 2 years of age, children show (a) the cognitive capacity to interpret the physical and psychological states of others, (b) the emotional capacity to experience the states of others on an affective level, and (c) the behavioural resources that enable the possibility of attempting to alleviate the discomfort of others. These authors concluded that children develop empathic concern for others who are in distress between the ages of 1 and 2 years, and that this concern becomes translated into prosocial actions on their behalf.

In theories of moral development, the relation between empathy and prosocial behaviour is often viewed as a fundamental motivator in eliciting altruism and inhibiting aggressive acts (Zahn-Waxler & Radke-Yarrow, 1990). Thus, if an individual is capable of vicariously experiencing the distress that they have inflicted on others, the individual will be less likely to continue to hurt others, and instead will be more likely to help them. Hastings and colleagues (2000) explained this effect in terms of empathy's potential to function as a protective factor against aggression. According to these authors, empathy provides immediate, proximal feedback that discourages aggressive acts by making the perpetrator aware of, and possibly sympathetic toward, the victim's suffering.

In support of the above proposal, Miller and Eisenberg (1988) found that, in many instances, empathy and aggression are indeed inversely related. Moreover, the strength of this negative association has been found to increase with age in children with disruptive behaviour problems. Consequently, the value of instilling and maintaining normative levels of empathy in children is becoming increasingly recognised.

### The Importance of Human-Animal Interactions

In recent times, an increasing number of authors has proposed that an optimal method for promoting the development of empathy is to encourage direct contact with animals (Ascione, 1992, 1997a; Ascione & Weber, 1996; George, 1999). Despite the scarcity of empirical research conducted in this area, the existing literature overwhelmingly supports the notion that by developing a strong bond with an animal, children are likely to demonstrate increased levels of animal-directed empathy. Moreover, it has been proposed that animal-directed empathy will generalise to human-directed empathy.

The proposed positive association between animal and human-directed empathy is of particular relevance to the relationship between animal abuse and interpersonal violence. It is a widely held proposal, particularly by animal welfare organisations, that childhood violence directed toward animals is related to later violence directed toward humans. Although the directional/causal nature of this relationship has been challenged by researchers such as Arluke, Levin, Luke, and Ascione (1999), who have demonstrated that more complex associations exist (this will be discussed in more detail later), the development of empathy is considered to be fundamental to this pattern of behaviour (see Hastings et al., 2000).

Humane education programs aimed at promoting empathy development and prosocial behaviours in children possessing compromised levels of these constructs may be more effective if they incorporate non-human animals and interactions with them. Several reasons have been proposed to support such a claim. Included among these is

the research finding that children have a fascination and curiosity about other species. Some have argued that, as a consequence of evolutionary processes, humans have developed an innate tendency to become affiliated with life and lifelike processes (Wilson, 1984). Such attraction to other sentient beings is likely to increase the efficacy of intervention efforts since children are more likely to be attentive and to have increased motivation levels if animals are involved. These properties of attention have been demonstrated to be key aspects of the learning process (cf. Bandura, 1977; Mischel, 1973).

Also, in contrast to those with other humans, children's relationships with animals provide an opportunity for emotional investment and expression that is free of negative evaluation and not subject to being rejected (i.e., unconditional positive regard) (Fawcett & Gullone, 2001). Such a context is likely to result in increased positive affect, and consequently is also likely to enhance learning as well as identification (i.e., increased empathic responding) with animals (Masters, Barden, & Ford, 1979).

Quite apart from humane education, other authors have proposed that companion animals are a vital part of the healthy emotional development of children (Robin & ten Bensel, 1985). While the nuclear family is generally considered to be the place in which the quality of human relations, love and empathy are taught (Vidovic, Stetic, & Bratko, 1999), the potentially positive value of pets is becoming increasingly recognised. For example, Serpell (1999) has argued that companion animals may encourage caring attitudes and behaviour, provide companionship, security, comfort and amusement. It has been proposed that caring for animal companions fosters self-esteem in preschool and primary-school aged children. Caring can also engender a sense of achievement, nurturing capacities, cooperation, and socialisation, all of which contribute to the building of empathy (George, 1999).

Similarly, in their writings on the value of companion animals, Robin and ten Bensel (1985) have argued that the period of childhood encompasses a number of developmental tasks, many of which can be facilitated for the child by the family pet. For example, part of the building of self-esteem is learning discipline and responsibility, learning to work with and get along with others, and learning to trust another (George, 1999). Through the proper care and handling of their pets, children can learn to respect all living beings, which in turn can promote children's understanding that limits and mutual respect are important aspects of relationships with others (George, 1999; Melson, 1990, 1998).

However, despite the arguments put forth for the proposed value of positive relationships with other species to a child's healthy emotional and psychological development, there remains a scarcity of *empirical* support for the hypothesis that such interactions can be beneficial for the psychological wellbeing of children. As stated by Fawcett and Gullone (2001), "A general bias against the value of non-human animal interactions for human psychological wellbeing may ... explain the lack of empirical interest in the area" (p. 130). Serpell (1999) has more forcefully stated that:

... we should endeavour to understand the experiences and needs of children within the social and cognitive environment to which they are uniquely adapted. If interactions with animals are as attractive and important to children as they appear to be, then it is the height of adult arrogance to assume that child-animal relations are somehow irrelevant to normal development. In fact, given the evolutionary history of our species and its overwhelming dependence on other animals as food, workers, companions, religious

icons, symbols, and exemplars, it would be surprising if children evinced no spontaneous affinity for animals (p. 92).

### Animal-directed and Human-directed Empathy

Although much research remains to be done to provide empirical support for the claim that positive interactions with companion animals can assist in fostering a higher level of empathy among individuals who possess compromised levels of this and similar constructs, there continues to be much debate about whether empathy and compassion toward other species are associated with these same qualities toward humans. For decades, this argument has gone hand in hand with the emotive question of whether or not love of pets is associated with love of people (Paul, 2000). Despite the lack of empirical support for the proposed relationship, popular public opinion in modern western culture seems to support the view that there is a positive association between the degree of sentiment felt by people for humans and that felt for their animal companions. Certainly, empirical support exists for the converse. This is most strongly documented by studies showing a significant association between domestic violence and animal abuse, to the extent that the presence of such abuse is being argued to be a significant marker of potential domestic violence in the home (Ascione, 1997b, 1998).

Nevertheless, past attempts to answer the question as to whether love of pets and love of people are related, more often than not, have been hampered by methodological flaws relating to definition and measurement. More specifically, as Paul (2000) has stated, "love toward people" is a difficult concept to define, and has consequently been measured in a vast majority of ways, with considerable variability in psychometric validity and usefulness. As a result of the difficulty researchers have faced in relation to adequately defining and assessing relevant constructs, they have shifted their attention to the relationship between *empathy* felt toward people and that felt toward other species (Paul, 2000).

An example of research related to this question is a study conducted by Poresky (1990). As part of the validation of the Young Children's Empathy measure, Poresky assessed the relationship between children's bonding with their pets and their empathy levels. Thirty-eight children ranging in age from 3 to 6 years were involved in the study, 68% of whom had at least one companion animal. The children were verbally presented with four vignettes, which were designed to probe the child's ability to identify emotions such as sadness, fear, anger, and happiness in a brief story. After reading each story, the interviewer asked the child "How does the child [in the story] feel?" and "How do you feel about this?" The empathy vignettes are as follows: (a) sadness — "a child has just lost its best friend"; (b) fear — "a child is chased by a big, nasty monster"; (c) anger — "a child really wants to go out but is not allowed"; and (d) happiness — "a child is going to its most favourite park to play". The vignettes were also administered with "dog" as the subject of each statement, to assess both empathy toward pets, and the generalisability of the measure.

The results of Poresky's (1990) study revealed that while children with companion animals did not have significantly higher levels of empathy than children who did not have such companions, children who had a strong *bond* with their pet (as measured by assessing children's empathy toward such) had higher child-directed empathy scores than children who did not have pets. Thus, these findings suggest that

being more emotionally empathic toward animals is related to higher levels of child-directed empathy.

In a similar study, Vidovic et al. (1999) assessed whether attachment to animal companions could assist children in achieving more satisfactory relationships with other people. Eight hundred and twenty-six children ranging from 10 to 15 years of age participated in the study. The results were congruent with those of Poresky (1990). Specifically, Vidovic et al. found that children who scored higher than average on the Pet Attachment Scale yielded significantly higher scores on both the Empathy and Prosocial Orientation scales than children who scored lower than average on the scale. Vidovic et al. concluded that, to some degree, their findings provided support for the proposed positive relationship between animal attachment and the healthy development of empathy and prosocial behaviour.

It can be argued therefore that, to a certain extent, the findings of these two studies support theories concerning the positive relationship between high levels of empathy oriented toward other species and high levels of human-oriented empathy. In explaining this association, Paul (2000) has argued that people who have a stronger than normal tendency to experience an emotional response when witnessing the apparent emotion of an animal, will also be more likely than others to experience an emotional reaction when witnessing the emotion of another human.

It must be acknowledged, however, that although support for the proposed association between empathy toward humans and animals has been demonstrated, the limited number of studies conducted to address this relationship preclude any conclusions regarding cause and effect relationships. As noted by Vidovic et al. (1999), it is still unclear whether the companionship of animals has direct effects on psychosocial dimensions, or whether specific characteristics of a child's family lead simultaneously to the humane treatment of and strong bonding with pets, and to healthy socioemotional development in children. Uncertainties such as these highlight the need for further research into this area.

### The Relationship of Animal Abuse to Human Violence

As already noted above, it is unfortunate that the association between feelings and behaviours toward humans and animals is by no means restricted to affection and empathy. The relation between violence directed at our own and other species has been the subject of philosophical and theoretical attention for centuries (Ascione, 1993). Mead (1964) was among the first to suggest that childhood cruelty to animals may be a precursor to antisocial violence in adulthood. Ascione (1993) defined animal cruelty as "socially unacceptable behaviour that intentionally causes unnecessary pain, suffering, or distress to and/or death of an animal" (p. 228).

A dominant factor in the rising concern for animal cruelty has been the assumption that the abusive treatment of animals tends to brutalise (i.e., desensitise to others' suffering) the human perpetrator, thereby increasing the likelihood of similar conduct toward humans (Kellert & Felthous, 1985). Robin and ten Benschel (1985) suggested that while most children of varying ages are sensitive to the mistreatment of animals, for some abused or psychologically distressed children, animals are perceived as targets of control and power. Hence, cruelty toward animals may represent a displacement of aggression from humans to other species (Robin & ten Benschel, 1985).

This is consistent with Flynn's (1999) proposal that abusive behaviour toward animals may serve the role of

socialising children to engage in violence. Generally speaking, the socialisation of males in modern society includes lessons about dominance and aggression. As Flynn has suggested, abusing animals offers an opportunity for boys to rehearse dominance and aggression against less powerful beings. This in turn has the potential to reinforce the beliefs that support such abusive behaviour (Flynn, 1999). Hence, animal abuse may relate to more accepting attitudes toward violence in general.

Ascione (1993) has argued that the relation between animal abuse in childhood, and later, more generalised aggression toward people is related to the compromised development of empathy. According to Ascione, animal abuse may interfere with the development of empathy in children, since abusing animals is likely to inhibit their ability to adopt kind and compassionate behaviours. Similarly, Flynn (1999) has argued that exposure to animal cruelty may cause children to become less empathic, and to consequently be less inhibited in their aggressive behaviours toward family members.

Despite the strong intuitive appeal of theoretical models suggesting an association between childhood violence against animals and later violence against people, the empirical evidence is inconsistent in its support of such an association (Felthous & Kellert, 1986). Several studies have found a positive association, while others have not found animal abuse to be associated with later violence. Thus, as noted by Felthous and Kellert, there is great need for future research to determine whether violent individuals have an increased incidence of animal abuse in childhood in comparison to less violent or non-violent individuals.

Felthous (1980) investigated the nature of animal cruelty in childhood using a sample of male psychiatric patients. Two groups of patients were compared: an animal cruelty group (who gave a history of repeatedly torturing and injuring cats and dogs during childhood) and an assaultive group (who denied repetitive cruelty in childhood). As expected, it was found that the animal cruelty group was skewed toward higher levels of aggressiveness against people. Hence, the findings of this study provide support for the proposed link between childhood cruelty toward animals and later violence against people. However, it must be acknowledged that this study has methodological limitations since it was based on retrospective reports and was limited to an institutionalised population.

In a similar study, Kellert and Felthous (1985) examined childhood cruelty toward animals among a sample of criminals compared with a sample of non-criminals. Data were derived by administering a standardised interview to each of the 152 participants. Highly significant differences were found, as 25% of aggressive criminals reported five or more acts of childhood animal cruelty, compared to less than 6% reported by the moderately aggressive and non-aggressive criminal group. Further, the non-criminal group reported no occurrence of cruelty. From their findings, Kellert and Felthous concluded that aggression among adult criminals might be strongly related with childhood cruelty toward animals.

Results of studies such as that by Kellert and Felthous (1985) suggest that animal abuse in childhood may predict interpersonal violence at a later stage. Arluke et al. (1999) termed this proposed association the "violence graduation hypothesis", stating that many researchers have assumed that violence toward animals comes first, and is subsequently generalised to violence toward humans. However, according to Arluke and colleagues, the violence graduation hypothesis is too simplistic, as it does not accommodate for

more complex associations that may exist between animal abuse and violence.

As an alternative to this hypothesis, Arluke et al. (1999) introduced the "deviance generalisation hypothesis", which suggests that "animal abuse is simply one of many forms of antisocial behaviours that can be expected to arise from childhood" (p. 965). Social deviance theorists have argued that a wide range of criminal behaviours are related to one another because different forms of deviant behaviour often have the same underlying causes, and also because one form of deviant behaviour often leads to involvement in other forms of deviance (Arluke et al., 1999).

Arluke et al. (1999) tested the violence graduation hypothesis against the deviance generalisation hypothesis by comparing the criminal records of 153 animal abusers and 153 control participants. It was found that the animal abusers were 5.3 times more likely to have committed violent offences than the control participants, with 37% of the abusive group having a *violent* criminal record, in contrast to 7% of the control group. It was also revealed that animal abuse was associated not only with violence, but also with a host of other antisocial crimes as well. This provided support for the deviance generalisation hypothesis. In addition, the researchers found that animal abuse was no more likely to precede than to follow either violent or nonviolent offenses. Hence, support for the graduation effect hypothesis was not found.

As is evident from the above review, the majority of research conducted in this field has been based on criminal samples (e.g., Arluke et al., 1999; Felthous, 1980; Felthous & Kellert, 1986; Kellert & Felthous, 1985; Robin & ten Bensel, 1985). One exception is the work by Flynn (1999), who sampled university students to determine whether animal abuse during childhood was related to the acceptance of interpersonal violence later in life. Each of the 267 undergraduate student participants completed a questionnaire asking about past experiences with animal abuse and current attitudes toward various forms of family violence. An alarmingly high proportion of childhood animal abuse was uncovered in this university sample, with one in six respondents, and one in three male respondents giving examples of having committed at least one act of animal abuse during childhood. As hypothesised, respondents who reported childhood animal abuse had significantly more favourable attitudes toward both corporal punishment and husbands hitting their wives, than those who had not committed such abuse. Flynn explained the findings as demonstrating that animal abuse in childhood interferes with the development of empathy.

Results of studies such as those by Flynn (1999) are important since they suggest that animal abuse may not only lead to the increased acceptance of, or desensitisation to interpersonal violence, but that it may also increase the likelihood that the perpetrator will engage in it. While Flynn acknowledged that the relationship between these variables should be interpreted cautiously (e.g., some children may initially possess compromised levels of empathy, which could in turn cause them to employ violence against both human and non-human animals), he proposed that efforts to stop the cruel treatment of animals are likely to result in a decreased tolerance of interpersonal violence which may, in turn, lessen the incidence of violence against children and women. Reflecting calls such as that by Flynn, several research studies have involved the evaluation of programs aimed at preventing the cruel treatment of animals and at fostering compassion and responsibility toward all species (Ascione, 1997a).

## Humane Education Programs

Defined as "an attempt to develop altruism and a sense of compassion in a world where all other pressures are in opposition to it" (Milburn, 1989, p. 77), humane education programs include instructional approaches aimed at teaching children kindness toward animals. Ascione (1997a) stated that, although efforts to teach children kindness and caring most likely began within the first human social groups, formalised programs aimed at fostering children's compassion and responsibility toward both animals and other individuals are a more recent phenomenon, emerging in America roughly a century ago.

Humane education programs typically include both behavioural and affective components. According to Ascione (1997a), the behavioural components are intended to engender prosocial behaviours, while the affective components aim to increase levels of empathy and sympathy. While an increasing diversity of humane education programs is evolving, all share the common aim of "instilling, reinforcing, and enhancing young people's knowledge, attitudes, and behaviour toward the kind, compassionate, and responsible treatment of human and animal life" (Ascione, 1997a, p. 60).

One of the main assumptions governing humane education programs relates to the concept of transference. Ascione (1997a) explained the relevance of transference to these programs, stating that "teaching children to be attentive to animal needs and to treat animals with kindness, compassion, and care will, in turn, affect the way children will treat each other" (p. 61). Similarly, George (1999) stated that by focusing upon such concepts, humane education can assist children to learn respectful and kind ways of treating sentient beings. Moreover, it is assumed by humane educators, that children are likely to extend the concepts conveyed through humane education into their relationships with humans (Dillman, 1999).

Another assumption relating to humane education is that such programs may effectively intervene in the cycle of abuse (Flynn, 1999; Rathmann, 1999). Therefore, these programs aim to interrupt the trajectory of development that is characteristic of people who commit violent or other types of crime. The central characteristic of such a trajectory seems to be a compromised level of empathy otherwise referred to as *callousness* (Hastings et al., 2000). By encouraging caring and compassionate interactions between children and non-human animals, humane education programs aim to foster empathy in individuals with compromised levels of concern for others, and by definition, to minimise callousness.

Many humane education programs, such as Operation Outreach USA, combine the use of literacy skills development within a curriculum-type approach to teach children to respect all creatures, and that violence is not acceptable (Ascione, 1997a). Hence, as Ascione proposed, these programs couple cognitive (reading ability) and affective (prosocial behaviour and empathy) goals in an attempt to (a) assist children to develop a sense of compassion for all living creatures, (b) provide the necessary knowledge and understanding for children to behave according to these principles, and (c) foster a sense of responsibility within the child. The specific strategies employed to achieve these objectives include direct physical contact with animals, lessons about animal behaviour, and exposure to animal literature. Reported programs have ranged in duration from a brief, single visit by a humane educator to a comprehensive program spanning an entire school year.

In an evaluation of humane education programs, involving children from grades 2 to 5, Hein (1987) reported the effects of humane education programs on children's empathy

levels and attitudes toward the treatment of animals. It was found that, compared to a control group, the children who participated in the humane education program demonstrated *statistically* significant increases in humane attitudes toward animals. However, despite positive changes in attitudes having been observed, Hein recommended that substantially more intensive instruction is required in humane education to achieve *practically* significant changes in attitudes (i.e., changes in behaviour).

A more intensive humane education program was evaluated by Ascione (1992), who assessed the impact of a year-long, school-based program. Thirty-two classes of children were involved, half of whom were assigned to a humane education group and the other half to a control group. The study assessed both the effects of the program on the children's attitudes toward animals, and the generalisation of these effects to human-directed empathy. It was found that, for the younger children (first and second graders), there were no significant differences at posttest between the intervention and control groups. However, a significant difference between the two groups was found for the older children (fourth and fifth graders). These findings suggest that humane education may yield the most promising results with older primary school children, as opposed to first and second grade children. However, Ascione suggested that the results may have been contaminated by possible ceiling effects (as no significant increases in empathy would be expected for individuals who already possessed normative levels of this construct), in addition to the control group's teachers having reported an unexpectedly high proportion of time allocated to humane education and related topics.

In yet another study assessing the effects of humane education on fourth and fifth grade children, Paul (2000) commented on a study comparing the human-directed empathy levels of children who had participated in a 40-hour humane education program with the empathy levels of a group of same-aged controls. Compared to the control group children, the humane education group children were found to have higher levels of human-directed empathy both at the end of the program, and also at 1-year follow-up. On the basis of these findings, Paul concluded that animal-based humane attitudes can generalise to human-directed empathy. The finding that the effects of the program were maintained as long as 1-year post-intervention are promising, since they indicate that humane education can have lasting effects. Despite this promising finding, future research is needed to determine whether such effects continue to be observed beyond 1 year.

### Recommendations for Future Research

While many of the limited number of studies investigating humane education programs have revealed promising findings, there remains a scarcity of comprehensive research in this field. Several shortcomings of these studies also need to be overcome in future research.

A main issue that has been identified in the evaluation of humane education programs is the relation between having a pet and children's general attitudes toward animals (Ascione, 1993). The actual quality of animal attachment may be highly influential with regard to humane attitudes toward animals. Hence, future researchers should directly examine the relation between children's attitudes toward animals, and their actual treatment of companion animals. Ascione (1997a) has suggested that it would be beneficial for research of this type to focus on identifying children who may be currently at risk of mistreating animals.

A second issue identified by Ascione (1997a) relates to the need to develop a reliable and valid method for evaluating the effectiveness of humane education programs. At present, the different existing programs cannot be validly compared given that there is no standard evaluation definition or process. The development of a standard valid evaluation measure/method will be invaluable for identifying successful programs or useful program components.

Ascione (1997a) also raised the issue of response biases and has recommended that future researchers be cognisant of subtle, unconscious effects that can occur and consequently distort findings. For example, following the duration of a humane education program, the position that the researcher holds in relation to animal welfare has most likely become evident to the children. Hence, children's responses at posttest may be influenced by a perceived need to "please" the researcher. One measure that could potentially control for the occurrence of such response bias would be to ensure that someone other than the researcher be involved in post-intervention assessment. In any case, ensuring that researchers are "blind" to participants' group status is an expected feature of any sound intervention methodology.

An additional prominent issue that has been highlighted relates to the samples selected for the administration of humane education programs. Ascione (1997a) has suggested that by broadening the samples (i.e., by ensuring that children of varying cultural backgrounds, socioeconomic status, age and home environment are sampled), researchers can obtain a better understanding of the factors that need to be taken into consideration when both developing and implementing successful humane education programs.

Finally, studies assessing the effectiveness of intervention programs have typically focused on the effects that humane education has yielded on empathy levels. As previously mentioned, it is assumed that empathy is related to socially competent functioning, since empathy is proposed to mediate prosocial behaviour (Eisenberg & Strayer, 1987). Most research to date has assessed whether humane education intervention programs increase empathy levels across participants generally, rather than selecting only individuals who have compromised levels of empathy to begin with. Consequently, given that empathy development proceeds along a normative path for most children, it is not surprising that some studies have failed to demonstrate increased empathy levels when averaging post-empathy level across all participants regardless of pre-intervention levels. Future research should investigate whether humane education interventions are efficacious at increasing empathy levels in children who have pre-intervention levels that are below the norm. Further, given the proposed association between empathy and prosocial behaviour, investigators should determine whether levels of prosocial behaviour can also be increased through humane education.

In conclusion, much of the writing in this area is anecdotal or theoretical in nature. Actual empirical evaluations of humane education program effectiveness remain very few. As noted in the above review, although some promising outcomes of the empirical work conducted to date have been reported, many are limited by methodological issues. Hence, this area, and related hypotheses such as the proposed relationship between animal and human-directed violence, are in need of future empirical investigation. Such research is essential not only for improving our theoretical understanding of the phenomena involved, but also for enhancing our efforts at prevention, or at least at the minimisation of the suffering experienced by society's powerless members, be they animal, children, or adult victims of violent behaviour.

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