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Significance of Family Risk Factors in Development of Childhood Animal Cruelty in Adolescent Boys with Conduct Problems

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The literature suggests that physical child abuse, sexual child abuse, paternal alcoholism, paternal unavailability, and domestic violence may be significant in development of childhood animal cruelty. Two groups of early- to late adolescent boys (CTA and N-CTA) in residential treatment for conduct disorder were compared in the current study on histories of these family risk factors. The adolescents in Group 1 were comprised of boys who had conduct problems with documented histories of animal cruelty ($n = 50$; CTA). Group 2 consisted of adolescent boys ($n = 50$; N-CTA) with conduct problems, but without documented histories of animal cruelty. Results showed that children in the CTA group had significantly greater histories of physical and/or sexual child abuse and domestic violence in comparison to children in the N-CTA group. These results suggest that physical and/or sexual abuse to a child, and exposure to domestic violence, may be significant in the development of childhood animal cruelty.

KEY WORDS: childhood animal cruelty; physical child abuse; sexual child abuse; family violence.

In general, research suggests that negative experiences within the family serve as risk factors in development of disruptive behavior disorders (Fendrich *et al*., 1990; Guzder *et al*., 1999; Kilgore *et al*., 2000; Kupperman *et al*., 1999; Lyons-Ruth, 1996; McCabe *et al*., 2001; Shaw *et al*., 2000; Toupin *et al*., 2000). However, it is important to compare family risk factors of children who are disruptive to children who are both disruptive and abuse animals. This helps establish whether certain family risk factors have a specific relationship to development of childhood animal cruelty. Research in this area could provide useful information for creating effective assessments and treatments for childhood animal cruelty. In addition, it could help clarify the potential link between childhood animal cruelty and adulthood violence.

Duncan and Miller (2002) recently reviewed the childhood animal cruelty literature, specifically studies using child samples who exhibited animal cruelty and violent adult samples who reported animal cruelty as children. They found several family risk factors that may be associated with childhood animal cruelty and adult violence. These include physical child abuse, sexual child abuse, paternal alcoholism, paternal unavailability, domestic violence, and animal cruelty in parents. In our article, research was also presented that suggests an association between dysfunctional or negative home environment and childhood animal cruelty.

In the current study, the charts of children in residential treatment who had conduct behavior problems (N-CTA) and children with conduct behavior problems and histories of cruelty to animals (CTA) were reviewed. Children were assessed on histories of physical child abuse, sexual child abuse, paternal alcoholism, paternal unavailability, and domestic violence. The family risk factor of animal cruelty in parents was not assessed due to the expectation that it would be poorly documented in the charts reviewed. The family risk factor of dysfunctional

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or negative home environment was also excluded due to difficulties establishing an operational definition of this construct. Furthermore, this construct does not provide us with an understanding of specific family risk factors that may contribute to development of childhood animal cruelty, which is the primary goal of the current study.

Following Duncan and Miller (2002), it was hypothesized that children in the CTA group would have greater histories than children in the N-CTA group on family risk factors of physical child abuse, sexual child abuse, paternal alcoholism, paternal unavailability, and domestic violence.

METHOD

The two study groups were assembled from files of boys who had received residential treatment within the past 10 years at an institution in the Pacific Northwest. This setting was chosen, as it is likely to have higher incidence of animal cruelty in comparison to the general community. The children had disruptive behavior problems, a legal history of some kind, and met criteria for conduct or oppositional defiant disorder. Children with histories of psychosis, neurological injury or disorder (e.g., head injury, stroke, seizure disorder), and/or significantly low intellectual functioning (IQ < 69) were excluded from the study.

In general, children with documented histories of animal cruelty met criteria for the current study. Descriptions of the animal cruelty incidences were documented in 43 cases ($n = 50$). Such descriptions fell into three categories: severe torture and/or killing an animal ($n = 31$), moderate cruelty to an animal that did not result in significant injury ($n = 9$), and sexual inappropriateness with an animal ($n = 3$). The seven remaining cases included documentation of animal cruelty histories without detailed descriptions of animal cruelty incidences.

Family risk factors were defined a priori from studies reviewed by Duncan and Miller (2002). Presence of physical and/or sexual child abuse was recorded if there were documented histories of such incidences in the charts reviewed. Allegations and/or suspicions of abuse, particularly sexual child abuse, were documented in a small proportion of the charts. However, physical and/or sexual child abuse were recorded as present only for these cases when there was sufficient evidence documented in the charts confirming such allegations and/or suspicions.

Paternal alcoholism was recorded as present if there was documentation of the biological father being alcoholic. Some of the charts had documented histories of paternal substance abuse. However, paternal alcoholism was recorded as present only when there was clear indication that significant alcohol use was involved on the part of the biological father. Paternal unavailability was recorded as present if there was documentation that the biological father was distant, either emotionally or proximally. In many cases, children had little contact with their biological father and had a step/foster father. Paternal unavailability was recorded as present for these cases only when the biological father was clearly distant. Finally, domestic violence was recorded as present if there were documented histories of exposure/witnessing domestic violence by the children assessed.

The method of chart review was chosen due to time restraints, cost effectiveness, and accessibility issues. Generally, the construct of animal cruelty has become a recent variable of interest at the residential treatment center where the study was conducted, and its documentation has greatly improved in recent years. As a result, children who received treatment between 1992 and 2002 were included in the study. This decision was based on the prediction that animal cruelty would be reliably documented in the charts reviewed.

A coding sheet was created for the current study. Chart reviewers recorded the following information: experiment identification number, age at admission, ethnicity, diagnoses, and group membership (CTA, N-CTA). A checklist was included on the coding sheet to document histories of physical child abuse, sexual child abuse, paternal alcoholism, paternal unavailability, and domestic violence. In addition, it included writing space for describing animal cruelty incidences and negative family experiences of the children assessed.

One evaluator reviewed 289 charts, which included an assessment of agency admission reports, referral information, and at least one independent psychological evaluation for each chart reviewed. One advanced clinical psychology graduate student who was blind to hypotheses reviewed a randomly sampled 20% of the charts ($n = 58$) to establish inter-rater agreement. Percentage agreements were .93 for group membership (CTA, N-CTA) ($\kappa = .76$), .86 for physical child abuse ($\kappa = .65$), .81 for sexual child abuse ($\kappa = .59$), and .88 for domestic violence ($\kappa = .73$). Percentage agreements were .74 for paternal alcoholism ($\kappa = .36$) and .78 for paternal unavailability ($\kappa = .57$). Twelve percent of the cases that had 100% agreement between raters consisted of children with histories of animal cruelty. That percentage was comparable to percentage of children with histories of animal cruelty in the entire sample ($N = 289$, 17%).

An evaluation of the coding sheet notes helped correct disagreements between raters on a few cases, thus improving inter-rater agreement. For example, paternal

alcoholism was incorrectly coded as present for four cases where there was written documentation of significant drug use on the part of the biological father but not use of alcohol. For one case, paternal alcoholism was incorrectly coded as present by one rater because the stepfather was alcoholic rather than the biological father. In addition, one rater incorrectly coded paternal alcoholism as present for one case, in which severity of paternal alcoholism was low and the child only had brief exposure during infancy. Paternal unavailability was incorrectly coded as present for two cases. For both cases, the biological fathers had little contact with the children. Confusion about how to code these cases most likely was due to the fact that both children were adopted out and had a father figure in the home.

After these corrections were made, percentage agreement increased to .84 for paternal alcoholism ($\kappa = .61$) and .83 for paternal unavailability ($\kappa = .63$) in the subsample of children that was assessed by both raters ($n = 58$). Coding sheet notes were also reviewed on two CTA cases that had disagreement between raters. After these corrections were made, percentage agreement increased to .98 for group membership (CTA, N-CTA) ($\kappa = .95$). Percentage of children with histories of animal cruelty in the sub-sample increased to 19% as a result of these corrections.

A majority of the children assessed had Attention-Deficit/Hyperactivity Disorder (ADHD), substance abuse disorders, and/or depressive disorders. These disorders likely influence behavior and could affect validity of findings regarding family influence on development of CTA if not controlled. As a result, a stratified random sampling method was chosen to select subjects. Stratified random sampling provides some control for confounding disorders that may contribute to development of CTA and conduct behavior problems in general. In addition, it excludes less potential subjects in comparison to matching subjects at the individual level.

Out of the 289 children assessed in the study, 51 had histories of animal cruelty. Out of these cases, one case was excluded from the study because the child had a bipolar disorder diagnosis (CTA; $n = 50$) and our exclusionary criteria included history of psychosis, a possible symptom of bipolar disorder. Children without histories of animal cruelty were then randomly selected (N-CTA; $n = 50$). Children in both groups were of similar age at admission, with ages ranging from 8 to 17, with an overall median of 13 and an approximate interquartile range of 12–14. The CTA group had a median age of 13.8 and interquartile range of approximately 12.5–14 years. The N-CTA group had a median age of 13.1 with an interquartile range of approximately 12.5–14 years. The racial and ethnic composition of the sample was typical for the geographic region. The N-CTA group was 90% White and the CTA group was 92% White. The N-CTA group had one boy who was African-American, two Native Americans, and two children identified as biracial. The CTA group was similar, except it included two African-American children, two biracial boys, and no Native Americans. Each group had equivalent proportions of ADHD, substance abuse disorders, and depressive disorders.

RESULTS

Fisher's exact test was used to determine whether there was a difference between the CTA and N-CTA groups in the number of children with histories of physical child abuse, sexual child abuse, paternal alcoholism, paternal unavailability, and domestic violence. A one-sided significance test was chosen based on the prediction that children with histories of animal cruelty would have greater histories of these family risk factors in comparison to children without histories of animal cruelty.

Results indicated that children who were cruel to animals (CTA) had significantly greater histories of physical child abuse (PCA) ($p = .036$) and sexual child abuse (SCA) ($p = .048$) in comparison to children in the N-CTA group. There were no significant differences between the two groups in the number of children exposed to paternal alcoholism (PA) ($p = .412$) or paternal unavailability (PU) ($p = .345$). Finally, children who were cruel to animals had significantly greater histories of being exposed to domestic violence (DV) ($p = .050$) in comparison to children in the N-CTA group (see Table I for a summary of these results).

Rosenthal *et al.* (2000) recommended using risk difference (RD), relative risk (RR), and odds ratio (OR) effect size computations to describe data in which both the independent and dependent variables are dichotomous. Table II provides a summary of these effect size calculations. Comparing CTA to N-CTA children who had experienced physical child abuse, the values of RD, RR, and OR were .20, 1.50, and 2.25, respectively. Children who exhibited animal cruelty also had greater likelihood of being sexually abused in the past in comparison to children who had not been cruel to animals (RD = .19; RR = 1.45; OR = 2.19). Finally, children who exhibited animal cruelty had greater likelihood of being exposed to domestic violence in the past in comparison to children who had not been cruel to animals (RD = .22; RR = 1.49; OR = 2.47). For both PA and PU the effect sizes were small and uninformative. In summary, these results suggest that children who

Table I. Number of Children Exposed to Each Family Risk Factor in the CTA and N-CTA Groups

	CTA	N-CTA	Total
Physical child abuse			
Present	30	20	50
Absent	20	30	50
Sexual child abuse			
Present	23	14	37
Absent	27	36	63
Paternal alcoholism			
Present	15	13	28
Absent	35	37	72
Paternal unavailability			
Present	24	27	51
Absent	26	23	49
Domestic violence			
Present	16	8	24
Absent	34	42	76

Note. Cell entries represent number of children with and without histories of each family risk factor for CTA and N-CTA groups and total frequencies.

exhibited animal cruelty were twice to two and one-half times more likely to have been physically abused, sexually abused, and/or exposed to domestic violence, in comparison to children without histories of animal cruelty.

DISCUSSION

Results of this study indicated that children in the CTA group had significantly greater histories than children in the N-CTA group on family risk factors of physical and/or child abuse. In addition, children who exhibited animal cruelty were approximately twice more likely to have been physically and/or sexually abused or to have been exposed to domestic violence in comparison to children who did not exhibit CTA. Results from this study provide some evidence for predictions made by Duncan and Miller (2002): children who are cruel to animals come from abusive homes.

There were no significant differences between the two groups in the number of children exposed to paternal alcoholism; thus, these findings do not provide evidence that paternal alcoholism has an independent relationship to development of CTA. There were no significant differences between the two groups in the number of children who had distant contact with their biological father. These findings do not provide support for the theory postulated by Felthous (1980), which suggested that children abuse animals because they do not learn effective ways for dealing with anger as a result of their biological father being proximally and/or emotionally distant.

Table II. Effect Size Calculations

	Risk difference	Relative risk	Odds ratio
Physical child abuse	.20	1.50	2.25
Sexual child abuse	.19	1.45	2.19
Paternal alcoholism	.05	1.10	1.21
Paternal unavailability	−.06	0.89	0.79
Domestic violence	.22	1.49	2.47

Duncan and Miller (2002) identified three theories of the origin of cruelty to animals: modeling of cruel parental behavior, psychoanalytic conceptions of projection and need to control, and a failure to develop normal empathy. The present study's results give clear support to the possibility that children are modeling cruel and abusive behaviors in adults. A concurrent lack of empathy may be necessary to lead to the actual cruel behavior.

Interventions of childhood animal cruelty should acknowledge that physical and/or sexual child abuse may be an etiological consideration of the problem behavior. Without such acknowledgement, a child who is cruel to animals may be left vulnerable to antisocial behaviors into adulthood. The most researched intervention for childhood animal cruelty is humane education. Humane education is often a curriculum presented to children in a school context to foster empathy and altruism towards animals. The hope of humane education, in the long run, is the generalization of empathy toward human beings (Ascione, 1992). Research has suggested the effectiveness of humane education on enhancing children's humane attitudes toward animals (for a review of those studies, see Ascione, 1992). However, effectiveness of humane education may be contingent on the child's history of abuse being attended to in treatment. Treatments of animal cruelty should also teach children prosocial behaviors. This is especially true for children who learn abusive tactics towards animals as a result of being raised in domestic violence homes. Children, such as those in the present study, who have been placed in residential treatment because of serious conduct problems and who engage in cruelty to animals, may require more intensive efforts to develop and generalize empathy than that afforded by the typical humane education program. Such a program for these extreme cases should strive to extinguish imitated behaviors, replacing them by modeled alternatives designed to encourage gentleness and empathically guided behaviors.

There are a few limitations of the current investigation that must be recognized when reviewing these results. The first concerned our methods of chart review to

collect data. This method of data collection traditionally has poorer reliability than other methods: for example, interviewing children, teachers, and/or parents. In addition, chart reviews are a gross method of assessment for the factors assessed in this study, which may affect the reliability and validity of the findings for some of the variables assessed. Although inter-rater reliability coefficients were relatively low on a few factors, they, overall, fell within range of acceptable reliability. Furthermore, the fact that we found significant results for physical and/or sexual child abuse and domestic violence suggests that archival methods are sufficient in the assessment of these variables. Less striking or undetected animal cruelty is also difficult to assess through archival methods. This would have the effect of reducing effect sizes. Therefore, effect sizes reported here might be underestimates.

One of our goals in this study was to assess the reliability and validity of existing literature on development of childhood animal cruelty. However, this goal may have affected reliability and validity of two family risk factors in particular: specifically paternal alcoholism and paternal unavailability. These factors were difficult to operationally define and required clinical judgment when coding them. To increase reliability and validity for such factors, it is recommended that future researchers review records prior to defining operational definitions without contaminating the data.

Another limiting factor is the degree of veridicality associated with the documentations of CTA in the charts. Caseworkers who write these reports sometimes make mistakes and include spurious information. Finally, the institution that provided the data serves only boys, so we were unable to examine the relationship of family risk factors and CTA in girls. Whether similar results would be found in a female population is a question for further study.

Future research should study which family risk factors contribute to development of CTA and the independent contribution of each factor. The current study is retrospective in nature and cannot identify causality. In addition, PCA, SCA, DV, and similar family factors overlap and it is not possible with the current sample size to examine the independent contribution of each of these. Finally, the extent to which these factors act independently or in concert with child factors, such as the presence of ADHD, brain trauma, depression, and gender must be investigated.

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