ANIMAL ABUSE AND CALLOUSNESS: PREDICTING FREQUENCY AND
SEVERITY OF PARTNER-DIRECTED PHYSICAL VIOLENCE IN MEN

by

MAYA ERIKA GUPTA

(Under the Direction of Steven R. H. Beach, Ph.D.)

ABSTRACT

The search continues for variables that improve the prediction of partner violence in men. Philosophy, anecdotes, and correlational data suggest a relationship between animal abuse and physical violence. This study tested animal abuse as a predictor of partner violence by investigating whether frequency of animal abuse predicted partner violence beyond, and/or in conjunction with, the effect of a variable known to be a reasonable predictor of violence: callousness. Male undergraduates completed the Aggression Toward Animals Scale (Gupta, 2000), the Emotional Toughness Scale (Beach & Gupta, 2000), and the Physical Assault subscale of the Revised Conflict Tactics Scale—Perpetration (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Animal abuse added to prediction of violence beyond callousness, and interacted with callousness to predict violence. Additionally, the model predicted severe violence better than minor violence, for which the interaction disappeared. Results are discussed in terms of conceptualizing, diagnosing, and treating partner-directed physical violence in men.

INDEX WORDS: Cruelty, Animals, Abuse, Violence, Aggression, Callousness, CTS2
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SECTION 1

INTRODUCTION

*Intimate Partner and Family Violence In American Society*

One of the most distressing forms of interpersonal violence may be intrafamilial violence. Research findings consistently demonstrate the adverse physical, psychological, and social consequences of family violence (e.g. Arias, 1999; Resnick, Acierno, Holmes, Danmeyer, & Kilpatrick, 2000). Furthermore, physically-vulnerable family members—women, children, and the elderly—appear to be disproportionately common victims of this type of violence (Dobash, Dobash, Wilson, & Daly, 1992; though see Johnson, 1995, for an overview of alternate perspectives). Finally, on an intuitive level, family violence is a severe breach of the covenant of love and non-harm that is presumed to exist between family members.

Government programs in the United States have responded to this phenomenon by allotting increasing resources to family violence prevention, victim services, and intervention programs for perpetrators. Nonetheless, a significant minority of Americans continues to engage in family violence, and some do so with considerable frequency and severity. Between 1993 and 1998, 22% of violent crimes against women were committed by male partners. Crimes of family violence are no less severe than crimes perpetrated against strangers: 11% of homicides in 1992 were committed by current or former partners (United States Department of Justice, 2000). In addition, rates of dating violence are high during high school and college, with at least 1/3 of college students reporting
that they have experienced violence in intimate relationships (Foo & Margolin, 1995; Katz, Street, & Arias, 1997). Dating violence prior to marriage is of particular interest given its positive relationship to intimate partner violence after marriage (O'Leary, et al., 1989).

Additional efforts are clearly necessary to reduce the magnitude of family violence and intimate partner violence in the United States (and beyond), but it is possible that these efforts must be redirected to be more strategic at the same time that they are redoubled. Violence often goes undetected until a situation becomes sufficiently severe that the police are involved; anger-management programs for court-referred individuals have been criticized for addressing the symptom (anger) rather than its cause (e.g. Dobash & Dobash, 1990; Walker, 1979). In order for antiviolence programs to obtain maximal results, those who design them arguably need to possess the fullest possible understanding of the factors that contribute to violent behavior. Greater awareness of the predictors of violence should facilitate earlier detection and more effective prevention and treatment.

*The Role of Callousness In Predicting Physical Violence*

One potentially important predictor of physical violence toward intimate partners is callousness, defined as reduced or absent emotional reactivity in response to stimuli that would evoke emotional distress or empathy in other individuals. Callousness has traditionally been linked to general interpersonal violence through psychopathological syndromes such as Conduct Disorder in childhood and Antisocial Personality Disorder in adulthood, both of which are characterized by interpersonal aggression. Although psychopathology has been defined in behavioral rather than etiological terms since the
The third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III; American Psychiatric Association, 1980), its descriptions of associated features of these disorders still include such statements as, “Individuals with Conduct Disorder may have little empathy and little concern for the feelings, wishes, and well-being of others….They may be callous and lack appropriate feelings of guilt and remorse” (DSM-IV-TR; American Psychiatric Association, 2000, 95-96). DSM-IV’s description of Antisocial Personality Disorder, which requires the presence of some symptoms of Conduct Disorder before age 18, also includes callousness. It is portrayed as a disorder in which individuals “frequently lack empathy and tend to be callous, cynical, and contemptuous of the feelings, rights, and sufferings of others” (703).

Researchers who study Conduct Disorder and Antisocial Personality Disorder have understandably, therefore, focused on callousness as a distinguishing feature of these disorders. Furthermore, several of these authors have hypothesized extreme callousness to be central to a particularly severe form of each disorder, which they and the criminal justice field have termed psychopathy. Hare (1996) has attempted to distinguish psychopathy from Antisocial Personality Disorder on the basis of severe callousness. Similarly, Barry et al. (2000) identified a group of conduct disordered children who exhibited high levels of callous and unemotional traits. These children were more aggressive and demonstrated less remorse for their aggression than their less-callous counterparts, suggesting that some children with Conduct Disorder are more callous than others and perhaps at even greater risk for perpetrating violence. Barry et al. cite these findings as evidence that psychopathy may be observed in children as well. As discussed earlier, Crick and Dodge (1994) have also identified extreme callousness
among a subgroup of children with Conduct Disorder who use aggression “proactively” (to accomplish a goal) as opposed to “reactively” (as an unpremeditated response to Provocation).

_The Role of Callousness In Predicting Partner-Directed Physical Violence_

Callousness has also been implicated in partner-directed physical violence. The DSM-IV states that wife- or child-beating may be included among acts of interpersonal violence in Antisocial Personality Disorder. Family violence researchers have postulated that callousness may be a distinguishing feature of a particular subtype of batterers (Holtzworth-Munroe & Stuart, 1994). As part of their proposed typology of batterers, Holtzworth-Munroe and Stuart label this group as “generally violent/antisocial” and characterize them as more callous than other types of batterers. Holtzworth-Munroe and Stuart also suggest that this group of batterers may contain a high proportion of individuals with Antisocial Personality Disorder, thereby implying that many of these batterers are generally violent outside the home in addition to being violent toward their partners. In an attempt to validate the typology via cluster analysis, generally violent batterers displayed more frequent and severe violence than other batterers (Waltz, Babcock, Jacobson, & Gottman, 2000). Campbell, Muncer, and Coyle (1992) have differentiated “instrumental” batterers from “expressive” batterers, stating that instrumental batterers use aggression in a deliberate manner to accomplish a specific goal (such as intimidation) whereas expressive batterers simply become aggressive in response to emotional frustration. According to this distinction, which is reminiscent of the reactive/proactive demarcation drawn by Crick and Dodge (1994), the fact that instrumental batterers plan their aggression means they are emotionally “cold” and
distanced from their violent acts, implying callousness. Johnson (1995) has also described two types of partner-directed physical violence: common couple violence and patriarchal terrorism. Johnson states that whereas common couple violence comprises fairly normative and low-level acts of violence between both members of a heterosexual couple, patriarchal terrorism consists of severe, methodical, and repeated battering by a controlling male partner. If callousness can be shown to underlie the generally violent/antisocial, instrumental, and/or patriarchal terrorism subtype, it could become a valuable differentiator of types of partner aggression, and could also perhaps begin unifying the different but overlapping typologies of partner-directed physical violence currently in existence.

*Improving the Predictive Power of Callousness*

Unfortunately, few specific measures of callousness appear to exist for adults, and the construct requires further validation as a predictor of violence. Although existing efforts toward prediction have been important, the proportions of variation in violence that existing models have been able to predict remain rather low, as is often the case in violence prediction research. Lower-than-expected relationships between a predictor and a criterion variable of interest may be the result of a third, moderating, variable (Baron & Kenny, 1986). Is there another variable that specifies the conditions under which the relationship between callousness and violence is particularly strong?

*The Role of Animal Abuse In Predicting General Violence*

One variable that has only recently been considered of serious interest by psychologists who study violence, in both general and family contexts, is animal abuse. Because animals are accorded lower value in Western societies than are humans, and
because many Westerners consider animals fundamentally different creatures from humans, a relationship between animal abuse and interpersonal violence may historically have been overlooked. Also, because the direct victims of animal abuse are not human, and because animal welfare organizations often compete with human welfare organizations for tax dollars, a climate of divisiveness between the two fields may have led to deliberate unwillingness to collaborate.

Paradoxically, animal abuse has long been considered to be linked to interpersonal violence. The relationship has been conceptualized by such theorists as St. Augustine, Kant, and Locke, and documented by observers such as Margaret Mead and Mohandas Gandhi. Mead (1964), for example, wrote that “It would, therefore, seem wise…to alert all child therapists to watch for any record of torturing or killing a living thing. It may well be that this could prove a diagnostic sign” (p. 22).

Anecdotal evidence may be largely responsible for the growth in awareness of the link between cruelty toward animals and violence toward intimate partners or family members. Recent media reports have focused with concern on increasingly violent acts perpetrated by young members of society. Ascione (1999) cites the case of Luke Woodham, whose diary was used during his investigation after he murdered his mother and two classmates and wounded seven others at his school. Woodham’s diary describes his delight at hearing the howls of his dog as he beat her, set her on fire, and threw her in a pond; this act occurred shortly prior to his attacks on his family and classmates.

Such case stories are corroborated by empirical investigations. In a sample of violent prisoners, Hellman and Blackman (1966) found that 52% had abused animals as children versus 17% of nonviolent prisoners. Felthous’ (1979, 1980) interviews of
psychiatric inpatients revealed that 18% of violent patients compared with 5% of nonviolent patients reported abusing animals as children. Kellert and Felthous (1985) found that 25% of highly aggressive federal prisoners (as compared with 5.6% of prisoners deemed moderately aggressive, 5.8% of nonaggressive prisoners, and 0% of noncriminals) had histories of five or more episodes of childhood animal abuse; of 152 prison subjects in a second study, 60% overall reported at least one act of abusiveness toward animals in childhood. Tingle, Barnard, Robbins, Newman, and Hutchinson (1986) investigated a sample of 64 men, finding that 48% of rapists and 30% of child molesters were abusive to animals as children or adolescents. Ressler, Burgess, and Douglas (1988) found that, of 28 sexual homicide perpetrators, 36% had been cruel to animals as children, and 46% had been cruel as adolescents. While the above studies have relied upon retrospective techniques, Youssef, Attia, and Kamel (1999) were able to predict violent or nonviolent status among a group of teenagers by using information about whether or not the teenagers concurrently abused animals. Additionally, Arluke, Levin, Luke, and Ascione (1999) tracked criminal records of animal abusers from a wide age range (11 to 76 years) and found that they were more likely than controls to be arrested for crimes of interpersonal violence. 

*The Role of Animal Abuse In Predicting Partner-Directed Physical Violence*

Again, historical references to the link between animal abuse and partner-directed physical violence predate its investigation by psychologists. Taylor, “the water-poet,” coined the familiar expression, “A woman, a spaniel, and a walnut tree/The more you beat them, the better they be.” These two forms of violence appear to have continued to co-occur at high rates to this day. For example, of 57 families involved with the New
Jersey Division of Youth and Family Services, 60 percent reported or displayed pet abuse or neglect (Deviney, Dickert, & Lockwood, 1983). Among those families perpetrating physical child abuse, the rate of cruelty to pets was 88 percent. Conversely, Hutton (1983) reviewed one British community’s records of cruelty to animals to find that 19 of 23 animal-abusing households were also listed with social service organizations.

Furthermore, animal abuse can be a deliberate component of child and partner abuse. Reports of women forced to perform bestiality have become more common. Alternatively, batterers may torture or threaten to torture their children’s or partners’ pets as a form of emotional abuse or as a means of control, for example to prevent the human victim from reporting other abuse (Dutton, 1992). A national survey by Ascione, Weber, and Wood (1997) indicated that whereas 85.4% of violence shelters reported that women who came to the shelters talked about incidents of animal abuse by their batterers, only 27.1% of shelters asked questions about animal abuse as part of their standard intake procedures. Similarly, Quinlisk (1999) found that 68% of pet-owning women in a statewide shelter survey reported that violence toward animals had occurred in the home.

Still, women entering safe houses are often forced to leave their pets at home because of shelters’ restrictions against harboring animals. As a consequence, women commonly report delaying their entry to a shelter, returning to the home environment when unsafe, or never coming to a shelter at all. These women cite their concerns about leaving pets with abusive partners who might vent rage at the women’s departure on the animals, or who may realize they can coerce the women by threatening to harm the pets left at home. Additionally, the emotional toll upon women and children from leaving behind a pet, who may have been the only source of comfort in a troubled environment, is
demonstrated by the success stories of shelter programs that have found ways to ensure
the safety of pets, keep residents in touch with their pets by bringing news or photos, or
incorporate some contact with animals as part of therapeutic activities (Rathmann, 1999;
Roseberry & Morstein Rovin, 1999). The impact of disrupting the human-animal bond
must be taken especially seriously insofar as the move to a shelter represents a nearly
complete upheaval of everything else in a victim’s life and the start of a difficult process
of establishing independence from the batterer.

Utility of Animal Abuse as a Predictor of Intimate Partner and Family Violence

Clearly, animal abuse in youth provides predictive information about the
propensity of a perpetrator to commit childhood and adulthood acts of interpersonal
violence. As such, this information has begun to fulfill its goal: having successfully been
identified as an indicator, animal abuse is being used as a platform for violence
prevention and intervention. For example, whereas animal abuse statutes in most states
were formerly worded so that violations constituted a misdemeanor, the charge of cruelty
to animals is now a felony or felony-level sentence in 33 states and the District of
Columbia, and new legislation continues to pass in more states. Under such a system, a
person convicted of cruelty to animals will be prohibited from buying handguns, which
may deter future crimes against humans. Three states also require convicted animal
abusers to undergo counseling, and an additional eight states add the counseling
requirement when the offender is a juvenile. These programs may serve as a valuable
early intervention for such individuals.

Why should professionals involved in family violence prevention and intervention
efforts pay attention to this link? In the search for more ways to identify violent or at-risk
domestic situations before they become critically serious, discovery of animal abuse can be a valuable indicator; animal welfare officers can often gain entry into a home on a suspected cruelty charge more easily than can social service workers on a suspected battering charge, and can serve as cross-reporters of human abuse or furnish early warnings that a household may be at risk for domestic violence. Although prosecution for violations of animal abuse statutes remains lax in many states, a charge of cruelty can serve as a means of getting batterers into the legal system who might otherwise have escaped attention for their crimes against people.

*Improving the Predictive Power of Animal Abuse*

Just as it has been argued that the predictive power of callousness could be improved, the predictive information animal abuse yields could also perhaps be put to better use. Straus, Hamby, Boney-McCoy, and Sugarman (1996) state that they considered including animal abuse as an item on the Revised Conflict Tactics Scale but discarded it because it would only apply to couples who owned pets. Yet pet ownership is the modal status for families at least in the United States, where 62 percent of households own pets. Furthermore, pet ownership appears to be as high in violent families as in nonviolent families: Arkow (1996) cites a single-community study wherein 86% of women using family violence prevention services owned pets; similar to previous statistics, 80% of these women reported that a partner had mistreated a pet.

Even when animal abuse is considered a useful predictor, it does not appear to be well understood. Manuals for professionals working with abused women often list animal abuse as a common co-occurrence of partner abuse without identifying its unique features (such as its function as an implement for threats and emotionally abuse). In other
assessment instruments, animal abuse is still coded as simply a form of property destruction.

Rather than simply accepting a link between animal abuse and violence, those responsible for prevention and intervention could benefit from more precise information about the link. When animal abuse occurs, does it always predict interpersonal violence, or only under certain conditions? If animal abuse predicts partner-directed physical violence, is it a potential indicator of higher severity? The answers to such questions lie in beginning to address the motivations for animal abuse. Though these have never been empirically examined, Kellert and Felthous (1985) have identified nine major reasons cited by or observed in the aggressive individuals with whom they worked: obtaining control of an animal, retaliating against an animal, expressing prejudice against a specific species or breed, expressing one’s own aggression through an animal, enhancing one’s own aggressiveness, wanting to shock others, retaliating against another person, displacement of hostility, and nonspecific sadism.

The Intersection of Callousness and Animal Abuse

Does callousness overlap with animal abuse? It might be argued that certain of the above reasons for aggression toward animals, such as obtaining control of an animal, have rational underpinnings such as the desire to train an animal or to subdue a threatening animal in a confrontation. Violent measures taken toward the animal at that point could be expected to cause the actor to regret inflicting harm on the animal even though it was deemed necessary to do so. In contrast, hurting an animal to shock others or to retaliate against others (such as the scenarios described by women entering shelters) must only be possible if one is inured to the suffering of both the animal and the human
observers—for the goal of the abuser in such a situation is actually to cause that suffering to take place.

John Locke stated that “they who delight in the suffering and destruction of inferiour creatures, will not be apt to be very compassionate, or benign to those of their own kind” (Axtell, 1968). Since the publication of the revised third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM III-R), Conduct Disorder has included cruelty to animals in its criteria. Is it not therefore possible that callousness and animal abuse may be connected? Frick et al. (1993), a group of colleagues already cited as major contributors to the childhood callousness literature, identified animal abuse as one of the earliest-onset of the symptoms of Conduct Disorder. Since the DSM-IV states that early-onset Conduct Disorder usually is associated with the worst prognosis, it follows that animal abuse may be a characteristic of individuals with the most severe form of the disorder. It should also be noted that in the childhood-onset type of Conduct Disorder there is a higher ratio of males to females than in the later-onset type, supportive of the idea that many males with severe Conduct Disorder may go on to develop Antisocial Personality Disorder and become violent within their homes. (Strangely, animal abuse has not yet been included among the diagnostic criteria for Antisocial Personality Disorder.)

Does animal abuse interact with callousness to predict partner-directed physical violence? There appears to be reason to suspect that although both callousness and animal abuse may individually predict intimate partner violence, their interaction may provide even stronger prediction. Whereas callousness is an intrapersonal variable, the measurement of which is slowly being improved, animal abuse is a behavioral measure.
Not all callous individuals may act on their aggressive impulses, and for this reason, measuring callousness alone may be an incomplete way to predict violent outcomes. On the other hand, callous individuals who do act on these impulses by perpetrating animal abuse may be similarly likely to act on aggressive impulses against intimate partners. Aggression toward animals may reflect a general acceptance of violence, wherein violence may become a greater and greater part of the general behavioral repertoire of callous individuals. The more animal abuse they perpetrate, the more predictive of partner-directed physical violence their callousness level should become.

Additionally, individuals who are highly callous and who are also highly abusive to animals may be more likely to use aggression instrumentally, reminiscent of men hurting pets as a means of threatening or emotionally abusing their partners. This instrumental aggression, reminiscent of patriarchal terrorism (Johnson, 1995), is likely to be characterized by both frequency and severity. By contrast, individuals relatively low in callousness who do not abuse animals may still be physically violent toward their partners, but the violence may be fueled by motives other than the malicious desire for control that the literature suggests underlies animal abuse in callous individuals. These individuals’ partner violence may consist largely of Johnson’s common couple violence, low-severity acts engaged in in a reactive manner during a conflict. For these individuals, then, callousness would not be a good predictor of partner violence perpetration. As a corollary, individuals low in callousness who do abuse animals may also be presumed to be perpetrating the abuse for some other reason than malicious control, perhaps for some species-specific reason such as misguided ideas about animal training or an inability to perceive that animals do suffer pain when harmed. We would not expect that these
reasons would generalize to behavior toward partners, and for this reason would expect low frequencies of partner-directed physical violence. If the above patterns hold, we should again expect to observe a stronger relationship between callousness and frequent violence at higher frequencies of animal abuse.

If an interactive relationship between callousness and animal abuse holds, it could furnish valuable information to animal protection workers, who may observe evidence of intimate partner violence in a household to which they have gained entry on suspected animal abuse charges. The immediate goal of this study was therefore to establish whether callousness significantly predicts partner-directed physical violence in men, whether information about frequency of animal abuse in adulthood significantly improves this prediction, and whether increasing frequencies of animal abuse significantly strengthen any observed relationship between callousness and partner-directed physical violence. The long-term objective into which this effort fits is the improvement of our ability to predict and understand intimate partner violence.

Additional Considerations of the Present Study

Why focus on male aggression? Using Straus’ (1979) Conflict Tactics Scale (CTS), approximately 12% of both women and men report having been a victim of physical violence in the preceding year, which is initially suggestive of gender symmetry in intimate partner aggression. However, physical aggression by men leads to more injuries than physical aggression by women (Cascardi, Langhinrichsen, & Vivian, 1992; Cantos, Nedig, & O'Leary, 1994), more sexual aggression (White & Kowalski, 1994), and more instances of murdering a partner (Archer, 2000). Straus (1980) states that men’s comparatively greater size and strength also puts them at less risk from the violence they
perpetrate, because they can deflect a counterattack more easily. Being capable of producing a considerable effect by being physically violent, coupled with relatively minimal risk associated with this effect, may make physical violence more attractive to men than to women. These points argue against the reciprocity of male and female physical violence in couples. Accordingly, it seems appropriate to examine the hypothesized relationships in a population of young men, while keeping in mind that women’s aggression—and the still-underinvestigated topic of intimate partner violence in homosexual relationships—remain important topics for future study.

*Why focus on animal abuse in adulthood?* It is evident from the literature that much of the existing empirical work on animal abuse has focused on childhood acts. As noted, the diagnostic criteria for Antisocial Personality Disorder make no mention of aggression toward animals, whereas it is a central feature of the criteria for Conduct Disorder. However, when studying intimate partner violence, animal abuse in adulthood is particularly important for conceptual as well as practical reasons. Insofar as one is interested in animal abuse when used as an implement for emotional abuse in an intimate relationship, one needs information about abuse that occurs while the perpetrator is in that relationship (hence in adulthood). From a practical standpoint, too, it is important to know whether evidence of animal abuse could be a diagnostic sign for concurrent intimate partner violence in a household. For these reasons, the current study focused on acts of animal abuse since the age of 16, when most young men could be expected to begin becoming involved in intimate relationships.

*How does one define animal abuse?* The existing literature on animal abuse has suffered from confusion due to differing definitions of the construct. This inconsistency
is symptomatic of the fact that there is no common or official consensus on what constitutes animal abuse: state laws differ in which species are included and in the severity and frequency of maltreatment necessary to qualify as a crime. This legal situation is very similar to the state-by-state differences in definitions of child abuse. The terms “animal abuse” and “child abuse” are inherently prone to ambiguity because they involve an implicit value judgment: what constitutes “cruelty” or “abuse” and differentiates it from acceptable treatment? Just as some physical aggression towards children—such as corporal punishment—may be generally accepted in society or in some segments of society, some physical aggression towards animals—such as the use of a choke collar in training—may also be deemed normative.

Ascione (1993, p. 228) defines cruelty to animals (a term used interchangeably with “animal abuse”) as “socially unacceptable behavior that intentionally causes unnecessary pain, suffering, or distress to and/or death of an animal,” and most of the literature described above has used some variation of this definition. Due to the inherent difficulties that remain in operationalizing the subjective terms “socially unacceptable” and “unnecessary,” however, the current study utilized a somewhat more restricted definition in order to construct a self-report measure of animal abuse: animal abuse was said to comprise deliberate acts of physical and/or emotional aggression against an animal outside the contexts of hunting, experimentation, or slaughter for trade. It should be noted that hunting/trapping, experimentation, and slaughter, though excluded here for ease of definition, are not free of debate regarding cruelty. Even if one does not deem these practices inherently cruel, deliberate abuse of the animals involved (over and above completing the act itself) is not uncommon. For example, see Grandin (1988) for a
discussion of intentional abuse of animals at livestock auctions and by slaughter plant employees.

*How does one measure animal abuse?* Formal psychological studies of the connection between animal abuse and interpersonal violence have also been plagued by methodological complications. Case histories of animal abuse, while informative, do not provide data amenable to statistical tests. On the other hand, large-scale data are often unavailable because many animal abuse cases are not prosecuted or are prosecuted below the felony level. Police departments are not required to report the number of animal abuse investigations in their precinct to any national database. Veterinarians may inspect animals in their care for injuries (such as scars, burns, and lacerations that do not fit the owner’s description of how they were caused), while simultaneously monitoring the animal’s behavior with the examiner. Scars, burns, and lacerations, especially which do not fit the owner’s description of an accident, and fearful and/or aggressive behavior with the examiner, are signs that may indicate abuse, much as a pediatrician may detect child abuse from similar signs (Munro, 1999). However, families in which animal abuse occurs may often fail to provide adequate veterinary care for their animals, and may in fact intentionally avoid contact with veterinarians so that abuse will not be detected. Furthermore, opinions vary among veterinarians as to the veterinarian’s role in intervening in abuse cases, with many veterinarians appearing reluctant to engage in the struggle. Only two states, Minnesota and West Virginia, and the province of Quebec currently have laws mandating veterinarians to report abuse, though other states (Arizona, Idaho, California) have instituted legal immunity for veterinarians who voluntarily report abuse. In California and Colorado, veterinarians have been designated
as mandated reporters of child abuse—a legislative act that clearly recognizes the link between child abuse and animal abuse. Yet, paradoxically, veterinarians in these two states are not mandated reporters of animal abuse. Therefore, veterinarian report is not yet a reliable method for determining rates of animal abuse.

An alternate solution is to obtain data on animal abuse directly from perpetrators. However, issues of social desirability must then be addressed. As noted by Offord, Boyle, and Racine (1991) in their comparison between youths’ self-report of animal cruelty and their parents’ reports, parents often greatly underestimate the frequency of their children’s aggressive acts towards animals. Reasons for this underestimation may include that the children are unsupervised, perhaps even deliberately hiding their acts from their parents, or that the parents know about the acts but attempt to minimize them due to social desirability with the interviewer or not wanting to think of their children as cruel. While the current study intends to study animal abuse in adulthood, the same problem of social desirability remains to be addressed no matter what the age of the sample. In this study, it was possible that the respondents of greatest interest—those who were most callous, and therefore remorseless or even proud of the abuse—would be willing to report their acts of animal abuse without concern as to social desirability. However, without data to support this conjecture, it seemed wise to design a means of measuring animal abuse that was minimally susceptible to response bias. Offord et al. state that structured interviews are particularly subject to underreporting due to the social desirability effect of being face-to-face with an interviewer. It is likely, therefore, that a less-biased method of obtaining self-report data is the administration of anonymous paper-and-pencil questionnaires, such that participants do not feel the discomfort of reporting their acts
directly to the interviewer. For this reason, the current study employed a questionnaire that asked participants about the frequency of various aggressive acts toward animals in adulthood.
SECTION 2

HYPOTHESES

1) A main effect of callousness was predicted, such that men’s self-reported level of
callousness would significantly ($p < .05$, two-tailed) predict their self-reported frequency
of partner-directed physical violence.

2) A main effect of animal abuse was predicted, such that men’s self-reported frequency
of animal abuse would significantly ($p < .05$, two-tailed) predict their self-reported
frequency of partner-directed physical violence. This effect should significantly increase
prediction of partner-directed physical violence over and above the amount of variance
accounted for by callousness.

3) An interactive effect was predicted, such that the relationship between callousness and
partner-directed physical violence would be stronger for men who report engaging in
frequent animal abuse than for those who report low frequency of animal abuse, and this
relationship would strengthen with increasing frequency of animal abuse.

4) It was predicted that the interaction of callousness and partner-directed physical
violence would predict frequency of severe partner-directed physical violence better than
frequency of minor partner-directed physical violence, although both predictions would
be significant at $p < .05$ (two-tailed).
SECTION 3

METHOD

Participants

Demographics. Participants were 174 male undergraduates self-selected from the Research Participation pool at the University of Georgia. Mean age of the participants was 19.86 years ($SD = 1.38$), mean number of relationships over the lifetime was 4.29 ($SD = 5.63$), and mean length of the most recent relationship was 11.24 months ($SD = 12.27$).

Sample size. The necessary sample size to achieve a conventional power level of .80 when performing statistical analyses was determined using the GPOWER program (Faul & Erdfelder, 1992). As described above, no studies to date have utilized paper-and-pencil measures of callousness or of animal abuse to predict self-report of intimate partner violence. In the absence of previous literature yielding precise effect sizes, it is possible to determine required sample size by following the guidelines introduced by Cohen (1988). These guidelines require the investigator to estimate whether a small, medium, or large effect size will be present. For this study, a medium effect size, defined by Cohen’s guidelines as $f^2 = .15$, was expected. For an $F$ test for multiple regression with three predictors (callousness, cruelty to animals, and the interaction term), $\alpha = .05$, and a desired power level of .80, GPOWER determined that only 77 participants were required. However, it was deemed likely that the magnitude of the effect of the
interaction would be small, since predicted moderator effects are often difficult to detect (McClelland & Judd, 1993). Data from all 174 participants were retained for the analysis.

**Measures**

*CTS2-Perpetration.* The Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) is a 78-item measure of frequency of different types of behavior during conflict situations with an intimate partner. The CTS2 is divided into five subscales: Negotiation, Sexual Coercion, Injury, Psychological Aggression, and Physical Assault. The Negotiation subscale may be further subdivided into Emotional Negotiation and Cognitive Negotiation, and the latter four subscales may be subdivided into Minor and Severe items. In the current study, the Physical Assault subscale was the principal scale of interest. Each item has seven response choices, from “never did this” to “more than 20 times.” Each subscale is scored separately by transforming the responses to the items on the subscale into the midpoint of the frequency range they represent and then summing across the subscale. For example, a response of 1 ("never") would be recoded as 0 to reflect the actual frequency reported, while 5 ("6 to 10 times") would be recoded as 8 because 8 is the midpoint of the 6-to-10 range. For responses of “more than 20 times,” Straus et al. recommend transforming the response into a frequency of 25.

The CTS2 is further divided into Victimization and Perpetration items. 39 items ask participants to report frequency of various types of behaviors toward a partner (Perpetration), while the remaining 39 items ask participants to report how often their partners have perpetrated the same behaviors toward them (Victimization). In the current study, only the Perpetration items were administered because acts perpetrated by the participants themselves were the subject of focus.
This study employed two minor changes to the CTS2. First, only 31 of the 39 items could be administered due to Institutional Review Board concern about asking participants to report perpetration of rape and other illegal acts of violence. This revision required the omission of three items from the Physical Assault subscale. Therefore, summed scale scores are not directly comparable to summed scale scores reported in studies using the entire subscale. As a second change, the instructions for completing the CTS2 were amended so that they directed participants to report frequencies across their entire dating histories rather than only the past year. The reason for this change was that first-year college students might not have been involved in consistent relationships and hence data based on only the past year may have provided a poor estimate of intimate partner violence. Straus et al. (1996) state that such changes to the time frame of the CTS are permissible when justified by methodological or conceptual concerns.

Past psychometric testing of the CTS2 has revealed it to have excellent psychometric properties, with Cronbach’s alpha = .86 for the Physical Assault subscale (Straus et al., 1996). In the current study, internal reliability analysis yielded $\alpha = .79$ for the overall Physical Assault scale, .64 for Minor Physical Assault, and .82 for Severe Physical Assault.

*Aggression Toward Animals Scale (ATAS).* The ATAS (Appendix B) is a 15-item scale designed by the author to measure frequency of aggressive acts toward animals in adulthood (though this time frame may also be modified according to the goals of a specific study). Items were generated via review of the literature on animal abuse, such as the types of animal abuse described by Kellert and Felthous (1985) and by Vermeulen and Odendaal (1993). Scoring of the ATAS follows the same principles as the CTS2:
seven response categories are transformed to frequencies by taking the midpoint of each category and the frequencies are then summed.

Upon initial development, the ATAS consisted of 19 items with an acceptable Cronbach’s alpha of .86. However, internal consistency analysis revealed that alpha could be incrementally increased by removing four items: “Yelled at an animal,” “Burned or scalded an animal,” “Used a weapon on an animal (other than hunting),” and “Killed an animal (other than hunting or slaughtering livestock).” Items were removed one at a time until the point at which removal of further items would have decreased alpha. Overall alpha for the remaining 15 items was thereby increased to $\alpha = .90$. It is possible that the behavior “yelled at an animal” may simply occur at an extremely high base rate, and may represent both normative behavior and animal abuse, thereby failing to load consistently with the remainder of the scale. Conversely, items related to burning or scalding, using weapons on animals, and killing animals may be so severe that they elicited too low a response rate to load with the remainder of the scale. However, it should be noted that the exclusion process for these three severe items was fairly stringent, since following the removal of “Yelled at an animal” (which increased alpha from .86 to .89), removal of the remaining three items increased alpha by only .0044, .0033, and .0027, respectively. Therefore, these items may justifiably be considered for reinclusion in future. Factor analysis of the 15-item scale revealed one clear factor with an eigenvalue of 7.2, accounting for 48.2% of the variance.

Emotional Toughness Scale (ETS). The Emotional Toughness Scale (Beach & Gupta, 2000) is a 6-item self-report questionnaire developed to assess the personality construct of callousness. Participants are asked to indicate their level of agreement or
disagreement on a Likert-type scale with statements describing characterological insensitivity to the distress of others. Items consist of statements such as, “Seeing someone in pain doesn’t bother me too much.” Available responses range from 0 = strongly disagree to 6 = strongly agree. The questionnaire is scored by summing the item scores, such that higher overall scale scores indicate greater insensitivity.

The ETS originally consisted of 10 items; however, preliminary analyses revealed that Cronbach’s alpha for the scale could be increased from .65 to .70 by the removal of item 5, “I have noticed that women do a lot of fake crying to get what they want.” Hence, this item was removed from the final scale. Another item, “If someone is crying I can’t help but feel bad too,” was also removed in order to increase alpha to .71, and the removal of a third item, “Seeing a friend of mine hit his girlfriend wouldn’t bother me,” was also removed in order to increase alpha to .73. Using the same stringent removal procedure as for the ATAS, a final item, “Seeing someone in pain doesn’t bother me too much,” was removed to increase alpha by an additional .0158, resulting in a final alpha of .7339. At this point, removal of further items would have weakened alpha. Factor analysis on the 6-item scale revealed one clear factor with an eigenvalue of 2.7, accounting for 44.8% of the variance.

Procedure

Participants were asked to complete all questionnaires during a single session, conducted in a large group testing format as part of a larger study. The order of administration of the questionnaires was counterbalanced to control for possible effects of presentation order. The packet of questionnaires, including those not used in this study, required approximately 1.5 hours to finish. Upon completion of the questionnaires,
participants were asked to complete a demographic form and were then debriefed as to the nature and purpose of the study.

Data Analysis Strategy

Data were analyzed via multiple regression using the SPSS 10.1 for Windows statistical software package. Because one participant did not answer any of the items on the CTS2, regression analyses excluded this participant’s data and were thus based on \( N = 173 \). A three-stage multiple regression analysis was performed, regressing partner-directed physical violence (as measured by the Physical Assault subscale of the CTS2) in separate steps on callousness (as measured by the ETS) and on callousness and animal abuse (as measured by the ATAS) to test Hypotheses 1 and 2, respectively. Hypothesis 3 was tested by creating an interaction term consisting of the product of the centered ETS and ATAS variables as recommended by Aiken and West (1991) and then regressing CTS2 scores on ETS score, ATAS score, and the product term. Moderation was explicated by plotting two simple regression lines, choosing values of ATAS scores approximately one-half standard deviation above and below the uncentered mean as representative of high and low frequency of animal abuse. To facilitate these analyses, the SIMPLE computer program for simple slope analysis (O’Connor, 1998) was used. Hypothesis 4 was tested by separately computing the adjusted \( R^2 \) values for the prediction of CTS Severe Physical Assault items and Minor Physical Assault items, using ETS scores, ATAS scores, and the interaction term as predictors. Moderation was again explicated following the above procedures.
SECTION 4

RESULTS

Descriptives

Means, standard deviations, and intercorrelations for all variables are reported in Table 1. Distributions of the variables were examined for normality. Whereas the ETS appeared to be fairly normally distributed (skewness = 1.69), both the ATAS and CTS2 displayed considerable positive skew (5.08 and 5.31, respectively). Positive skew on the CTS2 is common when administered to college samples because the majority of individuals in this population are nonviolent (Straus et al., 1996). Additionally, the scoring practice of transforming response categories into frequencies (a response of 5 becomes 8, 6 becomes 15, and 7 becomes 25) enhances skew. Since the ATAS is similar to the CTS2 insofar as it also measures violent behavior and is scored in the same manner, it is unsurprising that it displays positive skew as well. The skewness of these two variables should not be cause for concern, however, given that linear regression is relatively robust to violations of the normality assumption (Pedhazur, 1997).

Base Rates

Base rates of violence perpetration were examined in the sample: 30.6% of participants reported at least one act of partner aggression in their dating relationships, a figure consistent with previous samples from this population (Stets & Straus, 1990). 30.1% of participants reported at least one act of minor aggression, and 7.5% reported at
least one act of severe aggression. It is also notable that 77.4% of the sample reported at least one act of aggression toward animals in adulthood.

Regression Analysis for Hypotheses 1, 2, and 3

Table 2 reports results of the first regression analysis. Supporting Hypotheses 1 and 2, there were main effects of both callousness, $\beta = .285, p < .001$, and animal abuse, $\beta = .331, p < .001$. The addition of animal abuse to the model in Step 2 significantly added to the prediction of partner-directed physical violence, increasing $R^2_{adj}$ by .102 ($p < .001$). The test of the interaction of the two predictors in Step 3 was significant, $\beta = .417, p < .001$, further increasing the predictive power of the model ($\Delta R^2_{adj} = .111, p < .001$). The overall model accounted for 32.6% of the variance in partner-directed physical violence scores.¹

Explication of Interaction for Hypothesis 3

The significant interaction was explicated according to the procedures established by Cohen and Cohen (1983) and by Aiken and West (1991). Values of the moderator one-half standard deviation above and below the mean were chosen to represent “high” and “low” values. This choice was made because, given the size of the standard deviation of the moderator variable animal abuse relative to its mean ($M = 19.86, SD = 40.66$), one standard deviation below the mean is an impossible moderator value (far below zero).

The choice of one-half standard deviation was somewhat more realistic as it resulted in a

¹During inspection of the data, one influential outlier was detected (Cook’s $d = 19.93$). This participant had high scores on callousness (23), animal abuse (320), and partner violence (110). Since there was no reason to suspect that these data reflected random responding, and since they were theoretically consistent with the model, they were retained for the analyses reported here. However, it is important to note that retention of this outlier introduces instability into the results because the extreme scores were responsible for the interactive effect. Excluding the outlier from the analyses reduced the amount of variance predicted by the model to $R^2_{adj} = .058$ and dropped the interaction term to nonsignificance ($\beta = -.090, p = .496$). For this reason, the results reported here must be interpreted with caution.
“low” moderator value of -.47, not far from the within-bounds value of 0. Figure 1 displays the plot of the regression equation at these “high” and “low” values of the moderator.

Cohen and Cohen (1983) state that nonarbitrary values of the moderator may be chosen if a theoretical rationale exists for doing so. Although there is no “cutoff” value of ATAS score that would determine the choice of a “high” moderator value, and therefore a multiple of the standard deviation is a useful guideline, plotting the “low” simple regression line based on a negative value of the moderator, even if that value approximates the feasible value of zero, is not ideal for the purpose of interpretation. For this reason, the graph was replotted using 0 instead of -.47 as the “low” moderator value in order to allow the regression lines to be plotted entirely within the feasible range of the moderator. One-half standard deviation above the mean was retained as the “high” moderator value. Figure 2 illustrates this plot. By comparison with Figure 1, Figure 2 demonstrates that there is little appreciable difference between plotting the simple regression lines for a “low” moderator value of -.47 and a “low” value of 0. Therefore, further comments on the explication of the interaction refer to Figure 2 and the values plotted there.

Although the simple slopes (slopes of the simple regressions of partner-directed physical violence on callousness at specified moderator values) were both positive and significantly different from zero ($b_{\text{low}} = .413, p < .05; b_{\text{high}} = .954, p < .001$), the difference between their simple slopes as plotted in Figure 2 demonstrated that the slope of the simple regression line increased with increasing moderator values. This difference indicated that the relationship between callousness and partner-directed physical violence
was indeed stronger for individuals who often abused animals than for those who did not often abuse animals, and that the strength of the relationship increased with increasing frequencies of animal abuse, supporting Hypothesis 3.

It should be noted that the simple regression lines intersected at a callousness score of 2.693. Intersection of simple regression lines within the potential range of values of the predictor variable may indicate a crossover effect, in which the nature of the differential prediction from the “high” and “low” moderator groups changes at the intersection point (Aiken & West, 1991). In this case, however, inspection of the data revealed that only 5 participants with animal abuse scores at or above the “high” value actually scored below the intersection value on callousness. Additionally, below the intersection value, the difference in amount of partner-directed physical violence predicted to be perpetrated by the two groups was extremely small. Overall, then, the relationship between callousness and partner-directed physical violence was most interpretable at callousness values above the point of intersection. Thus, the intersection within the graph was more appropriately characterized as convergence than crossover, such that at very low levels of callousness, predictions of frequency of partner violence could be said to converge toward zero for the high and low animal abuse groups.

Regression Analyses for Hypothesis 4

Results of the regression analyses conducted separately for minor and severe physical assault are reported in Tables 3 and 4. Both of the overall models were significant at \( p < .001 \). However, in support of Hypothesis 4, the amount of variance in severe physical assault explained by the predictors \( (R^2_{adj} = .555, p < .001) \) was greater than the amount of variance in minor physical assault explained by the same predictors.
(\(R^2_{\text{adj}} = .123, p < .001\)). Additionally, although both models demonstrated significant main effects for both predictors and a significant increase in variance explained when animal abuse was added as a predictor over callousness alone, the product term representing the potential interaction of the predictors functioned differently in the two models. In the model predicting minor physical violence, the addition of the product term to the equation did not add significantly to the amount of variance explained (\(\Delta R^2_{\text{adj}} = .007, p = .132\)), indicating that no interaction was present. However, in the model predicting severe physical violence, the addition of the product term provided a significant increment to the amount of variance explained (\(\Delta R^2_{\text{adj}} = .308, p < .001\)), indicating the presence of a significant interaction.

**Explication of Interaction for Hypothesis 4**

The interaction that was found for the prediction of severe partner violence was plotted, again choosing moderator values of 0 and 40.17, where 40.17 was equal to one-half standard deviation above the mean of the moderator (Figure 3). The shape of the graph was generally similar to the graph of the interaction for the prediction of overall partner violence scores in Figure 2: the slope of the simple regression line increased with increasing moderator values, indicating that the relationship between callousness and severe partner-directed physical violence increased with increasing frequencies of animal abuse. However, whereas the slope of the simple regression line for “high” animal abuse was significantly different from zero (\(b_{\text{high}} = .505, p < .001\)), the slope of the simple regression line for “low” animal abuse was nonsignificant (\(b_{\text{low}} = .078, p = .236\)), indicating that at low frequencies of animal abuse, callousness does not predict severe partner-directed physical violence.
The simple regression lines in the graph intersected at a callousness score of 5.14, again presenting the question of whether the intersection should be conceptualized as crossover or convergence. As can be seen in Figure 3, there was a negligible difference in the amount of severe partner-directed physical violence predicted for “high” versus “low” animal abuse individuals who scored below the intersection value on callousness, especially within nonnegative (within-range) predicted values of partner violence. In other words, within the range of possible values below the point of intersection, the lines diverged minimally. For this reason, the pattern of the interaction appeared to represent a convergent rather than a crossover effect, demonstrating that at low levels of callousness, the predicted frequencies of severe partner-directed physical violence converged toward zero for both high and low frequencies of animal abuse.
SECTION 5
DISCUSSION

General Conclusions

When the entire sample was included, these results indicated that animal abuse increased the strength of the relationship between callousness and overall partner-directed physical violence in men. Additionally, this prediction was strikingly stronger for severe forms of partner-directed physical violence than for minor forms of partner-directed physical violence, where in the latter case callousness and animal abuse predicted minor aggression individually and in combination but did not appear to interact.

The interaction between callousness and animal abuse may be interpreted in several different ways, and the current data do not illuminate which interpretation may be best. First, it is possible that animal abuse indicates a propensity to use violence or willingness to use violence and that this is not present for all callous individuals. It may be that the product of these two characteristics therefore identifies individuals with increased risk for partner-directed physical violence due to their increased willingness to use violence in combination with decreased constraints on the use of violence. Second, it may be that animal abuse reinforces the use of instrumental aggression for callous people but not for non-callous people and so leads to escalation of partner-directed violence over time. This suggests a developmental model in which callous people are shaped into becoming more violent as a function of their experiences using violence on animals, whereas non-callous people find animal abuse punishing in many respects and so do not
generalize to partners. Third, it may be that callousness is the outcome of successful desensitization to violence toward animals. That is, unless animal abuse results in desensitization to the pain of other beings—callousness—it does not facilitate partner abuse. Accordingly, it is the interaction of partner abuse and callousness that predicts partner abuse. In each of these examples, the hypothesized temporal relationship between animal abuse and callousness is different, but the result would be the same in a cross-sectional regression analysis: the interaction of animal abuse and callousness would predict partner abuse better than either predictor alone.

The specific combination of high callousness and low animal abuse bears special mention in relation to past difficulties in obtaining reliable estimates of violence from callousness alone. The statistically significant main effect of callousness in the prediction of overall and severe partner violence was qualified by the interactive effect, such that individuals who were highly callous but did not perpetrate animal abuse did not appear to perpetrate meaningful amounts of partner-directed physical violence either. As discussed earlier, it is possible that these individuals have better impulse control and/or lower willingness to engage in violence than their counterparts who are highly callous, highly abusive to animals, and highly partner violent. Despite their relatively non-empathic natures, these individuals may be unwilling to engage in violence, perhaps out of recognition of its aversive consequences: legal penalties, loss of assets, societal censure, and so on. If such a sector of individuals truly exists, it may be necessary to revise conceptualizations of callousness that automatically point to callousness as a risk factor for partner violence, or to limit such conceptualizations to the prediction of minor physical violence (for which the interaction is nonsignificant). This “behavioral
disinhibition” or “willingness to act” explanation may synchronize with findings that
existing psychopathy scales appear to comprise an impulsivity factor as well as a
callousness factor (e.g., Frick, Bodin, & Barry, 2000), and may suggest that for optimal
prediction at least of partner-directed physical aggression, these scales should be scored
by multiplying the callousness and impulsivity factors to produce the interaction term
rather than by creating separate subscale scores and presuming them to be independent.

Commentary on Footnote

As was noted in the footnote to the analyses, during diagnostic statistical analyses,
one influential outlier was detected. The presence of this markedly violent individual
suggests caution in the interpretation of the current results and highlights the need for
replication in a sample of more aggressive men. Given that excluding this one individual
was sufficient to make the interaction non-significant, it seems clear that the results could
prove difficult to replicate. On the other hand, it is not clear that discarding the outlier
would have been an appropriate course of action, because the outlying data had been
prescreened for random responding and because the pattern of data for the individual in
question appear quite plausible. The outlier appears to be a highly callous, animal
abusive, and partner violent male. Because he was more violent than others in the sample,
his data were sufficient to substantially influence the results. Clearly, future research
should focus on obtaining samples with larger proportions of such individuals in order to
lend greater credence to statistical findings. In particular, if it were possible to obtain a
sample of individuals high on callousness and see whether level of animal abuse
predicted partner violence in that sample, it would go far to support the current results as
being valid and not artifactual.
Limitations of the Study

As described above, the most significant limitation of this study is the instability of the findings due to the presence of the outlier. Additionally, several lesser factors limit the strength of the conclusions that can be drawn. First, due to the scarcity of established self-report measures of callousness and animal abuse, new measures of these constructs were generated and used. Although both measures demonstrated adequate psychometric data, further testing will be required to establish their validity more definitively. Second, some items from the CTS2 had to be eliminated due to Institutional Review Board concerns about illegal activities. Because the subscales of the CTS2 are well-validated, this study should be replicated using the full Physical Assault subscale in order to add weight to the present findings. Third, the use of a university sample resulted in relatively low reported frequencies of callousness, animal abuse, and partner-directed physical aggression. This allowed one moderately violent male to be an outlier in the data set. However, because base rates of both animal abuse and partner violence were appreciable, and because dating relationships provide an early window on substantial abuse, work with undergraduates may be important in its own right, and may play a heuristic role so long as generalizations to other (more violent) populations are avoided.

Summary and Future Directions

In answer to the overall research question, and again stated with caution due to the instability of the findings, it appears that the understudied phenomenon of animal abuse and its relationship with callousness can and should be employed as a robust indicator of partner-directed physical violence, especially in the service of separating minor and severe, or “common couple violent” and “patriarchal terroristic,” patterns of
aggression. As family violence research moves toward increasingly refined batterer typologies based on such distinctions, wherein callousness, frequency, and severity are pivotal variables, it may prove beneficial to include information on animal abuse perpetration in these models.

Given that both callousness and animal abuse have been linked to Axis II disorders, one promising future direction for this research effort may involve increased attention to personality variables, with some attempt to unify the overlapping literatures on callousness, animal abuse, instrumental aggression, patriarchal terrorism, psychopathy, Antisocial Personality Disorder, and the “generally violent/antisocial” batterer subtype identified by Holtzworth-Munroe & Stuart (1994). Longitudinal analyses may be instrumental in helping to establish causal pathways for the emergence of callous attitudes and violent behavior. A second set of methods that may be useful for the study of the relationship among callousness, animal abuse, partner violence, and other variables of interest is the family of taxometric techniques (Waller & Meehl, 1998). The behavior of the present data set suggested that the variables under study exhibited continuous distributions at low values of the variables with a possible discontinuity at higher values. Such a pattern could indicate that individuals with high scores on these indicators represent a discrete class whose unique properties may be obscured by grouping them for analysis with individuals who do not belong to the taxonic class.

If animal abuse and callousness are to become seriously studied variables in the field of partner violence, additional effort clearly must be addressed toward improving inventories to assess them accurately. The scarcity of quantitative, psychometrically sound instruments for assessing these variables via self-report with undergraduates
presented a considerable challenge to the present study. Further validation of the
questionnaires newly developed for this study, as well as development of valid structured
interviews for animal abuse, will be important avenues for ongoing work.

From an applied standpoint of diagnosis and treatment, knowledge about animal
abuse in conjunction with callousness in adulthood could eventually have considerable
value. To the extent that investigating batterers’ behavior (treatment of animals) in
conjunction with their attitudes (tendency toward callousness) improves understanding of
their patterns of violence, new interventions may be targeted to amend the specific
psychological processes that fuel aggression in different subtypes of individuals.
Furthermore, those who currently dismiss all animal abuse as harmless “boys will be
boys” behavior, unrelated to interpersonal violence, may become more willing to
consider that certain forms of animal abuse—namely animal abuse perpetrated with
callousness—may indeed be worth noting, allowing them to identify at-risk individuals
earlier or more easily.

A good deal of additional research certainly lies between the current findings and
our ability to make conclusive statements about their implications, especially to the point
of extending them to clinical applications. However, this study may represent one initial
step in a potentially important new direction for researchers in the area of partner
violence and perhaps, more generally, in the broad area of interpersonal violence.
REFERENCES


APPENDICES
APPENDIX A

Revised Conflict Tactics Scale (CTS2)—Perpetration

Below is a list of some things partners who are dating in relationships do while they are arguing. Please indicate how often each has happened in your life (that is, the total number of times with all partners/girlfriends you’ve ever had).

0 = never  
1 = once ever  
2 = twice  
3 = 3-5 times  
4 = 6-10 times  
5 = 11-20 times  
6 = more than 20 times

How many times in your life:

1. Have you showed your partner you cared even though you disagreed?  
2. Have you explained your side of a disagreement to your partner?  
3. **Have you thrown something at your partner that could hurt?**  
4. Have you insulted or sworn at your partner?  
5. **Have you twisted your partner’s arm or hair?**  
6. Has your partner had a sprain, bruise, or small cut because of a fight with you?  
7. Have you shown respect for your partner’s feelings about an issue?  
8. Have you made your partner have sex without a condom?  
9. **Have you pushed or shoved your partner?**  
10. Have you called your partner fat or ugly?  
11. **Have you punched or hit your partner with something that could hurt?**  
12. Have you destroyed something belonging to your partner?  
13. Has your partner gone to a doctor because of a fight with you?  
14. **Have you choked your partner?**  
15. Have you shouted or yelled at your partner?  
16. **Have you slammed your partner against a wall?**  
17. Have you said you were sure that you and your partner could work out a problem?  
18. Has your partner needed to see a doctor because of a fight with you, but didn’t?  
19. **Have you grabbed your partner?**  
20. Have you stomped out of the room or house or yard during a disagreement?  
21. Have you insisted on sex when your partner did not want to (but did not use physical force)?  
22. **Have you slapped your partner?**  
23. Has your partner had a broken bone from a fight with you?  
24. Have you suggested a compromise to a disagreement?  
25. Have you insisted on oral or anal sex when your partner did not want to (but did not use physical force)?  
26. Have you accused your partner of being a lousy lover?
27. Have you done something to spite your partner?
28. Have you threatened to hit or throw something at your partner?
29. Has your partner a felt physical pain that still hurt the next day because of a fight with you?
30. Have you kicked your partner?
31. Have you agreed to try a solution to a disagreement that your partner suggested?

Note. **Boldface indicates Minor Physical Assault subscale items used.** *Italics indicate Severe Physical Assault subscale items used.*
APPENDIX B

Aggression Toward Animals Scale (ATAS)

For each question, please bubble in the choice that best describes how often since in adulthood (not as a child) you have used each of the following behaviors when dealing with an animal.

USE THIS ANSWER KEY:

1 = never as an adult
2 = once as an adult
3 = twice as an adult
4 = 3-5 times as an adult
5 = 6-10 times as an adult
6 = 11-20 times as an adult
7 = more than 20 times as an adult

How often as an adult have you:

1. Yelled at an animal?
2. Locked an animal in a closet or other small space as punishment?
3. Thrown something at an animal that could hurt it?
4. Pulled an animal’s tail?
5. Whipped an animal?
6. Given an animal a visible injury (other than hunting, routine branding or gelding livestock, etc.)?
7. Pushed, grabbed, or shoved an animal?
8. Picked up and thrown an animal?
9. Dropped an animal from a height?
10. Hit an animal with a fist?
11. Hit an animal with an object that could hurt?
12. Rubbed an animal’s nose in a mess it made?
13. Deprived an animal of food, water, or medical care?
14. Kicked an animal?
15. Intentionally intimidated an animal?
16. Burned or scalded an animal?
17. Beat up an animal?
18. Used a weapon on an animal (other than hunting)?
19. Killed an animal (other than hunting or slaughtering livestock)?

Note. Items in italics (1, 16, 18, 19) were not retained in the final scale.
We know that different people have different opinions about pain. The following questions are designed to help us understand how YOU generally think about pain. Please fill in the choice on your answer sheet that indicates how much you agree or disagree with each opinion.

0 1 2 3 4 5 6
Strongly Disagree Strongly Agree

1. Seeing someone in pain doesn't bother me too much.
2. If someone I know dies, it doesn’t really matter to me.
3. If someone is crying I can't help but feel bad too.
4. It’s O.K. to treat a woman however you want.
5. I have noticed that women do a lot of fake crying to get what they want.
6. I find the idea of violence toward women disturbing.
7. I would never use force with a woman to let her know I am in control.
8. Seeing a friend of mine hit his girlfriend wouldn't bother me.
9. If I caused someone else physical pain I would feel pretty bad about it.
10. If I hit a girlfriend in anger I would feel very guilty about it.

Note. Items in italics were not retained in the final scale.
Table 1

Means, Standard Deviations, and Intercorrelations for Partner-Directed Physical Violence and Predictor Variables (N=173)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>1. ETS (Callousness)</td>
<td>4.98</td>
<td>5.70</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. ATAS (Animal Abuse)</td>
<td>19.86</td>
<td>40.66</td>
<td>.174*</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. CTS (Physical Assault)</td>
<td>4.14</td>
<td>14.19</td>
<td>.343</td>
<td>.381</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. CTS (Minor Physical Assault)</td>
<td>3.12</td>
<td>9.30</td>
<td>.282</td>
<td>.263</td>
<td>.915</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>5. CTS (Severe Physical Assault)</td>
<td>1.02</td>
<td>6.80</td>
<td>.330</td>
<td>.435</td>
<td>.834</td>
<td>.542</td>
<td>--</td>
</tr>
</tbody>
</table>

Note. *p < .05 (two-tailed). All other correlations, p < .01 (two-tailed).
Table 2

*Summary of Regression of Overall Partner-Directed Physical Violence on Centered Predictors*

*(N = 173)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>β</th>
<th>( R^2_{\text{adj}} )</th>
<th>( \Delta R^2_{\text{adj}} )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETS (Callousness)</td>
<td></td>
<td></td>
<td></td>
<td>.113</td>
<td>.113</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETS (Callousness)</td>
<td></td>
<td></td>
<td></td>
<td>.215</td>
<td>.102</td>
</tr>
<tr>
<td>+ATAS (Animal Abuse)</td>
<td></td>
<td></td>
<td></td>
<td>.710</td>
<td>.285</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+Interaction of ETS and ATAS</td>
<td></td>
<td></td>
<td></td>
<td>.326</td>
<td>.111</td>
</tr>
</tbody>
</table>

Note. For all \( \beta \), \( R^2_{\text{adj}} \), and \( \Delta R^2_{\text{adj}} \), \( p < .001 \) (two-tailed).

“+” denotes term newly added in this step; statistics for ETS are reported for both Step 1 and Step 2 to assist in demonstrating incremental predictive power of ATAS when added in Step 2.
Table 3

Summary of Regression of Minor Partner-Directed Physical Violence on Centered Predictors

(N = 173)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>β</th>
<th>( R^2_{adj} )</th>
<th>( \Delta R^2_{adj} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td>.074**</td>
<td>.074**</td>
</tr>
<tr>
<td>ETS (Callousness)</td>
<td>.460</td>
<td>.120</td>
<td>.282**</td>
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<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td>.116**</td>
<td>.116*</td>
</tr>
<tr>
<td>ETS (Callousness)</td>
<td>.398</td>
<td>.119</td>
<td>.244*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ATAS (Animal Abuse)</td>
<td>.050</td>
<td>.017</td>
<td>.220*</td>
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<tr>
<td>Step 3</td>
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<td></td>
<td></td>
<td>.123**</td>
<td>.007º</td>
</tr>
<tr>
<td>+Interaction of ETS and ATAS</td>
<td>.003</td>
<td>.002</td>
<td>.134º</td>
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<td></td>
</tr>
</tbody>
</table>


“+” denotes term newly added in this step; statistics for ETS are reported for both Step 1 and Step 2 to assist in demonstrating incremental predictive power of ATAS when added in Step 2.
Table 4

Summary of Regression of Severe Partner-Directed Physical Violence on Centered Predictors

(N = 173)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE_B$</th>
<th>$\beta$</th>
<th>$R^2_{adj}$</th>
<th>$\Delta R^2_{adj}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETS (Callousness)</td>
<td>.393</td>
<td>.086</td>
<td>.330</td>
<td></td>
<td>.104</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETS (Callousness)</td>
<td>.312</td>
<td>.080</td>
<td>.262</td>
<td></td>
<td>.247</td>
</tr>
<tr>
<td>+ATAS (Animal Abuse)</td>
<td>.065</td>
<td>.011</td>
<td>.390</td>
<td>.011</td>
<td>.143</td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+Interaction of ETS and ATAS</td>
<td>.011</td>
<td>.001</td>
<td>.686</td>
<td>.011</td>
<td>.308</td>
</tr>
</tbody>
</table>

Note. For all $\beta$, $R^2_{adj}$, and $\Delta R^2_{adj}$, $p < .001$ (two-tailed).

“+” denotes term newly added in this step; statistics for ETS are reported for both Step 1 and Step 2 to assist in demonstrating incremental predictive power of ATAS when added in Step 2.
Figure 1. Interaction of callousness and animal abuse in predicting partner-directed physical violence, plotted from uncentered predictor scores at one-half standard deviation above and below the mean of the moderator, across the possible range of ETS scores.

Figure 2. Interaction of callousness and animal abuse in predicting partner-directed physical violence, plotted from uncentered predictor scores at one-half standard deviation above the mean of the moderator and a zero value of the moderator, across the possible range of ETS scores.
Figure 3. Interaction of callousness and animal abuse in predicting severe partner-directed physical violence, plotted from uncentered predictor scores at one-half standard deviation above the mean of the moderator and a zero value of the moderator, across the possible range of ETS scores.