Is Domestic Violence Learned? The Contribution of Five Forms of Child Maltreatment to Men's Violence and Adjustment

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On the basis of a learning-theory approach to the intergenerational transmission of violence, researchers have focused almost exclusively on violent men's childhood experiences of physical abuse and witnessing family violence. Little consideration has been given to the coexistence of other forms of child maltreatment or the role of family dysfunction in contributing to violence. This study shows the relationships between the level of child maltreatment (physical abuse, psychological maltreatment, sexual abuse, neglect, and witnessing family violence), childhood family characteristics, current alcohol abuse, trauma symptomatology, and the level of physical and psychological spouse abuse perpetrated by 36 men with a history of perpetrating domestic violence who had attended counseling. As hypothesized, a high degree of overlap between risk factors was found. Child maltreatment, low family cohesion and adaptability, and alcohol abuse was significantly associated with frequency of physical spouse abuse and trauma symptomatology scores, but not psychological spouse abuse. Rather than physical abuse or witnessing family violence, childhood neglect uniquely predicted the level of physical spouse abuse. Witnessing family violence (but not physical abuse) was found to have a unique association with psychological spouse abuse and trauma symptomatology. These results present a challenge to the understanding of domestic violence obtained from learning theory.

KEY WORDS: domestic violence; child maltreatment; family background; learning theory.

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INTRODUCTION

Most domestic violence research has received impetus from social learning theory, and accordingly, researchers have sought evidence for a direct link between exposure to violence in childhood and later perpetration of domestic violence, with little consideration given to other intervening variables. Many factors associated with domestic violence do not occur uniquely, and therefore have both individual and combined influences on later adult adjustment, and in particular, the level of spouse abuse perpetrated by men. Empirical investigation is required to test the unique contribution of these risk factors to the level of violence and to establish whether violence is, in fact, learned, or if the process is far more complex than simply violence begetting violence. The purpose of this study was to explore the degree to which childhood family functioning, the experience of child maltreatment, alcohol abuse, parental divorce, and income intercorrelate, and their relative contributions to predicting the level of violence perpetrated, and current adjustment in a sample of domestically violent men.

There is a range of limitations and methodological flaws to research on domestic violence, and the theories on which it is based. Firstly, difficulties are encountered when attempting to define domestic violence, as not all domestic violence occurs in the home, occurs between married partners, or is physically violent (Melvin *et al.*, 1999). An aspect of domestic violence that is often not sufficiently addressed is psychological spouse abuse (Shepard & Campbell, 1992). Further problems arise with the frequent use of clinical samples and retrospective surveys, which can, for the former, lead to a lack of generalizability of results and, for the latter, be confounded by inherent problems such as reporting bias, lapses in memory, emotional blocking, and traumatic repression (Urquiza, 1991). In addition, domestic violence research is often undermined through theoretical discussions that infer, or in some cases state, causality when research in this area is primarily correlational (see Tolman & Bennett, 1990). Finally, most domestic violence research is dominated by theories that have sought to explain the perpetration of domestic violence by one or a few factors (e.g., having experienced childhood physical abuse or witnessed domestic violence).

Theories postulated thus far have focussed on patriarchy, learned behavior, psychopathology, personality traits, and biological factors as explanations for incidence of domestic violence (see Anderson, 1997; Hotaling & Sugarman, 1986; Kalmuss, 1984; McKenry *et al.*, 1995; Schuerger & Reigle, 1988). Yet, domestic violence researchers have not proposed a theory capable of thoroughly explaining spouse abuse (Hotaling & Sugarman, 1986; McKenry *et al.*, 1995). This study seeks to test a theoretical model

of the perpetration of domestic violence (learning theory), as well as including a wider range of risk factors known to be associated with domestic violence.

Domestic violence researchers have focussed on the role of childhood experiences that expose boys to violent role models and the associated heightened risk of perpetration of domestic violence in adulthood (Mihalic & Elliott, 1997). The basic premise of theories concerning the intergenerational transmission of abuse is that being a victim of physical abuse, or witnessing the abuse of other family members teaches boys to become violent. A few interrelated theoretical mechanisms may be at work: identification with the aggressor, vicarious reinforcement, and positive reinforcement of aggression.

Identification With the Aggressor

This view posits that those exposed to family aggression later act aggressively toward their own family members if they identify with the aggressor. Individuals are more likely to act aggressively if they have been exposed to violence in the family of origin and have also identified with the aggressor than if there has been exposure to aggression in the family of origin, but no identification with the aggressor (MacEwen, 1994).

Observational Learning (Vicarious Reinforcement)

The basic premise of this view is that physical aggression between family members provides a likely model for the learning of aggressive behavior, as well as for the appropriateness of such behavior within the family (Bandura, 1973; Kalmuss, 1984). Thus, intergenerational transmission of violence stems primarily from principles of modeling (Doumas *et al.*, 1994).

Positive Reinforcement

This line of reasoning suggests that a violent father may positively reinforce early signs of violent behavior not only by exposing individuals to violence, but by teaching approval for the use of violence (Gelles, 1972). As a result, children may conclude that physical violence is sometimes a necessary and effective strategy for achieving behavioral change in family and intimate relationships (Simons *et al.*, 1998).

The literature has focused therefore on the role of childhood experiences of physical abuse and witnessing family violence in leading to men's

violence within the family. Few studies have focused on whether it is only physical abuse and witnessing family violence that influence men's level of violence, or whether other forms of child maltreatment may play a role. In one of the few studies that address this question, Andrews and Brown (1988) found that neither the direct experience of violence as a child nor witnessing violence was associated with later violence. Instead, they found violence to be associated with childhood neglect, irrespective of whether they had been physically abused in childhood.

An ecological approach involves examining both the environmental and individual factors to which an individual responds, and the developmental stage at which these factors occurred to explain behavior (see Carlson, 1997; Fraser, 1996). Child maltreatment researchers have recently advocated use of developmental and ecological approaches (see Rosenberg, 1987), whereby the extent of all forms of child maltreatment are assessed, and then their specific and overlapping associations with various types of psychological symptoms are evaluated (Briere & Runtz, 1990). Thus, the contribution of various factors is evaluated in connection with each other resulting in a more complex, but authentic insight into child maltreatment. Comparably, an ecological approach to the study of domestic violence would generate a more unified theory, whereby influencing variables that have previously been studied singly could be subsumed into a more useful and realistic conceptualization of factors influencing the occurrence and extent of domestic violence.

Domestic violence researchers have produced substantial evidence for the existence of strong associations between male perpetration of domestic violence and subjection to physical abuse and witnessing domestic violence during childhood (see Caesar, 1988; Cappell & Heiner, 1990; Kalmuss, 1984), low socioeconomic status in adulthood (see McKenry *et al.*, 1995), and alcohol abuse (see Leonard & Blane, 1992). Approximately half of all domestically violent men attending counseling have alcohol abuse problems (Tolman & Bennett, 1990). Researchers have also found separate relationships between three factors: child maltreatment (subjection to physical abuse and witnessing family violence during childhood) and the adult perpetration of domestic violence (Rosenbaum & O'Leary, 1981), child maltreatment (subjection to physical abuse during childhood) and adult substance abuse (Duncan *et al.*, 1996), and alcohol abuse and the perpetration of domestic violence in adulthood (Tolman & Bennett, 1990). Although these findings suggest the possibility of an overlap in the existence of child maltreatment, alcohol abuse, and the perpetration of spouse abuse, domestic violence researchers have not yet examined the shared relationships between these variables, and their shared influence on adult adjustment.

Child maltreatment types have also been found to co-occur. However, when considering the relationship between child maltreatment and the later perpetration of domestic violence, researchers adopting a learning theory perspective have largely focussed on only two types: the experience of physical abuse and witnessing family violence during childhood (Maker *et al.*, 1998; Marshall & Rose, 1988). Recent findings have demonstrated that child maltreatment types rarely occur in isolation (Briere & Runtz, 1988; Ney *et al.*, 1994; see Higgins & McCabe, 2001a). Multitype maltreatment (the coexistence of one or more of the following maltreatment types: sexual abuse, physical abuse, psychological abuse, neglect, and witnessing family violence) is common among maltreated individuals (Bernstein *et al.*, 1994; Higgins & McCabe, 1998, 2000b; Kinard, 1994; Mullen & Fleming, 1998; Tomison, 1995). Higgins and McCabe (2000b) reported that although all maltreatment types are significantly intercorrelated, the coexistence of physical abuse and neglect, and psychological maltreatment and neglect were the combinations most often reported. Thus, to simply focus upon the influence of physical abuse and witnessing family violence on the adult perpetration of domestic violence ignores the potential contribution of other, unacknowledged but associated, maltreatment types on men's adjustment, particularly their level of physical and psychological spouse abuse.

The experience of child maltreatment is associated with poor adjustment in both childhood and adulthood. Increased aggression has been found to be a long-term correlate of exposure to family violence (Forsstrom-Cohen & Rosenbaum, 1985), and psychological maltreatment (Hart & Brassard, 1987), and a short-term correlate of physical abuse (Ammerman *et al.*, 1986; Kinard, 1982), exposure to family violence (Mathias *et al.*, 1995; Parkinson & Humphreys, 1998), and neglect during childhood (Ammerman *et al.*, 1986; Reidy, 1977). Similarly, internalizing psychological problems are commonly found in children and adolescents subjected to physical abuse (Kinard, 1982; Malinosky-Rummell & Hansen, 1993), as well as in adults who report childhood sexual abuse (Mullen *et al.*, 1993, 1994), and those who witnessed family violence during childhood (Henning *et al.*, 1997). Sexual abuse has also been associated with sexual difficulties, and psychopathology in adult life (Mullen *et al.*, 1993, 1994). Researchers have also demonstrated that experiencing multiple forms of maltreatment ("multitype maltreatment") is associated with greater pathology (Briere & Runtz, 1990; Higgins & McCabe, 2000a,b, 2001a). Consequently, not only do the maltreatment types individually influence adult adjustment levels, but their coexistence collectively augments the level of dysfunction experienced in adulthood.

A dysfunctional family background has also been shown to relate to poor adult adjustment (Higgins & McCabe, 1994). Low childhood family income and poor interpersonal relationships have been associated with adult perpetration of domestic violence (McKenry *et al.*, 1995). The experience of parental divorce during childhood has also been linked to poor functioning later on in adulthood, such as reduced marital well-being and higher levels of divorce (Amato & Booth, 1991; Garbardi & Rosen, 1992). Similarly, childhood family background variables, such as low cohesion and adaptability, have been found to significantly predict adult trauma symptomatology (Higgins & McCabe, 2000b) and adult social maladjustment (Harter *et al.*, 1988).

There has been considerable debate within the child maltreatment literature concerning the relative contribution of maltreatment and family dysfunction to adjustment. In particular, many researchers have shown that the effects of sexual abuse are largely accounted for by the dysfunctional family environment (e.g., Fromuth, 1986; Higgins & McCabe, 1994). It should be noted, though, that these researchers often failed to identify the contribution of other specific types of child maltreatment. Higgins and McCabe (2000b) found that after accounting for childhood family background variables, the level of five different forms of child maltreatment made a significant contribution to the prediction of adult trauma symptomatology and self-depreciation. Thus, coexistence of both a negative family environment and child maltreatment was associated with greater levels of trauma symptomatology and self-depreciation than negative family background alone.

In this study, the relationships between childhood family functioning, child maltreatment, alcohol abuse, parental divorce, trauma symptomatology, and frequency of perpetration of physical and psychological spouse abuse will be assessed in a sample of men from a counseling agency providing services for violent families. In line with previous research on family characteristics and the interrelationships between maltreatment types, it is hypothesized that there will be a high degree of overlap between childhood family background, alcohol abuse, parental divorce, income, and child maltreatment, especially the five maltreatment types, reported by domestically violent men. It is predicted that low childhood family adaptability and cohesion scores, high scores on a measure of maltreating behaviors and high scores on a measure of alcoholism, will be associated with higher levels of trauma symptomatology and greater frequency for the perpetration of psychological and physical spouse abuse. To test a learning theory explanation of domestic violence, it is hypothesized that, after accounting for the scores on the childhood physical abuse and witnessing family violence scales, scores on the scales for psychological maltreatment, sexual abuse, and neglect will

not significantly add to the prediction of the frequency of physical and psychological spouse abuse, and levels of trauma symptomatology.

METHOD

Participants

The sample comprised 36 male clients who had attended a counseling agency for therapy for various periods of time since 1996–99 and who had agreed at the time to be contacted at a later stage for research purposes. All of the men in the sample had a history of domestic violence where they had abused their female spouse either physically or psychologically. The mean age of the sample was 41.9 years ($SD = 9.45$). The modal rating on income was 1 (where $1 = between \$20,000$ and $\$35,000$ Australian *per annum*). Participants' racial/ethnic background was described as "Australian" by 58% of the sample ($n = 21$), with 28% describing themselves as Western European ($n = 10$), 8% considered themselves to be Eastern European ($n = 3$), 1 (3%) participant described himself as Central American ($n = 1$), and 1 participant (3%) indicated that he was Indian. Questionnaires were posted to 257 clients; however, 35 were returned to sender. Consequently, 222 men were successfully contacted resulting in a response rate of 16.2%. This is comparable to other studies that have used similar methodology with a domestically violent sample (see Selzer, 1971).

Measures

Childhood family functioning was assessed using an adaptation of the Family Adaptability and Cohesion Evaluation Scales (FACES II; Olson *et al.*, 1982) specifically designed for retrospective recall (Higgins & McCabe, 2000b). This is a standardized self-report measure that assesses two dimensions of family functioning: family adaptability (emotional bonding between family members) and family cohesion (the family's ability to adapt relationship rules, power structure, and role relationships in response to situational and developmental stress; see Olson *et al.*, 1983). Using linear scoring, respondents rated the 30 items on a 5-point scale ($1 = almost never$ to $5 = almost always$). Low family cohesion scores represent a family that was disengaged, whereas high scores indicate a family that was very connected. Low family adaptability scores represent a family that was rigid, whereas high scores indicate a family that was very flexible. FACES II has evidence of good face, content, and concurrent validity (Olson *et al.*, 1982). The version of FACES II

modified for retrospective recall has a test-retest reliability at 6–8 weeks of .91 for adaptability and .92 for cohesion (Higgins & McCabe, 2000b).

Alcohol consumption was measured using the Michigan Alcohol Screening Test (MAST). The MAST is a 25-item paper-and-pencil test developed by Selzer (1971) to provide a consistent and quantifiable measure for detecting alcoholism. The responses are dichotomous, with participants circling either *Yes* or *No* to indicate their answer. Three items are considered uniquely diagnostic of alcoholism and are assigned a value of 5 points. (Although only weighted with 2 points in the original MAST, Item 19 was assigned a value of 5 points, as suggested by Selzer, 1971.) Sixteen items that are highly discriminating are given a value of 2 points, and the remaining items 1 point. Once the items are summed, Selzer indicated that a score of 5 points or more is diagnosistic of alcoholism. Internal reliability coefficients for the MAST range from .83 to .95. The MAST has consistently shown to possess good face validity, and concurrent validity coefficients range from .79 to .90 (Hedlund & Vieweg, 1984).

The Trauma Symptom Checklist – 40 (TSC-40) was used to assess the traumatic impact of childhood abuse on later adult functioning (Briere & Runtz, 1989). Respondents reported the frequency with which they had experienced each of the 40 items over a 2-month period on a 4-point Likert scale (0 = *never* to 3 = *very often*). In addition to a total scale score, the TSC-40 yields six subscale scores: Anxiety, Depression, Dissociation, Sexual Abuse Trauma Index, Sexual Problems, and Sleep Disturbance. Responses to all items were summed to provide a total score, and specific items were summed to provide scores for the subscales. Higher scores indicated greater levels of trauma symptomatology. Internal reliability coefficients for the subscales range from an alpha of .62 to .77, and alpha for the TSC-40 total is .90 (Elliott & Briere, 1992). The TSC-40 has also demonstrated predictive and discriminative validity, discriminating well between sexually abused and nonabused respondents (Elliott & Briere, 1992).

The Abusive Behavior Inventory (ABI; Shepard & Campbell, 1992) was used to measure the frequency of physical and psychological spousal abuse perpetrated by the respondents during the 6 months prior to commencing counseling. This test was devised to include a wide range of abusive behaviors not involving the use of physical force, which had not yet been adequately incorporated into other measures of spousal abuse (Shepard & Campbell, 1992). Accordingly, the test includes both physical and psychological abuse items. The ABI is a 30-item self-report instrument that uses a 5-point Likert scale (1 = *never* to 5 = *very frequently*) to measure the frequency of abusive behaviors over a 6-month period. Scores on the 10 physical abuse items are summed and then divided by 10 to obtain a physical abuse score. The scores for the remaining 20 psychological abuse items were summed and then

divided by 20 to obtain a psychological abuse score. For both scales, scores ranged from 1 (*no abuse*) to 5 (*very frequent abuse*). The ABI is capable of distinguishing between groups of spouse abusers and nonabusers, using the reports of men or women (Shepard & Campbell, 1992). The scale has also demonstrated good reliability with alpha coefficients ranging from .70 to .92, and good criterion-related, construct, and factor validity (Shepard & Campbell, 1992).

Subjection to child maltreatment was assessed using the Comprehensive Child Maltreatment Scale for Adults (CCMS-A; Higgins & McCabe, 2001b), a self-report instrument used to assess the frequency of behaviors that could, potentially, be considered maltreatment. Respondents reported childhood subjection to sexual abuse (9 items for perpetrating mother, 11 items for perpetrating father, and 11 items for perpetrating other, being either another adult or an adolescent who was at least 5 years older than the respondent); physical abuse (3 items each for perpetrating mother, father, or other); psychological maltreatment (3 items each for perpetrating mother, father, or other); neglect (3 items each for perpetrating mother, father, or other); and witnessing family violence (2 items). Each item was responded to using a 5-point Likert scale (1 = *never or almost never* to 5 = *very frequently*), and sexual abuse items were rated on a 6-point scale (0 = *never*, 1 = *once*, 2 = *twice*, 3 = *3–6 times*, 4 = *7–20 times*, 5 = *more than 20 times*). Items for each maltreatment type were summed to provide a score for each subscale. Scores on all five subscales were summed to produce a total score. The sexual abuse scale had more items than the other scales because of the large number of different sexual behaviors that may have been directed toward the child. Test-retest reliability for the subscales at a 6–8-week interval were sexual abuse, .95; physical abuse, .87; psychological maltreatment, .84; neglect (by mother and father only), .62; and witnessing family violence, .77. Tests for internal consistency showed that Cronbach's alpha for the total CCMS-A was .92. The CCMS-A has also demonstrated good concurrent criterion-related validity (Higgins & McCabe, 2001b).

Procedure

A counseling agency that facilitated a family violence program was contacted to request their involvement in the study. The agency as well as the university provided ethical clearance for the study. Former and current male clients with a history of perpetrating domestic violence who had agreed to be contacted in the future for the purpose of research were sent a questionnaire, a plain language statement describing the study, and a large reply-paid envelope.

RESULTS

Descriptive Sample Statistics

Demographic Characteristics

Parental divorce had been experienced by 10 (28%) of the men, oc-curring at a mean age of 9 years ($SD = 6.63$); however, ages ranged from 1 to 19 years. The remaining 26 (72%) men came from intact families. The modal rating for number of counseling sessions was 1 (where $1 = 1$–*5 sessions*). A majority of participants (69.4%, $n = 25$) had undergone counseling prior to their involvement with the family violence program, and 22% ($n = 8$) had focussed on issues around domestic violence or abuse during childhood.

Childhood Family Characteristics

Participants completed the FACES II (Olson *et al.*, 1982), using the version adapted for retrospective recall by Higgins and McCabe (2000b). The mean cohesion score was 53.69 ($SD = 14.79$) with scores ranging from 29 to 108. Only 4 (11.1%) respondents were raised in "very connected" childhood family environments, 7 (19.5%) participants were "connected," 9 (25%) respondents were "separated," and 16 (44.4%) participants were from "disengaged" families. The mean adaptability score was 33.81 ($SD = 10.53$) with scores ranging from 15 to 57. There was 1 (2.8%) participant who was raised in a "very flexible" childhood family environment, 4 (11.1%) respon-dents' families were "flexible," 8 (22.2%) participants were "structured," and 23 (63.9%) respondents were from "rigid" families.

Maltreatment During Childhood

Respondents rated the frequency with which they believed themselves to have been subjected to five types of maltreating behaviors as a child. The mean score for the Physical Maltreatment scale was 4.72 ($SD = 3.39$) with scores ranging from 0 to 14. The mean score for the Psychological Maltreatment scale was 8.08 ($SD = 5.93$) with scores ranging from 0 to 25. Witnessing Domestic Violence scale had a mean of 2.75 ($SD = 2.05$) with scores ranging from 0 to 8. The mean score for the Experience of Neglect scale was 2.33 ($SD = 3.47$) with scores ranging from 0 to 12, and the mean

score for Child Sexual Abuse scale was 2.33 ($SD = 6.72$) with scores ranging from 0 to 33.

Alcohol Abuse

The mean score was 8.35 ($SD = 11.24$) with scores ranging from 0 to 49. Exactly 50% ($n = 18$) of respondents had scores of 5 or over indicating alcoholism, 11.1% ($n = 4$) had a score of 4, which suggested possible alcoholism, and 38.9% ($n = 14$) had scores that were not indicative of alcoholism.

Trauma Symptomatology

Respondents rated the frequency with which they had experienced a range of symptoms (commonly associated with the trauma of childhood abuse) in the last 2 months. The means for the subscales were dissociation, 4.11 ($SD = 3.25$); anxiety, 5.41 ($SD = 3.48$); depression, 7.33 ($SD = 4.20$); sexual abuse trauma index, 3.64 ($SD = 3.15$); sleep deprivation, 6.92 ($SD = 4.49$); and sexual problems, 5.63 ($SD = 4.69$). The mean for the TSC-40 total score was 31.22 ($SD = 17.31$).

Physical and Psychological Spousal Abuse

Participants reported the frequency with which they had perpetrated both physical and psychologically abusive behaviors during the 6-month period before commencing counseling. The mean for physical abuse was 1.36 ($SD = .59$). The mean across the 10 items for each respondent ranged from 1.0 to 3.4. There was no reporting of frequent or very frequent physical spouse abuse by any of the participants. In addition, 41.7% ($n = 15$) reported that they had not perpetrated any physical abuse toward their spouse during the 6 months prior to counseling. The mean for psychological abuse was 1.82 ($SD = .71$). The mean for each respondent across the 20 items ranged from 1.1 to 4.3, indicating that all of the respondents had perpetrated psychological abuse toward their spouse at least once.

Intercorrelations Between All Variables

All of the variables correlated significantly with at least one other variable except for alcohol abuse (see Table I). All of the maltreatment scales

Table I. Intercorrelation Matrix of Variables

Variable	1. Physical spouse abuse (ABI)	2. Psychological spouse abuse (ABI)	3. Trauma symptoms (TSC-40)	4. Alcohol abuse (MAST)	5. Family cohesion (FACES-II)	6. Family adaptability (FACES-II)	7. Physical abuse (CCMS-A)	8. Psychological maltreatment (CCMS-A)	9. Sexual abuse (CCMS-A)	10. Neglect (CCMS-A)	11. Witnessing family violence (CCMS-A)	12. Parental divorce	13. Childhood family income
1.	1.00												
2.	.65**	1.00											
3.	.38*	.53**	1.00										
4.	-.19	-.08	.07	1.00									
5.	-.33	-.36*	-.28	.18	1.00								
6.	.06	-.05	-.04	-.17	.19	1.00							
7.	.24	.21	.21	.09	-.24	-.42*	1.00						
8.	.13	.37*	.40*	.23	-.31	-.41*	.64**	1.00					
9.	.51**	.22	.18	-.18	-.23	-.25	.64**	.40*	1.00				
10.	.53**	.44**	.47**	.12	-.15	-.28	.55**	.54**	.59**	1.00			
11.	.16	.45**	.54**	.22	-.25	-.38*	.49**	.58**	.16	.54**	1.00		
12.	.21	.24	.17	.05	-.18	.33*	-.21	.04	-.12	-.06	.02	1.00	
13.	-.35*	-.09	-.25	-.04	.17	.00	-.39*	-.21	-.28	-.32	-.11	-.05	1.00

$* p < .05.$ $** p < .01.$

were significantly intercorrelated (with positive correlations ranging from .40 to .64, $p < .05$), except for the association between witnessing family violence and sexual abuse ($r = .16$, $p > .05$).

Physical spouse abuse positively correlated with psychological spouse abuse ($r = .65$). Physical spouse abuse also significantly correlated with neglect ($r = .53$), sexual abuse ($r = .51$), and income ($r = -.35$). Alcohol abuse, family cohesion, family adaptability, physical abuse, psychological abuse, witnessing family violence, and parental divorce did not significantly correlate with physical spouse abuse. Psychological spouse abuse significantly correlated with witnessing family violence ($r = .45$), neglect ($r = .44$), psychological abuse ($r = .37$), and family cohesion ($r = -.36$). Correlations between psychological spouse abuse and the following variables were not significant: alcohol abuse, family adaptability, physical abuse, sexual abuse, parental divorce, and current income ($p > .05$).

Trauma symptomatology scores significantly correlated with witnessing family violence ($r = .54$), neglect ($r = .47$), and psychological abuse ($r = .40$). However, trauma symptomatology was not significantly associated with alcohol abuse, family cohesion, family adaptability, physical abuse, sexual abuse, parental divorce, or current income ($p > .05$). All three of the outcome variables significantly correlated with each other. Trauma symptoms were significantly correlated with psychological spouse abuse ($r = .53$) and physical spouse abuse ($r = .38$). These results indicate moderately large correlations between the level of trauma symptoms and the levels of both child maltreatment and perpetration of spouse abuse.

Multiple Regression Analyses to Predict Spouse Abuse and Adjustment

Predicting Physical Spouse Abuse From Alcohol Abuse, Childhood Family Background, and Child Maltreatment

Standard multiple regression analysis was used to assess the contribution of alcohol abuse, childhood family adaptability and cohesion, physical abuse, psychological maltreatment, sexual abuse, neglect, and witnessing domestic violence during childhood to predict physical spouse abuse (see Table II). R for regression was significantly different from 0, $F(8, 27) = 3.47$, $p < .01$. The only independent variable that provided unique significant contribution to the prediction of physical spouse abuse was neglect ($sr^2 = .09$). Altogether, 51% (36% adjusted) of the variability in physical spouse abuse was predicted from scores on the eight variables. Physical spouse abuse was predicted by current alcohol abuse, child maltreatment, and family dysfunction, but uniquely by childhood neglect.

Table II. Standard Multiple Regression of Alcohol Abuse, Childhood Family Background, and Child Maltreatment on Physical Spouse Abuse

Independent variables	Physical spouse abuse (ABI)			
	R^2	Adj. R^2	β	sr^2
Alcohol abuse (MAST)			−.06	
Family cohesion (FACES-II)			−.30	
Family adaptability (FACES-II)			.21	
Physical abuse (CCMS-A)			.08	
Psychological maltreatment (CCMS-A)			−.22	
Sexual abuse (CCMS-A)			.30	
Neglect (CCMS-A)			.53	.09*
Witnessing family violence (CCMS-A)			.01	
All combined together	.51**[a]	.36**		

[a] unique variance = .09; shared variance = .42.
* $p < .05$. ** $p < .01$.

Predicting Psychological Spouse Abuse From Alcohol Abuse, Childhood Family Background, and Child Maltreatment

Standard multiple regression analysis was used to assess the contribution of alcohol abuse, childhood family adaptability and cohesion, physical abuse, psychological maltreatment, sexual abuse, neglect, and witnessing domestic violence during childhood to predict psychological spouse abuse. R for regression was not significantly different from 0, $F(8, 27) = 2.16$, $p > .05$. None of the 10 variables significantly predicted psychological spouse abuse.

Predicting Trauma Symptoms From Alcohol Abuse, Childhood Family Background, and Child Maltreatment

The contribution of alcohol abuse, childhood family adaptability and cohesion, physical abuse, psychological maltreatment, sexual abuse, neglect, and witnessing domestic violence during childhood to predict the level of trauma symptomatology was evaluated using standard multiple regression analysis (see Table III). R for regression was significantly different from 0, $F(8, 27) = 2.56$, $p < .05$. There was no independent variable that provided unique prediction of trauma symptomatology. Trauma symptoms were predicted by the shared influence of all the variables.

Predicting Physical Spouse Abuse, Psychological Spouse Abuse, and Trauma Symptomatology From the Five Maltreatment Scales

To assess the predictive value of psychological maltreatment, sexual abuse, and neglect beyond that afforded by physical abuse and witnessing

Table III. Standard Multiple Regression of Alcohol Abuse, Childhood Family Background, and Child Maltreatment on Trauma Symptomatology

	Psychological spouse abuse (ABI)			
Independent variables	R^2	Adj. R^2	β	sr^2
Alcohol abuse (MAST)			−.01	
Family cohesion (FACES-II)			−.16	
Family adaptability (FACES-II)			.22	
Physical abuse (CCMS-A)			−.24	
Psychological maltreatment (CCMS-A)			.17	
Sexual abuse (CCMS-A)			.03	
Neglect (CCMS-A)			.30	
Witnessing family violence (CCMS-A)			.44	
All combined together	.43*	.26*		

*$p < .05$.

family violence, hierarchical multiple regression was used. Scores on the physical abuse and witnessing family violence scales were entered on the first step. Scores for the psychological maltreatment, sexual abuse, and neglect scales were entered on the second step. Physical spouse abuse, psychological spouse abuse, and trauma symptoms were the dependent variables (see Table IV). After Step 1, with scores for physical spouse abuse as the dependent variable, adjusted $R^2 = .00$ ($R^2 = .06$) was not significant, $F(5, 30) = 1.06$, $p > .05$. After Step 2, with psychological maltreatment, sexual abuse, and neglect added to the prediction of physical spouse abuse, adjusted $R^2 = .29$, which was significant, $F(5, 30) = 3.84$, $p < .05$. Neglect provided unique prediction ($sr^2 = .09$). The addition of the three scales resulted in a significant increment in R^2 (R^2 change $= .33$, F change $= 5.42$), $p < .01$.

Table IV. Hierarchical Multiple Regression of Child Maltreatment on Physical Spouse Abuse, Psychological Spouse Abuse, and Trauma Symptomatology

	ABI-physical			ABI-psychological			TSC-40		
Independent variables	Adj. R^2	R^2 Change	β	Adj. R^2	R^2 Change	β	Adj. R^2	R^2 Change	β
Step 1	.00	.06		.16*	.20*		.25**	.29**	
Physical abuse			.22			−.02			−.07
Witnessing family violence			.05			.46			.57
Step 2	.29**	.33**		.17	.09		.27*	.08	
Sexual abuse			−.20			.18			.17
Neglect			.40			.14			.07
Psychological maltreatment			.47			.24			.28

*$p < .05$. **$p < .01$.

Using psychological spouse abuse as the dependent variable, after Step 1, Adjusted $R^2 = .16$, $F(5, 30) = 4.21$, $p < .05$, which was significant. Witnessing Family Violence provided unique prediction ($sr^2 = .11$). After Step 2, adjusted $R^2 = .17$, $F(5, 30) = 2.47$, $p > .05$, which was not significant. The increment in R^2 as a result of the addition of the three scales approached significance (R^2 change $= .09$, F change $= 1.24$), $p = .055$.

Finally, with trauma symptomatology as the dependent variable, after entering physical abuse and witnessing family violence during childhood in Step 1, adjusted $R^2 = .25$, $F(5, 30) = 6.76$, $p < .01$, which was significant. Witnessing family violence provided unique prediction ($sr^2 = .25$). After Step 2, adjusted $R^2 = .27$, $F(5, 30) = 3.58$, $p < .05$, which was significant. The addition of the three scales did not result in a significant increment in R^2 (R^2 change $= .08$, F change $= 1.32$), $p > .05$. Witnessing family violence was still the only unique predictor ($sr^2 = .09$).

Psychological maltreatment, sexual abuse, and neglect significantly added to prediction of trauma symptomatology and physical spouse abuse, but not psychological spouse abuse after accounting for the contribution of physical abuse and witnessing family violence. With all five maltreatment scales included, witnessing family violence uniquely predicted trauma symptomatology, whereas neglect uniquely predicted physical spouse abuse. There was no significant unique contributor to psychological spouse abuse when all five variables were entered.

DISCUSSION

This study explored the relationships between childhood family functioning, child maltreatment, alcohol abuse, and adult adjustment of domestically violent men (particularly trauma symptomatology and frequency of physical and psychological spouse abuse). The results supported the first hypothesis: There were many large intercorrelations between the level of spouse abuse (physical and psychological), child maltreatment, childhood family adaptability and cohesion, parental divorce, income, and trauma symptomatology. In particular, a high degree of overlap was found between the five maltreatment types, confirming earlier findings that children are often subjected to more than one maltreatment type (Higgins & McCabe, 1998, 2000b). However, alcohol abuse failed to intercorrelate significantly with any other risk factor. The second hypotheses was only partially supported: Physical spouse abuse and trauma symptomatology (but not psychological spouse abuse) were predicted by the combination of predictor variables. The third hypothesis was also partly supported: After controlling for physical abuse and witnessing family violence during childhood, sexual abuse,

neglect, and psychological maltreatment significantly added to prediction of physical spouse abuse and trauma symptomatology, but not psychological spouse abuse. Neglect was found to provide unique prediction of the perpetration of physical spouse abuse, and witnessing family violence uniquely predicted both psychological spouse abuse and trauma symptomatology.

The frequency of physical and psychological spouse abuse reported by respondents was typical of a domestically violent sample (Shepard & Campbell, 1992). Overall a majority of the sample was raised in families characterized by low adaptability and cohesion, which is comparable to the clinical sample described by Harter *et al.* (1988), who also applied FACES-II to a clinical sample. Exactly half of the men received scores considered diagnostic of alcoholism, which supports previous research that has estimated that approximately half of all men attending counseling for perpetrating domestic violence abuse alcohol (Tolman & Bennett, 1990). However, alcohol abuse did not significantly correlate with any other variable in the analyses. This could be explained by the lack of variability in scores because of the large number of alcoholic participants.

The participants had high trauma symptom scores, particularly for depression, that were comparably greater than those recorded for a normal female sample (see Elliott & Briere, 1992), and a self-selected community sample including both sexes (see Higgins & McCabe, 2000b). Maltreatment scores were comparable to those scores typical of a self-selected community sample, except for sexual abuse scores, which were low (Higgins & McCabe, 2001a). These two results are peculiar, given that trauma symptomatology was measured using a scale specifically designed to assess the traumatic impact of child abuse. This suggests that the trauma symptomatology experienced by the sample could be influenced by another unassessed variable, different to the experience of child maltreatment, or that the respondents minimized the level of maltreatment experienced during childhood.

The results suggest that rather than physical abuse or witnessing family violence, it may be other forms of child maltreatment that are important risk factors for perpetration of domestic violence in adulthood. Although witnessing family violence uniquely contributed to prediction of psychological spouse abuse, it was childhood neglect that accounted for the largest amount of unique variance in physical spouse abuse scores. Consistent with the results of Andrews and Brown (1988), neglect was the only factor found to significantly correlate with all three of the outcome variables, and witnessing family violence was found to significantly correlate with psychological spouse abuse and trauma symptomatology.

The failure of subjection to child physical abuse to correlate with the level of physical or psychological violence is not consistent with the assumptions of learning theory and the research that shows a relationship between

the child physical abuse and adult perpetration of domestic violence (Caesar, 1988; Rosenbaum & O'Leary, 1981). Obviously, this lack of significance could be due to the low sample size; however, this did not prevent neglect and witnessing family violence from significantly correlating with physical spouse abuse and psychological spouse abuse respectively. Trauma symptomatology significantly correlated with all of the maltreatment types except for sexual abuse supporting similar findings demonstrated by Higgins and McCabe (1998, 2000b). Although researchers have linked the experience of parental divorce to poor adult functioning (Amato & Booth, 1991; Garbardi & Rosen, 1992), parental divorce did not significantly correlate with any of the outcomes for this sample of domestically violent men. Men with a lower income tended to report a greater level of physical abuse experience during childhood and a higher frequency of physical spouse abuse. This supports the connection made between low socioeconomic status and the perpetration of spouse abuse found by McKenry *et al.* (1995).

The significant intercorrelations between maltreatment types indicate that domestically violent men who experienced one maltreatment type during childhood were also likely to have been subjected to other types of child maltreatment. These results are consistent with the findings of Higgins and McCabe (1998, 2000a,b), who found evidence for the coexistence of maltreatment types among self-selected community samples. The only two maltreatment types that did not intercorrelate were witnessing family violence and sexual abuse, possibly because sexual abuse scores were quite low.

Physical spouse abuse and trauma symptomatology were significantly predicted by the five maltreatment types: childhood family background, alcohol abuse, parental divorce, and income. This indicates that it was the coexistence of risk factors that resulted in a shared relationship with the violent outcome, not the isolated occurrence of individual factors. Neglect was the only variable found to share a specific relationship with the perpetration of physical spouse abuse, supporting previous research that has linked the experience of childhood neglect to aggression problems (Ammerman *et al.*, 1986; Reidy, 1977). Contrary to the findings of Higgins and McCabe (2000b), family adaptability and cohesion did not uniquely predict levels of trauma symptomatology. However, Higgins and McCabe used a self-selected community sample whose vulnerability to the traumatic influence of a negative childhood environment may differ to a domestically violent sample. The failure of the variables to predict, either collectively or individually, psychological spouse abuse suggests psychological abuse could be predicted by variables other than those tested in this study.

The inadequacy of a social learning model of domestic violence and the importance of testing for both the shared and individual impact of all five maltreatment types on the adult adjustment of domestically violent men

was demonstrated. Hierarchical multiple regression analysis revealed that physical abuse and witnessing family violence significantly predicted psychological spouse abuse and trauma symptomatology, with witnessing family violence individually predicting the two outcomes. Once the influence of physical abuse and witnessing family violence had been controlled for, neglect, sexual abuse, and psychological abuse significantly predicted physical spouse abuse, which suggests that these three maltreatment types provide a large degree of predictive influence on the frequency of adult male perpetration of domestic violence. In particular, neglect uniquely predicted physical spouse abuse. This finding runs contrary to learning theory's basic assumptions and implies that adult male perpetration of domestic violence involves far more complex processes and interactions than simply modelling and reinforcement.

The major implications of this study are twofold. Firstly, the many large intercorrelations found between risk factors coupled with the significant shared prediction of risk factors for the frequency of physical spouse abuse suggest that individual links made in previous domestic violence research, between the perpetration of male spouse abuse and its supposed risk factors, may be inaccurate (e.g., McKenry *et al.*, 1995; Tolman & Bennett, 1990). It is the coexistence of risk factors that results in a shared relationship with the violent outcome, not the isolated occurrence of individual factors. The second implication involves the finding that sexual abuse, neglect, and psychological maltreatment contributed additionally to the prediction of physical spouse abuse beyond that afforded by physical abuse and witnessing family violence during childhood. This suggests that previous learning theory research that has linked the perpetration of domestic violence to the childhood experience of physical abuse and witnessing family violence (e.g., Caesar, 1988; Kalmuss, 1984; Marshall & Rose, 1988; Rosenbaum & O'Leary, 1981) has not accounted for the powerful influence of coexisting maltreatment types, particularly neglect, on the perpetration of physical spouse abuse. Although this finding does not render learning theory's explanation of domestic violence false, it does highlight its inadequacy as an appropriate conceptualization of the phenomenon. An ecological perspective, however, which incorporates the contribution of various factors and evaluates both their specific and shared associations with the violent outcome, offers a far more useful explanation of male perpetration of domestic violence.

Limitations and Directions for Further Research

A key limitation of this study was the small sample size, which may have compromised the statistical power of the analyses. Therefore, any significant

results should be interpreted with caution. A further limitation was the use of retrospective self-reports. Additionally, men's reported frequency of perpetration of domestic violence was not corroborated with other sources. This could have affected the results, given the tendency for domestically violent men to underreport their abuse (Melvin *et al.*, 1999). Similarly, eight of the men had attended counseling prior to the 6-month period for which they were asked to report the frequency of violence they perpetrated. Thus, prior counseling may have reduced the level of violence reported. The study also used a volunteer, clinical sample, which reduced the generalizability of results to other domestically violent samples, and included unsubstantiated reports of childhood experiences of maltreating behaviors that may not have been accurate. The final limitation rests with the inadequacy of the measures used. The ABI does not record the severity of domestic violence perpetrated, and similarly, the CCMS-A does not distinguish between "abused" and "nonabused."

Accordingly, further research with a larger, nonclinical, sample using longitudinal or prospective methodology, to verify these results, would be beneficial. Data were provided here on predicting the level of violence within a known violent sample; predictors of who perpetrates violence (and who does not) may be different, and need to be examined. The interrelationships of maltreatment types and the impact of childhood neglect on the level of adult perpetration of domestic violence require additional evaluation. Possibilities for further research are also the incorporation and evaluation of the influence of coexisting protective and risk factors, which may act to mediate and moderate the adult adjustment of domestically violent men. Lastly, more research is required to establish the predictive factors for the perpetration of psychological spouse abuse.

This study provided evidence for the contention that factors associated with poor adult adjustment, and the perpetration of domestic violence, should not just be studied singly, as though they occurred in isolation, but together, to establish their shared influence on outcomes. Intercorrelations between variables were demonstrated, particularly among the five maltreatment types. Additionally, the collective influence of child maltreatment, childhood family background, and alcohol abuse were found to significantly predict physical spouse abuse and trauma symptomatology. This demonstrated the collective influence of variables on the adult adjustment of domestically violent men. Furthermore, the importance of examining the influence of all five maltreatment types on later perpetration of spouse abuse was shown. Assessing the additional contribution of sexual abuse, psychological maltreatment, and neglect, after controlling the influence of physical abuse and witnessing family violence, not only revealed a significant increment in the prediction of physical spouse abuse, but highlighted the specific

relationship between neglect and the violent outcome. As well as providing some initial evidence for the inadequacy of explaining the perpetration of domestic violence simply in terms of learning theory, it provides support for an ecological approach to the domain of domestic violence. Assessment of the influence of a wider range of factors on adult outcomes resulted in a more holistic conceptualization of the childhood histories of domestic violence perpetrators.

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