

# **ETHNIC IDENTITY AND INTIMATE PARTNER VIOLENCE IN A NEW ZEALAND BIRTH COHORT**

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## **Abstract**

Intimate partner violence (IPV) is an issue of growing concern in New Zealand, with particular concerns being raised about the over-representation of Māori in surveys of IPV. The present study examined the associations between ethnic identity and IPV in a longitudinal birth cohort of individuals born in Christchurch in 1977. Those participants of Māori identity reported higher rates of both IPV victimisation and perpetration than non-Māori, as well as higher rates of injury related to IPV. Control for a range of socio-economic and family functioning factors reduced the magnitude of the associations between ethnic identity and IPV victimisation, perpetration and injury, but the associations remained substantial. It was concluded that higher rates of IPV among Māori were not explained by cultural factors, and were largely explained by ethnic differences in exposure to socio-economic factors and exposure to family problems in childhood.

## INTRODUCTION

Intimate partner violence (IPV) has been described as a major public health threat, a significant social issue and, due to its prevalence, one of the world's most pressing human rights problems (Krug et al. 2002, Tolan et al. 2006). Within New Zealand legislation the Domestic Violence Act 1995 considers IPV to constitute a category

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of family violence. According to the Act, IPV involves an individual committing violence against another person with whom that individual is or has been in a domestic relationship.

There has in recent years been growing concerns about the issue of IPV in New Zealand. A good deal of this concern has emerged from the policy sector and from advocacy groups raising awareness of the adverse consequences of any form of violence to individuals, communities and the nation more broadly (Fanslow and Robinson 2004, Ministry of Justice 2004). In view of these concerns, the New Zealand government has developed a number of strategies that directly or indirectly address IPV, such as *Te Rito: New Zealand Family Violence Prevention Strategy* (Ministry of Social Development 2002), and has made substantial investment into anti-violence campaigns and initiatives (Fanslow 2005).

Arguably, one of the more concerning features of IPV in New Zealand involves the claim that Māori are over-represented as both victims and perpetrators of IPV. Currently, prevalence rates for IPV aggregated by ethnic grouping are not known for the New Zealand population. However, provisional data drawn from a range of sources provide some indication of the magnitude of IPV being experienced by Māori.

Three national crime surveys have been undertaken in New Zealand. The objective of this survey series was to ascertain the level of victimisation occurring in New Zealand, as the vast majority of incidents involving IPV are not reported to the New Zealand Police (New Zealand Family Violence Clearinghouse 2007). The first survey was undertaken in 1996, and the subsequent studies conducted in 2001 and 2006 each involved refinements to the respective survey's methodological design. However, independent of these changes, a clear and consistent pattern of Māori being over-represented in IPV emerges.

In the first study, the lifetime prevalence rate of Māori women experiencing IPV was 26.9% compared with a rate of 14.6% for New Zealand European women (Young et al. 1997). The rates were 11.9% for Māori males and 6.8% for New Zealand European males. The second national crime survey indicated that 49.3% of Māori women and 22.2% of New Zealand European women had experienced IPV (Morris et al. 2003). The lifetime prevalence rate for Māori males was 27.5% and the corresponding rate for New Zealand European males 18.4%. The most recent contribution to this series used the term "confrontational offences" (mainly assaults and threats) and differentiated types of offending by the degree of intimacy between the respondent and offender (Mayhew and Reilly 2007). The results indicate an uneven distribution of vulnerability between ethnic groups, with Māori experiencing more than 50% higher than the average victimisation risk for offending by partners.

This pattern of Māori disproportionately represented in IPV is also observable from information derived from alternative sources. For example, although Māori make up only 15% of the New Zealand population, 50% of those sentenced for the offence “male assaults female” were Māori men (Doone 2000). In addition, it has been estimated that close to 50% of Women’s Refuge clientele are Māori women and children (New Zealand Family Violence Clearinghouse 2007). Other research reporting specifically on ethnic group differences in exposure to IPV or related trauma appears to corroborate the finding that both Māori men and women are at an inordinate risk of experiencing IPV when compared to other sub-groups of the population classified by ethnicity (Kazantzis et al. 2000, Koziol-Mclain et al. 2004, Flett et al. 2004, Hirini et al. 2005, Koziol-Mclain et al. 2007, Lievore et al. 2007).

Brought together, these different sources of information provide a disconcerting image of the extent of IPV involving Māori, which has led the taskforce established to coordinate IPV interventions for Māori to describe the situation as an epidemic (Kruger et al. 2004). A significant omission in research into ethnic differences in IPV has been lack of consideration of the role of socio-economic factors to influence this association. In particular, it has been well documented that rates of IPV tend to be higher among couples exposed to various forms of economic adversity and hardship (Feldman and Ridley 1995, Bassuk and Dawson 2006). It has also been well documented that Māori are at greater risk of socio-economic disadvantage (Statistics New Zealand 2002, Ministry of Social Development 2007). Thus one explanation for the higher rate of IPV among Māori emerges from what is more generally referred to as social deprivation theory. Put briefly, because Māori have greater exposure to socio-economic adversity, this in turn places them at greater risk of involvement in IPV. From this perspective, the social deprivation hypothesis implies that Māori are no more likely to be involved in IPV than non-Māori of a similar socio-economic background.

A second possible explanation is that differences between ethnic groups may arise from an inter-generational process in which Māori have greater exposure to violence in childhood than non-Māori, which in turn may lead to higher involvement in IPV in later life. This hypothesis, which draws from social learning theory, is supported by consistent evidence suggesting that Māori have higher exposure to all forms of violence in childhood, including physical child abuse, childhood sexual abuse, and exposure to inter-parental violence (Fergusson 2003, Ministry of Social Development 2004, Ministry of Social Development 2007). It could be proposed that independently of socio-economic disadvantage, the higher exposure of Māori to childhood violence may explain the higher rate of IPV among Māori.

A further explanation for the over-representation of Māori in IPV involves a systemic theory of colonisation, which emphasises external determinants affecting collective

wellbeing and individual cultural identity (Jackson 1987). This view proposes that Māori social organisation has been severely affected by historical and structural factors, along with Eurocentric beliefs, values and practices being imposed upon their culture. As a consequence, it is contended that many Māori have become estranged from traditional cultural domains and concepts, which over time has resulted in a diminished or compromised cultural identity (Durie 1995, Balzer et al. 1997, Cram et al. 2002, Pihama et al. 2003). The fundamental assumption underpinning this perspective is that Māori involvement in IPV is inextricably linked to loss of attachment to traditional cultural domains and a weakened cultural identity. Reinforcing the “whānau ora” concept, whereby the sanctity of the family is viewed as paramount, and strengthening Māori cultural identity have therefore become key intervention factors in the field of IPV and other related areas where Māori are over-represented (Maynard et al. 1999, Kruger et al. 2004).

Against this general background, this study examines the relationships between ethnicity and IPV in a cohort of over 800 young adults studied as part of the Christchurch Health and Development Study (CHDS). The aims of this study were to:

- document patterns of IPV victimisation and perpetration among study participants
- examine the relationship between ethnic status (Māori/non-Māori) and patterns of IPV victimisation and perpetration
- explore the extent to which any ethnic differences in IPV victimisation and perpetration could be explained by socio-economic factors, childhood factors and variations in cultural identity.

More generally, the aims of the paper are to examine statistical links between ethnic status and IPV, and to evaluate various explanations of these links.

## METHODS

The data were gathered during the course of CHDS. In this study a birth cohort of 1,265 children (635 males, 630 females) born in the Christchurch (New Zealand) urban region in mid-1977 has been studied at birth, four months, one year and annually to age 16 years, and again at ages 18, 21 and 25 years. Information from a variety of sources has been used, including parental interviews; teacher reports; self-reports; psychometric assessments; and medical and other record data (Fergusson and Horwood 2001, Fergusson et al. 1989). The analyses reported here were based on the 804 study participants (64% of the original sample) for whom information was available concerning ethnic identity at age 21, and who reported having been in a partnership of over one month's duration during ages 24–25. All study information was collected on the basis of signed and informed consent from study participants.

## Ethnic Identity

At the age 21 assessment, respondents were asked a series of questions about their ancestry, cultural identification, level of participation in Māori cultural domains and proficiency in the Māori language (Broughton et al. 2000). On the basis of these interview questions, 11.1% of sample members self-identified as New Zealand Māori. A further break-down of this group showed 45.9% reporting sole Māori identity and 54.1% reporting both Māori ethnic identity and identification with another ethnic group. For the purposes of the present analyses, those reporting sole Māori identity were classified as having a sole Māori identity, while those reporting both Māori identity and another ethnic identity were classified as having Māori/other ethnic identity. In addition, both groups were combined to form a Māori ethnicity group. All other participants were classified as being non-Māori.

Comparisons of the sole Māori and Māori/other group showed consistent differences between the groups in terms of participation in Māori culture, including frequency of marae visits ( $p < .001$ ); being a member of a Māori group, organisation or sports team ( $p < .05$ ); being a member of a kapa haka (cultural performance) group ( $p < .001$ ); attending tangi (funerals) or unveiling ( $p < .001$ ); listening to Māori-language radio programmes and watching Māori-language television programmes ( $p < .001$ ); and listening to and watching programmes in the English language about Māori ( $p < .001$ ). The descriptors “sole Māori”, “Māori/other ethnic identity” and “non-Māori” were originally recommended by Pomare et al. (1995) in their analyses examining ethnic trends in public health epidemiology.

## Intimate Partner Violence (IPV) (24–25 years)

At age 25, sample members in partnerships of over one month duration in the last year were asked about the occurrence of IPV using a 22-item scale that incorporated selected items from the Revised Conflict Tactics Scale (CTS2, Straus et al. 1996). The selected items spanned the domains of minor psychological aggression, severe psychological aggression, minor physical assault, severe physical assault, and sexual coercion, as described by Straus et al. (1996). Questioning about sexual coercion was limited to two items (using threats to make partner have sex and using physical force to make partner have sex). All items were scored as described in the original scale, and questioning was conducted in terms of both IPV victimisation and the perpetration of IPV. To devise measures of (a) exposure to violence in the cohort and (b) the overall perpetration of violence in the cohort, each item was scored in dichotomous (absent/present) form and a scale score created from the sum of these items. These scales were found to have adequate reliability (victimisation  $\alpha = .85$ ; perpetration  $\alpha = .79$ ). Sample members who reported exposure to IPV (either as victims or as perpetrators) were further questioned about the consequences of violence using the injury subscale items from the CTS2.

In order to assess the extent of IPV resulting in extreme outcomes, an inspection was made of the medical history and mortality data held on this cohort. This showed that only one cohort member (male) and two partners (one woman, one man) received medical attention for injuries resulting from IPV. By age 25, a total of 31 cohort members had died. None of the deaths recorded resulted from IPV. These findings suggest that the range of IPV studied within this cohort was confined to relatively mild or moderate incidents of violence and that extreme violence involving severe injury or death was not present with sufficient frequency for analysis. This limitation on the range of IPV studied should be borne in mind when interpreting the results.

## Covariate Factors

### Socio-economic background

The socio-economic background of cohort members was assessed using several indicator measures chosen from the database of the study.

- *Maternal age*. This was assessed at the survey child's birth.
- *Maternal and paternal education (at birth)*. The education level of each parent was assessed at the time of the survey child's birth using a three-point scale, which reflected the highest level of educational achievement attained. This scale was: 1 = parent lacked formal educational qualifications; 2 = parent had secondary-level educational qualifications; 3 = parent had tertiary-level qualifications.
- *Family living standards (0–10 years)*. At each year a global assessment of the material living standards of the family was obtained by means of an interviewer rating. Ratings were made on a five-point scale that ranged from "very good" to "very poor". These ratings were summed over the 10-year period and divided by 10 to give a measure of typical family living standards during this period.
- *Family socio-economic status (at birth)*. This was assessed at the time of the survey child's birth using the Elley–Irving scale (Elley and Irving 1976) of socio-economic status for New Zealand. This scale classifies socio-economic status into six levels on the basis of paternal occupation, ranging from 1 = professional occupations to 6 = unskilled occupations.
- *Educational achievement (to age 25)*. This measure reflected the overall progression of each cohort member through the hierarchy of educational qualifications. Each level in the progression was assigned an ordinal value (from 0 = no high school qualifications to 6 = gained university degree), and each individual received a score based on his or her highest level of qualification.
- *Average family income (0–10 years)*. At each year, estimates of the family's gross annual income were obtained from parental report. To provide a measure of the average level of income available to each family over the period from the child's birth to age five years, the income estimates for each year were first recoded into decile categories and the resulting measures then averaged over the five-year period to produce a measure of the family's averaged income decile rank.

- *Welfare dependence (ages 21–24)*. This measure was based on the self-reported total number of months participants received any welfare benefit during the period 21 to 24 years, including unemployment benefit, domestic purposes benefit, sickness/disability benefit, or any other welfare benefit.

### **Family functioning and individual factors**

Measures of family functioning and individual adjustment were also chosen from the study database. These measures included:

- *Parental illicit drug use (0–11 years)*. When sample members were aged 11, information was obtained from parents as to whether any parent had a history of illicit drug use. The young person was classified as having a parent history of illicit drug use if one of his/her parents was reported to have a history of illicit drug use.
- *Parental alcoholism (0–15 years)*. This was assessed at age 15 years via parental report. These reports were used to form a dichotomous measure of whether or not the young person's parents reported experiencing alcoholism or problems with alcohol.
- *Parental criminality (0–15 years)*. When sample members were aged 15 years, their parents were questioned as to whether any parent had a history of criminal offending. The young person was classified as having a parent history of criminality if one of his/her parents was reported to have a history of offending.
- *Exposure to harsh/abusive physical punishment (childhood physical abuse; 0–16 years)*. At ages 18 and 21 sample members were asked to describe the extent to which their parents used physical punishment during childhood (Fergusson and Lynskey 1997). Separate questioning was conducted for mothers and fathers. This information was used to create a four-level scale reflecting the most severe form of physical punishment reported for either parent: parents never used physical punishment; parents rarely used physical punishment; at least one parent used physical punishment on a regular basis; at least one parent used physical punishment too often or too severely, or treated the respondent in a harsh or abusive manner.
- *Inter-parental violence (0–16 years)*. At the age of 18, sample members were questioned concerning their experience of inter-parental violence during their childhood (prior to age 17 years). The questioning was based on a series of eight items derived from the Conflict Tactics Scale (CTS, Straus 1979). Separate questioning was conducted for both father-initiated and mother-initiated inter-parental violence. An overall measure was created by summing the responses for both father- and mother-initiated violence.
- *Family adversity measure (0–15 years)*. A measure of family adversity was calculated using a count measure of 38 different measures of family disadvantage during the period 0–15 years, including measures of disadvantaged parental background, poor pre-natal health practices and peri-natal outcomes, and disadvantageous child-rearing practices (Fergusson et al. 1994)

- *Family conflict (0–15 years)*. Parents were questioned annually on three items which described the quality of marital relationships. These items were: (a) whether the parents had engaged in prolonged arguments during the last 12 months; (b) whether the child's mother reported being assaulted by her spouse in the last 12 months; and (c) whether the child's mother had reported experiencing sexual difficulties, such as a lack of interest in sex or poor communication with a partner, in the last 12 months. These items were combined to produce a scale measure of the extent to which the child was exposed to marital conflict during the interval from birth to the age of 15 years (Fergusson et al. 1992).
- *Child conduct problems (7–9 years)*. When sample members were aged 7–9 years, information on child behaviour problems was obtained from parental and teacher report. Parental reports were obtained from an interview with the child's mother using a behaviour questionnaire that combined items from the Rutter et al. (1970) and Conners (1970) parental questionnaires. Parallel to the maternal report, the child's class teacher was asked to complete a combined version of the Rutter et al. (1970) and Conners (1969) teacher questionnaires. Factor analysis of the item-level report data showed that it was possible to select items from these reports that formed unidimensional scales reflecting the extent of parent-reported and teacher-reported conduct problems in three domains of behaviour (Fergusson et al. 1991, Fergusson and Horwood 1993). For the purposes of the present analysis, the parent and teacher reports were summed and the resulting scores averaged over the three-year period to produce a scale score measure reflecting the extent of the child's tendencies towards conduct problems at ages 7–9. The  $\alpha$  reliability of this scale was .97.

## RESULTS

### Associations between Ethnicity and IPV Victimization, ages 24–25

Preliminary analyses of the data were conducted using the three-group classification of cultural identity (see Methods). However, no consistent differences were found between sole Māori and Māori/other identity groups for either IPV victimisation or perpetration. Therefore, for the purposes of statistical precision, all subsequent analyses were conducted using the two-group classification of ethnicity (Māori and non-Māori groups).

Table 1 shows the cohort divided into two groups, Māori and non-Māori, and compares each group on a series of IPV victimisation measures derived from the CTS2. The associations between ethnicity and IPV victimisation outcomes were modelled using logistic (for percentile measures) and negative binomial (for the measure of the total number of violent incidents) regression models. The results of these analyses are

presented in Table 1, which shows the rates of IPV victimisation for each group, as well as estimates of the odds ratio/incidence rate ratio (OR/IRR) and 95% confidence intervals derived from the parameters of the fitted models. The table shows the following.

- Those participants with Māori ethnicity reported significantly higher rates of exposure to IPV victimisation, including both minor ( $p < .0001$ ) and severe ( $p < .0001$ ) psychological aggression, and both minor ( $p < .01$ ) and severe ( $p < .01$ ) physical assault, than non-Māori. Those of Māori ethnicity had odds of IPV victimisation that ranged from 2.36 to 3.59 times that of non-Māori.
- Those participants with Māori ethnicity also reported significantly ( $p < .0001$ ) higher rates of injury by a partner than non-Māori. Māori respondents had odds of injury that were 3.41 times greater than that of non-Māori.
- Māori respondents reported a significantly ( $p < .0001$ ) higher CTS2 total victimisation score over the last 12 months than non-Māori. Those of Māori ethnicity had rates of victimisation that were 2.61 times greater than for non-Māori.

**Table 1 Associations between Ethnicity and IPV Victimization, age 24–25**

Outcome	Ethnicity			p*
	Māori n = 91	Non-Māori n = 713	OR/IRR (95% CI)	
% reporting minor psychological aggression	85.7	62.6	3.59 (1.96–6.59)	< .0001
% reporting severe psychological aggression	25.2	10.1	3.01 (1.77–5.13)	< .0001
% reporting minor physical assault	16.5	7.7	2.36 (1.27–4.38)	< .01
% reporting severe physical assault	12.1	4.5	2.93 (1.42–6.03)	< .01
% reporting injury	9.9	2.7	3.41 (1.37–8.47)	< .001
% reporting fear of partner	4.5	0.8	5.86 (1.83–18.78)	< .01
Mean (SD) Conflict Tactics Scale score	31.5 (57.0)	12.1 (27.1)	2.61 (1.71–3.96)	< .0001

\* Logistic regression for percentage measures; negative binomial regression for count measure

## Associations between Ethnicity and Measures of Socio-economic Status and Family Functioning

One explanation for the ethnic differences observed in Table 1 is that these differences reflect between-group differences in exposure to adversity in childhood. In order to examine this issue, the associations between ethnicity and (a) socio-economic disadvantage and (b) family dysfunction and individual adjustment problems were modelled using logistic (for percentile measures) and multiple (for continuous measures) regression models. The results of these analyses are presented in Table 2, which shows the following.

- Māori participants were more likely to have been exposed to socio-economic disadvantage than non-Māori, including: lower maternal age ( $p < .0001$ ); parents lacking formal educational qualifications ( $p < .001$ ); lower average family living standards to age 10 ( $p < .0001$ ); lower socio-economic level at birth ( $p < .0001$ ); lower levels of educational achievement ( $p < .0001$ ); lower levels of average family income to age five ( $p < .0001$ ); and a greater number of months of welfare dependence during ages 21–24 ( $p < .0001$ ).
- Māori were also more likely than non-Māori to have been exposed to family dysfunction and individual adjustment problems, including: parental illicit drug use ( $p < .01$ ); parental alcoholism ( $p < .05$ ); parental criminal offending ( $p < .01$ ); harsh or abusive physical punishment ( $p < .01$ ); higher rates of inter-parental violence ( $p < .0001$ ); family adversity ( $p < .0001$ ); and family conflict ( $p < .0001$ ); and had higher rates of conduct problems in childhood ( $p < .0001$ ).

**Table 2 Associations between Ethnicity and (a) Measures of Socio-economic Status, and (b) Measures of Family Functioning and Individual Factors**

Measure	Ethnicity		p*
	Māori n = 91	Non-Māori n = 713	
<b>Socio-economic status</b>			
Mean (SD) maternal age	23.4 (4.3)	26.0 (4.7)	< .0001
% mother lacked formal educational qualifications	68.1	48.8	< .001
% father lacked formal educational qualifications	64.6	45.4	< .001
Mean (SD) family living standards (age 0–10)	3.1 (0.4)	2.8 (0.5)	< .0001
Mean (SD) SES score (at birth)	4.3 (1.3)	3.5 (1.4)	< .0001
Mean (SD) educational achievement score (by age 25)	3.4 (2.0)	4.3 (2.2)	< .0001
Mean (SD) family income (age 0–10)	45.9 (25.1)	59.5 (23.9)	< .0001
Mean (SD) number of months welfare dependent, ages 21–24	11.4 (14.3)	5.5 (14.9)	< .0001
<b>Family functioning/individual factors</b>			
% parental history of illicit drug use (by age 11)	36.9	23.4	< .01
% parental history of alcoholism (by age 15)	19.0	11.3	< .05
% parental history of criminal offending (by age 15)	25.0	11.1	< .01
% exposed to harsh/abusive physical punishment (by age 16)	30.8	17.0	< .01
Mean (SD) exposure to inter-parental violence (by age 16)	10.2 (3.2)	9.2 (2.2)	< .0001
Mean (SD) family adversity score (0–15 years)	11.4 (6.1)	6.6 (4.5)	< .0001
Mean (SD) family conflict score (0–15 years)	78.6 (105.5)	35.4 (74.6)	<.0001
Mean (SD) conduct problems (ages 7–9)	52.2 (9.56)	49.4 (7.17)	<.0001

\* Logistic regression for percentage measures; multiple regression for continuous measures

### Associations between Ethnicity and IPV Victimization, after Adjustment for Socio-economic, Family Functioning and Individual Factors

The findings in Table 2 suggest that the differences in IPV victimisation observed between Māori and non-Māori may have been due to between-group differences in exposure to adverse socio-economic factors and family functioning. To examine these issues, the associations between ethnicity and IPV victimisation outcomes were adjusted for the socio-economic, family functioning, and individual factors presented in Table 3. These associations were modelled in two steps.

In the first step, the socio-economic factors were entered simultaneously into the logistic and negative binomial regression models. In the second step, these models were extended to include the family functioning and individual factors, again entered simultaneously. The results of these analyses are presented in Table 3, which shows estimates of the OR, IRR and 95% confidence intervals for each IPV outcome, after adjustment for (a) socio-economic factors and (b) socio-economic, family functioning and individual factors. The table shows the following.

After adjustment for socio-economic factors, the associations between ethnicity and IPV victimisation outcomes were reduced in magnitude, but remained statistically significant. After adjustment for socio-economic factors, people of Māori ethnicity had odds of exposure to IPV that ranged from 2.15 to 2.76 times those of non-Māori; had odds of injury that were 2.98 times those of non-Māori; and had rates of victimisation that were 2.31 times those of non-Māori.

Adjustment for family functioning and individual factors, in addition to socio-economic factors, further reduced the magnitude of the associations between ethnicity and IPV victimisation, in all but one case to statistical non-significance ( $p > .05$ ). However, the magnitude of the associations between ethnicity and IPV victimisation remained substantial. After adjustment for family functioning factors, those of Māori ethnicity had odds of exposure to IPV that ranged from 1.77 to 2.26 times those of non-Māori; odds of injury that were 2.51 times those of non-Māori; and rates of victimisation that were 2.02 times those of non-Māori.

In general, the results of the analyses suggested that, while the associations between ethnicity and IPV victimisation outcomes were reduced to statistical non-significance after controlling for socio-economic, family functioning, and individual factors, a substantial component of the associations remained unexplained.

**Table 3 Odds Ratios (OR) and Incidence Rate Ratios (IRR) for the Associations between Ethnicity and IPV Victimization, age 25**

Outcome	Model					
	Model 1: Adjustment for socio-economic factors			Model 2: Adjustment for socio-economic factors and family functioning and individual factors		
	OR/IRR	95% CI	p	OR/IRR	95% CI	p
Minor psychological aggression	2.40	1.28–4.50	< .01	1.88	0.98–3.61	= .06
Severe psychological aggression	2.15	1.16–3.96	< .05	1.77	0.89–3.49	= .10
Minor physical assault	2.29	1.18–4.45	< .05	1.90	0.88–4.10	= .10
Severe physical assault	2.76	1.26–6.02	< .05	2.26	0.92–5.57	= .08
Injury	2.98	1.23–7.23	< .05	2.51	0.91–6.92	= .08
Conflict Tactics Scale score	2.31	1.48–3.58	< .0001	2.02	1.24–3.29	< .01

Associations between Ethnicity and IPV Perpetration, after Adjustment for Socio-economic and Family Functioning Factors

In order to examine the extent to which the above findings generalised to IPV perpetration, the associations between ethnicity and IPV perpetration were modelled using logistic and negative binomial regression models. The models were then adjusted for both (a) socio-economic factors and (b) family functioning and individual factors in a two-step process, as described above. The results of these analyses are presented in Table 4, which shows estimates of the OR, IRR and 95% confidence intervals for each IPV outcome, after adjustment for socio-economic, family functioning and individual factors.

In general, the results of these analyses were consistent with those for IPV victimisation, with two exceptions. First, the association between ethnicity and severe psychological aggression remained statistically significant ( $p = .01$ ) after adjustment for both socio-economic factors and family functioning and individual adjustment factors. Also, the association between ethnicity and the CTS2 total perpetration score remained statistically significant after adjustment for socio-economic, family functioning and individual factors ( $p < .05$ ). However, as in the analyses above, controlling for socio-economic status, family functioning and individual factors did not account fully for the associations between ethnicity and IPV.

**Table 4 Odds Ratios (OR) and Incidence Rate Ratios (IRR) for the Associations between Ethnicity and IPV Perpetration, age 25**

Outcome	Model					
	Model 1: Adjustment for socio-economic factors			Model 2: Adjustment for socio-economic factors and family functioning and individual factors		
	OR/IRR	95% CI	p	OR/IRR	95% CI	p
Minor psychological aggression	2.14	1.19–3.83	< .05	1.65	0.90–3.04	= .11
Severe psychological aggression	3.09	1.59–6.03	< .001	2.69	1.29–5.61	< .01
Minor physical assault	1.72	0.76–3.88	= .19	1.63	0.68–3.91	= .27
Severe physical assault	2.22	0.79–6.20	= .13	1.91	0.62–5.96	= .26
Injury	3.22	1.19–8.69	< .05	2.74	0.92–8.15	= .07
Conflict Tactics Scale score	1.75	1.14–2.67	< .05	1.62	1.03–2.56	< .05

### The Effects of Gender

A further issue examined was the extent to which the results reported above were dependent on the gender of the participant, and whether there were interactions between gender and ethnicity. In order to examine this, the final fitted logistic and negative binomial regression models above were extended to include both main effect terms for gender, and gender-by-ethnicity interaction terms. No statistically significant main effects for gender, or gender-by-ethnicity interactions, were found (all *p* values > .05), suggesting that for both IPV victimisation and perpetration, males and females reported similar levels of both IPV victimisation and perpetration, and the results were similar for Māori and non-Māori females and males.

### DISCUSSION

In this study we have used data gathered over the course of a 25-year longitudinal study, CHDS, to examine ethnic differences in rates of intimate partner violence victimisation and perpetration. The key findings and their implications are discussed below.

Consistent with available statistical data, CHDS respondents with Māori ethnicity reported higher rates of both IPV victimisation and perpetration. These differences were evident for a range of outcomes, including psychological aggression, physical

assault, and injury as a result of partner violence. Prior to statistical adjustment, rates of IPV victimisation among those reporting Māori ethnicity were between 2.36 to 3.59 times higher than rates among those not reporting Māori ethnicity. These trends held for both males and females.

An important issue raised by these results concerns the mechanisms that lead to higher rates of IPV among Māori. The prospective data gathered in this study provide considerable material to explore this phenomenon of ethnic asymmetry for IPV in the New Zealand context. The first explanation for this asymmetry derives from social deprivation theory, which suggests that ethnic differences in IPV arise through Māori being at higher risk of socio-economic disadvantage than non-Māori. This hypothesis was partially supported to the extent that control for socio-economic factors consistently reduced the associations between ethnic status and inter-partner violence (Tables 3 and 4). After adjustment for socio-economic factors, Māori had rates of IPV victimisation and perpetration that were between 1.72 and 3.22 times those reported by non-Māori. These results imply that while some component of the association between ethnicity and IPV may reflect the relative socio-economic disadvantage of Māori when compared with non-Māori, not all of the ethnic difference can be explained in socio-economic terms.

The second explanation examined was that ethnic differences in IPV may be the result of greater exposure to various forms of childhood adversity. This social learning hypothesis was also partially supported, since after controlling for family functioning and individual factors the associations between ethnicity and IPV were reduced. Collectively, the findings on socio-economic factors and childhood factors suggest that ethnic asymmetry for IPV largely arises from the generally higher exposure of Māori to social, economic and family disadvantage. Nonetheless, even after controlling for these factors, there was still evidence of higher relative rates of IPV among Māori, with rates of partner violence ranging from 1.62 to 2.74. Although not all adjusted results reached conventional levels of statistical significance, there was a significant ( $p < .01$ ) association between ethnicity and the total Conflict Tactics victimisation and perpetration scores.

A final explanation that requires discussion concerns the extent to which the observable ethnic asymmetry in IPV relates to Māori cultural identity, as is proposed by the systemic theory of colonisation. This explanation to account for the over-representation of Māori in IPV was not supported by the data. In particular, a preliminary analysis of the bivariate relationships between cultural identity and IPV showed similar rates of both victimisation and perpetration among those identifying as sole Māori and those with a Māori/other identity. Had strength of cultural identity, including level of affiliation to cultural domains, played an explanatory role in understanding

ethnic differences in IPV, one would have expected to see a gradient in which rates of violence varied with degree of Māori identity, but this was not the case.

The results presented are in accordance with findings from other research showing a marked over-representation of Māori involved in IPV (Young et al. 1997, Morris et al. 2003, Mayhew and Reilly 2007). A significant advantage of the present research, however, is that it has examined the interplay between a range of personal, situational and socio-cultural factors most commonly associated with ethnic differences in IPV (Paterson et al. 2007). Within New Zealand, the perceived influences of these factors – either singularly or in tandem – are regularly employed to account for Māori and non-Māori differences in interpersonal violence (e.g. Goodyear-Smith 2002). The current research, however, demonstrates that this inter-ethnic asymmetry in IPV remains even after controlling for socio-economic disadvantage, family dysfunction, and individual adjustment problems, including factors related to cultural identity.

IPV is a complex phenomenon. Now generally acknowledged as involving multiple factors that can interact across a range of different domains, IPV is a difficult problem to address with any precision (Feldman and Ridley 1995, Magdol et al. 1997, Barwick et al. 2000, Mohr et al. 2000, Lawson 2003, Lievore et al. 2007). For this reason, the issue can engender dissension and strong debate about the way IPV is conceptualised, defined and measured, what the most appropriate intervention methods might be, and who or what they are best targeted at (Ramsay et al. 2002, Goodyear-Smith 2002, Fergusson et al. 2005, Tolan et al. 2006).

It should be noted that the vast majority of IPV measured in the present cohort was relatively mild, consisting of minor psychological and physical aggression. There were relatively few cases of serious or severe IPV, and only three cases in which individuals reported an injury as a result of IPV. These findings suggest that the range of IPV studied within this cohort was confined to relatively mild or moderate incidents of violence, and that extreme violence involving severe injury or death was not present with sufficient frequency for analysis. This limitation on the range of IPV studied should be borne in mind when interpreting the results. However, other survey data on IPV in New Zealand (e.g. New Zealand Family Violence Clearinghouse 2007) also suggest that the majority of IPV incidents do not involve extreme violence resulting in injury or death.

Although the results reported reveal that identification as Māori is linked with an enhanced risk of being exposed to environmental factors associated with IPV, caution is required when interpreting this relationship. To suggest a direct causal link between ethnicity and violence would be remiss, as it is unclear how group identification might cause individual behaviour. Just as importantly, attributing cause to a group risks

diminishing responsibility for problematic behaviour performed by individuals. With these caveats in mind, it is of concern that Māori appear to be more vulnerable or susceptible to IPV when this phenomenon is analysed at the group level. Clearly this issue urgently requires further empirical examination, as current explanations appear to fall short in accounting for the discrepancy.

## REFERENCES

- Balzer, R., D. Haimona, M. Henare and V. Matchitt (1997) *Māori Family Violence in Aotearoa*, Ministry of Māori Development, Wellington.
- Barwick, H., A. Gray and R. Mackey (2000) *Domestic Violence Act 1995: Process Evaluation*, Ministry of Justice and Department for Courts, Wellington.
- Bassuk, E., R. Dawson and N. Huntington (2006) "Intimate partner violence in extremely poor women: Longitudinal patterns and risk markers" *Journal of Family Violence*, 21:387–399.
- Broughton, J., D.M. Fergusson, C. Rimene, L.J. Horwood and A. Sporle (2000) "Nga tini aho o te ao hou: The many strands of contemporary Māori society: Māori ethnicity and identity in the Christchurch Health and Development Study" Ngāi Tahu Māori, Health Research Unit, Dunedin.
- Conners, C. K. (1969) "A teacher rating scale for use in drug studies with children" *American Journal of Psychiatry*, 126:884–888.
- Conners, C.K. (1970) "Symptom patterns in hyperkinetic, neurotic and normal children" *Child Development*, 41:667–682.
- Cram, F., L. Pihama, K. Jenkins and M. Karehana (2002) *Evaluation of Programmes for Maori Adult Protected Persons Under the Domestic Violence Act 1995*, Ministry of Justice and Department of Courts, Wellington.
- Doone, P. (2000) *Hei Whakarurutanga ma te Ao: Report on Combating and Preventing Maori Crime*, Crime Prevention Unit, Department of the Prime Minister and Cabinet, Wellington.
- Durie, M. (1995) "Te Hoe Nuku Roa framework: A Maori identity measure" *Journal of the Polynesian Society*, 104(4):461–471.
- Elley, W.B. and J.C. Irving (1976) "Revised socio-economic index for New Zealand" *New Zealand Journal of Educational Studies*, 11:25–36.
- Fanslow, J. (2005) *Beyond Zero Tolerance: Key Issues and Future Directions for Family Violence Work in New Zealand*, Families Commission, Wellington.
- Fanslow, J. and E. Robinson (2004) "Violence against women in New Zealand: Prevalence and health consequences" *New Zealand Medical Journal*, 117:1173.
- Feldman, C.M. and C.A. Ridley (1995) "The etiology and treatment of domestic violence between adult partners" *Clinical Psychology: Science & Practice*, 2:317–348.

- Fergusson, D.M. (2003) "Violent crimes: Assessing race and ethnic differences" in D. Hawkins (ed.) *Interpersonal Violence: The Ethnicity, Race and Class Nexus*, Cambridge University Press, Cambridge, UK, pp. 138–153.
- Fergusson, D.M. and L.J. Horwood (1993) "The structure, stability and correlations of the trait components of conduct disorder, attention deficit and anxiety/withdrawal reports" *Journal of Child Psychology & Psychiatry*, 34:749–66.
- Fergusson, D.M. and L.J. Horwood (2001) "The Christchurch Health and Development Study: Review of findings on child and adolescent mental health" *Australian and New Zealand Journal of Psychiatry*, 35:287–296.
- Fergusson, D.M., L.J. Horwood and M. Lloyd (1991) "A latent class model of child offending" *Criminal Behaviour and Mental Health*, 1:90–106.
- Fergusson, D.M., L.J. Horwood and M.T. Lynskey (1992) "Family change, parental discord and early offending" *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 33:1059–75.
- Fergusson, D.M., L.J. Horwood and M.T. Lynskey (1994) "The childhoods of multiple problem adolescents: A 15-year longitudinal study" *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 35:1123–40.
- Fergusson, D.M., L.J. Horwood and E. Ridder (2005) "Partner violence and mental health outcomes in a New Zealand birth cohort" *Journal of Marriage and the Family*, 67:1103–1119.
- Fergusson, D.M., L.J. Horwood, F.T. Shannon and J.M. Lawton (1989) "The Christchurch Child Development Study: A review of epidemiological findings" *Paediatric & Perinatal Epidemiology*, 3:278–301.
- Fergusson, D.M. and M.T. Lynskey (1997) "Physical punishment/maltreatment during childhood and adjustment in young adulthood" *Child Abuse & Neglect*, 21:617–630.
- Flett, R., N. Kazantzis, N. Long, C. Macdonald and M. Millar (2004) "Gender and ethnicity differences in the prevalence of traumatic events: Evidence from a New Zealand community sample" *Stress and Health*, 20:149–157.
- Goodyear-Smith, F. (2002) "Recognising and responding to partner abuse: Challenging the facts" *New Zealand Medical Journal*, 117:1074.
- Hirini, P., R. Flett, N. Long and M. Millar (2005) "Frequency of traumatic events, physical and psychological health among Maori" *New Zealand Journal of Psychology*, 34:20–27.
- Jackson, M. (1987) *The Maori and the Criminal Justice System: A New Perspective: He Whaipanga Hou*, Department of Justice, Wellington.
- Kazantzis, N., R. Flett, N. Long, C. Macdonald and M. Millar (2000) "Domestic violence, psychological distress, and physical illness among New Zealand women: Results from a community-based study" *New Zealand Journal of Psychology*, 29, 67–73.

- Koziol-McLain, J., J. Gardiner, P. Batty, M. Rameka, E. Fyfe and L. Giddings (2004) "Prevalence of intimate partner violence among women presenting to an urban adult and paediatric emergency care department" *New Zealand Medical Journal*, 117(1206):U1174.
- Koziol-McLain, J., M. Rameka, L. Giddings, E. Fyfe and J. Gardiner (2007) "Partner violence prevalence among women attending a Maori health provider clinic" *Australian and New Zealand Journal of Public Health*, 31:143–148.
- Krug, E.G., L.L. Dahlberg, J.J. Mercy, A.B. Zwi and R. Lozano (eds.) (2002) *World Report on Violence and Health*, World Health Organisation, Geneva.
- Kruger, T., M. Pitman, T. McDonald, D. Mariu, A. Pomare, T. Mita, M. Maihi and K. Lawson-Te Aho (2004) *Transforming Whanau Violence: A Conceptual Framework* (2nd ed.), Ministry of Māori Affairs, Wellington.
- Lawson, D.M. (2003) "Incidence, explanations, and treatment of partner violence" *Journal of Counselling & Development*, 81:19–32.
- Lievore, D., P. Mayhew and E. Mossman (2007) *The Scale and Nature of Family Violence in New Zealand: A Review and Evaluation of Knowledge*, Crime and Justice Research Centre, Wellington.
- Magdol, L., T.E. Moffitt, A. Caspi, D.L. Newman, J. Fagan and P.A. Silva (1997) "Gender differences in partner violence in a birth cohort of 21-year-olds: Bridging the gap between clinical and epidemiological approaches" *Journal of Consulting and Clinical Psychology*, 65:68–78.
- Mayhew, P. and J. Reilly (2007) *The New Zealand Crime and Safety Survey 2006: Key Findings*, Ministry of Justice, Wellington.
- Maynard, K., B. Coebergh, B. Anstiss, L. Bakker and T. Huriwai (1999) "Ki te arotu: Toward a new assessment: The identification of cultural factors which may predispose Maori to crime" *Social Policy Journal of New Zealand*, 13:43–54.
- Ministry of Justice (2004) *Safer Communities: Action Plan to Reduce Community Violence and Sexual Violence*, Ministry of Justice, Wellington.
- Ministry of Social Development (2002) *Te Rito: New Zealand Family Violence Prevention Strategy*, Ministry of Social Development, Wellington.
- Ministry of Social Development (2004) *Children and Young People: Indicators of Wellbeing in New Zealand*, Ministry of Social Development, Wellington.
- Ministry of Social Development (2007) *The Social Report*, Ministry of Social Development, Wellington.
- Mohr, W.K., L. Noone, M.J. Fantuzzo and M.A. Perry (2000) "Children exposed to family violence: A review of empirical research from a developmental-ecological perspective" *Trauma Violence & Abuse*, 1:264–283.
- Morris, A., J. Reilly, S. Berry and R. Ransom (2003) *The New Zealand National Survey of Crime Victims, 2001*, Ministry of Justice, Wellington.

- New Zealand Family Violence Clearinghouse (2007) *Family Violence Statistics Fact Sheet*, University of Canterbury, Christchurch.
- Paterson, J., M. Feehan, S. Butler, M. Williams and E.T. Cowley-Malcolm (2007) "Intimate partner violence within a cohort of Pacific mothers living in New Zealand" *Journal of Interpersonal Violence*, 22:698–721.
- Pihama, L., K. Jenkins and A. Middleton (2003) *"Te Rito" Action Area 17 Literature Review: Family Violence for Maori Research Report*, Auckland Uniservices Limited, Auckland.
- Pōmare, E., V. Keefe-Ormsby, C. Ormsby, N. Pearce, P. Reid, B. Robson and N. Watene-Haydon (1995) *Hauora: Māori Standards of Health: A Study of the Years 1970–1991*, Te Rōpu Rangahau Hauora a Eru Pōmare/Eru Pōmare Māori Health Research Centre, Wellington South.
- Ramsay, J., J. Richardson, Y.H. Carter, L.L. Davidson and G. Feder (2002) "Should health professionals screen women for domestic violence? Systematic review" *British Medical Journal*, 325:314–326.
- Rutter, M., J. Tizard and K. Whitmore (1970) *Education, Health and Behaviour*, Longmans, London.
- Statistics New Zealand (2002) *Census Snapshot: Māori*, Statistics New Zealand, Wellington.
- Straus, M. (1979) "Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scale" *Journal of Marriage & the Family*, 41:75–88.
- Straus, M.A., S.L. Hamby, S. Boney-McCoy and D.B. Sugarman (1996) "The Revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data" *Journal of Family Issues*, 17:283–316.
- Tolan, P., D. Gorman-Smith and D. Henry (2006) "Family violence" *Annual Review of Psychology*, 57:557–583.
- Young, W., A. Morris, N. Cameron and S. Haslett (1997) *The New Zealand National Survey of Crime Victims 1996*, Department of Justice, Wellington.