ETHNIC IDENTITY AND EXPOSURE TO MALTREATMENT IN CHILDHOOD: EVIDENCE FROM A NEW ZEALAND BIRTH COHORT

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Abstract

Exposure to maltreatment in childhood, including sexual abuse, severe physical punishment and inter-parental violence, is an issue of growing concern in New Zealand. The present study examined the associations between ethnic identity and exposure to childhood maltreatment among a longitudinal birth cohort of individuals born in Christchurch in 1977. Participants of Māori ethnicity reported higher rates of exposure to physical punishment and inter-parental violence, but did not report higher rates of exposure to sexual abuse. Control for a range of socio-economic and family functioning factors reduced the magnitude of the associations between ethnicity and both physical punishment and inter-parental violence, but did not fully account for the associations between ethnicity and maltreatment exposure. Furthermore, adjustment for variations in Māori cultural identity indicated that cohort members of sole Māori identity were at significantly increased risk of exposure to both physical punishment and inter-parental violence. It was concluded that Māori, and in particular those of sole Māori cultural identity, were at higher risk of exposure to physical punishment and inter-parental violence, and that the associations could not be fully explained by either socio-economic deprivation or exposure to family dysfunction in childhood.

INTRODUCTION

Exposure to child maltreatment, including sexual abuse, physical abuse and inter-parental violence, can have a deleterious impact on healthy child development. Damaged attachment bonds, impaired physical and mental health, poorer psychosocial adjustment, and cognitive performance leading to lower educational achievement are outcomes that have all been linked with childhood maltreatment (Boden et al. 2007, Cicchetti and Toth 2005, Collishaw et al. 2007, Daignault and Hebert 2004, Fergusson and Horwood 1998, Fergusson, Horwood et al.

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1996, Fergusson and Lynskey 1997, Mullen and Tonge 2000, Noll et al. 2008, Salzinger et al. 2001, Woodward et al. 2001).

The problem of child maltreatment may be of particular concern in New Zealand. In a UNICEF assessment of child maltreatment across 27 nations, New Zealand was ranked as having the third highest rate (1.2 per 100,000 averaged over a five-year period) of deaths from maltreatment of those under the age of 15 years (UNICEF 2003). Even though this category represents the most extreme outcome of child maltreatment, the data provide an indication of the likely rate of non-fatal child maltreatment in each of the nations examined. In a further assessment examining child wellbeing (UNICEF 2007), it was reported that, of the 25 wealthy nations reviewed, New Zealand had the second lowest rate of child health and safety as measured by averaging scores across three indicators (infant health, preventive health services and child safety).

In addition to the above statistics, it is the over-representation of Māori children in the nation's child abuse statistics that often attracts both professional and public attention (Kiro 2000, Mansell 2006, Pinto 2006, Wynd 2006). Evidence suggests that, when compared with other ethnic groups in New Zealand, Māori children are at greater risk of being exposed to physical, emotional and sexual abuse, and are more likely to experience neglect than children from any other ethnic group (Adolescent Health Research Group 2004, Lievore et al. 2007, Ministry of Social Development 2004, 2006). According to official statistical data, the rate of substantiated abuse per 1,000 children under the age of 17 was 11.9 for Māori in 2003 compared to 5.9 for non-Māori. This pattern of ethnic asymmetry, with Māori children being approximately twice as likely to be assessed as abused or neglected when compared with other children, has been consistently observed (Department of Social Welfare 1988, Kotch et al. 1993, Ministry of Social Development 2002, 2004).

These findings raise important questions about the factors that lead to Māori children being more vulnerable to exposure to and experience of child maltreatment. Although the results from various data sources concur about Māori children being over-represented in child abuse statistics, limited empirical research has been conducted into the risk and protective factors associated with the higher rate of child maltreatment among Māori. Nevertheless, three explanatory frameworks have been employed to account for the current ethnic disparities in child abuse in New Zealand.

One explanation for the higher rate of childhood maltreatment among Māori involves the issue of socio-economic disadvantage. Specifically, it has been well established that on a range of socio-economic indicators, including housing, income, welfare dependence, unemployment and educational achievement, Māori are at an increased risk of experiencing poverty and disadvantage (Chapple 2000, Marie et al. 2008b, Ministry of Social Development 2007, Statistics New Zealand 2002). Social deprivation has been strongly linked to risk of child maltreatment, and this factor has been prominent in attempts to explain the higher child abuse rates of indigenous and ethnic minority group members in other nations (Cross et al. 2000, Duran et al. 2004, Gordon 2006, Moisan et al. 1997, Sanders-Phillips et al. 1995). Thus it could be proposed that the higher rate of childhood maltreatment among Māori can be explained by the higher rate of socio-economic disadvantage experienced by Māori.

A closely related explanation involves an ecological "at risk" model of familial adversity (Ramey and Landesman Ramey 1998, Repetti et al. 2002). This perspective suggests that

there is a range of factors or stressors, either internal or external to the family, that interact and accumulate to impair healthy family functioning. Factors that may characterise poorly functioning families include: parental alcohol and drug abuse; parental criminality; and loose or unstable family structure, often involving teen parenting, sole parenting or serial changes of adults responsible for performing a care-giving role to children in a family (Cicchetti and Toth 2005, Freisthler et al. 2006, Tolan et al. 2006, Zielinski and Bradshaw 2006). Each of these factors has been associated with the maltreatment of children, and as research indicates, separate from economic disadvantage, Māori also have greater exposure to these factors of family dysfunction (Fanslow et al. 2007, Fergusson 2003, Ministry of Social Development 2004, 2007). It may be argued that the higher degree of family adversity experienced by Māori families accounts for the greater exposure of Māori children to childhood maltreatment.

A third framework, focusing on the role of cultural identity has, over the preceding two decades, been the dominant explanation employed to account for the ethnic asymmetry in child maltreatment rates in New Zealand (Balzer et al. 1997, Keddell 2007, Kiro 2000, Ministry of Social Development 2006, Pihama et al. 2003, Stanley 2000, Stanley and Thompson 1999). This view proposes that it is the degree of association that Māori families have with Māori kin groupings and the level of commitment they show to traditional customary practices that will influence the likelihood of Māori children experiencing maltreatment. From this perspective, strength of Māori identity in families is a protective factor for child abuse, and a lesser identification with Māori cultural domains may increase the risk of children being exposed to maltreatment. Intervention guidelines for child abuse have therefore been specifically developed for Māori, by Māori (Kruger et al. 2004, Stanley 2000, Stanley and Thompson 1999). These focus on determining the levels of affiliation Māori families have to cultural domains and the strength of cultural identity of individuals who reside in the family. Reattachment of Māori families to cultural domains and customs has therefore become a key feature of current child abuse intervention efforts.

Although each of these frameworks – socio-economic disadvantage, family functioning and cultural identity – could potentially explain ethnic differences in child maltreatment in New Zealand, to our knowledge there have been no empirical studies conducted that examine the way in which these factors may mediate links between Māori ethnicity and maltreatment. In addition, while each of the frameworks is not necessarily mutually exclusive, it proves possible, using longitudinal data, to determine the approximate contribution of each set of factors to abuse exposure outcomes.

Against this background, this paper reports on analyses of the links between ethnic status (Māori/non-Māori) and rates of childhood maltreatment (childhood physical abuse, childhood sexual abuse and inter-parental violence) in a birth cohort of New Zealand children studied to the age of 21. The aims of this research were to:

- ascertain the rates of childhood maltreatment reported by Māori and non-Māori respondents at the ages of 18 and 21
- examine the extent to which ethnic differences in childhood maltreatment could be explained by socio-economic and family functioning factors
- document the extent to which risks of childhood maltreatment vary with cultural identity after socio-economic factors and family functioning have been taken into account.

METHODS

The data were gathered during the course of the Christchurch Health and Development Study (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 (Fergusson and Horwood 2001, Fergusson et al. 1989). The analyses reported here were based on the 1,011 study participants (80% of the original sample) for whom information was available concerning ethnic identity at age 21. All study information was collected on the basis of signed and informed consent from the study participants.

Ethnicity and Cultural Identity

At age 21 years respondents were asked about their ancestry, cultural identification, level of participation in Māori cultural domains, and proficiency in the Māori language (Broughton et al. 2000). Participants were asked to indicate whether they belonged to or identified with one or more ethnic groups, including New Zealand Māori, and were asked whether they were of Māori descent. On the basis of this questioning, 11.1% of sample members self-identified as New Zealand Māori. A further break-down of this group showed 45.9% reporting sole Māori cultural identity and 54.1% reporting Māori cultural identity and identity with another cultural 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 identity were classified as having Māori/other cultural identity. 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 several aspects of 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 a tangi (funeral) or unveiling ($p < .001$)
- listening to Māori-language radio programmes and watching Māori-language television programmes ($p < .001$)
- listening 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.

In addition, evidence suggests that patterns of ethnicity may shift over time, with respondents indicating differing ethnicities at different points in the life span (e.g. Baldwin 2008). In order to examine this issue, self-reports of ancestry and cultural identification at age 25, analogous to those collected at age 21, were also used to classify respondents as sole Māori, Māori/other identity and non-Māori. In addition, maternal reports of the cohort member’s ethnicity that were obtained when the cohort member was aged 14 years were again used to classify respondents into the same three groups.

Finally, it could be argued that it is the ethnicity of the family, rather than the ethnicity of the child, that is critical in determining outcomes (e.g. Callister et al. 2007, Fergusson et al.

1982). To examine this issue, cohort members were classified as sole Māori, Māori/other identity and non-Māori using:

- self-reported maternal ethnicity, obtained when the cohort members were aged 14 years
- mother-reported paternal (or mother's partner's) ethnicity, obtained when the cohort members were aged 14 years
- a combination of maternal and paternal (or partner's) ethnic identity, classified into three groups: (i) Māori only (both parents sole Māori); (ii) mixed Māori/other identity (at least one parent Māori/other identity); and (iii) non-Māori (neither parent reporting Māori identity).

Childhood Exposure to Sexual Abuse, Physical Punishment and Inter-parental Violence

Retrospective reports of exposure to childhood sexual abuse and physical abuse prior to age 16 were obtained from cohort members at ages 18 and 21 years. Sexual abuse was assessed using the following methods. At each assessment, participants were asked whether, before the age of 16, anyone had ever attempted to involve them in any of a series of 15 sexual activities when they did not want this to happen, including:

- non-contact episodes. involving indecent exposure, public masturbation or unwanted sexual propositions
- episodes involving sexual contact in the form of sexual fondling, genital contact or attempts to undress the respondent
- episodes involving attempted or completed vaginal, oral or anal intercourse.

Sample members who reported an incident of abuse were then questioned in depth about the context of abuse, including the frequency of abuse episodes, the characteristics of the perpetrator(s), abuse disclosure and related factors (Fergusson, Horwood et al. 1996, Fergusson, Lynskey et al. 1996). Using the check and narrative data gathered at each age (18, 21), participants were classified into one of four exposure groups reflecting the extent/severity of sexual abuse reports. These groups were:

- no sexual abuse (85.9% of the sample)
- non-contact sexual abuse only (2.7% of the sample)
- contact sexual abuse not involving attempted or completed sexual penetration (5.1% of the sample)
- attempted or completed sexual penetration including vaginal, oral and anal intercourse (6.3% of the sample).

In the present analysis, respondents were classified as belonging to the group corresponding to the most severe form of abuse reported at either age 18 or 21.

The assessment of childhood physical punishment was based on cohort members' reports of parental use of physical punishment. At 18 and 21 years, respondents were asked to report on the extent to which their parents used physical punishment during their childhood (prior to age 16 years). Reports were made on a five-point scale ranging from "parent never used physical punishment" to "parent treated me in a harsh and abusive way" (Fergusson and Lynskey 1997). Separate ratings were made for mother figures and father figures (if available). Ratings for both parents were then combined into a single rating at each age by classifying the participants into one of four groups based on the greatest level of exposure to physical punishment reported for either parent:

- parents never used physical punishment (6.4% of the sample)
- parents seldom used physical punishment (11.2% of the sample)
- at least one parent regularly used physical punishment (78.0% of the sample)
- at least one parent used frequent or severe punishment, or treated the participant in a harsh/abusive manner (4.5% of the sample).

In common with information on childhood sexual abuse, in the present analysis participants were classified into the group corresponding to the most severe level of punishment/abuse reported at either age 18 or 21 years.

At the age of 18, sample members were questioned concerning their experience of inter-parental violence during their childhood (prior to age 16 years). The questioning was based on a series of eight items derived from the Conflict Tactics Scale (Straus 1979). The items were chosen on the basis that the behaviours could have been readily observed and reported on by the participant, and also to span the potential range of violent behaviour from verbal abuse to physical assault. The eight items used included:

- threaten to hit or throw something at the other parent
- push, grab or shove other parent
- slap, hit or punch other parent
- throw, hit, kick or smash something (in the other parent's presence)
- kick other parent
- choke or strangle other parent
- threaten other parent with a knife, gun or other weapon
- call other parent names or criticise other parent (put other parent down).

Participants were asked to rate the frequency with which they observed each behaviour on a three-point scale (never, occasionally, frequently). Separate questioning was conducted for violence initiated by the father against the mother and for violence initiated by the mother against the father. A scale score was constructed by summing the 16 items to produce a measure reflecting the extent of reported exposure to inter-parental violence in childhood (α = .88). For the purposes of the present investigation, the scale scores were classified into four groups on the basis of the overall inter-parental violence score. These groups comprised: those who reported no inter-parental violence (60% of the sample); those whose scores placed them within the 61st to 75th percentiles of the score distribution; those whose scores placed them within the 76th to 90th percentiles of the distribution; and those whose scores placed them in the most violent 10% of the distribution.

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 cohort member's birth.
- *Maternal education (at birth):* The education level of the child's mother was assessed at the time of the survey child's birth using a three-point scale, which reflects the highest level of educational achievement attained (1 = mother lacked formal educational qualifications; 2 = mother had secondary-level educational qualifications; 3 = mother 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 on a five-point scale, ranging 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.

Family functioning and individual factors

Measures of family functioning and individual adjustment were also chosen from the study database.

- *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 parental history of illicit drug use if one of his/her parents was reported to have a history of illicit drug use.
- *Parental alcohol problems (0–15 years)*: 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 parental history of criminality if one of his/her parents was reported to have a history of offending.
- *Changes of parents (to age 15 years):* At each assessment from birth to 15 years, comprehensive information was gathered on changes in the child's family situation since the previous assessment. Using this information, an overall measure of family instability was constructed on the basis of a count of the number of changes of parents experienced by the child up to age 15. Changes of parents included all changes resulting from parental separation/divorce, reconciliation, remarriage, death of a parent, fostering, and other changes of custodial parents.

RESULTS

Associations between Childhood Sexual Abuse, Childhood Physical Punishment, Exposure to Inter-parental Violence and Ethnicity

Table 1 shows the cohort classified into two groups on the basis of self-reported ethnic identity at age 21: Māori (n = 114) and non-Māori (n = 897). For each group the table shows the distribution of the group on four-point ordinal measures of sexual abuse, physical punishment and inter-parental violence. For each comparison the table shows the results of a chi-square test derived from an ordinal logistic regression model.

Table 1 Percentage Reporting Differing Levels of Exposure to Sexual Abuse, Physical Punishment and Inter-parental Violence (to age 16), by Ethnicity

		Ethnicity	
Exposure to abuse *(% reporting)*		**Māori (n = 114)**	**Non-Māori (n = 897)**
Sexual abuse	***Exposure level***		
No abuse	0	81.6	86.3
Non-contact abuse only	1	2.6	2.8
Contact sexual abuse	2	7.9	4.9
Attempted/completed intercourse	3	7.9	6.0
			χ^2 (1) = 1.86, p > .10
Physical punishment	***Exposure level***		
No physical punishment	0	2.6	4.4
Infrequent physical punishment	1	64.0	79.9
Regular physical punishment	2	19.3	10.1
Harsh/abusive physical punishment	3	14.0	5.5
			χ^2 (1) = 20.75, p < .0001
Inter-parental violence exposure score	***Exposure level***		
1–60%	0	47.3	56.7
61–75%	1	17.3	22.5
76–90%	2	14.6	13.6
91–100%	3	20.9	7.2
			χ^2 (1) = 9.49, p < .01

The table shows the following.

- The distribution of scores for Māori and non-Māori on the measure of sexual abuse exposure was not statistically significant, χ^2 (1) = 1.86, p > .10.
- In contrast, cohort members of Māori ethnicity reported significantly (p < .0001) greater exposure to more severe forms of physical punishment than non-Māori. For example, 19.3% of Māori, as compared to 10.1% of non-Māori, reported exposure to regular physical punishment, and 14.0% of Māori, as compared with 5.5% of non-Māori, reported exposure to harsh/abusive levels of physical punishment.

Individuals of Māori ethnicity also reported significantly (p < .001) greater levels of exposure to inter-parental violence during childhood and early adolescence than non-Māori. For example, 20.9% of Māori, as compared with 7.2% of non-Māori, reported levels of inter-parental violence that fell within the highest 10% of scores on the measure of inter-parental violence.

The Role of Socio-economic Factors and Family Functioning

One explanation for the higher rates of exposure to abuse in childhood among Māori is that these increases in rates of physical punishment and inter-parental violence are due to social, economic and related disadvantages, to which Māori are more likely to be exposed than non-Māori. This issue is explored in Table 2, which shows the associations between ethnicity and a range of socio-economic and family functioning factors. Socio-economic factors included: maternal age, family socio-economic status at birth, maternal education, and average family living standards from ages 0–10. Family functioning factors included: parental history of alcohol problems, parental history of illicit drug use, parental history of criminal offending, and the number of parental changes to age 15. The table shows a consistent tendency for those cohort members of non-Māori background to have had a relatively advantaged childhood in the areas of family socio-economic background and family functioning as compared to Māori cohort members.

Table 2 Associations between Ethnicity and Measures of Childhood Socio-economic Factors and Family Functioning Factors

	Ethnicity		
Measure	**Māori**	**Non-Māori**	**p[1]**
Socio-economic factors			
Mean (SD) maternal age	23.36 (4.26)	26.25 (4.78)	< .0001
Mean (SD) family socio-economic status at birth[2]	4.32 (1.37)	3.46 (1.41)	< .0001
% mother lacked formal educational qualifications	66.7	46.8	< .0001
Mean (SD) family living standards ages 0–10[2]	3.14 (0.43)	2.81 (0.45)	< .0001
Family functioning factors			
% parental history of alcohol problems	23.8	10.7	< .0001
% parental history of illicit drug use	38.7	22.2	< .001
% parental history of criminal offending	29.5	11.2	< .0001
Mean (SD) number of changes of parents to age 15	2.24 (2.98)	1.04 (2.24)	< .0001

1 t-test for continuous measures; χ^2 test of independence for percentage measures
2 Higher scores indicate lower levels of socio-economic status and living standards

Adjustments for Socio-economic Factors and Childhood/Family Factors

It could be argued that the results in Table 1 reflect the confounding influence of exposure to higher levels of adverse socio-economic and family functioning factors among Māori cohort members, as shown in Table 2. In order to examine the extent to which the associations between abuse exposure and ethnicity could be explained by confounding factors, the associations between ethnicity and abuse exposure were adjusted for the socio-economic factors and family functioning factors in two stages. In the first stage, ordinal logistic regression models were used to assess the associations between each measure of abuse exposure and ethnicity, net of the measures of socio-economic factors in childhood. Covariates were entered into the models in forward and backward stepwise fashion to arrive at stable models. In the second step, the ordinal logistic regression models adjusted for socio-economic factors were extended to include the measures of family functioning in childhood.

The results of these analyses are presented in Table 3, which shows adjusted percentages for each outcome for each of the two ethnic groups, following adjustment for socio-economic factors and socio-economic and family functioning factors. Adjusted percentages for each level of classification were estimated according to procedures outlined in the *Reference Guide for Stata v. 8.0* (StataCorp 2003).

Table 3 shows the following.

- After adjustment for socio-economic factors, and both socio-economic and family functioning factors, the association between exposure to sexual abuse in childhood and ethnicity remained statistically non-significant ($p > .90$). Statistically significant ($p < .05$) covariate factors included: family living standards, maternal education, parental changes and parental illicit drug use.
- Adjustment for socio-economic factors, and adjustment for both socio-economic and family functioning factors, reduced the magnitude of the association between exposure to physical punishment in childhood and ethnicity; however, the association remained statistically significant ($p < .05$) in both cases. Statistically significant ($p < .05$) covariate

factors included: socio-economic status at birth, parental alcohol problems, parental offending and parental changes. Examination of the adjusted percentages showed that cohort members of Māori ethnicity reported higher levels of exposure to physical punishment than non-Māori, across both adjusted models.

- Similarly, adjustment for socio-economic factors and adjustment for both socio-economic and family functioning factors reduced the magnitude of the association between exposure to inter-parental violence in childhood and ethnicity. In the case of adjustment for socio-economic factors, the association remained statistically significant ($p < .01$). In the case of adjustment for both socio-economic and family functioning factors, however, the association was reduced to marginal significance ($p = .06$). Statistically significant ($p < .05$) covariate factors included: family living standards, parental alcohol problems and parental changes. Examination of the adjusted percentages showed that cohort members of Māori ethnicity reported higher levels of exposure to inter-parental violence than non-Māori after adjustment for socio-economic factors and family functioning factors.

Table 3 Adjusted Percentages for Measures of Exposure to: Sexual Abuse, Physical Punishment and Inter-parental Violence, by Ethnicity, after Controlling for Socio-economic Factors and Both Socio-economic and Family Functioning Factors

		Percentages adjusted for socio-economic[1] factors		Percentages adjusted for socio-economic & family functioning[2] factors	
Exposure to abuse	**Exposure level**	**Māori**	**Non-Māori**	**Māori**	**Non-Māori**
Sexual abuse	0	84.9	85.4	85.7	85.4
	1	3.0	2.9	2.8	2.9
	2	5.4	5.3	5.2	5.3
	3	6.7	6.4	6.3	6.4
		χ^2 (1) = 0.02, p > .90		χ^2 (1) = 0.01, p > .90	
Physical punishment	0	2.4	4.3	2.5	4.4
	1	70.8	78.8	71.9	78.7
	2	16.4	10.9	15.8	10.9
	3	10.4	6.0	9.8	6.0
		χ^2 (1) = 7.50, p < .01		χ^2 (1) = 6.09, p < .05	
Inter-parental violence	0	42.9	56.8	47.2	56.2
	1	24.5	21.5	23.6	21.3
	2	18.9	13.4	17.3	13.8
	3	13.7	8.3	11.9	8.7
		χ^2 (1) = 7.82, p < .01		χ^2 (1) = 3.40, p < .10	

1 Significant ($p < .05$) covariate factors: maternal age, socio-economic status at birth, maternal education level, and family living standards.
2 Significant ($p < .05$) covariate factors: parental alcohol problems, parental illicit drug use, parental offending, and changes of parents (to age 15).

Adjustments for Cultural Identity

It could further be suggested that the results presented in Table 3 could be accounted for by differences in cultural identity. Specifically, it is possible that differences in Māori cultural identity may account for the elevated rates of exposure to physical punishment and inter-parental violence among Māori cohort members. In order to examine this issue, those cohort members reporting Māori ethnicity were classified into two groups: those reporting sole Māori cultural identity (n = 52) and those reporting Māori cultural identity (n = 62) in

addition to another ethnic identity. The analyses presented in Table 2 were repeated using the three-group classification of cultural identity (sole Māori, Māori/other identity, non-Māori) in place of the two-group measure of ethnicity, using design variates to represent the three cultural identity groups. The results of these analyses are presented in Table 4 which shows the adjusted percentages for each abuse exposure classification outcome measure for the three cultural identity groups, after adjustment for both socio-economic and family functioning factors. The table also reports the overall significance test for cultural identity, derived from chi-square tests from the ordinal logistic regression models. The table shows the following.

- After adjustment for confounding factors, there was no significant main effect for cultural identity on the measure of exposure to sexual abuse ($p > .05$). Planned comparisons confirmed that there were no statistically significant differences between any of the three cultural identity groups ($p > .05$). However, the adjusted percentages suggest that rates of exposure to sexual abuse were lower among the sole Māori group than in the Māori/other or non-Māori groups.
- After adjustment for socio-economic and family functioning factors, there was a significant association between cultural identity and exposure to childhood physical punishment ($p < .05$). Planned comparisons revealed that cohort members of sole Māori cultural identity reported significantly ($p < .05$) higher rates of exposure to physical punishment than non-Māori. However, those of Māori/other cultural identity reported rates of exposure to physical punishment that were not significantly different ($p > .05$) from either sole Māori or non-Māori.
- After adjustment for socio-economic and family functioning factors, there was a significant main effect for cultural identity ($p < .01$). Planned comparisons showed that those cohort members of sole Māori cultural identity reported significantly ($p < .05$) higher rates of exposure to inter-parental violence than either those of Māori/other cultural identity or non-Māori.

Table 4 Adjusted Percentages for Measures of Abuse Exposure, by Cultural Identity, after Controlling for Both Socio-Economic Status and Family Functioning

		Cultural identity		
Exposure to abuse	**Exposure level**	**Sole Māori**	**Māori/other identity**	**Non-Māori**
Sexual abuse	0	88.7	83.4	85.5
	1	2.3	3.1	2.8
	2	4.0	6.0	5.2
	3	5.0	7.5	6.5
			χ^2 (2) = 0.85, p > .60	
Physical punishment	0	2.1	3.1	4.4
	1	68.1	75.0	78.8
	2	17.9	13.8	10.9
	3	11.9	8.1	5.9
			χ^2 (2) = 7.47, p < .05	
Inter-parental violence	0	32.8	58.2	56.2
	1	24.5	20.8	21.4
	2	23.3	13.1	13.9
	3	19.4	7.9	8.5
			χ^2 (2) = 11.93, p < .01	

Supplementary Analyses

It could be argued that the results presented above were dependent on the fact that the ethnicity categories were measured at a single point in time, and that shifting patterns of self-reported ethnicity may affect the associations between ethnicity/cultural identity and abuse exposure (see Methods). In order to address this issue, the analyses reported above were repeated using both: ethnicity/cultural identity categories based on self-report data obtained when the respondents were aged 25 years; and ethnicity/cultural identity categories based on mother-reported data when the respondents were aged 14 years (see Methods). In both cases, the results of the analyses were congruent with those reported above, suggesting that the associations between ethnicity/cultural identity and abuse exposure were robust to variations in self-reported ethnicity.

It could further be argued that abuse exposure in childhood may be influenced by environmental factors rather than factors pertinent to the individual. That is, it may be the case that abuse exposure was a function of the ethnicity/cultural identity of the parents of cohort members, rather than the ethnicity/cultural identity of the cohort member (see Methods). In order to examine this issue, the analyses reported above were repeated using ethnicity/cultural identity categories based on:

- the mother's self-reported ethnic identity when the respondent was aged 14 years
- the father/partner's self-reported ethnic identity when the respondent was aged 14 years
- a combination of maternal and paternal (or partner's) ethnic identity classified into three groups: (i) Māori only; (ii) mixed Māori/other identity; and (iii) non-Māori.

In each case, the results of the analyses were congruent with those reported above, suggesting that the associations between ethnicity/cultural identity and abuse exposure were similar, irrespective of whether they were based on the ethnicity/cultural identity of the respondent or the respondent's family.

DISCUSSION

In this paper we have used data gathered over the course of the CHDS to examine the relationship between ethnicity and exposure to childhood maltreatment. The key findings of this analysis and their implications are reviewed below.

Ethnic Disparities in Rates of Childhood Maltreatment

Although it is widely believed that Māori children are at increased risks of all types of maltreatment, the results of this study do not support that view. Specifically, although young Māori adults reported more childhood physical abuse and exposure to inter-parental violence, rates of reported childhood sexual abuse were similar for Māori and non-Māori. This finding is not consistent with previous reports of higher rates of sexual abuse for Māori (Adolescent Health Research Group 2004, Ministry of Social Development 2002, 2004, Lievore et al. 2007).

The reasons for this difference are not clear, but it may be due to sample selection factors. The recent study conducted by Fanslow and colleagues (2007), for example, whereby Māori women were twice as likely to self-report having experienced child sexual abuse than non-Māori women, used a selected sample that was not representative of the population in general. In contrast, the CHDS results are based on a representative birth cohort of children born in Christchurch in 1977. It may be that these different sampling methods account for the

discrepancy in conclusions about the links between ethnicity and childhood sexual abuse. A further plausible explanation for the divergence in findings is that there may be an over-reporting by child care and protection agencies of cases of child sexual abuse involving Māori children because Māori families are more likely to come to the attention of these agencies. This explanation remains speculative, however, and requires further examination.

Although there was no detectable association between ethnicity and child sexual abuse, young Māori people reported far greater exposure to physical maltreatment and inter-parental violence than did non-Māori respondents. For example, 14% of Māori respondents reported being exposed to harsh and abusive punishment compared to 5.5% of non-Māori. Similarly 20.9% of Māori children came from families with a high level of reported inter-parental violence compared to 7.2% of non-Māori. These figures suggest that Māori had rates of exposure to physical child abuse and inter-parental violence that were approximately three times higher than non-Māori. Such findings are comparable to those of other studies, which have shown links between the over-representation of ethnic minorities in prevalence rates of child maltreatment and children from these groups being more exposed to strict parenting styles, including harsher punishment regimes (Ibanez et al. 2006, Haskett et al. 2008).

The Role of Socio-Economic Factors and Family Functioning

As would be expected from existing literature that reports on ethnic disparities in New Zealand (Fergusson 2003, Ministry of Social Development 2004, 2007, Marie et al. 2008a, 2008c, 2008d), young Māori people were more often reared in socio-economically disadvantaged home environments and had greater exposure to various forms of family adversity, including: the young age of the parents, parental criminality and substance use, and higher rates of family change. Statistical adjustment for these adversities reduced the size of the associations between ethnicity and exposure to physical abuse and inter-parental violence, but did not completely eliminate the differences.

There are two explanations for the failure of controlling for socio-economic and family factors to account for ethnic disparities in childhood maltreatment. The first explanation is that, of necessity, control for these factors was incomplete and it may be that covariate factors were omitted, which, if included in the analysis, would have explained the ethnic differences in rates of childhood maltreatment. The alternative explanation is that ethnic disparities in rates of maltreatment after adjustment for socio-economic and family factors reflect the role of cultural factors in determining rates of childhood maltreatment.

The Role of Cultural Identity

To explore the possible role of cultural identity in mediating associations between ethnicity and childhood maltreatment, the group of Māori respondents was subdivided into those of sole Māori identity and Māori/other identity. The data were then re-analysed to examine the premise underlying current theories in New Zealand that claim that strength of Māori cultural identity mitigates the risk of young Māori people being exposed to child maltreatment. Following adjustment for socio-economic and family functioning factors, this re-analysis revealed a complex set of relationships between cultural identity and risks of childhood maltreatment.

In terms of childhood sexual abuse, those of sole Māori identity had the lowest adjusted rate of exposure. Although these differences failed to reach statistical significance, the findings

provide some support for the view that being of sole Māori identity may be a protective factor that reduces risks of exposure to childhood sexual abuse. However, quite the opposite pattern was observed for exposure to childhood physical abuse and exposure to inter-parental violence, with those of sole Māori identity being at greater risks of these outcomes. The results suggest that sole Māori identity may be a risk factor for exposure to physical child abuse and inter-parental violence. The findings are in general agreement with research by Kukutai (2003), who suggested that the degree to which an individual identifies with Māori cultural identity may be associated with increased risks of social and economic disadvantage.

These findings, however, are not consistent with the assumptions underpinning influential theories, social policies and a number of intervention guidelines (Department of Social Welfare 1988, Ministry of Social Development 2002, Balzer et al. 1997, Stanley and Thompson 1999, Kiro 2000, Stanley 2000, Kruger et al. 2004), which claim that strengthening Māori identity and links with traditional Māori cultural practices will lead to reduced rates of child abuse among Māori. To the contrary, while the findings of this study suggest that this approach may lead to reduced risks of childhood sexual abuse, it may also be associated with increased risks of childhood physical abuse and exposure to inter-parental violence. These findings do pose a challenge to current policies aimed at reducing the over-representation of Māori children in rates of child maltreatment, which emphasise "identity interventions" that are not evidence-based and are largely ideologically driven. Even though such policies are no doubt well intentioned and observe statutory requirements unique to the New Zealand context, following the view expounded by UNICEF (2003, 2007), they must be exposed to ongoing critical scrutiny and empirical evaluation.

Strengths and Limitations

Like all research, this study has a number of strengths and limitations. Strengths of the research include: comprehensive evaluation of exposure to maltreatment using repeated measures gathered at 18 and 21 years; prospective collection of data on socio-economic and family factors; evaluation of both ethnicity and cultural identity; and high levels of cohort retention. No New Zealand study of child maltreatment has had all of these features.

However, the study also has a number of limitations. First, the data were gathered on a specific cohort, born in a specific region of New Zealand and studied over a specific historical period. There is no guarantee that findings from this cohort will generalise to other cohorts or geographical contexts. In particular, all members of this cohort were born in the South Island, and the extent to which the findings of this study can be generalised to the New Zealand population is unclear. In addition, the number of Māori studied (n = 114) was relatively small, limiting the precision of the analysis. Similarly, while it may have been of some interest to conduct parallel analyses examining the outcomes of those individuals reporting other ethnic affiliations, the number of participants in the present cohort indicating additional affiliations was too small to allow comparative analyses. Also, it could be argued that respondents may have had differing motivations for answering the questions regarding ethnicity, which may have affected their responses. However, while this issue might also have been of interest, identifying the motivations that influenced individuals changing their ethnic identification over time was not the objective of this study. Finally, ethnicity data concerning spouses and partners, and other members of social networks, were not obtained, limiting the scope of the present analyses to the ethnicity of the respondent and the parents of the respondent.

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