

# Pacific Islands Families Study: Risk and Protective Factors Associated with Delinquent Behaviour in Pacific 11-Year-Olds

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## Abstract

This paper examines risk and protective factors associated with delinquent behaviour among Pacific youth living in New Zealand (NZ). As part of the longitudinal Pacific Islands Families study, 11-year-olds Pacific youth participated in multidisciplinary interviews which included questions about involvement in delinquent behaviours. Peer pressure was the strongest risk factor for delinquency, and protective factors were higher self-perception, teacher evaluation scores, and perceived support from friends. Pacific boys reported significantly more delinquent behaviours than Pacific girls. Maternal acculturation was significantly associated with the delinquent behaviour of youth. Youth of mothers categorized as integrators (high Pacific/high NZ) having lower odds for delinquency than youth of mothers categorized as assimilators (low Pacific/high NZ). Youth from the largest Pacific Island groups (Samoa, Tonga and Cook Islands) were also significantly more likely to engage in delinquent behaviour than those from smaller island groups. Implications of these findings for prevention and further research are discussed.

## Keywords

Pacific Youth, Delinquency, Longitudinal Studies, Risk Factors

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## 1. Introduction

Pacific people living in New Zealand (NZ) are ethnically heterogeneous (Samoan, 49%; Cook Islands Māori, 21%; Tongan, 20%; and Niuean, 8%), rapidly growing, youthful, and highly urbanised (Statistics New Zealand, 2013). Waves of migration to NZ took place in the 1950's and 1980's when Pacific people arrived from Samoa, Tonga, Cook Islands, Niue, Fiji, and the Tokelau's. Pacific people actively participate in the NZ economy and have significant social, sporting, and cultural links across NZ society (Sang & Ward, 2006). However, compared with the general population, Pacific people have higher rates of unemployment (Statistics New Zealand, 2013), lower household incomes (Perry, 2014), and higher rates of poverty (Boston & Chapple, 2014).

Adolescence is a time when mental health issues such as anxiety and depression increase to distressing levels (Jose & Schurer, 2010), and risk taking behaviours further jeopardise adolescent wellbeing in the short and long term (Begg & Gulliver, 2008). Disruptive patterns of behaviour in childhood often set the stage for impulsive and antisocial behaviour (Office of the Prime Minister's Science Advisory Committee, 2011) and delinquency in adolescence, particularly in males (Broidy et al., 2003). Pacific youth in NZ are over-represented in negative social and health statistics (Ministry of Health, 2008). Research with Pacific youth has revealed intergenerational patterns in gang membership (Ioane, Lambie, & Percival, 2013), exposure to binge drinking and violence in the home (Nakhid, 2009; Statistics New Zealand & Ministry of Pacific Island Affairs, 2011), and compared to other youth in NZ, Pacific youth have lower educational achievement (Harkness, Murray, Parkin, & Dalgety, 2005; Ministry of Business, Innovation, & Employment, 2013), and are less likely to gain tertiary qualifications (Statistics New Zealand & Ministry of Pacific Island Affairs, 2011).

Strong cultural links and healthy relationships with peers, family, and the wider community may be protective in reducing adolescent risk factors (Jose, Ryan, & Pryor, 2012). This paper examines risk and protective factors associated with delinquent behaviour among Pacific youth living in NZ.

## 2. Method

### 2.1. Participants

The Pacific Islands Families (PIF) Study is following a cohort of Pacific children born in Auckland, NZ in 2000 and their parents. All potential participants were selected from births at one hospital where at least one parent identified as being of a Pacific ethnicity and was a NZ permanent resident. The original cohort included 1376 mothers of 1398 Pacific infants (including 44 twins). Children and their families have been visited when the children were aged 6 weeks, and 1, 2, 4, 6, 9, and 11 years. Compared with data available from Statistics New Zealand's 1996 and 2001 censuses, the inception cohort was broadly representative of the Pacific census figures (Paterson et al., 2008).

### 2.2. Procedures

At 11 years postpartum, primary caregivers (typically the mother) of the birth cohort were invited to participate in the seventh measurement wave of the PIF study. Once informed consent was obtained, they participated in interviews concerning family functioning and the health and development of their child. The adolescent participants were interviewed in the school setting (or at home in exceptional circumstances). A more detailed description of recruitment and procedures is available elsewhere (Paterson et al., 2008).

### 2.3. Measures

*Delinquency*: Twenty-four binary-response questions from three distinct psychometric measures were combined to measure delinquency as follows.

*Youth Risk Behaviors*: Fourteen questions based on LONGSCAN-developed questions (Thompson et al., 2011) relating to youth risk behaviours such as using alcohol or other substances, violent or delinquent behaviour.

*Gang Involvement*: Two items from a modified version of the Gang Membership Inventory (Pillen & Hoewing-Roberson, 1992).

*Bullying*: Eight questions on perpetration of bullying; the definition and questions were drawn from the *Revised Olweus Bully/Victim Questionnaire* (OBVQ) (Olweus, 1996). Previous research has found good validity

for self-reported delinquency and violent behavior from various measures (Williams & Nowatzki, 2005).

*Parenting:* The Alabama Parenting Questionnaire (APQ) (Frick, Christian, & Wooten, 1999) is a 42 item scale with five dimensions. They are: 1) Positive involvement; 2) Poor supervision and monitoring; 3) Use of positive discipline techniques; 4) Consistency of discipline; and 5) Use of corporal punishment. The average reliability across APQ scales is 0.68 and the psychometric properties are good. This includes criterion validity in differentiating clinical and non-clinical groups (Dadds, Maujean, & Fraser, 2003).

*Maternal acculturation:* The General Ethnicity Questionnaire (GEQ) (Tsai, Ying, & Lee, 2000) is based on four different varieties of acculturation: assimilation (replacing Pacific with NZ culture), integration (identification with both cultures), separation (maintaining only Pacific culture), and marginalization (withdrawal from both cultures). For the specific purposes of the PIF Study, the scale was shortened and slightly modified thereby developing the Pacific (PI Acculturation) and NZ (NZ Acculturation) versions of the GEQ (Borrows, Williams, Schluter, Paterson, & Langitoto Helu, 2011). The internal consistency of the measure was examined using Cronbach's  $\alpha$ , and was found to be acceptable ( $\alpha = 0.81$  and  $0.83$  for the NZ Acculturation and PI Acculturation respectively).

*Perception of self:* Children's self-perceptions of their physical abilities, parental relationships, peer relationships, general self-perceptions and school performance were assessed using the Self-Description Questionnaire (Marsh, 1994). Responses to the 10 questions were made on a five-point Likert scale and an overall self-perception score was derived as the average of responses. Strong construct validity has been demonstrated (Marsh, 1994).

*Cognitive development:* The Wechsler Intelligence Scale for Children-Fourth edition (WISC-IV) measures intellectual functioning. Scores from four subtests ("vocabulary", "similarities", "block design" and "matrix reasoning") were combined to provide a Wechsler Abbreviated Scale of Intelligence (WASI) score. The WISC has robust psychometric properties (Wechsler, 2003).

*School performance:* Teachers completed a short assessment on a five-point scale (1 = "very poor" to 5 = "excellent") of the child's performance on reading, oral language, written language and mathematics. The four scores were averaged to form a single score (Cronbach's  $\alpha = 0.92$ ).

*Language spoken at home:* Children were asked whether English or a Pacific language was normally spoken in their home.

*Church involvement:* Children were asked whether they attend church regularly.

*Peer pressure:* Children were asked whether they "hang-out with a group of friends on a regular basis" and, if so, had they "ever been pressured by other members of this group into doing something that was not good, even though you didn't want to".

*Perceived social support:* The Multidimensional Scale of Perceived Social Support (MSPSS) is comprised of 12 items and measures perceptions of support from three sources: Family, Friends, and a Significant Other (Zimet, Dahlem, Zimet, & Farley, 1988). Across many studies the MSPSS has been shown to have good internal and test re-test reliability, good validity and a fairly stable factorial structure (Canty-Mitchell & Zimet, 2000).

*Externalising child behaviour:* The 120-item Child Behaviour Checklist (CBCL/6-18) was used in the six and nine-year-olds maternal interviews (Achenbach & Rescorla, 2000). The score for externalising behaviour is derived from 35 questions within two syndromes: *aggression* and *rule breaking*. The CBCL problem behavior scales were normed according to age and gender categories on both clinically referred and non-referred samples of children. To determine clinically relevant cases we used the Achenbach and Rescorla (2000) cut-off values. Extensive psychometric information based on multicultural comparisons is available (Rescorla et al., 2011). Cronbach's  $\alpha$  values ranged from 0.76 to 0.93 within this cohort. Children with any evidence of previous clinical-range externalising behavior (at ages 6 or 9 years) were compared against those without such behavior.

*Intimate partner violence:* The Form R of the Conflict Tactics Scale (CTS) (Straus, 1979) was used to measure maternal intimate partner violence (IPV). Any positive response to questions in the six-item Severe Physical Violence subscale was used to indicate that the child had potentially been exposed to IPV in the home. Psychometric properties of the CTS scales are robust (Straus, 1990).

*Maternal psychological distress:* The 12-item General Health Questionnaire (GHQ12) (Goldberg & Williams, 1988) is widely used to identify current psychological distress in adults at a particular point in time and has been used with maternal participants at every PIF data point. It screens for non-psychotic disorders and focuses on two major areas, the inability to carry out normal functions and the appearance of new and distressing psychological phenomena. Each item was recorded on a four-point Likert scale, such as from "not at all" up to "much

*more[less] than usual*”, which were assigned values 0 to 3. Mothers with three or more responses having values 2 or 3 (a common “binary” method of scoring) were referred to in this study as symptomatic (of psychological distress). High validity coefficients for the GHQ12 of between 0.83 and 0.93 have been reported in a number of settings (Makowska, Merecz, Moscicka, & Kolasa, 2002). Using Cronbach’s  $\alpha$  values the internal consistency of the maternal GHQ scores in the PIF Study were 0.87, 0.85, 0.83, at ages 2, 4, and 6 years respectively.

*Socio-demographics*: The sex of the cohort child was recorded at the beginning of the longitudinal study, i.e. at birth. Likewise, baseline household income was used as a proxy for socio-economic status. Maternal age, marital status, highest education level, and smoking status were recorded concurrently with youth data collection. At age 11, children were asked to self-identify their ethnic identity, and those with multiple ethnic identities/affiliations were asked whether they thought this ever “made things difficult sometimes”.

*Maternal alcohol consumption*: Alcohol consumption was assessed by the Alcohol Use Disorders Identification Test (Saunders, Aasland, & Babor, 1993). Consumption was categorized into binary “drinking” and “non-drinking” categories.

## 2.4. Data Analysis

### 2.4.1. Measuring Delinquency

The 24 binary-response variables on delinquency were entered into a Rasch analysis (Rasch, 1960; Tennant & Conaghan, 2007) to derive a logit score for each adolescent on a latent dimension measuring delinquency. Rasch models were fitted using the eRm package in R (Mair, Hatzinger, & Maier, 2015). The use of the Rasch model ensures that the total score for delinquency represents a reliable, unidimensional, interval level score.

### 2.4.2. Statistical Analysis

Missing values in explanatory variables were dealt with using the technique of multiple imputation via chained equations (van Buuren & Groothuis-Oudshoorn, 2011). Less than 0.6% of values were missing for all variables except for teacher evaluation scores (27% missing). Thirty imputed data sets were generated. Due to a considerable skewness and floor effect in the distribution of delinquency scores, the scores were converted into a four-level ordinal variable. Associations were modelled using a proportional odds logistic regression model (Venables & Ripley, 2002). The proportional odds model produces a single odds ratio for each explanatory variable that is assumed to apply equally to each transition between consecutive levels of delinquency as measured on the ordinal variable. A model including all explanatory variables was fitted using each of the 30 imputed data sets and the model results were then pooled. The assumptions underlying the proportional odds model were evaluated. All analyses were conducted in R version 3.2.0 (R Core Team, 2015).

## 3. Results

### 3.1. Sample Characteristics

Youth assessments were completed for  $N = 950$  children, with approximately equal numbers of boys and girls. Nearly half of the cohort (47%) identified themselves as Samoan, with 23% Tongan, 14% Cook Islanders, and the rest were grouped as “Other” which refers to youth from smaller Pacific ethnic groups (15%). About one in eight children were potentially exposed to IPV (Table 1).

### 3.2. Delinquency Outcomes

The prevalence of delinquent behaviors ranged widely (Table 2). At the least serious end, two items (*staying out later than parents said they should* and *lying to parents*) were each reported by about one in three children. At the most delinquent end, one child admitted to *having tried drugs*, another to *having helped to sell drugs* and a further two children admitted to *having gotten drunk*.

### 3.3. Rasch Analysis

Eight children (0.8%) were excluded from the analysis due to having four or more missing values among the 24 items. Occasional missing values on the remaining 942 children were assumed to be a “No” response, to retain them for the analysis. The Rasch analysis process eliminated two questions (the two most prevalent) as not

**Table 1.** Sample characteristics (N = 950\*).

Variable	Level	N	(%)
Sex	Female	481	(51)
	Male	469	(49)
Youth ethnicity	Samoan	450	(47)
	Tongan	218	(23)
	Cook Islands Maori	136	(14)
	Other	146	(15)
Belonging to multiple ethnic groups	Yes, but no difficulties	194	(20)
	Yes, and it causes difficulties	178	(19)
	No, single ethnic group	578	(61)
Baseline income (NZD p.a.)	Under \$20k	318	(34)
	From \$20k but under \$40k	486	(51)
	\$40k and over	118	(12)
	Unknown	28	(3)
Mother single	Yes	200	(21)
Mother's education	Up to secondary	505	(53)
	Beyond secondary	440	(47)
Mother smokes	Yes (any)	314	(33)
Maternal alcohol consumption	Yes (any)	351	(37)
Maternal acculturation	Assimilation	398	(42)
	Separation	277	(29)
	Integration	96	(10)
	Marginalization	175	(19)
Maternal psychological distress	Non symptomatic	793	(84)
	Symptomatic	155	(16)
Externalising child behavior	Yes	256	(27)
Intimate partner violence	Yes	127	(13)

\*Totals below 950 indicate missing values.

appearing to measure the same construct as the others (Table 2). An acceptable fit to the Rasch model was therefore derived using the remaining 22 items. This model placed the children on the latent delinquency dimension by assigning each a delinquency score. Because 472 children (50%) responded “No” to all 22 questions, the distribution of scores displayed a considerable floor effect and a strong right skewness. Scores were therefore categorized into a four-level ordinal variable for the purpose of regression analysis of associations (Figure 1).

### 3.4. Statistical Model

The proportional odds assumption was tested with a likelihood ratio test that compared the regression model with a multinomial model having separate transition odds for each explanatory variable. No evidence of a violation of the assumption was found ( $X^2 = 39.7$ ;  $df = 70$ ;  $p = 0.99$ ) thus the simpler proportional odds model was acceptable.

**Table 2.** Prevalence for individual delinquency questions from LONGSCAN Risk Behaviors Questionnaire (14 items), Revised Olweus Bully/Victim Questionnaire (8 items) and Gang Membership Inventory (2 items), showing overall sample prevalence within each of the four derived delinquency level groupings.

Question	N	Yes	(%)	Prevalence (%) per level			
				1	2	3	4
Ever tried cigarettes	947	25	2.6	0.0	0.0	3.8	12.3
Ever tried alcohol	947	41	4.3	0.0	3.4	9.0	14.1
Ever tried drugs	947	1	0.1	0.0	0.0	0.0	0.6
Has anyone ever tried to sell you drugs at school	940	9	1.0	0.0	0.6	1.5	3.7
Ever helped anyone sell drugs	946	1	0.1	0.0	0.0	0.0	0.6
Ever stayed out later than your parents said you should*	944	325	34.4	25.3	36.8	42.9	50.9
Ever hurt someone badly enough to need bandages or a doctor	946	86	9.1	0.0	9.2	21.1	25.8
Ever lied to your parents about something important*	941	326	34.6	19.1	41.3	46.6	62.6
Ever taken something from a shop without paying for it	946	65	6.9	0.0	4.0	9.0	28.2
Ever damaged school property on purpose	946	38	4.0	0.0	1.1	6.8	16.6
Ever gotten drunk	939	2	0.2	0.0	0.0	0.8	0.6
Ever had to bring your parents to school because of something you did wrong	946	131	13.8	0.0	13.8	25.6	44.2
Ever stayed out at least one night without permission	946	68	7.2	0.0	9.8	9.0	23.3
Ever skipped a day at school without permission or wagged school	946	51	5.4	0.0	4.0	10.5	18.4
Called another student(s) mean names, made fun of or teased in a hurtful way	943	236	25.0	0.0	27.6	43.6	79.8
Excluded or completely ignored another student	941	93	9.9	0.0	7.5	18.0	34.8
Hit, kicked, pushed and shoved around or locked another student indoors	943	125	13.3	0.0	9.2	17.3	52.1
Spread false rumours and tried to make others dislike another student	943	48	5.1	0.0	2.3	5.3	22.7
Took money or other things from or damaged belongings of another student	943	18	1.9	0.0	0.6	0.0	9.8
Threatened or forced another student to do things	942	24	2.5	0.0	0.6	4.5	10.5
Bullied another student about race or skin colour	942	42	4.5	0.0	0.0	3.8	22.8
Bullied another student with a sexual meaning	943	31	3.3	0.0	2.9	3.0	13.5
Gang involvement in terms of wearing gang colours or using gang signs	944	69	7.3	0.0	2.9	6.0	34.6
Gang representation such as spray painting gang signs or getting into fights	945	18	1.9	0.0	0.6	1.5	9.3

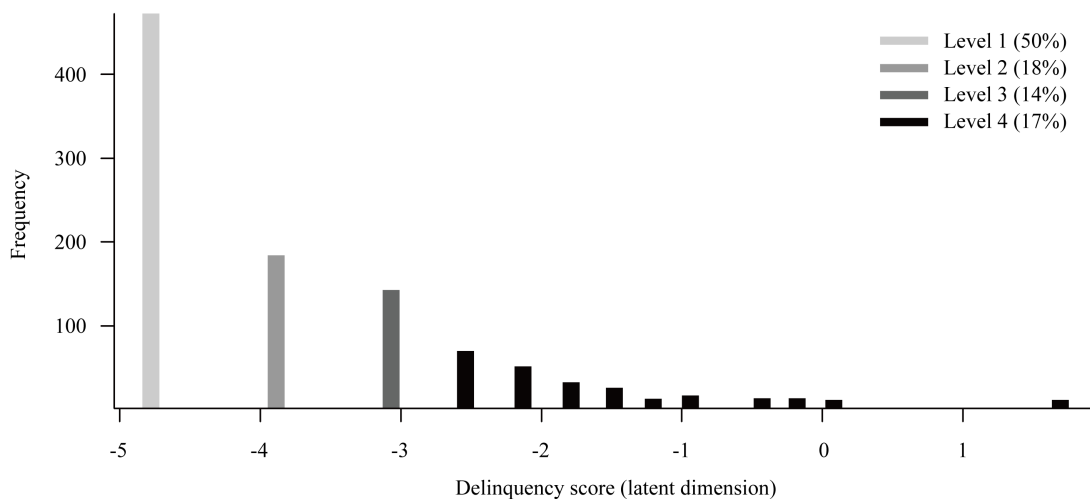
\*These two items were excluded from the Rasch model.

### 3.5. Associations

Regression analyses revealed that boys exhibited greater delinquency than girls (AOR = 1.33,  $p < 0.05$ ). Some ethnic variation was evident, with the “Other” group having close to half the odds of delinquency compared to Samoans (AOR = 0.56,  $p < 0.01$ ), although neither Tongans nor Cook Islands Māori were different from Samoans. Among children who identified with multiple ethnic groups, those who reported that it led to difficulties had higher odds of delinquency than those who didn’t (AOR = 1.68,  $p < 0.05$ ), whereas those with a single ethnic identification showed no difference. In addition, some variation with maternal acculturation revealed that compared to the assimilator group (low Pacific, high NZ), the odds of delinquency in the integrator group (high Pacific, high NZ) was significantly lower (AOR = 0.56,  $p < 0.05$ ).

The biggest risk factor was peer pressure with the strongest effect (largest AOR) on delinquency (AOR =





**Figure 1.** Distribution of delinquency scores derived from a Rasch model, divided into four levels.

3.20,  $p < 0.001$ ). Greater perceived support from a special person increased the odds of delinquency (AOR = 1.29 per scale step,  $p < 0.05$ ), whereas greater perceived support from friends decreased it (AOR = 0.82,  $p < 0.05$ ). Higher self-perception appeared strongly protective against delinquency (AOR = 0.50 per scale step,  $p < 0.001$ ), and higher teacher evaluation scores were also inversely associated (AOR = 0.79 per scale step,  $p < 0.05$ ). No other significant associations were observed ( $p > 0.05$  for the remaining variables) as presented in **Table 3**.

#### 4. Discussion

Consistent with other studies (Thompson et al., 2011), we found that Pacific boys were more likely than Pacific girls to engage in delinquent behaviors. It is suggested that there is a normative developmental trajectory of increasing delinquent behavior, starting in adolescence, with boys showing more delinquent behavior across the whole period of adolescence (Bongers, Coot, van der Ende, & Verhulst, 2003; Moffitt & Caspi, 2001). However, a small group of boys (10%) and girls (1%) may follow a life-course-persistent trajectory (Moffitt, 1993). Continuity between externalising behavior in childhood and delinquent behaviors in early adolescence has been demonstrated in some studies (Farrington, 1997; Thompson et al., 2011), however we found no association between earlier behavior and delinquency in this cohort.

In line with other studies we found the strongest risk factor for delinquency was peer pressure (Gifford-Smith, Dodge, Dishion, & McCord, 2005; Lipsey & Derzon, 1988). Deviant peer affiliation is described as a stronger predictor of delinquent behavior than other variables such as family, school, and community (Elliott & Menard, 1996). Conversely, spending time with prosocial peers may curb involvement in delinquent behaviour (Elliott, 1994). This is highlighted by the significant association we found between perceived support from friends and lower levels of involvement in delinquent behaviours.

There are wide disparities in educational success currently faced by Pacific youth in NZ (Education Review Office, 2013). We found a significant association between high teacher-rated scholastic performance scores and lower levels of involvement in delinquency behaviors. Other studies have shown a strong correlation between low school achievement and delinquency (Moffitt, 1993). Low self-esteem (Rosenberg, Schooler, & Schoenbach, 1989), low academic achievement, and low aspirations (Herrenkohl, Hawkins, Chung, Hill, & Battin-Pearson, 2001) place youth at high risk for delinquency. Consistent with these findings, we found that youth with positive self-perceptions reported significantly lower levels of delinquent behaviour.

Youth from the largest Pacific groups, Tongan, Samoan, and Cook Islands Māori, reported similar delinquent behaviours but the “other” group (youth from smaller Pacific ethnic groups), had half the odds of delinquency compared with the reference group (Samoan). New Zealand’s Pacific people are a dynamic and diverse group represented by at least thirteen distinctive languages and traditions. Although these cultural differences may have some influence on youth behaviour it is likely that the smaller number of participants in the “other” group in the PIF cohort may have impacted on this finding.

**Table 3.** Adjusted odds ratios for associations with delinquent behaviour.

Variable (reference group)	Category	AOR	95% CI
Sex (Female)	Male	1.33	(1.02, 1.75)*
Youth ethnicity (Samoan)	Tongan	1.11	(0.81, 1.54)
	Cook Islands Māori	0.80	(0.52, 1.21)
	Other	0.56	(0.36, 0.87)**
Multiple ethnicities (Yes, but no problem)	Yes, and it's a problem	1.68	(1.11, 2.55)*
	No, just single ethnicity	1.18	(0.82, 1.70)
Baseline income (Under \$20k p.a.)	\$20 - 40k	0.98	(0.74, 1.31)
	\$40k+	1.07	(0.69, 1.66)
	Unknown	1.82	(0.89, 3.73)
Household size (2 - 4 members)	5 - 7 members	0.94	(0.64, 1.38)
	8 or more	0.86	(0.56, 1.32)
Mother single (No)	Yes	1.10	(0.78, 1.55)
Mother's education (up to secondary)	Beyond secondary	1.20	(0.91, 1.58)
Mother smokes (No)	Yes	0.97	(0.72, 1.30)
Mother drinks alcohol (No)	Yes	1.14	(0.84, 1.56)
Mother's cultural orientation group (Assimilation)	Separation	1.30	(0.87, 1.94)
	Integration	0.56	(0.34, 0.92)*
	Marginalization	1.02	(0.69, 1.49)
Mother's GHQ (non-symptomatic)	Symptomatic	1.33	(0.94, 1.86)
Parental involvement <sup>†</sup>		1.24	(0.91, 1.70)
Positive parenting <sup>†</sup>		0.88	(0.63, 1.23)
Poor monitoring/supervision <sup>†</sup>		1.24	(0.86, 1.78)
Inconsistent discipline <sup>†</sup>		1.06	(0.83, 1.34)
Corporal punishment <sup>†</sup>		1.14	(0.93, 1.39)
Previous externalising (No)	Yes	1.20	(0.89, 1.60)
Goes to church (No)	Yes	0.86	(0.60, 1.22)
Language at home (Pacific)	English	0.94	(0.69, 1.27)
Self-perception score <sup>†</sup>		0.50	(0.36, 0.71)***
Intimate partner violence (No)	Yes	1.10	(0.75, 1.62)
Peer pressure (No)	Yes	3.20	(2.25, 4.56)***
Special person score <sup>†</sup>		1.29	(1.02, 1.61)*
Family support score <sup>†</sup>		0.84	(0.66, 1.07)
Friend support score <sup>†</sup>		0.82	(0.68, 1.00)*
Teacher evaluation score <sup>†</sup>		0.79	(0.63, 0.98)*
WASI score (standardised) <sup>†</sup>		0.97	(0.78, 1.19)

AOR = Adjusted Odds Ratio, CI = confidence interval, <sup>†</sup>per step on scale; \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .



Maternal acculturation was also significantly associated with delinquent behaviour, with youth whose mothers who were categorized as integrators (high Pacific/high NZ) having lower odds for youth delinquency than youth of mothers who were categorized as assimilators (low Pacific/high NZ). This indicates that mothers who move easily between cultures and are highly connected to both Pacific culture and NZ culture provide a cultural family context that protects against engagement in delinquent behaviour. Some Pacific youth in the cohort identified with multiple ethnic groups and those who reported that it led to difficulties had higher odds of delinquency than those who did not reveal difficulties. The involvement of Pacific youth in delinquent behavior is complicated by the socio-cultural constructs and values within the diverse Pacific communities in NZ. Pacific writers suggest that many Pacific youth struggle to forge an identity as they often do not affiliate with traditional social and cultural values of their parents or those of their country of birth (Mulitalo, 2001; Tiatia, 1996), potentially contributing to an increased risk of delinquent behaviour. Moreover, Pacific youth in NZ may be appropriating global cultures to create their own self-identifications with a number of Pacific youth adopting an ethos around urban rap and street gangs (Tupuola, 2000, 2004).

### Strengths and Limitations

The longitudinal PIF Study provides information from a large and culturally diverse cohort of Pacific youth within NZ (Paterson et al., 2008). The questionnaires are administered in interview format by trained researchers which contribute to reliability and validity. However, some participants may under-report their behaviours due to the social unacceptability of revealing delinquent behaviours. These limitations are acknowledged; however in large scale studies such as the PIF Study, self-report is usually the most feasible option for measurement.

There is no single path to delinquency, however these findings suggest that feeling good about oneself during the school years through strong peer relationships and educational success is likely to set in motion the pathway to a positive future. Building up self-esteem, providing opportunities for young people to achieve (Rutter, 1987), and designing anti-delinquency measures in the school context are likely to contribute to a decrease in delinquent behavior. Building positive peer relationships by harnessing the power of prosocial peers has had demonstrable success in reducing antisocial and delinquent behavior (Harrell, Cavanagh, & Sridharan, 1999).

Accessible and appropriate services for Pacific youth are needed to help young people realize their full potential (Ministry of Social Development, 2009), and interventions need to be created for Pacific youth that consider the overarching context of Pacific cultural traditions. Further in-depth research is necessary to explore the issues that youth from diasporic cultural backgrounds face as they progress through adolescence and find their place in the world.

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