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# Uneven progress in reducing exposure to violence at home for New Zealand adolescents 2001–2012: a nationally representative cross-sectional survey series

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Family violence is a global problem,<sup>1</sup> predominantly comprised of intimate partner violence, child abuse and maltreatment, and elder abuse, but also including violence between other family members. New Zealand (NZ) has among the highest reported rates in the developed world for intimate partner violence (IPV), the most frequently reported form of family violence between adults in the home.<sup>2</sup> While direct exposure to child maltreatment has numerous negative impacts for children and adolescents,<sup>3,4</sup> witnessing physical or emotional violence between adults in the home has additional negative consequences. For example, through a longitudinal investigation, Sousa et al. showed that exposure to IPV in childhood was associated with reduced parental attachment and increased risk of antisocial behaviour in adolescence.<sup>5</sup> A review of the impact of childhood and adolescent exposure to IPV by Holt and colleagues highlighted that this exposure is associated with a range of adversities, including increased risk of personal experience of violence and the development of emotional and behavioural problems.<sup>6</sup>

Since the 1980s, there has been heightened political activity in the area of family violence in New Zealand,<sup>7</sup> as in many other nations.<sup>8</sup> In 1995, New Zealand introduced The *Domestic Violence Act 1995* (DVA) to “reduce and prevent violence in domestic relationships”,<sup>9</sup> with numerous initiatives designed to reduce family violence since this time (see the

## Abstract

**Objective:** To explore trends, and identify risk factors, that may explain changes in adolescent exposure to family violence over time.

**Methods:** Data for this study was drawn from the Youth 2000 series of cross-sectional surveys, carried out with New Zealand high school students in 2001, 2007 and 2012. Latent class analysis was used to understand different patterns of exposure to multiple risks for witnessing violence at home among adolescents.

**Results:** Across all time periods, there was no change in witnessing emotional violence and a slight decline in witnessing physical violence at home. However, significant differences were noted between 2001 and 2007, and 2007 and 2012, in the proportion of adolescents who reported witnessing emotional and physical violence. Four latent classes were identified in the study sample; these were characterised by respondents’ ethnicity, concerns about family relationships, food security and alcohol consumption. For two groups (characterised by food security, positive relationships and lower exposure to physical violence), there was a reduction in the proportion of respondents who witnessed physical violence but an increase in the proportion who witnessed emotional violence between 2001 and 2012. For the two groups characterised by poorer food security and higher exposure to physical violence, there were no changes in witnessing of physical violence in the home.

**Implications for public health:** In addition to strategies directly aimed at violence, policies are needed to address key predictors of violence exposure such as social disparities, financial stress and alcohol use. These social determinants of health cannot be ignored.

**Key words:** family violence, adolescents, public policy, risk factors

Supplementary file for more detail). However, generally these initiatives have focused on addressing proximal risk factors such as help-seeking, or the personal characteristics of the victim and/or perpetrator.<sup>10</sup> In contrast, few interventions designed to address family violence have addressed distal risk factors such as poverty, alcohol abuse, intergenerational trauma<sup>11</sup> or the impact of colonisation.<sup>12</sup> Lack of attention to these issues is problematic, particularly as some of

these distal risk factors may have worsened, for example, following the Global Financial Crisis in 2008.<sup>13</sup>

With the exception of administrative (government agency) data, there are no routine collections of family violence exposure in New Zealand.<sup>14</sup> Changes in prevalence estimates, as reflected in administrative data sources, may suggest increased awareness or policy shifts. For example, reports of concern to New Zealand’s

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statutory agency for responding to child maltreatment increased substantially between 2000 and 2005. However, the increase was largely driven by a more active approach to reporting, and closer working relationships between the agency and the police.<sup>15</sup> In addition, while continual increases in family violence incidents reported to the police in New Zealand have been attributed to increased public awareness and an increased public willingness to report incidents,<sup>16</sup> there is a lack of empirical evidence to support these claims. Therefore, no robust evidence is available to allow the documentation of changes in family violence exposure over time.<sup>14</sup> Similarly, little is known about change in rates of witnessing violence by children and young people and by various groups of children and young people. This limits effective action, as good-quality, routine data collection and indicators can “create awareness, guide legislative and policy reforms, ensure adequate provision of targeted and effective services, monitor trends and progress ... and assess the impact of measures taken.”<sup>17(p2)</sup> However, while not collected routinely, New Zealand has had three waves of an adolescent health survey, conducted by researchers from the University of Auckland, that provides the ability to report on young people’s exposure to violence over the past decade.<sup>18</sup>

The dual aims of this study were to: 1) explore changes in adolescent reports of witnessing violence at home over the decade 2001–2012; and 2) explore both proximal and distal risk factors that may explain differences in adolescent exposure to violence at home by survey wave as well as across time among groupings of young people. Understanding exposure to violence and trends in exposure to violence among different clusters of young people is necessary to inform the development of appropriate intervention and policy approaches.

## Methods

The Youth 2000 series is a set of three cross-sectional surveys, conducted in 2001, 2007 and 2012, of nationally-representative samples of high school students in New Zealand. A brief overview of the methods is presented below (with detailed methods published elsewhere).<sup>19,20</sup>

**Sample selection:** A two-stage sample cluster design was used for each wave of the survey to ensure a representative sample of high

school students (age range 12 to 19 years old). Approximately one-third of NZ schools were invited to participate in each wave. Of the schools invited, 85.7% participated in 2001, 83.5% in 2007, and 72.8% in 2012. From each school, students were randomly selected from the school roll. Of the students invited, 74% participated in 2001 and 2007, and 68% in 2012.<sup>18</sup> The 2007 and 2012 surveys had a slightly higher proportion of older students (aged 17 and older) and the proportion of students who identified themselves as Māori (indigenous people of New Zealand), Pacific, Asian and an ‘Other’ ethnicity increased.<sup>18</sup>

**Data collection:** The survey was administered via computer-assisted self-interviewing techniques on lap-tops (2001) or internet tablets (2007 and 2012). Questions were read aloud (with voiceover technology via headphones), and also appeared in text, and could be completed in English or in Te Reo Māori (the Māori language). To maximise privacy, study personnel administered the survey in venues such as the school hall or gymnasium, with seating arranged so that participants were at a suitable distance from each other. No school staff were present while participants were completing the survey.

## Main outcome measure - exposure to violence in the home

Survey respondents were asked:

### *Witnessed emotional violence*

During the past 12 months, how many times have you seen adults in your home yelling or swearing at a child (other than you)?

During the past 12 months how many times have you seen adults in your home yelling or swearing at each other?

### *Witnessed physical violence*

During the past 12 months, how many times have you seen adults in your home hitting or physically hurting a child (other than you)?

During the past 12 months how many times have you seen adults in your home hitting or physically hurting another adult?

The response options were: Never; Once or twice; About once or twice a month; About once or twice a week; Most days. Consistent with previous reports using these measures,<sup>18</sup> and reports of intimate partner violence employed by the World Health Organization Multi-country on Violence Against Women,<sup>21</sup> an ever/never measure was used for witnessing emotional and/or physical

violence. Within this study, no information was collected on the gender of the adult(s) using violence in the home, or the adult’s relationship to survey participant(s).

Potential explanatory variables were identified *a priori*, based on their relevance to family violence (age, ethnicity and family relationships), and likelihood of being influenced by public policy (food security concerns) or public debate (youth alcohol consumption) in the period covered. Public debate was included because, for example, while there was an absence of alcohol policy development in the period under consideration, youth alcohol consumption was regularly debated at a population level and highlighted within the media.<sup>22</sup> Only variables consistently measured in each wave of data collection were included. The variables were:

- **Age:** Older survey responders are expected to spend less time in the home environment and therefore potentially be less aware of physical or emotional violence. The age of the respondent was categorised as 13 and under, 14, 15, 16, or 17 and older.
- **Ethnicity:** Survey respondents self-reported their ethnicity. Multiple responses were permitted, and 24 options were available. Ethnicity responses were allocated to a single ethnic group using the NZ census ethnicity prioritisation method: Māori; Pacific; Asian; ‘Other’ ethnic groups (except NZ European); NZ European.<sup>29</sup>
- **Food security concerns:** We sought to determine whether exposure to physical or emotional violence was dependent on socioeconomic status. However, we were conscious that adolescents may have a limited understanding of their parents’ or caregivers’ incomes. As such, we included responses to a question about food security concerns as a marker for limited resources: Do your parents, or the people who act as your parents, ever worry about not having enough money to buy food? Response options were Never; Occasionally; Sometimes; Often; All the time.
- **Family relationships:** A measure of the respondent’s perception of their family relationships was included to provide an indicator of the impact of exposure to adult physical or emotional violence at home. Survey participants were asked: How do you view your relationships with your

family? Response options were: I am happy about how we get on; Family relationships are neither good nor bad; Getting on with my family is causing me problems.

- *Consumed alcohol:* There are strong associations between alcohol consumption and violence experience.<sup>23</sup> As alcohol consumption follows familial patterns,<sup>24</sup> we identified whether survey respondents had consumed alcohol (Yes/No) to provide an indicator of alcohol consumption within the home.

## Analysis

Descriptive analyses were conducted using StataSE 11.2. Missing data including: Don't know; Don't remember, and no responses were excluded from analyses.

Independent logistic regression models were used to explore the impact of associated variables on the likelihood of witnessing emotional or physical violence at home and to identify variables for inclusion in the latent class analysis. Using statistical modelling to select variables for inclusion in latent class analysis serves two functions: it increases the interpretability of the model, and improves classification performance and the precision of parameter estimates.<sup>25</sup> Results of logistic regression are expressed as odds ratios, controlling for survey wave where appropriate. Latent class analysis was

conducted using SAS<sup>26</sup> to identify groups within the population. Latent class analysis is a person-centred approach used to identify set(s) of mutually exclusive subgroups with respect to the outcome of interest, based on patterns of responses to categorical variables. Among other applications, latent class analyses have been used to determine whether patterns of sub-types of intimate partner violence exist,<sup>27,28</sup> to identify drinking patterns<sup>29</sup> and to identify factors associated with socioeconomic deprivation.<sup>30</sup> In the current analysis we use latent class analysis to better understand the impact of exposure to patterns of multiple risks,<sup>31</sup> highlighting subgroups within the population for whom more comprehensive interventions may need to be considered. The Akaike Information Criteria (AIC), Bayesian information criterion (BIC) and G<sup>2</sup> statistics were compared to identify the latent class model with best fit.<sup>32</sup>

## Results

There was a significant reduction in witnessing emotional violence between 2001 and 2007 (2001, 59.52%; 2007 57.10%,  $p < 0.001$ ) and a significant increase between 2007 and 2012 (2007, 57.10; 2012 61.09%,  $p < 0.001$ ). In contrast, there was a significant increase in witnessing physical violence in the home between 2001 and 2007 (2001, 17.47%; 2007, 18.97%,  $p = 0.008$ ) and a significant

reduction between 2007 and 2012 (2007, 18.97; 2012, 15.81%,  $p < 0.001$ ). Overall, from 2001 to 2012, there was no change in youth reports of witnessing of emotional violence at home (Chi-squared test for trend 2001 to 2012 [1 df] = 2.42,  $p = 0.12$ ). There was a slight decline in youth reports of witnessing physical violence, (Chi-squared test for trend 2001 to 2012 [1 df] = 7.94,  $p = 0.005$ ).

## Logistic regression and latent class analysis

Among hypothesized explanatory variables, food insecurity, alcohol use (by the young person), ethnicity and concerns about family relationships were associated with witnessing emotional or physical violence at home (Table 1). We compared the complete model, including year of data collection as an explanatory variable and a model excluding year of data collection, as the effect of time appeared minor. The regression coefficients and standard errors changed very little, suggesting that changes in likelihood of witnessing emotional or physical violence at home were influenced more by food security, alcohol consumption, ethnicity and family relationships than time (Table 1).

Latent class analysis was used to identify groups within the population with different patterns of witnessing violence at home. Two, three and four class models were compared.

**Table 1: Logistic regression model: Variables associated with witnessing emotional or physical IPV at home.**

	Witnessed emotional IPV						Witnessed physical IPV					
	Model including time and age			Model excluding time			Model including time and age			Model excluding time		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
	LCI	UCI	LCI	UCI	LCI	UCI	LCI	UCI	LCI	UCI	LCI	UCI
Survey year	1.03	1.02	1.03				0.99	0.99	1.00			
Age	1.00	0.97	1.02	1.00	0.98	1.02	0.89	0.86	0.92	0.89	0.86	0.91
<b>Ethnicity</b>												
Māori												
Pacific	0.70	0.63	0.79	0.72	0.64	0.80	1.86	1.63	2.09	1.84	1.63	2.08
Asian	0.60	0.54	0.67	0.60	0.54	0.67	0.86	0.75	0.99	0.89	0.77	1.02
Other	0.68	0.59	0.79	0.70	0.6	0.81	0.64	0.52	0.77	0.65	0.54	0.79
NZ European	0.88	0.82	0.95	0.88	0.81	0.95	0.54	0.50	0.60	0.55	0.50	0.60
<b>Food security concerns</b>												
Never												
Occasionally	1.72	1.60	1.86	1.74	1.61	1.88	1.57	1.42	1.72	1.54	1.40	1.69
Sometimes	1.77	1.61	1.95	1.80	1.63	1.98	1.98	1.78	2.21	1.94	1.74	2.17
Often/all of the time	2.09	1.87	2.35	2.15	1.92	2.41	2.64	2.36	2.99	2.56	2.29	2.87
<b>Family relations</b>												
Happy about how we get on												
Relationships neither good nor bad	2.63	2.45	2.82	2.57	2.39	2.75	2.46	2.27	2.67	2.44	2.25	2.64
Causing me problems	4.92	4.24	5.71	4.80	4.15	5.57	4.76	4.22	5.36	4.69	4.17	5.29
<b>Consume alcohol</b>												
Yes												
No	0.62	0.58	0.66	0.65	0.61	0.69	0.83	0.76	0.91	0.81	0.74	0.88

The four-class model was the best fit for the data. Respondents' characteristics for each of the four classes (groups) and the changes in the percentage who witnessed emotional or physical violence in the home are described below and in Figure 1 and Table 2 (ranked in terms of their overall size):

*Group 1 (Young people who were happy with how their family got on, wealthy, drinkers with low physical violence exposure and moderate emotional violence exposure):* Increased witnessing of emotional violence in the home (2001, 58.04%; 2007, 56.91%; 2012, 61.68%, Chi-squared test for trend 2001 to 2012 [1df] = 8.47,  $p=0.004$ ); reduced witnessing of physical violence at home (2001, 13.73%; 2007 14.48%; 2012, 11.14%, Chi-squared test for trend 2001 to 2012 [1df] = 9.09,  $p=0.003$ ).

*Group 2 (Young people who were happy with how their family got on, relatively wealthy, non-drinkers with low exposure to physical violence at home):* Increased witnessing of emotional violence at home (2001, 44.76%; 2007, 45.19%; 2012, 50.39%, Chi-squared test for trend 2001 to 2012 [1df] = 15.37,  $p<0.001$ ); reduced witnessing of physical violence at home (2001, 12.53%; 2007, 15.02%; 2012, 10.24%, Chi-squared test for trend 2001 to 2012 [1df] = 9.57,  $p=0.002$ ).

*Group 3 (Less well-off, drinkers, ambivalent about family functioning, with highest exposure to emotional violence and high exposure to physical violence):* Increased witnessing of emotional violence in the home (2001, 75.80%; 2007, 75.59%; 2012, 81.81%, Chi-squared test for trend 2001 to 2012 [1df]

= 16.53,  $p<0.001$ ); no change in witnessing of physical violence at home (2001, 28.05%; 2007, 33.94%; 2012, 28.9%, Chi-squared test for trend 2001 to 2012 [1df] = 0.85,  $p=0.36$ ) over time.

*Group 4 (Poorest group, mainly non-drinker, mostly happy with family functioning, moderate exposure to emotional violence, highest exposure to physical violence):* No change in witnessing of emotional violence (2001, 54.29%; 2007, 55.53%; 2012, 57.94%, Chi-squared test for trend 2001 to 2012 [1df] = 1.41,  $p=0.23$ ) or physical violence at home (2001, 33.24%; 2007, 39.53%; 2012, 33.19%, Chi-squared test for trend 2001 to 2012 [1df] = 0.18,  $p=0.67$ ) over time.

## Discussion

In this large nationally-representative sample, there have been few sustained changes in witnessing physical or emotional violence at home for New Zealand high school students from 2001 to 2012 across the total sample. However, there were changes between 2001 and 2007: a significant reduction in witnessing emotional violence, and a significant increase in witnessing physical violence. These changes were reversed between 2007 and 2012.

There were also differences in the overall prevalence of witnessing violence and in trends in witnessing violence among different population groupings identified via latent class analysis. For two groups (characterised by food security, positive relationships

and lower exposure to physical violence), there was a reduction in the proportion of respondents who witnessed physical violence but an increase in the proportion who witnessed emotional violence between 2001 and 2012. For the two groups characterised by poorer food security and higher proportion who witnessed physical violence, there were no changes in witnessing of physical violence in the home between 2001 and 2012. While any reduction in witnessing physical violence is beneficial, differing exposure patterns reported by the four groups underscore the importance of considering and acting on distal risk factors such as food security concerns, alcohol consumption, adolescent perceptions of family relationships and ethnicity in addition to the development of family violence policy. Further, real cultural shifts are required to produce a sustainable reduction in the impact of violence on our families.<sup>33</sup> While it is apparent that there were some positive changes in witnessing emotional violence at home between 2001 and 2007, this reversed in the period 2007–2012. It was between 2007 and 2012 that NZ, like many countries around the world, was hit by the global financial crisis, as well as a number of significant seismic and environmental events.

At a national and international level, there are few studies that provide ongoing monitoring of violence victimisation and none that monitor youth exposure to violence at home on an ongoing basis. Understanding children and young people's exposure to violence is fundamentally important in the efforts to eliminate all forms of violence against women and girls, which is a key activity in improving gender equality as identified in the United Nations Sustainable Development Goals.<sup>34</sup> It is also important as early life exposure to violence between adults has been consistently identified as a risk factor that increases an individual's likelihood to perpetrate or become a victim of violence as an adult.<sup>2</sup>

While in New Zealand, as in many other countries, the indigenous population has higher rates of exposure to family violence than people of other ethnicities, the present study highlights the interactions that occur between ethnicity and other distal risk factors, rather than focusing on ethnicity as a sole determinant. Specifically, the latent class analysis conducted in the current investigation highlighted that students who witnessed violence at home came from a

**Table 2: Characteristics of latent class analysis groups.**

Variable	Group 1 N=13,930	Group 2 N=6,391	Group 3 N=5,154	Group 4 N=1,482
<b>Ethnicity</b>				
Māori	21.1%	11.3%	40.2%	0%
Pacific	6.4%	5.5%	3.2%	100%
Asian	7.7%	24.6%	4.1%	0%
Other	4.3%	7.2%	4.0%	0%
NZ European	60.5%	51.4%	48.4%	0%
<b>Food security concerns</b>				
Never	84.8%	71.9%	0%	0%
Occasionally	15.3%	17.1%	31.1%	16.3%
Sometimes	0%	7.8%	37.4%	46.0%
Often/all of the time	0%	3.3%	31.5%	37.7%
<b>Family relations</b>				
Happy about how we get on	73.2%	81.3%	30.2%	70.2%
Relationships neither good nor bad	21.1%	16.6%	50.4%	28.2%
Causing me problems	5.7%	2.1%	19.4%	1.7%
<b>Consume alcohol</b>				
Yes	100%	0%	91.3%	37.8%
No	0%	100%	8.7%	62.2%



wide range of backgrounds. While Māori were over-represented in Group 3 (relatively high violence experience), they were also over-represented in Group 1 (relatively low violence experience). While all of the students in Group 1 reported that their parents had sufficient money for food, 37% of Group 3 (the group with the highest rates of witnessing emotional violence) reported that their parents sometimes worried about having sufficient money for food. Rather than criminalising and pathologising individuals that experience or perpetrate violence, the Second Māori Taskforce on Whanau Violence has highlighted the need for a stronger focus on ensuring the strength, safety, identity and prosperity of all whanau members.<sup>35</sup> This call to action is supported by evidence from The NZ Family Violence Death Review Committee, which reported that between 2009 and 2015, Māori living in neighbourhoods with the lowest deprivation levels were neither victims nor perpetrators in family violence-related death events.<sup>36</sup>

While there was no single determinant of latent class analysis group membership, none of Group 2 consumed alcohol yet, between 2000 and 2012, a higher proportion of Group 2 reported witnessing emotional violence at home. All of Group 4 were members of Pacific communities, and at all points in time, witnessing emotional and physical violence at home was higher in Group 4 than Group 2. Group 4 also contained the highest proportion of respondents who reported that their parents sometimes or always worried about having sufficient money for food (83%). Findings across all groups identified in this study point to the importance of having access to material and other resources that might assist people to combat adversity as being an important contributor to reduced violence exposure. Further, Waldegrave and colleagues have highlighted the importance of values, beliefs, culture and spirituality to foster resilience in Māori, Pacific and New Zealand European families faced with adversity. The role of government in fostering conditions that create resilience has also been emphasised:

*"... if government services were to adopt an approach to enhance family resilience, then their staff orientation and management could be reoriented to act as useful resources for sole parent families to draw on in managing their lives. They would maintain the role of providing income and benefit support, but also provide a range of helpful social support alongside employment help."<sup>37</sup>(p685)*

### Strengths and limitations

We have sought to understand whether changes in a young person's exposure to violence in the home was dependent on certain key characteristics of survey respondents. Our empirical investigation is based on a series of cross-sectional surveys using representative samples of NZ secondary school students. The study comes with several limitations, which may affect the results.

*Lack of gendered analysis:* Substantial evidence points towards inter-adult violence in New Zealand being intimate partner violence, to the point that the New Zealand Police consider violence that occurred at

home as a key indicator of family violence.<sup>15</sup> While men do experience intimate partner violence, women are the predominant victims. Between 2009 and 2015, in 98% of intimate partner violence death events where there was a recorded history of abuse, women were the primary victim, abused by their male partner.<sup>38</sup> In the current study, no information was gathered on the gender of the victim or perpetrator in the physically or emotionally violent events observed. Further, we have chosen not to analyse the data by gender, as we have no reason to believe that boys or young men are exposed to violence between parents at any different rates than

Figure 1: Witnesses emotional (a) or physical (b) violence in the home over time.



girls or young women. We acknowledge, however, the significant impact of intimate partner violence on New Zealand families. Future research would benefit from a gendered analysis of the impact of witnessing intimate partner violence for adolescent girls and adolescent boys.

**Measures:** While respondents were asked to report exposure to adult physical or emotional violence at home, no information was gathered on the nature of the relationship between the perpetrators and victims, their relationship to the survey respondent, or the gender of the adults involved. However, distress in children as a result of exposure to angry adult interactions is not limited to familial relationships.<sup>39</sup> Indeed, evidence exists that there are increased risks of negative psychological outcomes for children exposed to violence from a number of different sources, as well as for the strong relationship between intimate partner violence and other forms of violence.<sup>40</sup> This study has provided a limited assessment of young people's exposure to violence, focusing only on physical and emotional violence. A more comprehensive measure including other forms of violence (such as sexual and/or financial) may have generated different trends over time. While there are strong associations between various forms of violence as experienced by women,<sup>41</sup> few tools were available for the valid measurement of financial abuse until relatively recently, and these are based on direct report by victims. It is not known to what extent young people would have awareness of these aspects of abuse between adults. Overall, and as with all violence prevalence studies, only that which was reported has been presented in the current analysis. As such, this is likely to be an underestimate.

**Survey sample:** As highlighted in the methods, there were small changes in the demographic characteristics of the survey samples over time. Specifically, the proportion of New Zealand European respondents reduced and the proportion of respondents who were Māori, Pasifika, Asian or an other ethnicity increased. While it is possible that this change in demographics may have contributed to the relatively small changes in reporting of physical or emotional violence exposure over time, there was no single variable that determined latent class membership. Further, the increases in ethnic diversity occurred in both the 2007 and 2012 data

collection points, where there was no consistent change (increase or decrease) in reporting of witnessing violence. While consistent methods and measures were used to minimise reporting differences, observed differences may be artefacts from a changing sample structure over time. We sought to control for such differences by controlling for data collection year in logistic regression models. However, it is possible that other, unmeasured sample variations may have produced the differences observed.

**Contextual factors:** In New Zealand, as with other countries around the world, increased acknowledgement of the prevalence and impact of family violence has led to the development of prevention campaigns such as 'It's Not OK'.<sup>42</sup> Such campaigns can have the dual effect of reducing the prevalence of violence experience as a result of better understandings of healthy relationships, as well as increased reporting of experiences of violence due to improved understanding of unhealthy behaviours within relationships. While these effects may have contributed to the reduction in exposure of adolescents to physical violence, and the increased reports of exposure to emotional violence between 2007 and 2012 for Groups 1 and 2, the cross-sectional nature of the surveys means that although a number of associations have been observed, causality cannot be determined.

**Measures used in the current analysis:** We have specifically sought to include measures that have previously been shown to have a strong relationship with violence, and that are hypothesised to be risk factors.<sup>43</sup> The Youth 2000 series contain a large number of variables, some of which are unlikely to bear a relationship with violence experience, and others of which could be considered outcomes of early life exposure (such as truancy, running away from home). Indeed, the association between alcohol consumption and violence exposure has been shown to be bi-directional.<sup>44</sup> It is possible that other measures not included in the current analysis would contribute further to the patterns described.

## Conclusion

Violence prevention policies should not be developed in isolation. The wider social determinants of health also need to be taken into account, and policy changes that impact on welfare provision or other social determinants should also consider potential

impacts on violence exposure. Action across all of these determinants is necessary to ensure that the benefits of any family violence reduction policies are shared across the whole population. Sustained responses to reducing family violence and other social inequalities is likely to require a cross-party commitment to an overall framework, which needs to include a long-term, and well-resourced, implementation plan. This needs to be guided and supported by a considered and stepped approach for the design, implementation, monitoring and evaluation of national strategies evolving from the policy framework.

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## Supporting Information

Additional supporting information may be found in the online version of this article:

**Supplementary File:** New Zealand family violence policies and strategies, 1999-2010.