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Women's initiation of physical violence against an abusive partner outside of a violent episode

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Abstract

This paper explores women's use of physical violence against an abusive male partner, outside of the context of a violence episode. Data were drawn from the New Zealand Violence Against Women Study, a cross-sectional household survey conducted using a population-based cluster sampling scheme. Logistic regression analysis was used to identify factors associated with women initiating physical violence against their male partners. Of the 845 women who had experienced physical violence perpetrated by their intimate partner, 19% reported physically mistreating their partner at least once outside of a male initiated violent episode, while 81% never initiated violence against their partner. Analyses showed that women's initiation of violence under these circumstances was strongly associated with: either or both partners having alcohol problems, her recreational drug use, her number of violent partners and her mother being hit or beaten by her father when she was a child.

Key words: women's violence against male partners, intimate partner violence, factors associated with women's use of violence

Intimate partner violence is recognised as a global public health emergency (World Health Organization, 2013). A growing number of population based-surveys have measured the prevalence and overlap of types of IPV, most notably the *WHO Multi-Country Study on Women's Health and Domestic Violence Against Women (WHO Multi-country Study)*, which collected data on IPV from more than 24,000 women in 10 countries. In this study, between 15% and 71% of women reported experiencing physical and sexual violence, or both, by an intimate partner at some point in their lives (García-Moreno, Jansen, Ellsberg, Heise, & Watts, 2005). These findings are similar to those reported in Demographic and Health Surveys (DHS) from 10 countries: with lifetime prevalence of IPV reported by women ranging from 16% in the Dominican Republic to 75% in Bangladesh (Kishor & Johnson, 2004). In the New Zealand replication of the WHO Multi-Country Study, 1 in 3 women reported having experienced physical or sexual IPV in their lifetime (J. L. Fanslow & E. M. Robinson, 2004).

The majority of IPV is perpetrated by men against their female partners (García-Moreno, et al., 2005; World Health Organization, 2013). However, Demographic Health Surveys from 10 countries also asked married women about whether they had been violent towards their husbands. From the three countries where data was available for all ever-married women on violence against their husbands: 4% of women in Cambodia reported having physically abused their partner at some time; in Haiti 5%; and in Dominican Republic 13%. In all countries, women who were themselves abused were more likely to report having abused their partners. For example, 15% of ever-abused women in Haiti compared to 1% of never-abused women reported mistreating their partner. In Dominican Republic, 29% of physically abused women reported having beaten their partner, compared with 9% of women who never experienced physical IPV. However, the authors caution that since the question did not explicitly include acts committed in response to a perceived or known threat, it remains unclear how much of the violence reported by women occurred a) because the women, who had already experienced abuse, were acting violently in anticipation of further abuse or b) how much of

the violence, perpetrated by women, was due to women initiating abuse without any known threat (Kishor & Johnson, 2004).

The WHO Multi-Country study (2005) also asked women who reported IPV experiences about whether they had ever hit, or physically mistreated their partner when he was not hitting or mistreating them. Similar to the Demographic Health Surveys (2004) described above, the majority of women never physically mistreated or hit their partner when he was not already abusing them: with between 70% and 99% of abused women reporting that they never abused their partner (García-Moreno, et al., 2005).

The majority of existing studies of risk of IPV perpetration have examined health and family factors in relation to men's perpetration of violence towards women. Factors such as childhood exposure to violence and alcohol problems, have been associated with perpetration of violence (Abramsky, et al., 2011; World Health Organization, 2009; World Health Organization/London School of Hygiene and Tropical Medicine, 2010). (Finkelhor & Turner, 2009; Finkelhor, Turner, Ormrod, & Hamby, 2010; García-Moreno, et al., 2005; Hamby, Finkelhor, Turner, & Ormrod, 2011; Kishor & Johnson, 2004). For instance, studies suggest that children who are subjected to harsh physical punishment who are physically abused themselves, or who witness their mothers being beaten are more likely to abuse their partners or be in abusive relationships later in life (Abramsky, et al., 2011; Ehrensaft, Moffitt, & Caspi, 2004; Hamby, Finkelhor, Turner, & Ormrod, 2010; Holt, Buckley, & Whelan, 2008; World Health Organization, 2009). This finding is supported by results from the WHO Multi-Country Study (2005), which indicated that women were more likely to experience IPV by a male partner when both she and her partner had been exposed to abuse against their mother (Abramsky, et al., 2011).

Studies exploring risk factors for perpetration of violence also show a strong and consistent association with misuse of alcohol (Abramsky, et al., 2011; Connor, Kypri, Bell, & Cousins, 2011; Graham & Bernards, 2008; Hindin, Kishor, & Ansara, 2008). One systematic review found that harmful use of alcohol was associated with a 4.6 fold increased risk of violence perpetration

compared to mild or no alcohol use (Gil-González, Vives-Cases, Álvarez-Dardet, & Latour-Pérez, 2006). The association between alcohol and perpetration of violence is also supported by the WHO Multi-Country Study (2005). In all the sites the odds of women who reported experiencing IPV were higher in relationships where both partners self-reported problems with alcohol, compared to relationships where neither partner reported such problems (Abramsky, et al., 2011). A widely accepted explanation for this association is that intoxication impairs problem solving and lowers inhibitions making it more likely that people will misinterpret verbal and nonverbal cues resulting in over-reactions to a perceived or actual threat. Alcohol consumption also reduces cognitive abilities and makes individuals less concerned with the consequences of their behaviour (Braaf, 2012; Heise, 2011; Klostermann & Fals-Stewart, 2006). To date, however, there has been little exploration of the extent to which these factors influence women's perpetration of IPV against male partners.

While the investigation of women's use of violence against a male partner is less advanced, there are a small number of studies that have looked at women's physical mistreatment of men among those women have been experienced abuse (Chan, Straus, Brownridge, Tiwari, & Leung, 2008; DeKeseredy, Saunders, Schwartz, & Alvi, 1997; García-Moreno, et al., 2005; Kishor & Johnson, 2004; Seamans, Rubin, & Stabb, 2007; Straus, 2004, 2008; Watson, Cascardi, Avery-Leaf, & O'Leary, 2001). Studies which have sought to investigate the meanings and motivations behind this have suggested that violence perpetrated by women against men is most likely to be perpetrated in self-defence and in retaliation for previous violence, (Malloy, McCloskey, Grigsby, & Gardner, 2003; Muftić, Bouffard, & Bouffard, 2007; Seamans, et al., 2007; Swan, Gambone, Caldwell, Sullivan, & Snow, 2008; Swan & Snow, 2002), or as part of 'situational couple violence' (Frye, Manganello, Campbell, Walton-Moss, & Wilt, 2006; Johnson, 2006; Johnson & Leone, 2005; Leone, Johnson, & Cohan, 2007).

The suggestion that women who have experienced IPV use violence against the abusive partner for defensive purposes is supported by other population based data. For instance a paper discussing factors associated with women's use of violence against their abusive partner, among a population

based sample of New Zealand women, reported that most women who used violence against an abusive partner did so in the context of a violent episode. Further, they were more likely to hit or physically mistreat their partner in the context of a violent episode when they had experienced severe violence by that man, or when children were present at the time of the violent episode (Fanslow, Gulliver, Dixon, & Ayallo, under consideration). However, as part of that study, it was also evident that a small number of women who had experienced physical violence from their partner had also hit or physically mistreated their partner, at a time when he was not hitting or mistreating her. Using data from the same sample, the current study seeks to describe the characteristics of these women, and to identify factors associated with the likelihood that a woman will hit or physically mistreat her abusive partner outside of the context of a violent episode.

METHODS

Study design

The data reported here were gathered as part of the New Zealand Violence Against Women Study, a cross-sectional survey conducted by the School of Population Health at the University of Auckland. A comprehensive description of this study has been published previously (Fanslow, 2005; Fanslow, Robinson, Crengle, & Perese, 2010). The study replicated the WHO Multi-Country Study on Women's Health and Domestic Violence (García-Moreno, et al., 2005).

Setting and sampling strategy

A population-based cluster-sampling scheme with a fixed number of dwellings per cluster was used. The interviews were conducted in the Territorial Local Authorities (TLA) of: Auckland City, Manukau City, Waitakere City, North Shore City (Auckland), Hauraki, Matamata-Piako, Waikato and Waipa Districts (Waikato). Meshblocks were the primary sampling unit within each TLA. Within each meshblock a randomly selected street and street number was used as the starting point for

interviews. Interviewers approached 10 households within each meshblock. In Auckland, interviewers approached every 4th house; in the Waikato, interviewers approached every second household.

All interviewers were women. Prior to conducting the interviews, all of the interviewers participated in a week long training module before. Within this training module the interviewers covered the ethical and safety considerations of research on intimate partner violence, as developed by the World Health Organisation (Watts, Heise, Ellsberg, & Garcia-Moreno, 2001)

Recruitment and Participants

The study population for the current investigation was women aged 18-64 years, who were usually resident in Auckland or North Waikato and who resided in private homes. Recruitment took place over the period March to November, 2003. The mean age of the recruited sample was 41 years (sd dev = 12 years). The majority of the sample were New Zealand Europeans (60%), with 14% Maori (the indigenous population of New Zealand), 7% Pacific Islanders, 6% Asian and 14% describing themselves as from other ethnicities. For 60% of the study population, the highest level of school completed was secondary education or less (less than 1% had only completed primary education), while 18% had completed technical college and 21% had completed University studies. Of those women who reported that they had a current partner, 4% had been with that partner for 1 year or less, 11% for 1-5 years and 85% for more than 5 years. Comparison of the study population with the general population of New Zealand has been provided in (J. Fanslow & E. Robinson, 2004).

In selected households with more than one eligible respondent, one woman was randomly selected. If the woman selected was available to talk, consent was sought and an interview arranged, otherwise contact details were obtained and further attempts made to set up an interview. To maximise the chance of obtaining an interview, a minimum of three return visits were made to each

household at different times and on different days. The mean duration for an interview was 28 minutes (std dev = 18 mins)

In total 2,855 women were interviewed from 6,174 addresses contacted. Of the 6,174 addresses that were selected to take part in the study, 57 did not have a dwelling, 784 (12.8%) of households refused to participate, indefinitely postponed, did not speak English or Mandarin/Cantonese, or were unable to be contacted. Of the remaining 5,333 houses, 1563 did not have eligible women (ineligible post contact). From the 3,770 households with eligible women, 2,855 women aged 18–64 years were interviewed. This represents an 88.3% household response rate and 75.8% eligible women response rate, resulting in an overall response rate of 66.9% (J. Fanslow & E. Robinson, 2004). There were 2,676 in this study sample who reported that they were currently, or had ever been, in a sexual relationship with a man who answered questions about intimate partner violence. Less than 1% of the study sample indicated that they were currently in a sexual relationship with a female partner. No information on intimate partner violence was collected from women living in a same-sex relationship (4.5%, n=5 of those who had not ever had a male sexual partner reported that they were in a same-sex relationship). This study uses the data from 845 women who reported they had experienced physical violence by an intimate partner sometime in their lifetime and who provided useable responses to the question on perpetration of violence (see *Measures and variables* below).

Questionnaire development

The base questionnaire was developed by the Core Technical Team of the WHO Multi-Country Study on Women's Health and Domestic Violence (Core Technical Team, 2003). Minor modifications were made to increase the appropriateness to the New Zealand context, and the revised questionnaire was pilot tested for acceptability. The questionnaire was produced in English and Chinese, as Mandarin/Cantonese speakers were the largest group that could not complete the questionnaire in English. Multi-lingual interviewers were used to conduct the Chinese interviews.

The questionnaire was administered as a face-to-face interview, in the participants' own home or other private location. The study received approval from the University of Auckland Human Subjects Ethics Committee (Ref 2002/199).

Measures and variables

Consistent with definitions from the WHO Multi-Country Study (2005), intimate partners included male current or ex-partners that the women were married to or had lived with, or current male sexual partners. Where the respondent was divorced or separated from her partner, she was asked to consider the most recent or last partner when responding. Information on the variables was collected from the respondent only.

Data on use of violence was only collected from those women who had experienced physical violence by one or more partners in the past. Physical violence was defined as (a) being slapped or having something thrown at them that could have hurt them; (b) pushed, shoved or hair pulled; (c) hit with his fist or with something else that could hurt; (d) kicked dragged or beaten up; (e) choked or burnt on purpose; (f) threatened or actually used a gun, knife or other weapon.

Main outcome measure

The collection of information on women's use of physical violence when she was not being physically mistreated by her partner was gathered within a section of the questionnaire that was concerned with the impact of the women's exposure to violence. This section was introduced by the interviewer stating *"I would now like to ask you some questions about what effects your husband / partners' acts has had on you"*. If the respondent had reported that more than one partner had physically mistreated her, she was asked to refer to the most recent partner. As such, this section of questions were tied to the most recent physically violent partner. To identify variables that were associated with the respondent using physical violence outside of the context of a violent episode, participants were asked the following questions: "Have you ever hit or physically mistreated your

husband/partner when he was not hitting or physically mistreating you?” Participants who answered YES were then asked: “How often? Would you say once or twice, several times or most of the time?” For the purposes of the current investigation those who responded *several times* or *many/most of the time* were grouped together. *Don’t know* or *can’t remember* were treated as missing data (n=112, 12%).

We also asked women the reason for mistreating their partner. Options given were ‘self defense’, ‘to provoke a physical assault’, ‘retaliation’, ‘to teach him a lesson’, ‘to control his behaviour’, ‘other’. Where the ‘other’ option was selection, free text was used to describe the reason for using physical violence. Responses were subsequently categorised. This information was not used as part of the regression analysis, but was used to provide a descriptive context for the reason for using violence.

Associated variables

Severity of physical IPV: Severity of violence was categorised as moderate or severe. Moderate IPV was defined as: having been slapped or had something thrown at them which could hurt them; having been pushed, shoved, or had their hair pulled. Severe physical IPV was defined as: having been hit with the fist or something else that could hurt them; having been kicked, dragged, or beaten up; having been choked or burnt on purpose; or having been threatened with or had used against them a gun, knife or other weapon. There is no category for ‘mild’ IPV as any exposure to physical violence was considered significant.

Effect on mental health: Women were asked to denote the impact of their partner’s violent behaviour on their mental health as either “it has had no effect”, “a little effect” or “a lot of effect”.

Recreational drug use and Alcohol consumption: The respondent was asked how often they drank alcohol. Response options were (1) every day or nearly every day; (2) once or twice a week; (3) 1-3 times a month; (4) occasionally, less than once a month; (5) never. A similar question was also posed for recreational drug use, with an additional response category (6) in the past but not now.

Self-reported Alcohol problems: Respondents were asked whether, in the past 12 months, they or their partner had experienced any of the following problems related to their drinking: money problems, health problems, conflict with family or friends, problems with authorities or other problems. Again, responses to the two separate questions were combined to create a summary measure coded as: neither had problems, respondent only, partner only, both had problems.

Exposure to IPV in childhood: Exposure to IPV as a child was assessed by the questions: “When you were a child, was your mother hit by your father (or her husband or boyfriend)?” And “As far as you know, was your (most recent) partner’s mother hit or beaten by her husband?” Response options for both of the questions were combined to create a summary measure of exposure to violence as a child which included the options “your mother”, “his mother”, “both mothers”, or “neither mother”.

Experienced violence as a child: This was assessed by the questions: “Before the age of 15, do you remember if anyone in your family ever touched you sexually or made you do something sexual that you didn’t want to do?”, “As far as you know, was your (most recent) partner himself hit or beaten regularly by someone in his family?” and “As far as you know, was your (most recent) partner himself sexually abused as a child?” Response options for both of the questions were combined to create a summary measure of child abuse which included the options “respondent only”, “partner only”, “both”, or “neither”.

The length of the relationship was determined by asking respondents how long they had been married or living together. To facilitate interpretation of the results, responses were categorised as <1 year; 1-5 years; >5 years. At the time of the interview, all respondents were asked their date of birth. For the purposes of this investigation, age of the respondent was dichotomised to those who were under 25 years and those who were 25 years or older. Respondents also reported as many ethnicities to which they associated. For the purposes of analysis, reported ethnicity was prioritised as (i) Maori; (ii) Pacific Island; (iii) Asian; (iv) Other; (v) European.

Analysis

All analyses were conducted using StataSE 11.2, which allows for specification of the survey sampling units and strata. As responses were similar in the two locations, data for the two regions was combined (see previously published descriptive paper (J. Fanslow & E. Robinson, 2004)). *Don't know*, *don't remember*, refused and no answer responses were considered 'missing'. Missing values were excluded from the analyses.

In the first instance descriptive statistics were generated. In order to identify factors associated with use of physical violence multinomial logistic regression was conducted at the univariate level, and then adjusted for age and ethnicity.

All results described in this investigation relate to the respondent's use of violence against their current or most recent partner when they were not hitting or physically mistreating them. All of the women included in this investigation had experienced physical or sexual intimate partner violence, perpetrated by their current or most recent partner.

RESULTS

Overall prevalence of women hitting or physically mistreating their partner when he is not already mistreating or hitting her

Of the 845 women who experienced physical violence and provided responses concerning their own use of violence, 81% (n=686) never mistreated their partner when he was not being physically violent to her. Nineteen percent (n=159) physically mistreated or hit their partner at least once at a time when he was not being physically violent to her (Table 1). Three quarters (76%) of the physically violent women mistreated or hit their partner only once, while 24% mistreated their partner on more than one occasion.

Table 1: Characteristics of physically abused women who used violence against their violent male partner, at a time when he was not physically hurting her, by frequency of times she physically mistreated him.

	Mistreating						Total
	Never		Once or twice		More than once or twice		
	n	%	n	%	n	%	
Age (n=845)							
<25 years	34	64	14	26	5	9	53
>= 25 years	652	82	107	14	33	4	792
Ethnicity (n=845)							
Maori	146	76	32	17	15	8	193
Pacific Island	39	75	9	17	4	8	52
Asian	10	67	5	33	0	0	15
European	411	84	64	13	14	3	489
Other	80	83	11	11	5	5	96
Length of relationship (n=845)							
<1 year	25	69	6	17	5	14	36
1-5 years	106	81	23	18	2	2	131
>5 years	555	82	92	14	31	5	678
Severity of violence the woman experienced							
Moderate	228	78	50	17	15	5	293
Severe	453	83	69	13	23	4	545
Effect of abuse on her mental health (n=841)							
No effect	225	82	37	13	14	5	276
A little	191	78	42	17	11	5	244
A lot	266	83	42	13	13	4	321
Self-reported Alcohol problems (n=845)							
Neither	506	84	79	13	18	3	603
Her only	37	67	11	20	7	13	55
Him only	120	80	23	15	7	5	150
Both	23	62	8	22	6	16	37
Mother hit or beaten by father (n=845)							
Neither	395	84	63	13	12	3	470
Her only	134	77	29	17	12	7	175
Him only	98	79	16	13	10	8	124
Both	59	78	13	17	4	5	76
Experienced physical and/or sexual abuse as a child (n=845)							
Neither	340	81	63	15	15	4	418
Her only	154	85	22	12	6	3	182
Him only	118	79	23	15	8	5	149
Both	74	77	13	14	9	9	96
Her daily alcohol consumption (n=684)							
None	81	17	22	21	5	16	108
Moderate (1-2	217	45	46	43	11	35	335

drinks/day)							
High (≥ 3							
drinks/day)	188	39	38	36	15	48	241
Her recreational drug use (n=842)							
Never	439	64	62	51	15	39	516
Previously (but no							
longer)	165	24	29	24	14	37	208
Current user	79	12	30	24	9	24	118
Number of physically violent partners (n=756)							
1	545	89	93	86	27	75	665
2	57	9	9	8	7	20	73
≥ 3	10	2	6	6	2	6	18

Woman's stated reasons for hitting or physically mistreating partner, when he was not hitting or physically mistreating her

Of the 159 women who had ever mistreated their partner outside of the context of a violent episode, 21% reported that they did it out of anger and frustration, 19% did it to retaliate, 13% said they used violence in self-defence, 13% mistreated their partner to 'teach him a lesson', and 10% reported using violence to control their partner's behaviour. The rest of the women gave reasons such as mistreating their partner out of jealousy or because of his infidelity (9%), after an argument got out of control or communication deficit (8%), under the influence of alcohol or drugs (3%), and other reasons (4%).

Factors associated with physically abused women hitting or physically mistreating her partner, at a time when he was not hitting or physically mistreating her

At the univariate level, being aged 25 years and over, European ethnicity (compared with Maori) and being in a relationship for more than five years were associated with a reduced likelihood of a woman perpetrating violence more than once or twice when they were not experiencing violence. When both partners reported that they experienced problems with their alcohol consumption there was an increased likelihood of the respondent mistreating her partner either once or twice or more

often. When either the respondent or her partner indicated that their mother had been hit or beaten by their father, there was increased risk of the respondent perpetrating violence. Experience of physical and/or sexual abuse as a child by both partners was associated with increased likelihood of the women mistreating her partner more than once or twice. Recreational drug use was associated with the initiation of violence once or twice, as well as more frequently, while having three or more violent partners was associated with initiating violence once or twice.

Table 2: Logistic regression analysis - relationships between associated variables and women's initiation of physical violence against their violent intimate partner outside of a violent episode

	Never	Once or twice		More than once or twice	
	OR	OR	95% CI	OR	95% CI
Age					
< 25 years	Ref				
>= 25 years	Ref	0.4	0.2-0.8	0.3	0.1-1.0
Ethnicity					
Maori	Ref				
Pacific Island	Ref	1.01	0.4-2.5	1.13	0.3-3.9
Asian	Ref	2.16	0.6-7.7	NA	NA
European	Ref	0.70	0.4-1.2	0.31	0.1-0.7
Other	Ref	0.54	0.2-1.2	0.51	0.2-1.5
Length of relationship					
< 1 year	Ref				
1-5 years	Ref	0.9	0.3-2.5	0.1	0.0-0.5
> 5 years	Ref	0.7	0.2-1.8	0.3	0.1-0.8
Severity of violence the woman experienced					
Moderate	Ref				
Severe	Ref	0.6	0.4-1.0	0.7	0.3-1.4
Effect of abuse on her mental health					
No effect	Ref				
A little	Ref	1.5	0.9-2.5	0.9	0.4-2.0
A lot	Ref	0.9	0.6-1.5	0.7	0.3-1.7
Self-reported Alcohol problems					
Neither	Ref				
Her only	Ref	1.3	0.6-3.0	4.8	1.8-12.9
Him only	Ref	1.2	0.7-2.1	2.1	0.8-5.4
Both	Ref	2.9	1.2-7.3	10.1	3.5-29.3
Mother hit or beaten by father					
Neither	Ref				
Her only	Ref	1.5	0.9-2.5	3.5	1.5-8.3
Him only	Ref	1.0	0.5-1.8	3.8	1.6-9.2
Both	Ref	1.2	0.6-2.5	1.9	0.6-6.4
Experienced physical and/or sexual abuse as a child					
Neither	Ref				
Her only	Ref	1.7	1.1-2.7	1.3	0.9-2.1
Him only	Ref	1.9	1.2-2.9	1.4	0.9-2.4
Both	Ref	1.7	1.0-3.2	3.4	1.9-6.2
Her daily alcohol consumption					
None	Ref				
Moderate (1-2 drinks/day)	Ref	0.6	0.4-1.2	0.6	0.2-1.9
High (>=3 drinks/day)	Ref	0.7	0.4-1.3	1.1	0.4-3.2
Her recreational drug use					
Never	Ref				
Previously (but no longer)	Ref	1.2	0.7-2.0	2.3	1.0-4.9
Current user	Ref	2.8	1.7-4.8	3.4	1.4-8.6

Number of violent partners					
1	Ref				
2	Ref	0.8	0.4-1.6	2.4	0.9-6.1
>=3	Ref	3.8	1.3-11.2	4.2	0.8-20.4

Factors with significant, independent relationship with women initiating physical violence outside of a violent episode.

Multinomial logistic regression, adjusting for age and ethnicity is presented in Table 3.

Self reported problems with alcohol consumption were associated with women using violence when their partner was not already hitting or physically mistreating her. When the respondent reported that only she had problems with her alcohol consumption (and not her partner), she was over four times more likely to report perpetrating violence (OR 4.5; 95% CI 1.6-12.9), compared with women who did not report experiencing problems with their alcohol consumption and whose partners also did not report experiencing problems with their alcohol consumption. When both women and men reported having problematic alcohol use, there was an increased risk of the woman mistreating her partner once or twice (OR 2.6; 95% CI 1.0-6.6) and more than once or twice (OR 7.5; 95% CI 2.7-21.1).

There was increased likelihood of a woman using violence more than once or twice if her mother had been hit or beaten by her father (2.7; 95% CI 1.2-6.5) or if her partner's mother had been hit or beaten by their father (OR 3.0, 95%CI 1.2-7.6), compared with respondents whose mothers had not been hit or beaten by their father. When the respondent reported that she was a current recreational drug user, there was an increased likelihood of initiating violence against her partner once or twice (2.2; 95% CI 1.3-3.8) and more frequently (2.2; 95% CI 1.0-6.6).

If the woman had three or more violent partners, she was almost 4 times more likely to initiate violence once or twice (3.9; 95% CI 1.3-11.7) compared to women who had one violent partner.

Table 3: Logistic regression analysis - relationships between associated variables and women's initiation of physical violence against a violent partner, outside of a violent episode (adjusted for age and ethnicity)

	Never	Once or twice		More than once or twice	
	OR	OR	95% CI	OR	95% CI
Length of relationship					
< 1 year	Ref				
1-5 years	Ref	1.0	0.4-2.7	0.1	0.01-0.6
> 5 years	Ref	0.8	0.3-2.1	0.4	0.1-1.3
Severity of violence the woman experienced					
Moderate	Ref				
Severe	Ref	0.6	0.4-1.0	0.6	0.3-1.3
Effect of abuse on her mental health					
No effect	Ref				
A little	Ref	1.5	0.9-2.6	0.9	0.4-2.2
A lot	Ref	1.0	0.6-1.6	0.8	0.3-1.8
Self-reported alcohol problems					
Neither	Ref				
Her only	Ref	1.2	0.6-2.7	4.5	1.6-12.9
Him only	Ref	1.1	0.6-1.9	1.8	0.7-4.3
Both	Ref	2.6	1.0-6.6	7.5	2.7-21.1
Exposure to IPV in childhood					
Neither	Ref				
Her only	Ref	1.3	0.8-2.2	2.7	1.2-6.5
Him only	Ref	0.9	0.5-1.6	3.0	1.2-7.6
Both	Ref	1.1	0.5-2.2	1.4	0.4-5.0
Mother hit or beaten by father					
Neither	Ref				
Her only	Ref	0.8	0.4-1.4	1.0	0.4-3.0
Him only	Ref	0.9	0.5-1.5	1.2	0.5-2.9
Both	Ref	0.7	0.3-1.3	1.7	0.7-4.5
Her recreational drug use					
Never	Ref				
Previously	Ref	1.0	0.6-1.6	2.0	0.9-4.4
Currently	Ref	2.2	1.3-3.8	2.5	1.0-6.6
Number of violent partners					
1	Ref				
2	Ref	0.8	0.4-1.6	2.4	0.9-6.0
>=3	Ref	3.9	1.3-11.7	3.8	0.8-18.1

Discussion

This paper provides information on women's use of violence against their violent intimate partner, outside of the context of a violent episode. A paper describing the characteristics of women, and the factors that influence their use of violence against a violent partner while a violent episode is occurring is presented elsewhere (Fanslow, Gulliver, Dixon, & Ayallo, under consideration).

The majority of women (81%) who experienced physical violence from their partner did not hit or physically mistreat him when he was not already hitting or mistreating them. Most of the women who used violence when their partner was not abusing them did so only once or twice (76%). Women's reported motivations for mistreating her partner when he was not physically mistreating her varied. One in five women reported that they used violence out of anger or frustration and a further 20% indicated that they used violence in retaliation possibly to an earlier assault or psychological or emotional abuse.

There was 13% of women reported that they used violence in 'self-defence', even though the question explicitly stated that the violence occurred 'while he was not hitting or physically mistreating' the respondent. However, there may have been other types of violence being perpetrated at the time, such as emotional abuse or controlling behaviours. Alternatively, the respondent may have been responding to psychological abuse or an anticipated threat. It remains unclear how much of the reported violence was due to women acting violently in anticipation of further (physical, psychological, sexual or other type of) abuse or how much of it was due to women initiating abuse without any known physical threat. Self-defence and retaliation have also been reported as reasons for female perpetrated IPV in developed and developing countries (Fehringer & Hindin, 2013; Seamans, et al., 2007). These findings are consistent with other international studies (Ehrensaft, Langanrichsen-Rohling, Heyman, O'Leary, & Lawrence, 1999).

The bulk of literature addressing the association between alcohol and IPV has focused on the role of alcohol in men's perpetration of IPV towards a female partner (Abramsky, et al., 2011; Connor, et al., 2011; Foran & O'Leary, 2008; Gil-González, et al., 2006; Heise, 2011; Kachadourian, Homish, Quigley, & Leonard, 2012; Stuart, et al., 2008), with the majority suggesting that intoxication reduces cognitive abilities and lowers inhibitions (Braaf, 2012; Heise, 2011). The findings from this study provide additional evidence of the association between problems related to alcohol consumption and IPV. Overall we found no relationship between the women's alcohol consumption in general and use of violence; the relationship only became evident when we asked about problems associated with their alcohol consumption. Women who reported problems with alcohol were over four times more likely to initiate violence against her partner, outside of situations where he was being violent to her. This rose to over seven times more likely when both partners had reported problems with alcohol, compared to couples where neither partner reported alcohol problems. Previous studies of male perpetrated IPV have also reported higher incidents of IPV in relationships where one or both partners had problems with alcohol (García-Moreno et al., 2005). In the present study the likelihood of a women's use of violence (either once or twice or more frequently) was increased when both the respondent and her partner reported alcohol problems.

When asked why they physically mistreated or hit their partner, only 3% of respondents indicated that they used violence while under the influence of alcohol or other drugs. However, when we investigated the association between recreational drug use and perpetration of violence, women who were currently users of recreational drugs were around twice as likely to use violence either once or twice or more often. There are a number of possible explanations for this discrepancy between women's self-report use of alcohol or other drugs as a triggering factor and the overall pattern obtained across the sample. The first is that the respondent did not associate their violence with alcohol consumption or drug use, even though it is possible they may have been under the influence at the time. Alternatively, they were not using drugs or alcohol at the time of the violent event and therefore the associations identified in the logistic regression reflect an overall lifestyle

risk rather than proximal risk factor for perpetration violence. A third alternative is that the additional pressures resulting from excess alcohol consumption (described in our 'problem alcohol consumption' measure) may push the respondent to a 'tipping point' of anger and frustration where they react to the situation that they are in (Fehringer & Hindin, 2013).

Past studies have reported a wide range of association between exposure to IPV in childhood and later perpetration of violence (Bensley, Van Eenwyk, & Wynkoop Simmons, 2003; Coid, et al., 2001; Fergusson, Boden, & Horwood, 2006; Hamby, et al., 2011; Heise, 2011). The majority of studies have focused either on the relationship between men's exposure to violence and IPV perpetration or on the association between women's exposure to childhood violence and IPV victimization (Abramsky, et al., 2011; Roberts, Gilman, Fitzmaurice, Decker, & Koenen, 2010). Analyses in this study showed that women who mistreated their partner, when he was not hitting or physically mistreating her, were more likely to use violence against their partner if either she (OR: 2.7) or her partner (OR: 3.0) were aware that their father had hit or beaten their mother. Of those study members who were aware that this violence had occurred, 84% of the respondents and 79% of their partners had witnessed the violence. Because of the small numbers of respondents or their partners who did not witness their father beating their mother, differences between 'awareness of' and 'witnessing' could not be investigated. These findings are comparable to those obtained by the WHO Multi-Country Study (2005) where ORs for female perpetrated IPV were highest among women who reported that both her mother and her partners' mother experienced abuse (Abramsky, et al., 2011).

A number of theories have been proposed to explain a possible causal relationship between witnessing IPV and later perpetration, including social learning, attachment theory, and the mental and psychological effects of trauma caused by witnessing violence, although these are mainly discussed in relation to men as perpetrators of IPV (Hager, 2011; Hamby, et al., 2010; Margolin & Gordis, 2000; Roberts, et al., 2010). In a qualitative investigation of violent teenage girls, it was reported that girls were 'often victims of turbulence' and that 'violence is embedded as a norm for

these girls' (Swift, 2013). Such findings suggest that there is a need for gender specific, gender responsive and trauma-informed approaches when targeting women's use of violence, such as those that have been implemented in the United States (Covington, 2011). Further research is needed that examines and explains the association between witnessing IPV in childhood and women's IPV perpetration.

Previous research has documented a strong association between the experience of child maltreatment and perpetration of violence in women (Bloom, Owen, & Covington, 2003, 2005). We found no relationship between experience of abuse during childhood and perpetration of violence once we had adjusted for age and ethnicity. We suggest that this result may be due to the small number of participants who had perpetrated violence against their partner outside of the context of a violent episode, which may have resulted in the inability to detect statistically significant differences.

Strengths and limitations of study

There are several limitations that should be taken into consideration when interpreting these findings. Firstly, all the women in this study experienced physical IPV by an intimate partner, so this study does not provide information on women's use of violence when her male partner has not used any violence. The cross-sectional design of this investigation also does not permit one to attribute causality, such as between reported alcohol problems, exposure to violence in childhood and women's initiation of violence. Nevertheless, the findings give a strong indication of the association between these factors and women's use of physical violence in intimate partner relationships. Future studies should seek to differentiate effects as well as causal pathways. The survey design employed meant that only women residing in private dwellings were included in this investigation. As such, the results may not be generalizable to those women living in shelters or other residential institutions.

Another limitation is that, like any study based on self-reporting, there may be recall bias on some issues as well as biases in disclosure. Despite collecting information on duration since the last victimisation, no information was collected on the duration since the respondent mistreated her partner.

Despite these limitations, this study identified and discussed factors associated with women's use of violence against violent male partners, outside of the context of a violent episode, information that has been previously unavailable in New Zealand. The descriptive statistics provided also allow international comparisons to be made.

Implications

Recognition of the relationship between problematic alcohol use and women's use of violence suggest that interventions aimed at reducing problematic alcohol use may also lead to a reduction in women's use of violence, in intimate relationships. From a comprehensive review of what works to prevent violence, Heise has reported that "Despite uncertainty about pathways, evidence strongly suggests that heavy drinking is a contributing cause of partner violence" and that intervening to reduce alcohol use could reduce the frequency and severity of partner violence (Heise, 2011). In particular, services that respond to physically abused and abusive women may benefit from integrating alcohol intervention programs. Conversely, services that specialise in treatment for alcohol problems may also benefit from addressing women's experiences of and use of violence (Foran & O'Leary, 2008).

Additionally, identifying women and men exposed to IPV in childhood and providing appropriate support is a prerequisite for prevention of violence by women (Coid, et al., 2001), as well as for men (World Health Organization, 2009). As findings from this study show, women were at a high risk of using violence if her and/or her partner were raised in a family where violence was present. Services responding to women who use violence may benefit from screening for childhood exposure to

violence. According to Hager (2011), helping women make the link between childhood exposure to IPV and current actions is a prerequisite for getting constructive help from appropriate services. Making the link helps women begin to find a place of safety, and put in place processes to heal. This may in turn reduce their use of violence.

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Data access

Queries regarding access to the data on which this study was based should be directed to the first, and corresponding, author of this investigation (Dr Janet Fanslow).

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