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Risk factors for dating violence versus cohabiting violence: Results from the third generation of the Cambridge Study in Delinquent Development

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## **ABSTRACT**

**Background:** Dating violence is an important problem. Evidence suggests that females are more likely to perpetrate dating violence.

**Aims:** The present study investigates the prevalence of dating violence compared with cohabiting violence in a community sample of males and females and assesses to what extent child and adolescent explanatory factors predict this behaviour. A secondary aim is to construct a risk score for dating violence based on the strongest risk factors.

**Methods:** The Cambridge Study in Delinquent Development (CSDD) is a prospective, longitudinal survey of 411 males (G2; generation 2) born in the 1950s in an inner London area. Most recently their sons and daughters (G3; generation 3) have been interviewed regarding their perpetration of dating and cohabiting violence utilizing the Conflict Tactics Scale. Risk factors were measured in four domains (family, parental, socio-economic and individual).

**Results:** A larger proportion of females than males perpetrated at least one act of violence towards their dating partner (36.4% versus 21.7%). There was a similar pattern for cohabiting violence (39.6% versus 21.4%). A number of risk factors were significantly associated with the perpetration of dating violence. For G3 females these included, a convicted father, parental conflict, large family size and poor housing. For G3 males these included having a young father or mother, separation from the father before age 16, early school leaving, frequent truancy and having a criminal conviction. A risk score for both males and females, based on 10 risk factors significantly predicted dating violence.

**Conclusion:** Risk factors from four domains were important in predicting dating violence but they were different for G3 males and G3 females. It may be important to consider different risk factors and different risk assessments for male compared with female perpetration of dating violence. Early identification and interventions are recommended. **293 words**

## **INTRODUCTION**

Physical violence in intimate relationships is of great concern to public health. This is particularly true with regard to dating violence as this form of violence can continue into adult relationships such as cohabitation and marriage. It is important therefore that research efforts should be focused on a better understanding of the developmental antecedents of dating violence as there are implications for prevention and treatment. There is some variability in the definition of dating violence which can impact on the prevalence reported in the literature. However, the accumulation of research in this field suggests that a significant proportion of young people are experiencing violence in their dating relationships.

It is generally accepted that there are three broad aspects of dating violence; physical, psychological and sexual abuse (Shorey et al., 2008). These authors point out that it can be difficult to make comparisons across studies because of differences in methodology and sampling. Many studies are cross-sectional, use high school/university samples and rely almost exclusively on self-report measures, often utilising the Conflict Tactics Scale (CTS; Straus, 1979, 1996). Social desirability responding may occur and there may be problems associated with social and cultural stigma (Archer 2006; Bell and Naugle, 2007).

### **Prevalence**

There have been many cross-sectional studies investigating the prevalence of dating violence in different populations, particularly students, across different cultures (Halpern et al., 2001; Straus, 2008). Often, females commit more violence than males. Generally the prevalence rates for sexual violence are lower than for physical violence and psychological violence, with the latter being most frequently reported. Staus (2008) found that almost one-third of female as well as male students (based on self-report) physically assaulted a dating partner in the previous 12 months, and that the most frequent pattern was bidirectional, which means that both parties were violent. Female only violence was the next most frequent with male only violence being the least frequent pattern. Several other studies, including nationally representative samples, have found that female only violence is as prevalent as or more prevalent than male violence, with bidirectional violence being the most frequent pattern (Straus et al., 1980).

### **Sequelae**

Dating violence can be a precursor to more serious violence in cohabiting relationships. Individuals in later adolescence and emerging adulthood are in a transitional stage of development and to some extent are ‘testing’ out behaviours that may or may not be acceptable (Arnett, 2007; Halpern-Meekin et al., 2013). If individuals have experienced violence in their families of origin they may be more inclined to consider this behaviour as acceptable. It is therefore important to examine factors in childhood and adolescence that may be precursors to dating violence, to inform the development of effective prevention and intervention programmes. In this article, we aim to investigate both dating violence and intimate partner violence in cohabiting relationships in the Cambridge Study in Delinquent Development (CSDD; see later). Cohabiting violence has previously been studied in the CSDD by Theobald and Farrington (2012), Piquero et al. (2014) and Theobald et al. (2016).

The key questions addressed in this article are:

1. What is the prevalence of dating and cohabiting violence ?
2. What are the risk factors associated with dating violence ?
3. What are the risk factors associated with cohabiting violence?
4. What is the predictive efficiency of a risk score for dating violence and cohabiting violence?

## **Method**

### Design

The CSDD is a prospective longitudinal survey of the development of offending and antisocial behaviour in a cohort of 411 boys born in the early 1950s in an Inner London area (see Farrington et al., 2006, 2009, 2013).

The original boys (Generation 2 or G2) constituted a complete population of boys of that age attending six primary schools in the area. More recently the sons and daughters of the G2 males have been interviewed (Generation 3 or G3).

#### *G2 - males*

At the time they were first contacted in 1961–1962, the G2 boys were all living in a working-class area of South London. The vast majority of the sample was chosen by taking all the boys who were then aged 8–9 and on the registers of six state primary schools. Twelve boys from a local school for educationally subnormal children were included in the sample, in an attempt to make it more representative of the population of boys living in

the area. The majority (97%) were white, predominantly working class, from two parent households and of British origin (see Farrington, 1995, 2003). Their median year of birth was 1953.

The G2 males have been interviewed nine times, and it was always possible to interview a high proportion of those still alive: 405 (99 %) at age 14, 399 (97 %) at age 16, 389 (95 %) at age 18, 378 (94 %) at age 32 and 365 (93 %) at age 48. For the G2 males the main information was gathered during the age 32 interview when almost all of the G3 children were under age 10.

### *G3 – male and female children*

The G3 male and female biological children of the G2 males were interviewed between 2004 and 2013. These interviews were carried out over a 9-year period because of intermittent funding. There were 691 G3 children whose name and date of birth were known. Only children aged at least 18 (born up to 1995) were targeted. The ethical requirements of the South-East Region Medical Ethics Committee required this minimum age and that the G2 male and/or his female partner should be contacted when trying to interview the G3 children. Of the 653 eligible G3 children, 551 were interviewed (84.4 %) at an average age of 25, including 291 of the 343 G3 males (84.8 %) and 260 of the 310 G3 females (83.9 %). Their median year of birth was 1981.

### Measures

*The Conflict Tactics Scale* (CTS) (Straus, 1990) is a measure of IPV and was used in interviewing the G3 males and G3 females. Its format allows the interviewer to ask questions about the occurrence of IPV in the last five years. It includes reciprocal questions on verbal abuse (e.g. Have you cursed or sworn at him? Has he cursed or sworn at you?), minor acts of violence (e.g. Have you pushed or grabbed him? Has he pushed or grabbed you?), and serious acts of violence (e.g. Have you kicked or bitten or punched him? Has he kicked or bitten or punched you?). For the purposes of this article we only use the questions on the perpetration of violence. These included acts of both moderate and more serious acts of violence, i.e. pushing/grabbing/shoving, slapping, shaking, throwing an object at, kicking/biting or hitting with a fist, hitting with an object, twisting arms, throwing bodily, beating up (multiple blows), choking or strangling, and threatening with a knife or gun. Although the CTS has limitations (see Archer, 1999) it is considered to be a reliable and valid instrument to measure intimate violence across different populations (Straus, 1990; Straus, 2004).

### *Dating Violence*

The relationship for G3 males and G3 females was considered to be dating when they were not in a cohabiting relationship but reported perpetration of violent acts. A cohabiting relationship included marriage.

### Criminal Record Searches

#### **G2 Males**

A search of the PNC, completed in March 2011 when most of the G2 males were aged 57, showed that 177 males were convicted up to age 56 (43.8% of 404 at risk (Farrington et al., 2013). Criminal records were also searched for the female partners of the G2 males. Up to 2011, 55 G2 females out of 413 searched (13.3%) had a criminal record. Convictions were only counted if they were for “standard list” (more serious) offences, thereby excluding minor crimes such as minor traffic infractions and simple drunkenness. The most common offences included were thefts, burglaries and unauthorized takings of vehicles, although there were also quite a few offences of violence, vandalism, fraud and drug use.

#### **G3 Males and females**

The G3 children were first searched in the microfiche records in 1994, and they were then searched in the PNC in 2003, 2006, and 2011–2012. The median age at which they were last searched was 30, and more than half were last searched between ages 25 and 33. Of those searched (i.e. not abroad), 95(27.7%) of the 343 G3 males and 27(8.6%) of the 313 G3 females had a criminal conviction.

### Risk factors

#### **Parental**

*Convictions* of the G2 father and G2 mother up to age 32 were obtained from criminal record searches.

*Young fathers* referred to G2 males who were under age 23 at the time of the birth of their first child, and

*Young mothers* referred to G2 mothers who were under age 21 at the birth of their first known child. (We only have records of children that the G2 female had with the G2 male.)

#### **Family factors**

*Physical punishment* referred to the G2 father hitting or smacking his children when they were very naughty. Physical punishment was reported by the G3 children (in retrospective questions about their childhood).

*Poor parental supervision* referred to the G2 parents not knowing where their children were when they were out, and this was also reported by the G3 children.

*Parental conflict* was based on the G2 father's report of frequent rows at age 32 and the G2 father also answered about whether he was separated from his child at age 32.

### **Socio-economic factors**

*Low take-home pay* was reported by the G2 male at age 32.

*Large family size* referred to five or more people living in the G2 male's household when he was age 32.

*Poor housing of the G2 male at age 32* was rated by the interviewer, based on whether the home was dirty, smelly, damp, neglected, overcrowded and inadequately furnished, had vermin, or had structural problems.

*Low social class at age 32* indicated that the G2 male had a semi-skilled or unskilled manual job.

### **Individual**

*Attainment* was based on the G3 children reporting that they had left school before the age of 16. They also reported on whether they had passed any advanced level examinations.

*Impulsiveness* was measured by the G3 children's reports of whether they had often or very often taken risks under age 12, and on whether they always had difficulty paying attention at school.

*Behaviour* was based on G3 children's reports of having ever been suspended from school and whether they had been a frequent truant (1 day per week or more).

### Statistical Analysis

Odds ratios were computed to investigate the variables which were risk factors for both dating violence and cohabiting violence. We then estimated the overall predictive efficiency of risk factor scores (based on the strongest risk factors) for dating and cohabiting violence for both males and females using the area under the receiver operating characteristic (ROC) curve.

### **Results**

The sample numbers interviewed are shown in Table 1. Of 259 G3 males, 16 were married, 59 were cohabiting, 89 had a current dating partner, 67 had a past partner, and 28 had no current or past partner. Of 232 G3 females, 32 were married, 81 were cohabiting, 64 had a current dating partner, 43 had a past partner, and 12 had no current or past partner.

\*Table 1 about here\*

We then investigated the following questions.

1. *What is the prevalence of dating and cohabiting violence in the G3 children?*

The number of G3 males and females who reported that they had perpetrated a violent act towards their partner is shown in Table 2. Out of 156 males and 107 females who were dating, 152 males and 107 females completed the CTS. Out of 75 males and 113 females who were married or cohabiting, 70 males and 111 females completed the CTS. The CTS was only completed for relationships that lasted for at least one month.

\*Table 2 about here\*

Both males and females reported having perpetrated violence in both dating and cohabiting relationships. The most common involved pushing, slapping or throwing objects at, shoving, grabbing their partner, with the more serious acts such as choking or strangling being reported much less often. The proportion of females reporting at least one act of violence towards their dating partner was 36.4% compared with 21.7% of males, a significant difference (Odds Ratio or OR=2.07, 95% confidence interval or CI=1.19 to 3.59). In cohabiting relationships, 39.6% of females and 21.4% of males reported violence, a significant difference (OR=2.41, CI=1.21 to 4.78). In general, an OR of 2 or greater indicates a strong relationship (Cohen, 1996).

2. *What are the risk factors associated with dating violence in the G3 children?*

The risk factors, as described in the measures section, were then investigated to determine the proportion of those male and females in risk and none risk categories who reported at least one violent act. For example, 49% of females with convicted G2 fathers were violent, compared with 25.9% of females with unconvicted G2 fathers (OR=2.75, CI=1.22 to 6.20).

\*Table 3 about here\*

Risk factors for dating violence spanned the parental, family, socio-economic and individual domains. For males, the statistically significant factors ( $p < .05$ ) were a young father (OR=

3.91), a young mother (OR=3.63), separation from the father (OR=4.14), poor housing (OR=3.08), early school leaving (OR= 8.12), frequent truancy (OR= 4.42), and being convicted (OR=3.33). For females the statistically significant factors were a convicted father (OR= 2.75), parental conflict (OR= 2.53), large family size (OR= 3.09) and poor housing (OR= 4.18).

3. *What are the risk factors associated with cohabiting violence in the G3 children?*

Risk factors for cohabiting violence spanned the parental, family, socio-economic and individual domains. For males the statistically significant factors were a young mother (OR=3.76), physical punishment (OR= 3.66) and suspension from school (OR=6.00). For females the statistically significant factors were poor parental supervision (OR=4.38), early school leaving (OR=5.91), poor attention at school (OR=4.63), suspension from school (OR= 4.05) and having a conviction (OR=4.05). Confidence intervals for all analyses are available from the authors.

\*Table 4 about here\*

4. *What is the predictive efficiency of a risk score for dating violence and cohabiting violence?*

A risk score for dating violence was constructed based on the 10 strongest predictors: convicted father, convicted mother, your father, young mother, parental conflict, separation from father, large family size, poor housing, early school leaving and frequent truancy. Each person was scored from 0 to 10 depending on how many of these predictors he/she possessed. Where a person was not known on a predictor, the score was pro-rated and then rounded to the nearest integer. Three persons were eliminated from this analysis because they were not known on at least 5 of the predictors.

These risk scores significantly predicted dating violence. For males, 16.3% of 86 scoring 0-1 were violent, compared with 10.0% of 40 scoring 2-3 and 57% of 26 scoring 4 or more (chi-squared = 24.52, 2 df,  $p < .0001$ ). For females, 27.9% of 43 scoring 0-1 were violent, compared with 28.9% of 38 scoring 2-3 and 64.0% of 25 scoring 4 or more (chi-squared = 10.42, 2df,  $p = .005$ ). For males, the area under the ROC curve (AUC) was .658 (SE=.060,  $p = .005$ ). For females, the AUC was .655 (SE=.057,  $p = .008$ ).

A similar risk score for cohabiting violence was also constructed, based on the 10 strongest predictors: convicted mother, young mother, poor parental supervision, physical punishment, parental conflict, separation from father, poor housing, early school leaving, poor attention at school, suspended from school. As before, each person was scored from 0 to 10 depending on how many of the predictors he/she possessed. This risk score correlated .79 with the previous risk score.

These risk scores significantly predicted cohabiting violence. For males, 4.0% of 25 scoring 0-1 were violent, compared with 21.7% of 23 scoring 2-3 and 40.9% of 22 scoring 4 or more (chi-squared = 9.47, 2df,  $p=.009$ ). For females, 27.3% of 33 scoring 0-1 were violent, compared with 32.6% of 46 scoring 2-3 and 62.5% of 32 scoring 4 or more (chi-squared = 10.05, 2df,  $p=.007$ ). For males, the AUC was .741 (SE=.064,  $p=.004$ ). For females, the AUC was .655 (SE=.055,  $p=.003$ ).

## **Conclusions**

The prevalence of dating violence was surprisingly high in this sample, at 36% for females and 22% for males. The prevalence of cohabiting violence was equally high, at 40% for females and 21% for males. Straus (2008) also found that dating violence was perpetrated more by females than by males but it must be remembered that most acts involved pushing, shoving, slapping or throwing objects.

The strongest predictors of dating violence for males were early school leaving, frequent truancy, separation from a father, and a young mother and father. For females, the strongest predictors were poor housing, risk taking under age 12, large family size, a convicted father and a young mother. A risk score based on 10 variables significantly predicted dating violence for both males and females (see also Tapp and Moore, 2016).

Interventions to prevent dating violence could target early risk factors. Individual risk factors such as risk taking could be targeted by cognitive-behavioural therapy, while family risk factors such as separation from a father could be targeted by parent training and relationship programmes (see also Jennings et al., 2016). It is important to identify young people who are at risk of committing dating violence and to implement programmes for prevention.

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Table 1: Samples Interviewed

	<b>Males</b>	<b>Females</b>
Target Sample	343	310
Number Interviewed	291(84.8%)	260(83.9%)
Number aged 18-30	262(90.0%)	237(91.2%)
Number excluding same sex partners	259	232
Mean Age	24.7	24.7
Number married	16(6.2%)	32(13.8%)
Number cohabiting	59(22.8%)	81(34.9%)
Number married/cohabiting	75(29.0%)	113(48.7%)
Number with current partner	89(34.4%)	64(27.6%)
Number with past partner	67(25.9%)	43(18.5%)
Number with current/past partner	156(60.2%)	107(46.1%)
No current/past partner	28(10.8%)	12(5.2%)

Notes: past partner refers to in the previous 5 years

Table 2: Results with the Conflict Tactics Scale

	Dating Violence		Cohabiting Violence	
	Male	Female	Male	Female
Number with CTS completed	152	107	70	111
Pushed/grabbed/shoved	23	26	11	30
Slapped	8	18	1	18
Shaken	12	8	6	5
Thrown object	6	12	4	20
Kicked/bitten/hit with fist	4	10	1	14
Hit with something	3	12	0	9
Physically twisted arm	8	4	3	1
Thrown bodily	6	5	1	2
Beaten up (multiple blows)	1	2	0	2
Choked/strangled	1	2	1	0
Threatened with a weapon	1	4	1	3
Used a weapon	0	2	0	0
Injured partner	6	5	5	5
<b>Number with any violence</b>	<b>33(21.7%)</b>	<b>39(36.4%)</b>	<b>15(21.4%)</b>	<b>44(39.6%)</b>

Table 3: Risk Factors for Dating Violence

	Males (152)			Females (107)		
	%NR	%R	OR	%NR	%R	OR
<i>Parental</i>						
Convicted G2 Father at 32	22.0	21.2	0.95	25.9	49.0	2.75*
Convicted G2 Mother at 32	19.6	44.4	NA	33.7	62.5	NA
Young G2 father	18.5	47.1	3.91*	37.2	33.3	0.84
Young G2 mother	19.1	46.2	3.63*	33.7	58.3	2.75
<i>Family</i>						
Physical punishment from G3	20.4	24.5	1.27	36.1	37.5	1.06
Poor supervision from G3	18.5	25.4	1.49	32.8	42.5	1.51
Parental conflict at 32	23.7	16.7	0.65	28.3	50.0	2.53*
Separated from child at 32	18.0	47.6	4.14*	34.6	47.1	1.68
<i>Socio-economic</i>						
Low take-home pay at 32	19.8	28.6	1.62	30.1	47.4	2.09
Large family size at 32	21.8	22.2	1.03	29.6	56.5	3.09*
Poor housing at 32	16.3	37.5	3.08*	27.7	61.5	4.18*
<i>Individual</i>						
Early school leaving from G3	17.0	62.5	8.12*	34.7	50.0	1.88
No A level from G3	17.7	24.7	1.52	29.3	40.0	1.61
Risk taking under 12 from G3	19.8	26.8	1.48	33.3	63.6	3.50
Poor attention at school from G3	22.5	14.3	0.58	36.7	33.3	NA
Suspended from school from G3	19.8	26.8	1.48	37.5	27.3	0.63
Frequent truant from G3	15.7	45.2	4.42*	37.5	33.3	0.83
G3 Convicted	16.7	40.0	3.33*	37.5	33.3	NA

Notes: \*p<.05, two-tailed; OR=Odds Ratio; %R=% violent of risk category; %NR=% violent of non-risk category; NA= Not applicable (small numbers)

Table 4: Risk Factors for Cohabiting Violence

	Males (70)			Females (111)		
	%NR	%R	OR	%NR	%R	OR
<i>Parental</i>						
Convicted G2 Father at 32	17.4	29.2	1.96	33.8	48.8	1.87
Convicted G2 Mother at 32	18.0	75.0	NA	36.6	50.0	1.73
Young G2 father	19.1	26.1	1.49	41.9	35.1	0.75
Young G2 mother	15.7	41.2	3.76*	36.4	43.8	1.36
<i>Family</i>						
Physical punishment from G3	13.3	36.0	3.66*	34.8	46.7	1.64
Poor supervision from G3	22.5	20.0	0.86	23.7	57.7	4.38*
Parental conflict at 32	14.6	34.8	3.11	36.9	50.0	1.71
Separated from child at 32	18.2	36.4	2.57	39.0	43.5	1.20
<i>Socio-economic</i>						
Low take-home pay at 32	19.6	33.3	2.06	42.9	35.3	0.73
Large family size at 32	20.9	24.0	1.19	40.6	39.5	0.95
Poor housing at 32	16.7	35.3	2.73	38.3	33.3	0.80
<i>Individual</i>						
Early school leaving from G3	24.6	0.0	NA	33.7	75.0	5.91*
No A level from G3	11.8	24.5	2.44	26.7	44.4	2.20
Risk taking under 12 from G3	22.4	19.0	0.81	36.3	55.0	2.15
Poor attention at school from G3	22.0	18.2	0.79	35.1	71.4	4.63*
Suspended from school from G3	12.0	45.0	6.00*	35.7	69.2	4.05*
Frequent truant from G3	20.7	25.0	1.28	37.1	50.0	1.70
G3 Convicted	19.6	26.1	1.45	35.7	69.2	4.05*

Notes: \*p<.05, two tailed; OR=Odds Ratio; %R=% violent of risk category; %NR=% violent of non-risk category; NA= Not applicable (small numbers)