The relationship between criminal behaviour over the life-course and intimate partner violence perpetration in later life

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Abstract

This study examines the relationship between criminal behaviour over the life-course, and IPV perpetration and general violence in later life. The study uses data on a subsample (*N*=585) from the Dutch Criminal Career and Life-Course Study, and combines officially registered longitudinal data on convictions with self-reported data on IPV perpetration, violent offending, and several individual factors, collected at age 60. The results show that those with a history of persistent violent offending over the life-course are at increased risk of perpetrating IPV and other violent crimes in later life. Additionally, certain background and current factors are also related to IPV perpetration. Men who have experienced family violence in childhood and those who are married are more likely to report IPV perpetration, whereas relationship quality and employment are associated with a reduced likelihood of IPV perpetration. The findings suggest that an integrated theoretical approach is most useful to understand IPV perpetration, with the ultimate aim of informing evidence-based interventions necessary for reducing IPV in society.

Key words

Intimate partner violence, life-course, violent offending, offending trajectories

Introduction

Intimate partner violence (IPV) is an important social problem. An EU-wide survey on IPV showed that across the 28 EU countries, on average 22% of women have experienced physical IPV since the age of 15, whilst 4% reported being victimised in the past year (European Union Agency for Fundamental Rights [FRA], 2014). Although there is a large body of literature on IPV, this has developed separately from life-course criminology research on general offending. While it has been 35 years since Fagan et al. (1983: 49) asked whether we are studying 'Violent men or violent husbands?', it is only more recently that we find a growing interest in investigating the relationship between general offending and IPV perpetration (e.g. Johnson et al., 2015; Moffitt et al., 2000; Piquero, Theobald and Farrington, 2014).

Different theoretical explanations make different predictions about the extent to which IPV perpetration is related to general criminal and/or violent behaviour. Most theories that were developed specifically to understand IPV perpetration do not see a role for general criminal behaviour in explaining IPV, given the specific context in which IPV takes place (i.e. current or former intimate relationships). For example, feminist explanations of IPV focus on gender inequality inherent to patriarchal society, and how prescribed gender roles justify men's use of violence in relationships to assert and maintain control over female partners (Dobash and Dobash, 1979). The family systems perspective points to the importance of characteristics unique to the family setting, such as power dynamics and conflict in explaining IPV (Straus et al., 1980). Individual-level theories of IPV state that witnessing or experiencing family violence in childhood contributes to later IPV perpetration via social learning processes (Mihalic and Elliott, 1997; Widom, 1989), or argue that certain personality traits, such as borderline personality traits, jealousy, and hostility, increase the risk of IPV perpetration (Dutton, 1995; Holtzworth-Munroe and Stuart, 1994), whilst some recognise that certain subgroups of IPV perpetrators are characterised by antisocial personality traits (Holtzworth-Munroe and Stuart, 1994; Holtzworth-Munroe et al., 2000).

More recently, the movement towards multi-factor models has helped to reveal the relationship between general antisocial behaviour and IPV. For example, the dynamic developmental

system (DDS) model (Capaldi and Kim, 2007; Capaldi, Shortt and Kim, 2005) looks at an individual's background to understand how antisocial behaviour can contribute to the risk of IPV perpetration (Capaldi and Clark, 1998; Kim et al., 2008). Still, the DDS model stresses that IPV needs to be understood in the context of the relationship, and therefore argues that a variety of other factors are also important for explaining IPV, including relationship factors such as interaction patterns between partners (Capaldi and Kim, 2007; Kim et al., 2008), and other proximal factors that can impact on the relationship, such as financial stress (Capaldi et al., 2012). Moreover, the DDS model also recognises that individual factors of both partners, including mental health problems such as depression (Kim and Capaldi, 2004; Kim et al., 2008), can increase the risk of IPV.

In contrast, general theories of crime see different forms of antisocial behaviour as manifestations of the same underlying antisocial propensity. Although these types of theories often do not explicitly consider IPV, it could be argued that those involved in general antisocial/criminal behaviour are also likely to behave antisocially in the context of a relationship (Moffitt, 1993). For example, Gottfredson and Hirschi (1990) state that antisocial and violent behaviour is the result of low levels of self-control, a characteristic that is shaped early in life and that remains relatively stable over time. Individuals with low self-control are therefore assumed to behave antisocially throughout their lives across different contexts. Moffitt (1993) identified a small subgroup of life-course persistent offenders whose antisocial behaviour is shaped early in life as a result of an interaction between neuropsychological deficits and a dysfunctional environment. Consequently, these individuals are likely to engage in persistent antisocial behaviour throughout their lives in different social contexts, including within intimate relationships. Indeed, several early risk factors, such as childhood aggression, problem behaviour, and experiencing child abuse, are linked to both general offending and IPV perpetration (Capaldi et al., 2012; Murray and Farrington, 2010; but see Moffitt et al., 2000).

Following these theories, a substantial relationship between general crime and IPV perpetration is expected, and offenders are predicted to show broader patterns of criminal behaviour, rather than specialising in one type, such as IPV perpetration. Indeed, longitudinal research examining

the offending behaviour of perpetrators arrested for an IPV incident demonstrates that although many IPV perpetrators have a history of offending, few specialise in violent offending. To illustrate, the percentage of IPV perpetrators with at least one prior arrest or criminal charge ranges from 17% (Piquero et al., 2006) to 84% (Klein and Tobin, 2008). Moreover, many men with an arrest history had been arrested for non-violent and/or violent crimes (Buzawa and Hirschel, 2008; Klein and Tobin, 2008; Piquero et al., 2006).

Additional evidence for the link between IPV and general offending is found in longitudinal research using community or general population samples. Studies show that general antisocial or criminal behaviour is a longitudinal risk factor for later involvement in IPV (Lussier et al. 2009; Novak and Furman, 2016), and that the more persistent offenders are most likely to perpetrate IPV (Moffitt et al., 2002). For example, early conduct problems and delinquency during adolescence are predictors of later IPV perpetration (Magdol et al., 1998) and young people who displayed early onset persistent antisocial behaviour are more likely to perpetrate IPV compared to those with an adolescence onset or no antisocial behaviour (Woodward et al., 2002). In addition, using data from the Cambridge study in Delinquent Development, Piquero, Theobald and Farrington (2014) examined the overlap between general offending, violence, and IPV. Using group-based trajectory modelling, five different offending groups were identified. The three offending groups with the highest level of offending had the highest prevalence of IPV perpetration at age 32 and/or 48. Moreover, there was a significant overlap between those who had been convicted of a violent offence up to age 50 and those who had perpetrated IPV at ages 32 and/or 48. Finally, the two chronic offender groups were significantly more likely to engage in IPV, even when childhood risk factors were taken into account, and all offender groups were strongly related to the likelihood of a conviction for a violent offence up to age 50.

The current study

Taken together, research evidence suggests that there is at least some overlap between general offending and IPV perpetration. However, most existing research was conducted in the US or other

English-speaking countries, and it is unclear to what extent findings about the relationship between general offending and IPV perpetration generalise to countries in continental Europe, such as the Netherlands. Rates of IPV in the Netherlands are slightly higher compared to the abovementioned EU average: 25% of Dutch women have experienced IPV since the age of 15, and 5% in the past year (FRA, 2014). It is unclear why rates of IPV are higher than the EU average in the Netherlands, a country which has a relatively high level of gender equality (EIGE, 2017). A similar pattern has been observed in the Nordic countries (Gracia and Merlo, 2016). A potential explanation is that due to higher levels of gender equality, there is enhanced awareness of and willingness to disclose IPV, resulting in higher rates of IPV in surveys (FRA, 2014). However, the percentage of victimised women who report IPV to the police is lower in the Netherlands and the Nordic countries compared to the EU average, so it is unlikely that enhanced awareness of IPV (alone) can explain higher IPV rates in the Netherlands (FRA, 2014; Gracia and Merlo, 2016). Moreover, research using EU data also found that IPV victimisation rates were lower in countries with higher levels of development and gender equality when response bias and other individual and partner characteristics had been taken into account (Herrero, Torres, Rodríguez and Juarros-Basterretxea, 2017).

In addition, most prior research on the relationship between general offending and IPV perpetration has focused on the period of young adulthood, the period when IPV, or at least the less serious forms of IPV usually found in general population samples, is most prevalent (Johnson et al., 2015). Relatively little is known about prevalence rates of IPV perpetration at later stages of the life-course. As a step towards addressing this gap in the literature, the current study focuses on IPV perpetration among older men. Whereas general offending tends to decrease with age, some have suggested this might not hold for (more serious forms of) IPV (Johnson, 2008). Some have even argued that the decline in general offending with age may to a large extent be due to offenders switching to less conspicuous crimes, such as fraud and IPV (Moffitt, 1993).

Therefore, the aim of the current study is to examine how patterns in criminal behaviour are related to IPV perpetration in later life, using a longitudinal dataset from the Netherlands. In doing so,

this study replicates and extends the study by Piquero et al. (2014) by using group-based trajectory modelling to examine patterns in criminal career development over time, and to test how these offending patterns relate to IPV perpetration. As both theory and research suggest that certain background and proximal characteristics are important in explaining IPV (Capaldi and Kim, 2007), we also include these in our models. Moreover, we examine the overlap between IPV perpetration and violent offending at age 60. We also determine the extent to which there are similarities or differences in the predictors of both IPV and violent offending by examining the ways in which offending trajectories, and background and current factors are related to (self-reported) violence.[i]

Based on the theoretical framework and empirical findings discussed above, we derive the following hypotheses. First, following general theories of crime, we expect that persistent general and violent offending patterns are associated with an increased likelihood of IPV perpetration and violent offending at age 60, and also that there will be a significant overlap between IPV perpetration and violence at age 60. Secondly, in line with the DDS model, we also expect that background and current factors are related to IPV perpetration, over and above the effects of general offending behaviour.

Methods

Sample

The study used data from the Criminal Career and Life-Course Study (CCLS). The CCLS is a longitudinal study following a cohort of individuals prosecuted for an offence in the Netherlands in 1977 (Block et al., 2010; Blokland et al., 2005). The original sample consisted of a 4% sample of all the criminal cases in that year (*N*=4615). The number of cases for drunk driving were undersampled (2%) as this was a common offence, and serious offences were oversampled. An age-matched comparison group of individuals not registered for an offence in 1977 (*N*=741) was also sampled. For more information about the study, see Blokland (2005).

In 2013/14, the 3765 individuals (3163 original subjects; 602 comparison subjects) that were still alive and living in the Netherlands were approached with an invitation to participate in a self-

report study. A total of 959 people participated in the study, resulting in an overall response rate of 25.5%. The response rate was lower in the convicted sample (23.0%) than in the comparison sample (37.7%) (Van Gerwen et al., 2018).

The current study used data from male respondents who were in a steady relationship (i.e. at least three months) at the time of the interview (*N*=585; 403 original subjects; 182 comparison subjects). The average age of this subsample was 60.14 years (SD=7.00) at the time of the interview (Table 1).

Data and measures

Two sources of data were used for this study. First, officially registered data on criminal history and marriage were retrieved from national databases. Second, self-report data on background and current characteristics, violent offending, and IPV was collected in structured interviews. A laptop was used during the interviews. The interviewer read the questions aloud from the screen, and typed in the respondent's answers. However, for questions about sensitive topics, including the sections about self-reported offending and IPV, the laptop was handed to the respondent so that s/he could answer these questions by him/herself. In reality, many older respondents chose to let the interviewer read the questions during these sections.

Criminal careers. Officially registered data on criminal convictions was collected through the Criminal Records Office of the Dutch Ministry of Justice and Security. Information on convictions is available from age 12 (the minimum age of criminal responsibility in the Netherlands) onwards. All guilty verdicts, prosecutorial fines and prosecutorial policy waivers were counted as 'convictions'. Acquittals, and prosecutorial waivers due to technical reasons were excluded. The conviction data provide information about the offence type and the date the offence was registered at the public prosecutor's office. Using this information, variables were constructed representing the number of convictions for

any offence and the number of convictions for *violent* offences per age year. Using these variables, criminal career patterns were examined using group-based trajectory modelling (explained below).

Background characteristics. Information on background characteristics was collected during the interview. A dichotomous variable *experienced family violence* was created based on items that measured violence in the home during childhood and indicated whether respondents had been a victim of violence regularly (i.e. experiencing verbal and/or physical violence multiple times, monthly or weekly, as opposed to 0-2 times) in their family of origin. In addition, a sum variable for *early antisocial behaviour* was based on questions that asked whether respondents had shown five different antisocial behaviours (e.g. 'Did you start fights, or have you threatened or intimidated others?') before the age of 15.

Current factors. A *marriage* measure was constructed based on data retrieved from the Dutch population register, which holds information on marriages and civil partnerships. Those respondents currently married or in a civil partnership were coded as married. Furthermore, a variable for the total *number of marriages* over the life-course was constructed using these data. Other current factors were identified from self-report data. Respondents filled in a relationship quality scale, consisting of four items (e.g. 'Our relationship is strong') rated on a 5-point scale ranging from completely disagree to completely agree. An average score for *relationship quality* was calculated, with a higher score reflecting higher levels of relationship quality. Reliability of the scale was excellent (Cronbach's alpha=0.95). Subjects were counted as *employed* if they reported full-time or part-time work for which taxes were paid. *Mental health problems* were measured using the Depression, Anxiety and Stress Scale (Lovibond and Lovibond, 1995). This questionnaire consists of 21 items in total, seven items per subscale. Respondents were asked whether they had had a range of experiences in the past week, for example, 'I felt that life was meaningless' for the Depression scale. Reliability of the total scale as well as of the subscales in this study was good (Cronbach's alpha total scale=0.93; Depression scale=0.90;

Anxiety scale=0.77; Stress scale=0.87). Respondents answered on a scale ranging from 0 (did not apply to me at all) to 3 (applied to me most of the time). The summed scores per scale were then compared to the cut-off scores per scale. The mental health variable ranges from 0, when respondents' scores were within the normal range for each subscale, to 3, when respondents scored above the cut-off scores on all three subscales.

IPV perpetration. The first dependent variable in this study is IPV perpetration. Self-reported information about IPV perpetration was collected at the interview using items (translated in Dutch) from the Revised Conflict Tactics Scale (Straus et al., 1996). For the CCLS study, it was decided to combine similar items into a smaller number of items. For example, the items 'I pushed or shoved my partner' and 'I slapped my partner' were combined into one item 'I pushed, shoved, or slapped my partner'. A total of 11 items were combined in such a way, resulting in five items that measured physical IPV perpetration. Respondents were asked to indicate whether the behaviours described in the items had happened in the past year. This information was used to construct a dichotomous variable for *IPV perpetration*, representing whether respondents had engaged in one or more of the abusive behaviours in the past year.[ii] Reliability of the scale in this study was excellent (Cronbach's alpha=0.94).

Violent offending. The study's second dependent variable is self-reported violent offending (i.e. not against a partner). This measure was constructed based on a questionnaire that captured self-reported criminal behaviour in the past five years. Prior research has shown that this is a valid method for collecting data about offending (Jolliffe et al., 2003). Eleven questions asked respondents whether they had committed different violent crimes (e.g. assault, threatening someone with a weapon), and answers were summed and then dichotomised to create a measure for *self-reported violent offending*.

Analysis

Descriptive statistics were used to summarise respondents' background and current characteristics, prevalence of IPV perpetration and criminal history. In addition, to visualise and examine criminal career development in more detail, group-based trajectory modelling was used (Nagin, 1999; 2005). This technique is used to identify groups of respondents who follow a similar type of developmental pathway, in this case a similar type of criminal career or offending trajectory. The offending trajectories were estimated in *Stata* (Jones and Nagin, 2013), using the frequency of convictions per age year, starting from age 12 up to five years before the respondents' age at the interview (average age of 55), to avoid any overlap with the self-reported violent offending variable. As this is count data, and as convictions are relatively rare events, a zero-inflated Poisson model was used. Different models were estimated, each with a different number of groups, using the Bayesian information criterion (BIC), posterior probabilities, and other criteria mentioned by Nagin (2005) to determine an optimal solution. Group-based trajectory modelling was used to estimate *general* crime trajectories, using data on all convictions, as well as *violent* crime trajectories, based on data on convictions for violent crimes only. Then, binary logistic regression analyses were conducted to examine the relationship between patterns in offending, background and current characteristics, IPV perpetration and violent offending.

Results

Background and current characteristics

Table 1 shows that almost 30% of the 585 men in this study had experienced regular verbal and/or physical abuse in childhood.[iii] In addition, 217 men (37.1%) reported displaying antisocial behaviour before the age of 15. However, the average level of early antisocial behaviour was relatively low. Regarding proximal factors, most men (79.0%) were currently married, 15.7% of men were unmarried but cohabitated with their partner, and a small group (5.3%) were in a stable relationship without being married or cohabiting. The average number of marriages over the life-course was 1.17 (SD=0.62). Most respondents rated their relationship as being of a good quality.[iv] Over half of the respondents were employed at the time of the interview. Finally, 15% of respondents reported experiencing

increased levels of depression, anxiety and/or stress, and these respondents tended to experience more than one of these problems.

(Table 1)

Patterns in general and violent offending

Within the sample of 585 men, 82.6% (*N*=483) had been convicted at least once over their life-course (Table 2). Most had only been convicted a few times, but a small proportion had accrued a large number of convictions. On average, convicted respondents had 16 convictions, although the difference between respondents was large (SD=30.49). The vast majority had been convicted of a non-violent offence, whereas about one-third also had been convicted of a violent offence. Within the convicted group, the average number of convictions for non-violent offences was higher than for violent offences.

(Table 2)

Group-based trajectory modelling was used to identify distinct offending trajectories. First, trajectories were estimated using data on all convictions. For general offending, a five-group model had a slightly better BIC value, however, this solution resulted in two very small high-rate offender groups, and the average posterior probabilities of some groups were slightly lower compared to the four-group model. Therefore, the four-group model was chosen for further analysis (Table 3). For the four-group model, the average posterior probabilities per trajectory group ranged between 0.93 and 0.99, meaning that respondents had a high probability of being assigned to the group that best resembled their criminal development (Nagin, 1999).

The largest group, the *very low-rate offenders* (group 1), consisted of men who showed no or very little criminal behaviour over the life-course. The criminal development of the *desisters* (group 2)

was characterised by criminal behaviour during the teenage and early adult years followed by desistance. Two smaller groups showed a more chronic pattern of criminal behaviour. The *low-rate chronic* offenders (group 3) displayed a persistent, yet low rate of offending over the life-course, which slowly started to decrease after age 40. The *high-rate chronic* offenders (group 4) showed a much higher offending rate over the life-course compared to the other groups. These men had not yet desisted by the end of the observation period. Instead, their offending rate showed an increase over the life-course (Figure 1).[v]

Second, trajectories were estimated using only the data on violent convictions. Similar to the general crime model, the model with the highest BIC value – in this case a three-group model – included two trajectory groups that were very limited in size. Also, the average posterior probability of one of these groups was low compared to the other two groups. Therefore, a two-group violent crime trajectory model was used in the subsequent analysis. *Very low-rate violent offenders* (group 1) showed virtually no violent offending over the life-course. A smaller group of *violent chronics* (group 2) showed a persistent pattern of convictions for violent offences over the life-course, with a steady increase in violent offending up to approximately age 50, followed by a slow decline (Figure 2). The average posterior probabilities for the two groups were high (Table 3).

(Table 3)

(Figures 1 and 2)

IPV perpetration

Table 4 shows rates of self-reported IPV perpetration in the past year for the total sample, and by whether they had been convicted of any offence as well as convicted of a violent offence. Results showed that 5.1% of the total sample disclosed perpetrating physical IPV in the past year. When distinguishing between those with at least one conviction and those who had never been convicted, IPV perpetration appears to be more common in the convicted group than in the never-convicted

group, but this difference was not statistically significant. However, men who had been convicted of a violent offence were significantly more likely to report IPV perpetration (χ^2(1, 585)=6.64, *p*<.05) than men who had never been convicted of a violent offence. The vast majority of those who reported IPV perpetration had been convicted at least once over the life-course (93.3%), while only 6.7% had no convictions.

Table 4 also shows prevalence rates of IPV perpetration per trajectory group. With regard to the general crime trajectories, approximately 10% of the men in the two chronic offender groups reported IPV, compared to about 4% in the two groups who showed very little criminal behaviour over the life-course or who had desisted from crime well before the interview. When distinguishing between the four general crime trajectory groups, no significant association between group membership and IPV perpetration was found (χ^2(1, 585)=6.17, *p*=0.10). However, when combining the two desister groups, and the two chronic offender groups, the results did indicate that IPV perpetration was more common among chronic offenders. In the two chronic offending groups combined, 10.6% reported IPV perpetration, which was significantly higher than in the two non-chronic offending groups (4.2%) (χ^2(1, 585)=6.09, *p*<.05). Regarding the violent trajectory groups, the prevalence of IPV perpetration was significantly higher (10.4%) in the violent chronic group, compared to the very low-rate violent offenders (4.4%) (χ^2(1, 585)=4.40, *p*<.05).

(Table 4)

Self-reported violent offending

In the interview, 6.7% of respondents reported that they had committed at least one generally violent offence (i.e. not against a partner) in the past five years (Table 4). There was no significant difference in the rates of violent offending between the convicted and never-convicted groups. However, a significant association was found between being convicted of a violent offence at least once over the life-course and self-reported violent offending in the past five years (χ^2(1, 585)=11.48, *p*<.01).

There was also a significant relationship between general crime trajectory group membership and self-reported violent offending ($\chi^2(3, 585)=30.57$, $p<.001$), as well as between violent crime trajectory group membership and self-reported violence ($\chi^2(1, 585)=15.37$, $p<.001$). With regard to the general crime trajectories, the percentages of men reporting violent offending in the past five years were considerably higher in the two chronic offender groups compared to the other two groups, whilst the rates of self-reported violence did not differ significantly between the two chronic offender groups. Regarding the violent crime trajectories, the proportion of men engaging in self-reported violence was significantly higher in the chronically violent group (17.9%) compared to the group of very low-rate violent offenders (5.2%).

Finally, the association between IPV perpetration in the past year and self-reported violent offending in the past five years was examined (Table 5). The proportion of men engaging in IPV perpetration was significantly higher (15.4%) among those who reported violent offending than among those who did not report violent offending (4.4%) ($\chi^2(1, 585)=9.04$, $p<.01$).

(Table 5)

The relationship between offending trajectories, background and current factors, and IPV perpetration
Binary logistic regression analyses were conducted to examine the relationship between patterns in general and violent offending over the life-course, background and current factors, and IPV perpetration in the year preceding the interview (Table 6).[vi] First, the effects of background and current factors on the likelihood of IPV perpetration were examined in Model 1a.[vii] Experiencing family violence in childhood and being married were associated with a significant increase in the likelihood of IPV perpetration. Respondents who were employed and those who were in a higher quality relationship had a lower likelihood of perpetrating IPV. Early antisocial behavior was associated an increased risk of IPV perpetration, albeit this effect was marginally significant.

Then, the effects of background and proximal factors were examined, over and above the effects of the general crime (model 2a) and violent crime trajectories (model 3a). Model 2a shows that, compared to the very low-rate offenders (group 1), both chronic offender groups were more likely to engage in IPV perpetration, although the effect for the high-rate chronic group was only marginally significant (p=0.070). However, this may be due to the low absolute numbers of men reporting IPV perpetration in this smallest offender group.[viii] Furthermore, in model 3a, those involved in chronic violent offending over the life-course were more likely to report IPV perpetration, compared to non-violent offenders, although this effect was only marginally significant (*p*=0.063). Regarding the background and current factors, results are largely similar to model 1a. Experiencing family violence in childhood and being married were associated with an increased likelihood of IPV, whilst men who rated their relationship as being of a higher quality and men who were employed were less likely to perpetrate IPV. Early antisocial behaviour was no longer a significant predictor when offending trajectories were taken into account. Finally, a higher number of marriages was marginally significantly associated with a lower likelihood of IPV perpetration in the current relationship.

(Table 6)

The relationship between offending trajectories, background and current factors, and violent offending
Similar models as discussed above were estimated with self-reported violent offending as the dependent variable, to examine similarities and differences in the predictors for general violence compared to IPV (Table 7). Regarding the background factors, experiencing family violence and displaying early antisocial behaviour were consistent significant predictors of self-reported violent offending in the five years prior to the interview across the different models. Marriage was associated with a significant decrease in the likelihood of violent offending in models 1b and 3b. Model 2b showed that background factors remained significant predictors of violence when the general offending trajectories were taken into account, but low-rate chronic offenders were also significantly more likely

to report violent offending. Finally, when controlling for the violent offending trajectories in model 3b, those who had experienced family violence and displayed early antisocial behaviour, as well as those involved in chronic violent offending over their life-course, were more likely to report violent offending, whereas those who were married were less likely to engage in violence. Employment was not significantly associated with the likelihood of violent offending in the different models.

(Table 7)

Discussion

The aim of this study was to replicate and extend research by Piquero et al. (2014), by examining the relationship between patterns in criminal behaviour over the life-course, violent offending, and IPV perpetration at an average age of 60. Group-based trajectory modelling was used to identify distinct patterns in general and violent offending over the life-course. This revealed that the majority of men had no or a small number of convictions, but a small proportion showed a persistent pattern of criminal behaviour throughout their lives. Although non-violent offending was more common, one-third of the men had a conviction for violent crime, and about 10% of men showed a chronic pattern of violent offending over their life-course.

The bivariate analyses demonstrated significant associations between IPV perpetration, self-reported violence and criminal convictions. In the interview conducted at age 60, 5% of the men reported engaging in physical IPV perpetration in the past year. As in Piquero et al. (2014), we found that rates of IPV perpetration were significantly higher among men who had been convicted of a violent crime at some point in their lives. IPV perpetration was notably more common in the chronic general and violent offender groups. In addition, about 7% of men reported violent offending (i.e. not against a partner) in the five years preceding the interview. As with IPV, violent offending was more prevalent in the chronic general and violent offender groups.

Results of logistic regression models indicated that men who engaged in persistent criminal behaviour over the life-course, particularly the low-rate chronic offenders, were significantly more likely to report both IPV perpetration and violent offending in the interview. This finding is similar to Piquero et al. (2014), who demonstrated that the two chronic offender groups were more likely to engage in IPV perpetration, and that all offender groups were associated with criminal violence. In addition, we extended the Piquero et al. study by also including patterns in violent convictions over the life-course, and found an increased likelihood of IPV perpetration among chronic violent offenders, compared to very low-rate violent offenders.

The finding that both IPV perpetration and self-reported violence were more prevalent among those with persistent general and violent criminal careers, as well as the finding that there was a significant association between IPV perpetration and (officially registered and self-reported) violent crime, are in line with general theories of crime (Gottfredson and Hirschi, 1990; Moffitt, 1993). Based on general theories of crime, a large degree of overlap between different forms of antisocial/criminal behaviour is expected, due to a shared underlying antisocial propensity. Our analyses revealed significant associations between persistent general and violent offending patterns, self-reported violence, and IPV perpetration, offering strong support for the first hypothesis. This suggests that to some extent, general theories of crime will be useful for informing interventions requiring the identification of individuals who are at increased risk of engaging in IPV. For the majority of IPV perpetrators in this study, their abusive behaviour was not unique to the relationship context, but part of a broader pattern of criminal behaviour (Buzawa and Hirschel, 2008).

In addition, family violence in childhood was found to be a significant predictor for both IPV perpetration and violent offending reported in the interview decades later, even when controlling for offending trajectories. This too supports general criminological theories which claim that early risk factors, such as experiencing child abuse, increase the likelihood of persistent antisocial behaviour over the life-course, as well as with literature on the intergenerational transmission of violence, which indicates that experiencing family violence can contribute to later aggressive behaviour via processes

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of social learning (Mihalic and Elliott, 1997; Widom, 1989). In the Piquero et al. study, the significant effects of childhood risk factors (i.e. personality characteristics such as neuroticism and impulsivity, as well as summary indexes for individual and environmental risk factors) on IPV and violence largely disappeared when offending trajectories were taken into account. However, we included different background risk factors than Piquero et al., as our dataset did not contain prospectively collected information on childhood factors such as impulsivity.

We further extended Piquero et al.'s study by including current factors that are assumed to be important in explaining IPV (Capaldi and Kim, 2007). These proximal factors, including marriage, relationship quality, and employment, were particularly important in explaining IPV perpetration, even when offending patterns over the life-course were taken into account. However, current factors were unrelated to violent offending, except for marriage, which had a significant negative effect on the likelihood of self-reported violence. Taken together, our findings offer support for the second hypothesis, which stated that background and current factors are related to IPV perpetration, over and above the effects of general offending.

In the current sample, respondents who were married were more likely to perpetrate IPV compared to those who were in a stable relationship without being married. Research on the association between relationship status and IPV shows mixed results. For example, Kim et al. (2008) also found that being married was associated with higher levels of men's physical aggression towards their wives, compared to those in dating or cohabitating relationships. However, other research suggests that IPV is more common among those cohabitating, and that women who are separated or divorced are especially at risk of experiencing IPV (Capaldi et al., 2012). Although marriage is an important desistance factor for general offending (Sampson and Laub, 1993), and marriage was negatively related to self-reported violent offending in our study too, this factor is more complex when considering IPV. Our study found that generally antisocial men may continue to display their antisocial behaviour in the private domain, rather than desisting from offending when married. Furthermore, given that the current study focuses on a sample of older men who are part of a generation less likely

to divorce (CBS, 2015), it is possible that some respondents' wives stay in marriages where they are abused by their husbands. The finding that there was a (marginally significant) association between a higher number of marriages and a lower likelihood of IPV perpetration supports this idea. Those respondents (or, their wives) who are able to leave an abusive marriage may find a better quality relationship, whereas those who stay in the same marriage are at higher risk of IPV. However, future research on the longitudinal relationship between marriage, separation, and (type of) IPV perpetration is needed, as relationship dissolution is also found to be an important risk factor for (severe) IPV (Capaldi et al., 2012).

The analyses also demonstrated that being in a higher quality relationship was associated with a reduced likelihood of IPV perpetration. However, as IPV perpetration and relationship quality were measured at one time-point, it is important to recognise that the direction of this effect is unclear, and that the relationship may not be causal. Whilst lower relationship quality could contribute to IPV perpetration, for example due to more disagreements and conflicts in the relationship (DeMaris et al., 2003), IPV is also likely to impact the partners' levels of satisfaction with their relationship (Lawrence and Bradbury, 2007).

The finding that employment had a negative effect on the likelihood of IPV perpetration is in line with research that shows that unemployment and financial stress can contribute to IPV perpetration (Capaldi et al., 2012). Interestingly, employment is one of the main desistance factors for general offending according to life-course criminological theory (Sampson and Laub, 1993), and the results of this study indicate that employment may also be important in preventing or reducing IPV perpetration. The protective effect of employment is especially relevant to consider in older couples, when retirement may mean that opportunities for conflict and IPV increase.

In this study, mental health problems, measured as depression, anxiety and stress, were unrelated to IPV perpetration. While some prior research suggests that depressive symptoms and stress could contribute to IPV perpetration (Capaldi et al., 2012), others find that depressive symptoms are not significantly related to men's physical aggression (Kim et al., 2008). As measures of personality

disorders which are characteristic of some, especially the more serious, IPV perpetrators (Holtzworth-Munroe and Stuart, 1994) were unavailable in our dataset, the lack of a significant association between mental health and IPV perpetration in this study could be due to the available measures (i.e. relatively minor mental health problems).

Some limitations of the current study must be noted. First, the study used officially registered data on convictions, which means that offending rates were underestimated due to the well-known attrition of cases through the criminal justice system. Second, for the conviction data on violent crime it was not possible to identify whether the victim had been a partner. However, the number of men convicted for a violent offence against their partner at some point in their lives is unlikely to be high, given that reporting and conviction rates of domestic violence have traditionally been low and have only more recently started to increase (Movisie, 2010).

Third, data on IPV perpetration was only available for men who were in a relationship at the time of the interview. Therefore, we were unable to examine the relationship between general offending and IPV perpetration for those who were single at the time of the follow-up study. This is important to consider, as especially persistent offenders may be less able to maintain stable relationships.

Fourth, IPV perpetration was measured using items from the Revised Conflict Tactics Scale (CTS2), and there is a debate in the literature about the extent to which this instrument accurately measures IPV. In addition to potential underreporting due to the sensitive nature of the questions (Archer, 1999), it is also difficult to determine what type of IPV is likely to be measured, as the CTS2 items do not take the context of the violent act into account (Dobash et al., 1992). Johnson (2008) distinguishes between situational couple violence, which often consists of mutual, relatively minor, and infrequent violence between partners, and intimate terrorism, which is primarily male-perpetrated and characterised by a pattern of serious and persistent violence. On the one hand, it has been argued that the CTS2 is most likely to capture situational couple violence (Johnson, 2008). On the other hand, the finding that men at age 60 report engaging in abusive acts could also indicate that

some may be intimate terrorists, as research shows that situational couple violence is most common in young adulthood and decreases with age (Johnson et al., 2015), whereas intimate terrorism is thought to be more stable across the life-course (Johnson, 2008). Moreover, we have not considered emotional/psychological abuse which is often used by intimate terrorists, and may be more common in later life than physical violence (Mezey et al., 2002).

Finally, as IPV perpetration was only measured at one point in time, we were unable to examine the relationship between the development of IPV perpetration over time in relation to the development of other criminal and violent behaviour (Johnson et al., 2015). Future research that examines longitudinal data on IPV alongside longitudinal data on criminal behaviour can help to further establish the role played by IPV in wider criminal careers.

To close, this study showed a significant relationship between general (violent) crime and IPV perpetration later in life. Persistent and violent offenders are consistently more likely to perpetrate IPV, but proximal factors such as relationship factors and employment are also important in explaining IPV. This indicates that an integrated theoretical approach is most useful to understand IPV perpetration, with the ultimate aim of informing evidence-based programmes which are crucial to prevent and reduce IPV.

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Table 1. Background and current characteristics (*N*=585)

	N	%	M	SD
Background factors				
Experienced family violence	171	29.2		
Early antisocial behaviour	217	37.1		
Level of early antisocial behaviour			0.67	1.09
Current factors				
Age at interview			60.14	7.00
In relationship but not cohabiting/married	31	5.3		
Cohabiting	92	15.7		
Married	462	79.0		
Number of marriages			1.17	0.62
Relationship quality			4.48	0.74
Employed	340	58.1		
Mental health problems	88	15.0		
Number of mental health problems			1.65	0.83

Table 2. Offending characteristics within the convicted group (*N*=483)

	N	%	M	SD	Min-max
Number of convictions			16.06	30.49	1-310
Conviction for non-violent offence	479	99.2			
Number of convictions for non-violent offences			14.80	28.51	0-301
Conviction for violent offence	187	32.0			
Number of convictions for violent offences			1.27	2.97	0-31

Table 3. Offending trajectories (*N*=585)

	Group sizes		Posterior probabilities	
	N	%	M	SD
General crime trajectories				
Group 1: very low-rate offenders	329	56.2	0.959	0.005
Group 2: desisters	171	29.2	0.931	0.009
Group 3: low-rate chronics	59	10.1	0.938	0.016
Group 4: high-rate chronics	26	4.4	0.997	0.002
BIC value	-13656.82			
Violent crime trajectories				
Group 1: very low-rate violent offenders	518	88.5	0.982	0.002
Group 2: violent chronics	67	11.5	0.910	0.017
BIC value	-2340.89			

Table 4. Self-reported IPV perpetration (past year) and violent offending (past five years)

	Group sizes	IPV perpetration		Violent offending	
	N	N	%	N	%
Total sample	585	30	5.1	39	6.7
Convicted	483	28	5.8	35	7.2
Not convicted	102	2	2.0	4	3.9
Convicted of violent crime	187	16	8.6	22	11.8

Not convicted of violent crime	398	14	3.5	17	4.3
General crime trajectories					
Group 1: very low-rate offenders	329	14	4.3	12	3.6
Group 2: desisters	171	7	4.1	10	5.8
Group 3: low-rate chronics	59	6	10.2	13	22.0
Group 4: high-rate chronics	26	3	11.5	4	15.4
Violent crime trajectories					
Group 1: very low-rate violent offenders	518	23	4.4	27	5.2
Group 2: violent chronics	67	7	10.4	12	17.9

Table 5. The association between IPV perpetration (past year) and violent offending (past five years)

	No violent offending		Violent offending	
	N	**%**	**N**	**%**
No IPV perpetration	522	95.6	33	84.6
IPV perpetration	24	4.4	6	15.4
Total	546	100	39	100

Table 6. The relationship between offending trajectories, background and current factors, and IPV perpetration and self-reported violent offending (*N*=585)

	IPV perpetration						Self-reported violent offending					
	Model 1a		Model 2a		Model 3a		Model 1b		Model 2b		Model 3b	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Experienced family violence	1.18**	0.41	1.26**	0.42	1.20**	0.42	1.38***	0.36	1.14***	0.38	1.38***	0.37
Early antisocial behaviour	0.27†	0.16	0.26	0.17	0.25	0.17	0.35**	0.13	0.33*	0.14	0.31*	0.13
Married	1.51*	0.65	2.20**	0.76	1.77*	0.69	-1.00*	0.40	-0.55	0.45	-0.86*	0.42
Number of marriages	-0.69	0.45	-0.87†	0.49	-0.77†	0.47	0.08	0.26	-0.003	0.27	0.07	0.26
Relationship quality	-0.74***	0.20	-0.80***	0.20	-0.74***	0.20	0.08	0.23	0.12	0.24	0.12	0.24
Employed	-1.23**	0.46	-1.16*	0.47	-1.23**	0.46	-0.08	0.42	0.06	0.44	-0.05	0.43
Mental health problems	-0.31	0.31	-0.35	0.33	-0.42	0.33	0.28	0.20	0.26	0.21	0.27	0.20
Age	-0.03	0.04	-0.03	0.04	-0.04	0.04	-0.03	0.03	-0.04	0.04	-0.03	0.04
General crime trajectories												
Group 2: desisters			-0.13	0.53					-0.02	0.47		
Group 3: low-rate chronics			1.26*	0.61					1.61**	0.51		
Group 4: high-rate chronics			1.42†	0.78					0.65	0.73		
Violent crime trajectories												
Group 2: violent chronics					0.96†	0.52					0.91*	0.43
Constant	1.78	2.31	1.10	2.34	1.65	2.33	-1.44	2.37	-2.06	2.48	-1.91	2.43
R²	0.20		0.23		0.21		0.20		0.25		0.22	

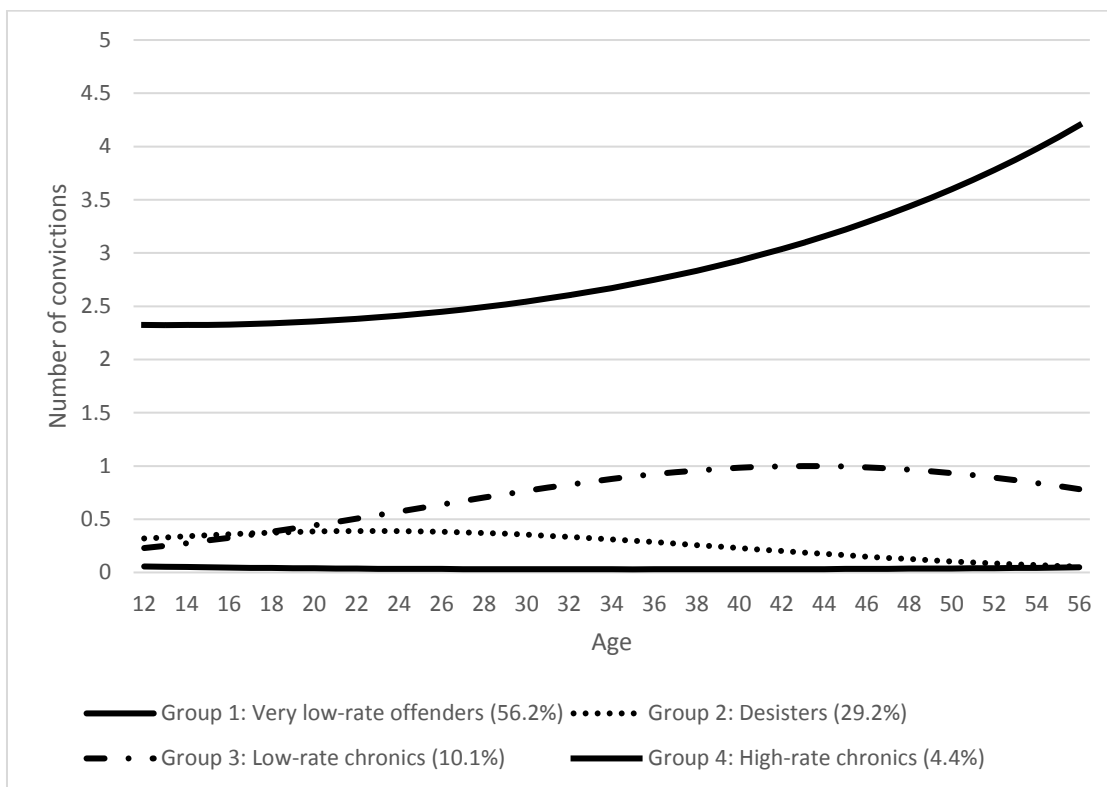†*p*< 0.10, *p*<0.05; **p*<0.01; ***p*<0.001

Figure 1. Four-group solution for general crime (*N*=585)
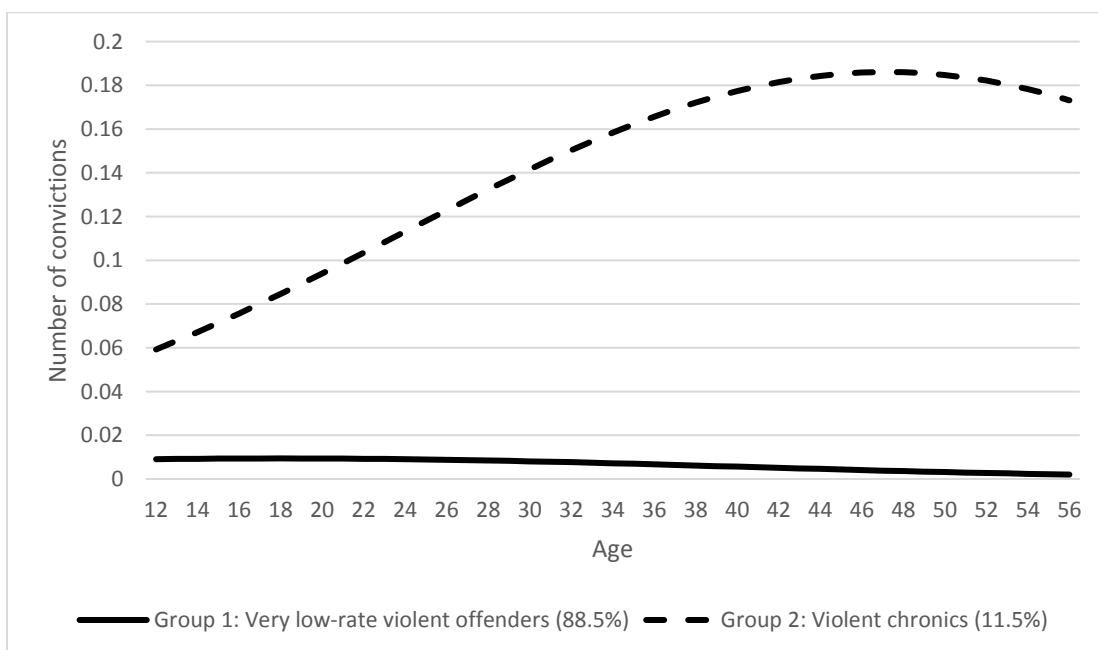

Figure 2. Two-group solution for violent crime (*N*=585)

[i] In the Piquero et al. (2014) study, one of the dependent variables is 'convicted of a violent offence up to age 50'. Although we have a similar measure in our dataset, we decided to use a self-reported measure of violent offending in the past five years instead, because first, self-reported violent offending was measured at the same time as IPV perpetration, and second, we wanted to avoid overlap between the offending trajectories, which were estimated based on all, including violent, convictions, and the dependent variable.

[ii] Before dichotomising, descriptive statistics showed that half of the men who disclosed IPV perpetration (N=15) engaged in only one abusive act, whilst 9 men reported the most severe act (i.e. physical abuse resulting in injury which required medical attention). Moreover, most respondents involved in IPV reported committing (an) abusive act(s) once, while only some committed the act(s) more often.

[iii] Although prevalence rates of childhood abuse from a directly comparable sample of older men are unavailable, the rates of experienced child abuse in this study appear to be higher compared to adults in the general population (Verdurmen et al. (2007), in: Health Council of the Netherlands (2011)).

[iv] Those who disclosed IPV perpetration reported significantly lower levels of relationship quality (t(30)=2.60, p<0.05).

[v] Although an increasing trend in offending up to the average age of 56 is somewhat unexpected even for persistent offenders, analysis on a longer observation period showed that the conviction rate in this group started to decline shortly after age 56.

[vi] Results were largely similar when the analyses were conducted with a continuous variable for IPV perpetration, based on the frequency of IPV perpetration.

[vii] Analyses were also conducted with a categorical variable distinguishing between being married, cohabiting, and steady dating. Results of these models were very similar to the models presented in table 6 which include a dichotomous variable for whether respondents were married or not. As the group of steady daters was small (5.3%) it was decided to focus on the distinction between being married or unmarried.

[viii] Logistic regression models which examined the effects of conviction frequency, using categorical variables to take the wide range in the number of convictions over the life-course into account (Table 2), showed that a high number of convictions (i.e. 20+) was significantly associated with an increased likelihood of IPV perpetration.