PART I

Introduction and Overview

1 Origins of Violent Behavior over the Life Span

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Introduction

The most basic definition of violence is behavior that is intended to cause, and that actually causes, physical or psychological injury. The most important violent offenses defined by the criminal law are homicide, assault, robbery, and rape. This chapter has three main sections. The first section briefly reviews basic knowledge about violence over the life span: measurement and prevalence, continuity from childhood to adulthood, specialization or versatility, and changes with age. The second section reviews individual and family risk factors for violence. The third section reviews methods of preventing violence by targeting key individual and family risk factors. There is not space to review immediate situational influences on violence, or theories of violence, in this chapter. Sex offending is also excluded.

Risk factors for violence are defined as variables that predict a high probability of violence. Usually, risk factors are dichotomized. This makes it easy to study interaction effects, to identify persons with multiple risk factors, to specify how outcomes vary with the number of risk factors, and to communicate results to policy-makers and practitioners as well as to researchers (Farrington & Loeber, 2000). In order to determine whether a risk factor is a predictor or possible cause of violence, the risk factor needs to be measured before the violence occurs. It is important to examine and establish which risk factors cause violence. To the extent that a risk factor causes violence, interventions could be designed to reduce its impact and, in turn, reduce violence. However, it is extremely difficult to establish causal influences in nonexperimental research. It is widely accepted that the main criteria for establishing that X causes Y is: (1) X is correlated with Y, (2) X can change or be changed within individuals, (3) X precedes Y, and (4) X predicts Y after controlling for confounding variables (Murray, Farrington, & Eisner, 2009).

In trying to draw conclusions about whether any factors might have a causal influence on offending, this chapter will focus especially on knowledge gained in major prospective longitudinal studies of offending, and especially on longitudinal studies of large community samples of several hundred persons containing information from several data sources (to maximize validity). This chapter focuses on the most important results obtained in such studies (for a review, see Farrington, 2015b). The best prospective surveys include interview as well as record data and span a follow-up period of at least five years. Such surveys are surprisingly rare. For example, Mossman (1994) reviewed 44 studies of the prediction of violence,

and only two (Farrington, 1989a; Kandel, Brennan, Mednick, & Michelson, 1989) met these criteria.

The main emphasis here is on results obtained in the United Kingdom and the United States and on stranger or street violence rather than dating or within-family violence (e.g., Theobald, Farrington, Ttofi, & Crago, 2016). Most research focuses on male offenders and on the most common offenses of assault and robbery. There are few prospective longitudinal studies of homicide (but see Loeber & Farrington, 2011). Within a single chapter, it is impossible to review everything that is known about violence; for more extensive information, see Riedel and Welsh (2015) and DeLisi and Conis (2017).

This chapter will first report some relevant results obtained in classic longitudinal studies of violence, and it will then report more recent results, especially those obtained in the Cambridge Study in Delinquent Development (CSDD; see Farrington et al., 2006; Farrington, Piquero, & Jennings, 2013) and the Pittsburgh Youth Study (PYS; see Jennings, Loeber, Pardini, Piquero, & Farrington, 2016; Loeber, Ahonen, Stallings, & Farrington, 2017). The next section provides short descriptions of the CSDD and the PYS.

The CSDD and the PYS

The CSDD is a prospective longitudinal survey of 411 London males. These males are now called Generation 2 (G2). Their parents are Generation 1 (G1) and their children are Generation 3 (G3). The G2 males were originally assessed in 1961–62, when they were in six state primary schools in a lower-class urban area and were aged 8–9 years (West & Farrington, 1973). Therefore, the most common year of birth of the males is 1953. The G2 males are not a sample drawn systematically from a population, but rather the complete population of boys of that age in those schools at that time. The vast majority of boys were living in two-parent families, had fathers in manual jobs, and were White and of British origin.

The G2 males have been interviewed and assessed nine times between age 8 and age 48. Attrition has been very low; for example, 95% of those still alive were interviewed at age 18, 94% at age 32, and 93% at age 48 (for information about how the males were traced, see Farrington, Gallagher, Morley, St. Ledger, & West, 1990). The assessments in schools measured such factors as intelligence, personality, and impulsiveness, while information was collected in the interviews about such topics as living circumstances, employment histories, relationships with females, leisure activities such as drinking, drug use and fighting, and of course self-reported offending behavior.

The G1 parents were also interviewed about once a year from when the G2 males were aged 8 until when they were aged 15 and in most cases leaving school. The G1 parents provided details about such matters as family income, family composition, their employment histories, their child-rearing practices (including discipline and supervision) and the boy's temporary or permanent separations from them. Also, the boys' teachers completed questionnaires when the boys were aged about 8, 10, 12, and 14. These furnished information about such topics as their restlessness or poor concentration, truancy, school attainment, and disruptive behavior in class.

Between 2004 and 2013, 551 G3 children aged at least 18 (84%) were interviewed at the average age of 25 (Farrington, Ttofi, Crago, & Coid, 2015). These interviews covered many of the same topics that the G1 males were asked about, and they included retrospective questions to the G3 children about their school behavior in childhood (before age 12) and the child-rearing that they had experienced from their parents. In addition, criminal records were searched for the G1 parents up to the average age of 70, for the G2 males up to age 56, and for the G3 children at the median age of 30.

The PYS is a prospective longitudinal study of three cohorts of Pittsburgh boys, totaling 1,517 boys, originally in the first, fourth, and seventh grades of public schools in 1987–88. The youngest cohort was assessed yearly from age 7 to age 19, while the oldest cohort was assessed yearly from age 13 to age 25. The middle cohort was only assessed from age 10 to age 13 and finally at age 24, so most of the analyses have been based on the youngest and oldest cohorts. A wide range of risk factors, including self-reported offending, was measured at all ages, and criminal records were searched up to age 32 to 38 (Loeber, Farrington, Stouthamer-Loeber, & White, 2008).

Violence over the Life Span

Measurement and Prevalence

The most common ways of identifying violent offenders are by using police or court records or self-reports of offending. For example, Elliott (1994) in the US National Youth Survey enquired about aggravated assault (attacking someone with the idea of seriously hurting or killing that person), being involved in a gang fight, and robbery (using force or strongarm methods to get money or things from people). Prevalences were surprisingly high. In the first wave of the survey (age 11 to 17 in 1976), 31% of African-American boys and 22% of White boys admitted a felony assault in the previous year (aggravated assault, gang fight, or sexual assault). At the same time, 13% of African-American boys and 6% of White boys admitted robbery (of teachers, students, or others) in the previous year.

The comparison between self-reports and official records gives some indication of the probability of a violent offender being caught and convicted. In the CSDD, 45% of boys admitted starting a physical fight or using a weapon in a fight between ages 15 and 18, but only 3% were convicted of assault between these ages (Farrington, 1989b). Self-reported violence had predictive validity: 10% of those who admitted assault up to age 18 were subsequently convicted of assault, compared with 5% of the remainder.

More recently, Farrington, Auty, Coid, and Turner (2013) studied self-reported and official offending in the CSDD from age 10 to age 56. The number of convictions for violent offenses (robbery, assault, threatening behavior, possessing weapons) increased to a peak at age 16 to 20 (43 convictions for just over 400 G2 males at risk), but there were still 42 convictions for violence after age 40. Self-reported assaults increased to a peak at age 15 to 18 (62% prevalence) and then decreased. The ratio of self-reported to official assault offenders decreased steadily with age from age 10 to 14 (52) to age 42 to 47 (8). Similarly, the ratio of self-reported to official assault offenses decreased with age, from age 10 to 14 (366) to age 42 to 47 (16).

In the PYS, the annual prevalence of reported serious violence (robbery, rape, attacking to hurt) increased to a peak (11%) at age 18 to 19 for the oldest cohort and then decreased up to age 25 (Loeber et al., 2008). The annual prevalence of arrests for serious violence also increased to a peak (10%) at age 18 to 19 and then decreased up to age 25. Theobald, Farrington, Loeber, Pardini, and Piquero (2014) found that there were seventeen self-reported serious violent offenses for every conviction on average, although 66% of self-reported serious violent offenders were convicted at some stage between the ages of 13 and 24. African-American boys were more likely than White boys to be convicted for serious violence, but this was partly because African-American boys self-reported more serious violent offenses and partly because they tended to live in worse neighborhoods.

Continuity

In the CSDD, 74 of the G2 males (18%) were convicted for a total of 168 violent offenses between the ages of 10 and 56; 44 (11%) were convicted for violence between the ages of 10 and 21, and 49 (12%) were convicted for violence between the ages of 22 and 56. Of those who had youthful convictions for violence, 44% also had adult convictions for violence, compared with only 8% of the remainder (odds ratio or OR = 8.52, $p < 0.05$; one-tailed tests used in light of directional predictions). There was also continuity in self-reported violence; 29% of youthful (age 15 to 18) violent offenders were also adult (age 27 to 32) violent offenders, compared with 12% of nonviolent youth (OR = 3.0, $p < 0.05$). While it is possible that part of the continuity in officially recorded violence may be attributable to continuity in police targeting, the continuity in self-reported violence indicates that there is real continuity in violent behavior.

Generally, violent males have an early age of onset of offending of all types (Farrington, 1991). Both in official records and self-reports, an early age of onset of violent offending predicts a relatively large number of violent offenses, as in the US National Youth Survey (Elliott, 1994). Moffitt (1993) suggested that the "life-course-persistent" offenders who started early (around the age of 10) and had long criminal careers were fundamentally different from the "adolescence-limited" offenders who started later (around the age of 14) and had short criminal careers lasting no longer than 5–6 years.

Childhood aggression predicts later violence. For example, in the Orebro (Sweden) longitudinal study (Stattin & Magnusson, 1989), two-thirds of boys who were officially recorded for violence up to the age of 26 had high aggressiveness scores at ages 10 and 13 (rated by teachers), compared with 30% of all boys. Also, in the Woodlawn (Chicago) follow-up study of African-American children, teacher ratings of aggressiveness at age 6 predicted arrests for violent crimes up to age 32 (McCord & Ensminger, 1997); Ttofi, Farrington, and Lösel (2012) completed a systematic review showing that school bullying predicted later violence.

One likely explanation of the continuity in violence over time is that there are persisting individual differences in an underlying potential to commit aggressive or violent behavior. In any cohort, the people who are relatively more aggressive at one age also tend to be relatively more aggressive at later ages, even though absolute levels of aggressive behavior and

behavioral manifestations of violence are different at different ages (Piquero, Carriaga, Diamond, Kazemian, & Farrington, 2012).

Specialization or Versatility

Generally, violent offenders tend to be versatile rather than specialized. They tend to commit many different types of crimes and also show other problems such as heavy drinking, drug use, an unstable job record, and sexual promiscuity (West & Farrington, 1977). However, there is often a small degree of specialization in violence superimposed on this versatility (e.g., Brennan, Mednick, & John, 1989). There is also versatility in types of violence. For example, males who assault their female partners are significantly likely to have convictions for other types of violent offenses (Farrington, 1994; Piquero, Theobald, & Farrington, 2014).

As an indication of their versatility, violent people typically commit more nonviolent offenses than violent offenses. In the CSDD, the convicted violent delinquents up to age 21 had nearly three times as many convictions for nonviolent offenses as for violent offenses (Farrington, 1978). Similarly, in the Oregon Youth Study, the boys arrested for violence had an average of 6.6 arrests of all kinds (Capaldi & Patterson, 1996). These results suggest that the continuity in violence from childhood to adulthood may largely reflect continuity in general antisocial behavior.

In the CSDD, the probability of committing a violent offense increased steadily with the number of offenses committed (Farrington, 1991). Indeed, it was not possible to disprove the hypothesis that violent offenses were committed at random in criminal careers. In the present analysis, 177 (43%) G2 males were convicted at some time between the ages of 10 and 56 and, as mentioned, 74 (42% of the offenders) were convicted for a violent offense. The probability of a violence conviction increased from those with one offense (10%) to those with two or three offenses (37%), four to ten offenses (63%), and more than ten offenses (78%). To a considerable extent, violent offenders are frequent offenders.

Risk Factors for Violence

In the interests of throwing light on possible causes of violence and implications for prevention methods, the emphasis in this chapter is on psychosocial risk factors (individual and family factors) that can change over time. Thus, gender, race, and genetic factors that are fixed at birth, such as the XYY chromosome abnormality, are not discussed, and neither are biological factors that can change, such as resting heart rate (e.g., Jennings, Piquero, & Farrington, 2013; Portnoy & Farrington, 2015). Where results differ by gender or race, this will be noted. There is not space to review peer, neighborhood, or community risk factors, but socioeconomic factors will be reviewed with family factors. The main focus is on individual-level as opposed to aggregate-level studies (e.g., rates of violence in different areas), and on violent offenders rather than victims of violence. However, it should be noted that victims of violence overlap significantly with violent offenders (e.g., Jennings, Piquero, & Reingle, 2012; Rivara, Shepherd, Farrington, Richmond, & Cannon, 1995).

Lipsey and Derzon (1998) reviewed the predictors at age 6 to 11 of serious or violent

offending at age 15 to 25. The best explanatory predictors (i.e., predictors not measuring some aspect of the child's antisocial behavior) were antisocial parents, male gender, low socioeconomic status of the family, and psychological factors (daring, impulsiveness, poor concentration, etc.). Other moderately strong predictors were minority race, poor parent–child relations (poor supervision, discipline, low parental involvement, low parental warmth), other family characteristics (parental stress, family size, parental discord), antisocial peers, low intelligence, and low school achievement. In contrast, abusive parents and broken homes were relatively weak predictors. It is clear that some individual and family factors are at least as important in the prediction of offending as are gender and race. Risk factors for crime and violence have also been reviewed by Farrington, Loeber, & Ttofi (2012) and Farrington, Gaffney, & Ttofi (2017).

Table 1.1 shows the childhood risk factors for youthful and adult violence for G2 males, while Table 1.2 shows the childhood risk factors for youthful violence (age 10 to 21) for G3 males. These tables are based on convictions; for childhood predictors of youthful and adult self-reported violence, see Farrington (2007); for other reviews of predictors of violence in the CSDD, see Farrington (2000, 2001, 2012). Some of the G3 risk factors were truly predictive, because they were measured in interview of the G2 males at age 32, while others were measured retrospectively in the G3 interview. Over 90% of G3 males were searched in criminal records up to at least age 21; 37 out of 343 (11%) G3 males were convicted between the ages of 10 and 21, for a total of 63 violent offenses. The prevalence for G3 males was the same as for G2 males (see above), although for most property offenses the prevalence was lower for G3 males (Farrington, Ttofi, & Crago, 2017). As expected, earlier measures of antisocial behavior in the CSDD (troublesomeness and dishonesty in G2, and suspended/expelled and frequent truancy in G3) significantly predicted later violence. In the PYS, running away and high truancy significantly predicted later violence (Loeber et al., 2008).

Risk factors for offending are generally replicable over time and place (e.g., Farrington, 2015a). For example, Farrington and Loeber (1999) compared the childhood predictors of juvenile offending in the CSDD and the PYS. Fifteen out of 21 risk factors yielded similar results in the two countries, even though they were measured in the early 1960s in London and in the late 1980s in Pittsburgh. Similarly, risk factors for offending are generally replicable between generations. In the CSDD, the strength of 20 risk factors for G2 offending up to age 21 correlated 0.80 with the strength of the same 20 risk factors for G3 offending up to age 21 (see Farrington et al., 2015 for information about how the risk factors were measured).

Individual Factors

Among the most important personality dimensions that predict violence are hyperactivity, impulsiveness, poor behavioral control, and attention problems. For example, in the Dunedin (New Zealand) follow-up, ratings of poor behavioral control (e.g., impulsiveness, lack of persistence) at age 3–5 significantly differentiated boys convicted of violence up to age 18, compared to those with no convictions or with nonviolent convictions (Henry, Caspi, Moffitt, & Silva, 1996). In the

Table 1.1 *Childhood Risk Factors for Violence for Generation 2 Males*

	% Violent 10–21			% Violent 22–56		
Childhood Risk Factors	NR	R	OR	NR	R	OR
Individual						
High troublesomeness	7.0	24.4	4.29*	10.3	20.0	2.18*
High dishonesty	8.8	17.0	2.13*	7.8	23.3	3.59*
High daring	6.4	21.7	4.04*	9.0	20.7	2.63*
High hyperactivity	9.0	18.5	2.30*	10.2	21.3	2.39*
Low nonverbal IQ	8.3	18.6	2.54*	9.8	20.0	2.30*
Low verbal IQ	8.7	16.8	2.13*	9.2	22.0	2.78*
Low attainment	7.9	20.0	2.90*	10.2	16.1	1.69
Parental						
Convicted G1 father	7.7	23.5	3.65*	8.9	25.9	3.59*
Convicted G1 mother	9.4	30.0	4.15*	11.7	20.0	1.88
Young G1 father	10.8	11.8	1.11	11.4	15.8	1.46
Young G1 mother	10.1	12.8	1.31	11.4	13.8	1.24
Family						
Harsh discipline	6.3	21.4	4.09*	9.0	20.2	2.57*
Poor supervision	7.6	22.2	3.49*	9.0	24.3	3.23*
Parental conflict	7.6	20.5	3.15*	9.2	18.6	2.26*
Disrupted family	8.3	20.0	2.77*	9.5	22.2	2.73*
Socioeconomic						
Low family income	7.7	21.5	3.28*	9.8	20.9	2.42*
Poor housing	8.7	14.7	1.81*	10.5	15.5	1.57
Low SES	9.5	16.5	1.87*	10.1	21.8	2.49*
Large family size	8.2	19.4	2.70*	10.0	19.8	2.22*

Notes: G1 = Generation 1, SES = socioeconomic status, NR = nonrisk category, R = risk category, OR = odds ratio, *$p < 0.05$, one-tailed.

Based on Cambridge Study in Delinquent Development data.

same study, the personality dimensions of low constraint (e.g., low cautiousness, seeking excitement) and high negative emotionality (e.g., nervousness, alienation) at age 18 were significantly correlated with convictions for violence (Caspi et al., 1994).

Many other studies show linkages between impulsiveness and violence. In the Seattle Social Development Project, hyperactivity and risk taking in adolescence predicted violence in young adulthood (Herrenkohl et al., 2000). In the Copenhagen perinatal project, hyperactivity (restlessness and poor concentration) at age 11 to 13 significantly predicted arrests for violence up to age 22, especially among boys experiencing delivery complications (Brennan, Mednick, & Mednick, 1993). More than half of those

Table 1.2 *Childhood Risk Factors for Violence for Generation 3 Males*

	% Violent 10–21		
Childhood Risk Factors	NR	R	OR
Individual			
Suspended/expelled G3	7.0	19.7	3.27*
Frequent truant G3	8.0	18.8	2.65*
High risk taking G3	6.7	19.8	3.45*
Poor attention G3	10.5	10.8	1.04
Early school leaving G3	6.3	37.8	9.05*
Parental			
Convicted G2 father 32	5.7	18.6	3.75*
Convicted G2 mother 32	10.0	22.2	2.58
Young G2 father	10.4	10.9	1.06
Young G2 mother	11.4	6.1	0.51
Family			
Physical punishment G3	6.7	18.9	3.26*
Poor supervision G3	5.6	15.7	3.11*
Poor supervision 32	7.2	19.3	3.07*
Parental conflict 32	8.4	13.3	1.67
Disrupted family 32	9.5	14.9	1.66
Socioeconomic			
Low take-home pay 32	8.0	15.9	2.19
Poor housing 32	8.5	17.7	2.31*
Low SES 32	9.1	16.7	1.99
Large family size 32	8.5	16.7	2.16*

Notes: G2 = Generation 2, G3 = measured in Generation 3 interview, 32 = measured in G2 interview at age 32, SES = socioeconomic status, NR = nonrisk category, R = risk category, OR = odds ratio, *p < 0.05, one-tailed.

Based on Cambridge Study in Delinquent Development data.

with both hyperactivity and high delivery complications were arrested for violence, compared to less than 10% of the remainder. Similarly, in the Orebro longitudinal study in Sweden, hyperactivity at age 13 predicted police-recorded violence up to age 26. The highest rate of violence was among males with both motor restlessness and concentration difficulties (15%), compared to 3% of the remainder (Klinteberg, Andersson, Magnusson, & Stattin, 1993).

Similar results were obtained in the CSDD and PYS (Farrington, 1998). Tables 1.1 and 1.2 show that high daring (risk taking) and high hyperactivity