

### 3 What factors protect adolescent bullies from developing into criminal and violent offenders?

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#### Introduction

Bullying is a common problem throughout the world (e.g. Due et al., 2005; Smith et al., 1999). Existing surveys indicate that children's involvement in bullying, either as bullies, victims or bully-victims, tends to be significantly stable not only from one school term to the next (Boulton & Smith, 1994) but also for longer periods, such as four years (Kumpulainen, Rasanen, & Henttonen, 1999), eight years (Sourander, Helstela, Helenious, & Piha, 2000), and even from elementary school through to the college years (Chapell, Hasselman, Kitchin, & Lomon, 2006). In a longitudinal study of children between ages 12 and 18 in Toronto, Pepler, Jiang, Craig, and Connolly (2008) identified four different bullying trajectories: consistently high, consistently moderate, early moderate and no bullying. The longest follow-up study of bullying was carried out in the Cambridge Study in Delinquent Development (CSDD), which is analysed in this chapter. Farrington (1993) found that bullies at age 14 tended to still be bullies at age 32, and tended to have children who were bullies.

Any suggestion regarding the concurrent undesirable impact of bullying on children's lives seems reasonable even to the lay mind. Establishing, on the other hand, the long-term effects of school bullying, and demonstrating that children who perpetrate bullying are more likely to follow a criminal path (compared with non-involved students), is more challenging. Nevertheless, this research question is very important because of its practical implications. If school bullying is a significant risk factor for later offending, then bullying prevention programmes could be seen as a form of early crime prevention (Ttofi, Farrington, & Lösel, 2012).

A strong association between school bullying and later offending could either reflect the persistence of an underlying aggressive or antisocial tendency or a facilitating effect of school bullying on later offending, or both. In either case, school bullies would be more likely to follow a criminal path later in life compared with non-involved students. Therefore research should aim to examine protective factors that interrupt this continuity based on longitudinal research (Ttofi, Bowes, Farrington, & Lösel, 2014). This topic is investigated in this chapter, based on analyses of the Cambridge Study in Delinquent Development (CSDD).

#### *School bullying and criminal offending later in life*

Within the framework of our British Academy funded project on 'Health and Criminal Outcomes of School Bullying', we published a systematic review and meta-analysis of prospective longitudinal studies on the efficacy of school bullying in predicting offending later in life (Ttofi, Farrington, Lösel, & Loeber, 2011). We edited a special issue of *Criminal Behaviour and Mental Health* on this topic that presented results from major longitudinal studies (Farrington, Ttofi, & Lösel, 2011). Studies were included in the meta-analysis based on 'level analyses'. Levels of bullying perpetration were compared with later levels of offending. The results of the meta-analysis suggested that there might be significant long-term detrimental effects of school bullying on later offending. This was even the case when confounded variables that were risk factors for bullying as well as for offending were controlled for.

Since then, we have published a review of bullying as a predictor of later violence (Ttofi et al., 2012), and we have updated our review of bullying as a predictor of offending by adding further studies. A detailed report presenting updated results was published by the Swedish National Council for Crime Prevention (Farrington, Lösel, Ttofi, & Theodorakis, 2012). The studies included in the meta-analysis are described in this governmental report. All 15 longitudinal studies found that bullying predicted later offending. Also, a later analysis of the CSDD showed that bullying at age 14 predicted conviction trajectories up to age 56 (Piquero, Connell, Piquero, Farrington, & Jennings, 2013).

In our meta-analysis, after controlling for covariates, the adjusted summary effect size was  $OR = 1.89$  (95% CI: 1.60–2.23;  $z = 7.49$ ) This OR indicates quite a strong relationship between bullying perpetration and later offending. For example, if a quarter of children were bullies and a quarter were offenders, this value of the OR would correspond to 34.5% of bullies becoming offenders, compared with 21.8% of non-bullies. Thus, being a bully increases the risk of being an offender (even after controlling for other childhood risk factors) by more than half.

#### *School bullying and resilience*

Previous research has investigated individual (e.g. Farrington & Baldry, 2010; Woods & Wolke, 2004) and environmental (e.g. Rigby, 1994; Wolke, Woods, Stanford, & Schulz, 2001) risk factors for bullying; results are consistent with a systematic review on this topic that was recently published (Cook, Williams, Guerra, Kim, & Sadek, 2010). This research is very useful as we are now able to 'sketch' a fairly accurate profile of school bullies and victims. However, this focus on deficit-oriented models within the framework of school bullying has some disadvantages. At the practical level, the reduction of specific types of risks from children's lives is quite often impossible. For example, although family socioeconomic status and ethnicity are associated with school bullying (e.g. Kim, Koh, & Leventhal, 2004; Wolke et al., 2001), any suggestion for the

'removal' of such risks from children's lives is rather difficult and impractical. At the theoretical level, reducing the polarization between deficit-oriented and strength-oriented models (i.e. the integration of both perspectives) is a more holistic approach and it has the potential to lead to a better understanding of human behaviour problems (Lösel & Bender, 2003).

Within the field of criminology, the question of why individuals do not set out on a deviant pathway, or why they leave it, gradually led to the discussion of promotive and protective factors, which, in turn, resulted in a paradigm shift from a focus on deficits to a focus on strengths (Snyder & Lopez, 2005). Although risk-focused prevention has been very popular, based on the idea that offending can be reduced by targeting and alleviating risk factors (e.g. Farrington, 2000; Farrington & Welsh, 2007), criminological research is now gradually paying more attention to the notion of resilience within new intervention initiatives (Farrington & Tfofi, 2011b). The need for a similar paradigm shift within the framework of bullying prevention has already been suggested (Tfofi & Farrington, 2012).

### *Risk and protective factors*

In this chapter, the following terminology is used: A *Risk Factor* is defined as a variable that predicts a high probability of offending. A *Risk-Based Protective Factor* is defined as a variable that predicts a low probability of offending among a group at risk (in our case: school bullies). An *Interactive Protective Factor* is defined as a variable that interacts with a risk factor to buffer its effects. For example, if poor parental supervision predicts delinquency in low-income families but not in high-income families, then high income may protect against the effects of the risk factor of poor parental supervision.

Farrington and Tfofi (2011b) investigated protective factors in the CSDD. When the risk group was defined as being a troublesome boy at age 8–10, the most important risk-based protective factors that predicted a low prevalence of convictions up to age 50 were low daring, good parental supervision, small family size and high non-verbal intelligence (see later for descriptions of these variables). When the risk group was defined as living in poor housing at age 8–10, the most important risk-based protective factors were good child-rearing, small family size, low dishonesty and low troublesomeness.

Good child-rearing in poor housing was the clearest example of an interactive protective factor. Among boys who lived in poor housing at age 8–10, 33% of those who received good child-rearing at age 8–10 were convicted, compared with 66% of those who received less good child-rearing, which was a significant difference. Among boys who lived in good housing at age 8–10, 32% of those who received good child-rearing were convicted, compared with 30% of those who received less good child-rearing, which was a negligible difference. Therefore, good child-rearing in poor housing reduced the probability of offending to the same value as in good housing, and this was a significant interaction effect. More recently, Farrington, Tfofi, and Piquero (2016) have completed an

extensive analysis of risk-based protective factors and interactive protective factors in the CSDD in predicting convictions between ages ten and 18.

### *Protective factors among bullies*

The current study aims to investigate factors that protect adolescent bullies from developing into criminal and violent offenders. In the CSDD, definite and probable bullies were identified based on self-reports at age 14. The following research questions are addressed:

- What risk-based protective factors predict a low probability of convictions among definite bullies?
- What risk-based protective factors predict a low probability of violence convictions among probable and definite bullies?
- Are risk-based protective factors the same or different for criminal and violence convictions?
- What are the main interactive protective factors against criminal and violence convictions?

The first analyses of factors that protect bullies from developing into offenders were published in a special issue of the *Journal of School Violence* that we edited (Tfofi, Farrington, & Lösel, 2014). Five major longitudinal studies addressed this topic. In New Zealand, Fergusson, Boden, and Horwood (2014) measured risk factors at age 7–12, protective factors at age 14–16 and self-reported delinquency at age 16–30. In Australia, Hemphill, Tollit, and Herrenkohl (2014) measured risk and protective factors at age 16–17 and self-reported antisocial behaviour at age 18–19. In Germany, Lösel and Bender (2014) measured risk factors at age nine, protective factors at age 10 and self-reported violence at age 13. In Scotland, McVie (2014) measured risk factors at age 13–16, protective factors at age 15–16 and self-reported violence at age 17. In a second Australian study, Vassallo, Edwards, Renda, and Olsson (2014) measured risk and protective factors at age 13–14 and self-reported delinquency at age 19–20. Tfofi et al. (2014) carried out a systematic review of protective factors that interrupt the continuity from bullying perpetration and victimization to internalizing (e.g. anxiety/depression) and externalizing (e.g. antisocial) problems later in life. They concluded that the most important of these were good school achievement, good social skills, coming from an unbroken family, high attachment to parents and prosocial friends.

In most cases, for a protective factor to be effective, it should be implemented either before or at the same time as the risk factor. For example, if the risk factor is having sexual intercourse and the protective factor is wearing a condom, it would not be effective to put on the condom after the sexual intercourse. Only Hemphill et al. (2014) and Vassallo et al. (2014) measured the protective factor at the same time as the risk factor. None of the five longitudinal studies investigated protective factors that interrupted the continuity from bullying to criminal

convictions. In the present chapter, the protective factors were measured at age 8–10, before the risk factor of bullying at age 14, and the outcome variable was conviction between ages 15 and 50. Therefore, this is the first study of protective factors against bullying that measures the protective factors before the bullying and investigates the prevention of later criminal convictions.

## Method

The present analyses are based on the Cambridge Study in Delinquent Development (CSDD), which is a prospective longitudinal survey of 411 South London males (see Farrington, Coid, & West, 2009; Farrington et al., 2006; Farrington, Piquero, & Jennings, 2013). These males were first assessed at age eight in 1961–62, and they have been followed up to age 48 in nine repeated face-to-face interviews and up to age 56 in criminal records. Information was also collected in annual interviews with parents conducted by Study social workers when the boys were aged between eight and 14, from peer ratings at ages eight and ten and from teacher ratings at ages eight, ten, 12 and 14. The attrition rate has been very low; at age 48, 93% of the males who were still alive were interviewed (365 out of 394). Criminal record searches showed that 41% of the males were convicted up to age 50 (167 out of 404 searched, excluding seven males who emigrated before age 21 and were not searched in criminal records).

## Measures

Self-reported bullying perpetration was measured at age 14 and was divided into four categories: 'definitely no', 'probably no', 'probably yes' and 'definitely yes'. Criminal and violent convictions (from official data) were measured after bullying, between ages 15 and 50 inclusive. Almost one-fifth of the males (71 out of 404, or 17.6%) were convicted for a violent offence (assault, robbery, threatening behaviour or carrying an offensive weapon; see Farrington, 2012; Farrington & Ttofi, 2011a) and two-fifths of males were convicted for a criminal offence (158 out of 404, or 39.1%).

Twenty major childhood factors measured at age 8–10 were included in the analyses investigating protective effects. These variables are described in detail elsewhere (e.g. Farrington & Ttofi, 2011b; Farrington et al., 2006, 2009, 2016). Non-verbal intelligence was measured using Raven's Progressive Matrices test, while verbal intelligence was based on verbal comprehension and vocabulary tests. School attainment was derived from school records of English, arithmetic and verbal reasoning tests. Daring was based on peer and parent ratings of taking many risks in traffic, climbing, exploring and so on. Poor concentration and restlessness in class (hyperactivity) were rated by the boy's teachers, and impulsiveness (psychomotor clumsiness) was measured using the Porteus Maze, Spiral Maze and Tapping tests. Extraversion and neuroticism were measured using the New Junior Maudsley Inventory. Sample items were "I like to tell my friends all about things that happen to me" (true-extraversion) and "It takes a lot to make

me lose my temper" (false-neuroticism). Nervousness was based on parent ratings of nervous-withdrawn boys, and popularity was measured using peer ratings.

Family income was derived from information given by parents to social workers. Similarly, the social workers enquired about the number of children in the family (including full biological siblings of the boy) and about the job of the family breadwinner (usually the father). The socioeconomic status (SES) of this job was rated on the Registrar General's scale, ranging from professional and managerial to unskilled manual jobs. Delinquency rates of the schools were obtained from the local education authority. The age of the mother referred to her age at the time of her first birth, which was ascertained by the social workers. The nervousness of the mother was based on social worker ratings and also on records of her psychiatric treatment. Parental interest in the boy's education was rated by the social workers (based on their interviews with the parents).

The rating of child-rearing was based on maternal and paternal discipline, which reflected warm or cold parental attitudes as well as harsh or erratic discipline, and parental harmony, which identified parents who were in conflict. Parental supervision measured whether the parents knew where the boy was when he was out, and parental separation identified boys who had been separated from a parent (usually the father) for at least three months for reasons other than death or hospitalization. All these variables were rated by the Study social workers and based on interviews with the parents (usually the mother).

The 'best' and 'worst' categories are usually obvious. However, for nervousness of the boy, the 'best' category was being nervous-withdrawn, because of prior research suggesting that this variable was negatively related to offending (West & Farrington, 1973, p. 115). In contrast, for neuroticism, the 'worst' category was high neuroticism, because the neuroticism items referred to irritability and getting angry as well as nervousness. Neuroticism measured emotional instability versus stability (calm, even-tempered children). For the age of the mother at the time of her first birth, being a teenager was the 'worst' category. For the job of the mother, having a full-time job was the 'best' category, having a part-time job was the middle category and having no job was the 'worst' category.

In previous analyses focusing on risk factors for offending, these variables were often dichotomized into the 'worst' quarter versus the remainder. In order to investigate protective effects in the present chapter, all age 8–10 variables were divided into the 'best' quarter (the protective end) versus the remainder. The direction of each variable is positive. Therefore, 'hyperactivity' as a protective factor would refer to the quartile that scored the lowest on hyperactivity, and the same was true of other variables such as 'neuroticism' and 'nervous mother'. On the other hand, 'verbal intelligence' as a protective factor refers to the quartile that scored the highest, and the same was true of other variables such as 'school attainment' and 'popularity according to peers'.

## Results

In the CSDD, there were 71 definite bullies (17.5% of 406 boys assessed at age 14) and 129 probable bullies (31.8%). This chapter investigates definite bullies as predictors of all convictions. Because of the relatively small number of violence convictions, probable and definite bullies are grouped together in predicting violence. As shown in Table 3.1, definite bullies were significantly more likely to be convicted for criminal offending (OR=1.7; 95% CI: 1.0–2.8) and probable bullies were significantly more likely to be convicted for violent offending (OR=1.8; 95% CI: 1.0–3.0) compared with the remainder.

Next, protective effects against violent convictions were investigated (see Table 3.2). The aim was to examine which protective factors predicted a low probability of violence among the bullies. For example, of 36 bullies with low daring (rated by peers and parents), only one was convicted for violence (3%), compared with 42 out of 161 bullies with medium or high daring (26%); OR=12.4, 95% CI: 1.6–93.0. Daring was a protective factor because the percentage of low-daring bullies who were convicted of violence was much less than the percentage of all bullies who were convicted of violence (22%).

Table 3.2 shows the eight most important protective factors against violence. Six of them (all except attending a low delinquency-rate school and small family

Table 3.1 Bullying versus convictions and violence

	No convictions	Convictions	% convictions
<i>Definite bullies versus convictions</i>			
No bullies	210	121	37
Bullies	36	35	49
<i>Probable bullies versus violence</i>			
No Bullies	177	28	14
Bullies	154	43	22

Note

Probable bullies include definite bullies.

Table 3.2 Protective effects against violence convictions

Variable	% violent in protective category	% violent in non-protective category	Odds ratio	95% confidence interval
Low daring	3	26	12.4	1.6–93.0
High non-verbal IQ	5	26	6	1.4–26.2
High verbal IQ	6	25	5.3	1.2–23.3
Low extraversion	11	24	2.5	0.8–7.5
Low delinquency school	14	26	2.2	1.0–5.0
Small family size	13	25	2.2	0.9–5.3
High school attainment	13	24	2.1	0.8–5.4
Low impulsivity	14	24	2	0.8–5.2

size) were individual factors. The four strongest predictors were all individual factors. Because of small numbers in the dichotomies, only four of the ORs were statistically significant on a two-tailed test; one-tailed tests are justifiable in light of the clear directional predictions. All eight ORs indicated relatively strong effects according to Cohen's (1996) criterion of OR=2.0 or greater (a doubling of the odds in the non-protective category compared with the protective category).

Similar analyses were conducted to investigate factors with a protective effect against criminal convictions and the results are shown in Table 3.3. Of the six strongest predictors, four were socio-economic or family factors, namely good child-rearing, high family income, a low delinquency rate school and small family size. So far, we have studied *risk-based protective factors*.

As a final step, tests of interaction effects were carried out to establish *interactive protective factors*. An interactive protective factor significantly interacts with bullying in predicting offending. As shown on Table 3.4, bullying did not predict offending within high-income families (32% of non-bullies versus 22% of bullies). If anything, the bullies were less likely to be convicted, suggesting perhaps that aggression in favourable circumstances might be advantageous (although this finding should not be overemphasized because it was not statistically significant). In contrast, bullying significantly predicted convictions in less favourable circumstances, namely lower-income families (38% of non-bullies versus 58% of bullies). The Analysis of Variance showed a significant interaction term in predicting convictions ( $F=4.16, p=0.042$ ). The results were similar for the interaction effects involving child-rearing and daring.

## Discussion

School bullying is a significant predictor of later offending. Protective factors that interrupt the continuity from school bullying to a later anti-social path could be very useful in designing future intervention initiatives. Previous research has

Table 3.3 Protective effects against criminal convictions

Variable	% convicted in protective category	% convicted in non-protective category	Odds ratio	95% confidence interval
High family income	22	58	4.9	1.4–17.0
Good child-rearing	24	56	4.1	1.2–14.3
High school attainment	23	55	4	1.0–16.3
Low delinquency school	28	59	3.8	1.2–12.2
Low hyperactivity	31	60	3.4	1.2–9.4
Small family size	28	57	3.4	1.1–10.9
Low daring	25	52	3.3	0.6–17.6
Low impulsivity	31	53	2.6	0.7–9.3
Low extraversion	33	52	2.2	0.6–7.1
High non-verbal IQ	33	52	2.1	0.5–9.3

Table 3.4 Interactive protective effects

High income	Lower income	Interaction
NB (N) B (N) 32% (104) 22% (18) (OR=0.6; 95% CI: 0.2–2.0)	NB (N) B (N) 39% (227) 58% (53) (OR=2.2; 95% CI: 1.2–4.1)	$F=4.16, p=0.042$
Good child-rearing	Worse child-rearing	Interaction
31% (108) 24% (17) (OR=0.7; 95% CI: 0.2–2.3)	NB (N) B (N) 38% (210) 56% (52) (OR=2.0 95% CI: 1.1–3.8)	$F=2.87, p=0.091$
Low daring/risk taking	Higher daring/risk taking	Interaction
NB (N) B (N) 11% (75) 3% (36) (OR=0.2; 95% CI: 0.0–2.0)	NB (N) B (N) 15% (127) 26% (161) (OR=1.9; 95% CI: 1.0–3.4)	$F=4.25, p=0.040$

## Notes

Table 3.4 shows: (a) per cent convicted within high/lower income and within good/worse child-rearing and (b) per cent violent within low/higher daring; CI=Confidence Interval; NB=Non-Bully; B=Bully; N=Sample Size.

investigated the effectiveness of bullying prevention programmes and the content of these programmes (Farrington & Ttofi, 2009; Ttofi & Farrington, 2011) and has highlighted the failure to take account of information about protective factors in devising existing interventions (Ttofi & Farrington, 2012). To the best of our knowledge, this is the first time that longitudinal researchers have attempted to examine factors that protect bullies from becoming violent or criminal offenders (according to convictions) later in life.

It is interesting that most factors with protective effects against violent offending tended to be individual while most factors against criminal offending tended to be family and social. One possible implication is that family and social interventions, such as parent training, might interrupt the continuity from teenage bullying to criminal offending but not violence. It is possible that different types of interventions, such as child social skills training, may be more efficacious in interrupting the continuity from bullying to violence later in life. Of course, in future, further analyses from other major prospective longitudinal studies should be carried out to see to what extent these results might be replicable.

School bullies are children with a high likelihood of following an antisocial path later in life. Focusing on protective factors and on building the resilience of children at risk is a more positive approach, and more attractive to communities, than reducing risk factors, which emphasizes deficits and problems (Pollard, Hawkins, & Arthur, 1999). Resilience has mostly been studied within psychology. Within criminology, the evidence regarding protective factors and resilience is at a very early stage compared with research on risk factors (Werner, 2000). Protective factors, however, have started to receive increased attention

and are considered a key challenge for the next generation of risk assessment research (Farrington, 2007).

It is necessary to develop an assessment instrument that can provide data on empirically identified risk and protective factors for school bullying based on findings from prospective longitudinal research and following guidelines from relevant research in other fields (Rennie & Dolan, 2010). Possible differences in measurement reliability and validity of such an instrument across gender, age and racial/ethnic groups should also be examined. Such an instrument would have important applications in needs assessment and strategic prevention planning. The time is ripe to mount a new programme of international collaborative research on risk and protective factors against school bullying and its long-term consequences based on prospective longitudinal studies from across the world.

Our research suggests that it would be valuable to target specific individual, family and social resilience factors in trying to prevent the escalation from bullying to violent and criminal offending. Effective programmes include cognitive-behavioural skills training and pre-school intellectual enrichment programmes (Farrington & Welsh, 2007). The time is ripe to devise, implement and evaluate anti-bullying programmes based on the results of longitudinal studies on risk and protective factors.

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## 4 Cyberbullying

### Does parental online supervision and youngsters' willingness to report to an adult reduce the risk?

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#### Introduction

Cyberbullying affects boys and girls of different ages all around the world, since communication among peers has changed, and so have the risks of online communication. Cyberbullying has been defined as 'an aggressive act or behavior that is carried out using electronic means by a group or an individual repeatedly and over time against a victim who cannot easily defend him or herself' (Smith et al., 2008, p. 376). Even if most researchers agree that cyberbullying can be considered as a new type of aggression, made possible by the increasing spread of the Internet and the new information and communication technologies (ICTs) among young people (Slonje, Smith, & Frisé, 2013), assessing the prevalence and nature of cyberbullying is complex, since there is still a lack of consensus regarding how cyberbullying should be defined and measured (Kowalski, Giumetti, Schroeder, & Lattanner, 2014; Olweus, 2013; Smith, del Barrio and Tokunaga, 2013; Tokunaga, 2010; Ybarra, Boyd, Korchmaros, & Oppenheim, 2012). The same applies when we look at possible causes of cyberbullying, better identified as 'risk and protective factors'.

By adopting the *ecological system theory*, based on Bronfenbrenner's ecological framework (Bronfenbrenner, 1979, 1986, 1994), it is possible to divide risk factors associated with bullying and cyberbullying according to one of four levels: individual, interpersonal, social, or community and cultural. The underlying reasoning is that there is no one single cause of cyberbullying; risk factors can have a role and influence and this varies from individual to individual, and from context to context (Baldry, Farrington, & Sorrentino, 2015). Risk factors for cyberbullying therefore can be related to the individual level including age, gender, youngsters' internet activities, empathy, self-esteem, and to the interpersonal level including the relationship with the parents and parental roles in monitoring, moderating and mediating of internet communication of their children (Mesch, 2009).

The aim of the study presented in this chapter is to investigate the relationship between parental online supervision and cyberbullying, controlling for other personal variables such as gender, amount of time using the Internet and willingness to report cyberbullying to an adult.