



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

Understanding youth violence

Citation for published version:

McAra, L & McVie, S 2016, 'Understanding youth violence: The mediating effects of gender, poverty and vulnerability', *Journal of Criminal Justice*, vol. 45, pp. 71-77. <https://doi.org/10.1016/j.jcrimjus.2016.02.011>

Digital Object Identifier (DOI):

[10.1016/j.jcrimjus.2016.02.011](https://doi.org/10.1016/j.jcrimjus.2016.02.011)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Peer reviewed version

Published In:

Journal of Criminal Justice

Publisher Rights Statement:

McAra, L., & McVie, S., Understanding youth violence: The mediating effects of gender, poverty and vulnerability, *Journal of Criminal Justice* (2016), <http://dx.doi.org/10.1016/j.jcrimjus.2016.02.011>

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



Understanding youth violence: the mediating effects of gender, poverty and vulnerability

Lesley McAra and Susan McVie

Introduction

This article aims to improve understanding of youth violence in the early teenage years, by exploring the mediating effects of gender and poverty in the presence of various risk and protective measures. It draws on a prospective longitudinal programme of research, the Edinburgh Study of Youth Transitions and Crime, which tracks the lives of around 4,300 young people. In the article we present evidence which shows that violence is strongly associated with gender and poverty at both the household and neighbourhood levels, but not with family structure. These relationships remain even when controlling for indicators of risk and protection linked to victimization, and relationships between children, their care-givers, and school. We argue that these findings provide further support for our theory of 'negotiated order', which posits that formal and informal regulatory orders play a key role in the development, and sustaining of offender identities (McAra and McVie 2012). Violence becomes a resource for disempowered young people to negotiate such pathways, gaining status and a sense of self-worth through violent encounters. We conclude that violence reduction is best effected by: support for victims, enhancing parenting skills, transforming school-curricula, and tackling poverty. Above all, young people involved in violence should be conceptualised as vulnerable children rather than offenders in need of punishment; a holistic approach to troubled and troublesome young people.

As our point of departure we present the wider research and policy contexts for the paper (including the Scottish context). We then introduce the Edinburgh Study, before describing in more detail the measures used and analytical approach (which involved modelling predictors of violence, using a range of risk and protective indicators). This is followed by the key findings from the modelling. The paper concludes with a review of the implications of the findings for theory and policy development.

Research context

The World Health Organisation (WHO) has asserted that violence among young people is a major concern in most countries and that such violence has a serious, often lifelong, impact on a person's psychological and social functioning (Krug et al 2002). It is welcome news, therefore, that since the early 1990s many countries across the world have seen a significant downward trend in serious violent crime (see Farrell et al, 2011).

An extensive body of research has increased our understanding of the indicators that increase an individual's risk of onset, frequency, persistence and duration of youth violence, derived primarily as a result of longitudinal and life-course studies. Risk factors are those that increase the likelihood that a young person will become violent, although they are not necessarily the direct cause of youth violence (Mercy et al 2002). Risk factors are typically divided into categories such as individual, family, peer, school, neighbourhood and situational factors, and a large number of risk factors associated with perpetration of youth violence have been found within these domains. These include: personality traits such as impulsivity and self-esteem (Farrington 1989; Ostrowsky 2010);

poor parental supervision and family conflict (Loeber and Stouthamer-Loeber 1986, Burrington 2014); poor school attachment and truancy (Dornbusch and Erickson 2001, Laufer and Harel 2003; Hawkins et al 2000); alcohol and drug use (Kuntsche and Gmel 2004, Smith-Khuri et al 2004, Felson et al 2011); and early violence and victimisation (Resnick et al 2004).

While the literature on risk factors is large and enduring, recent research has started to focus more attention on protective factors that are linked to positive outcomes and which can either have a direct effect on reducing the risk of violent offending or a mediating effect on lowering the probability of violence in the presence of other risk factors (Losel and Farrington 2012). Risk and protective factors are not necessarily different variables – trichotomizing variables in order to use the extreme ends of the same underlying concept (such as impulsivity) allows for testing of both risk and direct protective effects of a variable (Pardini et al 2012). Resnick et al (2004), for example, found that there were substantial reductions in the prevalence of violence amongst both girls and boys in the presence of direct protective factors, even with significant risk factors present. Therefore, it is imperative to test whether such trichotomous relationships exist, as this may have important implications for approaches to both prevention and intervention.

There are two further indicators that are found to be consistently and strongly associated with youth violence: gender and poverty. Young males are more likely to participate in violence, and to do so more often and at a higher level of seriousness, than young females (Moffitt et al 2001, Esbensen et al 2011). Some researchers have suggested that gender as a risk marker rather than a risk factor, as gender may exert no causal influence on its own (Hawkins et al., 1998); nevertheless, most studies that include gender as an indicator of risk of violence tend to find a residual effect even when other dimensions of risk have been taken into account. It is notable from the HBSC surveys that not only does prevalence of youth violence for boys always far exceed that for girls within countries, but those countries with higher rates of violence amongst boys tend also to have higher rates amongst girls compared to others.

Poverty is associated with youth violence both at the familial and the neighbourhood level. Low socioeconomic status, generally measured according to parental education and occupation, tends to be associated with a greater propensity to violence (Farrington 1989). Neighbourhood level poverty adds another dimension of risk since communities characterized by high rates of concentrated poverty, unemployment and economic deprivation tend to have higher rates of youth violence (Sampson and Lauritsen, 1994; Morenoff et al 2001). Kramer (2000) has argued that these underlying structural factors foster violence indirectly by reducing the ability of families and communities to provide the social support and informal social controls needed to prevent youth violence.

While both gender and poverty have been identified as key indicators of youth violence, the extent to which gender mediates or exacerbates the effect of poverty on youth violence, especially in the presence of other risk or protective factors, has not been extensively tested in the literature.

The Scottish context

There has been limited research on youth violence in Scotland, which is surprising given the poor reputation that Scotland has with regards to violence. Homicide rates in Scotland have historically

been found to be higher than many other countries in Europe (Scottish Government 2013). Indeed, the average yearly homicide rate for Scotland was twice as high as that for England & Wales over the period from 1985-94, representing a very real difference that could not be explained by statistical recording practices (Soothill et al 1999). In 2005, Scotland was branded as “the most violent country in the developed world” in terms of prevalence of assault by a United Nations report (BBC News, 2005). And the 2001/02 HBSA found that while Scotland ranked low in the international context for bullying, it ranked high in relation to fighting, particularly for girls. Scottish girls ranked 6th out of 35 for fighting at least once in the past year (Craig and Harel, 2004). Such findings have underpinned a tradition of qualitative research in Scotland which has indicated the need for gendered discourses around violence (Burman et al 2001).

A recent review of research on youth violence in Scotland estimated the prevalence of street fighting amongst secondary school aged children in Scotland at between 40-50%, with boys being more likely to participate than girls (Fraser et al 2010). Most of the violence committed was considered to be of relatively low-level and is classed as a normal, routine form of behaviour among young people. Indeed, Anderson et al noted that ‘It is by no means an exaggeration to say that violence is an accepted part of life, for girls as well as boys’ (1994: 94). There is positive evidence, however, that prevalence of youth violence has declined in recent years. Findings from the Health Behaviours in School-Aged Children suggest that between 2001/02 and 2009/10 the prevalence of engaging in 3 or more fights in the last year declined considerably for both boys and girls at ages 11, 13 and 15 (Craig and Harel, 2004; Currie et al. 2008; Currie et al. 2012). And conviction rates for young people generally have declined dramatically in recent years (Matthews 2014).

Of particular concern in Scotland has been the use of knives and other weapons during violent encounters. Thirty percent of young people in Anderson et al’s (1994) study reported carrying a knife or other weapon on at least one occasion during the preceding nine months; while previously published findings from the Edinburgh Study showed that 30% of young people had carried a knife and a further 10% had carried some other kind of weapon at some point between age 12-17 (McVie 2010). Strong concern from policy makers and practitioners about violence in Scotland has in a raft of policies and initiatives. In 2005, the Violence Reduction Unit (VRU) was established by Strathclyde Police to target all forms of violent behaviour, focusing particularly on knife crime and weapon carrying among young men in and around Glasgow, although this was extended nationwide in 2006. In 2008 the Medics Against Violence initiative was launched with the aim of influencing attitudes to violence among Scottish youth, particularly in relation to knife crime and gang membership, through a programme of hard hitting talks in secondary schools. And in 2009, the No Knives Better Lives Campaign was launched to raise awareness of the consequences of carrying a knife and provide information on local activities and opportunities for young people.

Importantly, the landscape of juvenile justice in Scotland has been heavily influenced by research that shows the very high level of vulnerability and victimisation experienced by those young people who engage in violence (McAra and McVie 2010). In 2005, the Scottish Government announced a new framework called Getting it Right for Every Child (GIRFEC) which had a primary focus on child well-being and promoting positive outcomes for all young people. This formed the underpinning structure for a new Whole Systems Approach (WSA) to dealing with young people who engaged in offending, which was rolled out nationwide in 2011. The WSA is strongly focused on Early and

Effective Intervention (EEI) and the diversion of young people from prosecution. Both GIRFEC and the WSA were strongly influenced by the Edinburgh Study findings on violence, and it is to this study that we now turn.

Edinburgh Study of Youth Transitions and Crime

The Edinburgh Study of Youth Transitions and Crime is a prospective longitudinal study of pathways in and out of offending for a cohort of 4,300 young people in the City of Edinburgh (Smith & McVie, 2005). All secondary schools in Edinburgh being invited to participate and all parents were asked to consent to their children taking part. The final cohort consisted of around 92% of the total population of young people who were enrolled to start secondary school, at around the age of 12, in 1998. The cohort was surveyed annually between the ages of 12 and 17, whereby self-completion questionnaires were administered to young people by trained researchers. Response rates ranged from 96% at age 12 to 81% at age 17 (McAra & McVie 2012). In addition to self-report questionnaire data, information was collected from a broad range of other sources, including school records.¹

For the purposes of this paper, we focus on violent behaviour at wave 2 of the Study (around age 13), as this was the peak age of violence for both girls and boys.

Measured used and analytical approach

Measures

The measure of violence utilised in this paper includes three items: assault; robbery; and weapon carrying. (For the purposes of analysis a binary variable of prevalence of violence was created, with 1 being assigned to cohort members who self-reported involvement in one or more of these three behaviours and zero for the remainder of the cohort.

In the analysis, we included gender (given the variant propensity of girls and boys to become involved in violence) and two measures of 'state-dependence': involvement in violence and experience of victimization from offending in the previous wave of data collection, namely Wave 1. In keeping with the research reviewed earlier, published analysis from the Edinburgh Study has shown that early history of violence is a strong predictor of later involvement in violence, and that victimization from offending is linked to future propensity to offend (indeed Study findings indicate that there is a causal relationship between victimization and offending which works in both directions) (McAra and McVie 2012, Smith and Ecob 2007). A further variable included in the modelling was family structure: whether the young person lived with two parents (either birth or step), or had another type of family structure (for example foster care or kinship care).

Two measures of poverty were utilized, household socio-economic status and neighbourhood deprivation. Respondents' descriptions of their caregiver's occupations were coded using the Registrar General Social Classification Scheme. Respondents were divided into two broad social class groupings according to whether their caregiver's occupation was classed as 'non-manual' or 'manual or unemployed'. A composite measure of 'neighbourhood deprivation' was created using six indicators of social or economic stress from the 2001 Census. A standardised score was created for each variable and then added together to give a composite social deprivation score. Ninety-one Edinburgh neighbourhoods were created using a geographic information system, and a deprivation score was assigned to each. For the purposes of analysis a binary measure was created: living in the top quartile of deprived neighbourhoods or not.

¹ The Study was funded by grants from the Economic and Social Research Council, R000237157 and R000239150, the Nuffield Foundation and the Scottish Government.

In addition to the above, the commissioning editors specified a range of constructs from each of the studies to be included in analysis, in order to ensure a degree of comparability across the edition. These were: caregiver supervision; conflict with caregivers; attachment to, and truancy from, school; health risk behaviours in the form of substance misuse (drugs and alcohol); and personality measures in the form of impulsivity and self-esteem. Our preliminary analysis indicated that each of these constructs was individually associated with either enhanced levels of violence amongst cohort members (for example high levels of conflict between the young person and their caregivers) or diminished levels (for example strong attachment to school). Our working hypothesis was that the same construct (for example conflict with caregivers), when measured as a continuous (scaled) variable, could be indicative of risk at one end of the scale (high conflict) and protection at the other end (low levels or no conflict). In order to test this, a series of binary risk and protective indicator variables were created: for the risk indicators more than one standard deviation from the mean in the direction of risk was specified as 1 and the remainder specified as zero (i.e. highest level of risk versus the rest); similarly for the protective indicators more than one standard deviation from the mean in the direction of protection was specified as 1 and the remainder as zero (i.e. highest level of protection versus the rest). This has the same effect as Losel and Farrington's (2012) trichotomisation procedure. We also created total risk and protective indicator scores (by adding together the respective risk and protective variables; the new variables produced, 'summed variety of risk score' and 'summed variety of protection score', were standardized before insertion in the modelling).

Analytical approach

After some preliminary descriptive analysis on prevalence and frequency of violence, a series of logistic regression models were specified using the binary measure of violence as the dependent variable. Model 1 included gender, the measures of poverty and family structure as independent (or explanatory) variables; Model 2 added the individual risk indicators; and Model 3 added the protective indicators (see Table 1). Model 4 included gender, the measures of poverty and family structure plus the summed variety of risk score; Model 5 added the summed variety of protection score; and the final model explored interaction effects between gender, poverty, family structure and the summed risk and protection scores. 'Enter' was used as a method for insertion of variables into the modelling (placing all covariates into the regression in one block), as we consider this to be the most robust in terms of theory building and testing (see also Studenmund and Cassidy 1987). Results are reported below including the odds ratios (OR).

Results

In the early teenage years violence was fairly common amongst the cohort but this declined significantly over time. At age 13, 49% of the cohort admitted to involvement in one or more incidents of assault, robbery or carrying an offensive weapon in the last year. However most reported only one or two incidents of violence. Persistent violence was much less common, only 9% of the cohort fell into the highest level of offending (measured here as more than one standard deviation beyond the mean). Boys were significantly more likely than girls to report involvement in violence at all waves of the study (for example 62% of boys as contrasted with 35% of the girls at wave 2, $p < .001$) and were significantly more likely to be persistent violent offenders (14% of boys as contrasted with just 4% of the girls at wave 2, $p < .001$). Importantly very few of the young people involved in violence were known to agencies (social work or juvenile justice). By age 13, only 17% of those self-reporting any violence, and 22% of those in the most persistent group had a social work or juvenile justice record.

The modelling

Model 1 confirmed that poverty was a significant predictor of violence when controlling for gender and family structure at age 13. As shown in Table 1, those from low socio-economic status households had 1.5 times greater odds of involvement in violence than those from more affluent family backgrounds as did those living in the top quartile of deprived neighbourhoods. Importantly, family structure was not significant in this or any of the further modelling.

Table 1: Modelling gender, poverty and family structure with risk and protective indicators

Variables	Model 1 Violent=1639 Not violent=1771		Model 2 Violent=1380 Not violent=1552		Model 3 Violent=1380 Not violent=1552	
	OR	Sig	OR	Sig	OR	Sig.
Being Male	3.1	.000	3.0	.000	2.8	.000
Low socio-economic status	1.5	.000	1.5	.000	1.6	.000
Neighbourhood deprivation	1.5	.000	1.4	.001	1.6	.000
Family Structure	1.2	.138	.991	.938	.90	.410
			1.6	.002	.98	.897
Most violent at wave 1						
Most victimized at wave 1			2.1	.000	1.4	.017
Lowest caregiver supervision			2.1	.000	1.3	.006
Highest conflict caregivers			1.6	.001	1.4	.027
Highest drug use			4.3	.000	1.8	.237
Highest alcohol use			2.1	.000	1.3	.054
Highest truancy			2.4	.000	1.2	.481
Lowest attachment to school			1.4	.013	1.4	.038
Highest impulsivity			1.4	.004	1.1	.444
Lowest self-esteem			1.2	.285	1.1	.632
Least/not violent at wave 1					.49	.000
Least/not victimized at wave 1					.58	.000
Lowest caregiver supervision					.57	.000
Lowest conflict caregivers					.62	.007
Lowest/no drug use					.53	.115
Lowest/no alcohol use					.53	.000
Lowest/no truancy					.46	.000
Highest attachment to school					.75	.041
Lowest impulsivity					1.0	.980
Highest self-esteem					1.3	.047
Pseudo-R squared (Nagelkerke)	.126		.306		.402	

In the second and third stage of modelling we added respectively each of the individual risk and protective indicators. The model fit improved at both stages (as shown by a change in the pseudo-R squared), but importantly, poverty and gender remained significant throughout.

Model 2 revealed the importance of ‘state dependence’ such that those young people with early involvement in high levels of violence and early experience of high levels of victimization had significantly raised odds of violent behavior in the early teenage years than those with no such histories. Disconnection from both family and school was also strongly associated with violence when other factors were held constant. Those who reported the highest level of conflict with caregivers and those least supervised had 1.4 greater odds of engaging in violence than those who had less turbulent relationships and were more closely monitored. In terms of school, high truancy rates and poor attachment to school also significantly increased the odds of involvement in violence, as did health risk behaviours including drug and alcohol use. Those who were the most impulsive youngsters in the cohort also had greater odds of being involved in violence. However, the measure of self-esteem was not significant when other risk indicators were controlled for.

In Model 3, the protective measures were included and a number of the risk indicators from Model 2 became non-significant. Two constructs - level of drug use and impulsivity – were not significant, either as risk or protective indicators.

(i) Constructs functioning as protective indicators only

While state dependence in the form of early involvement in high levels of violence became non-significant, the model demonstrates that non-violence or only very little involvement in violence at an early age was significantly associated with reduced violence in the early teenage years. The same was also found for alcohol misuse and truancy.

(ii) Constructs which functioned as risk and protective indicators

Victimization functioned as both a risk and protective indicator. Those with experience of the highest levels of victimization at an early age had greater odds of involvement in violence at age 13 in contrast to those with no such history, whilst none or only very low levels of victimisation reduced the odds of involvement in violence. The same was also found for levels of conflict with caregivers, caregiver supervision, and attachment to school (significantly increased odds of violence were associated with the highest level of conflict, lowest level of supervision and school attachment, and significantly reduced odds of violence with lowest level of conflict, highest supervision and attachment to school).

(iii) Construct functioning as risk indicator only

Finally, the measure of self-esteem was significant as a protective factor but with in the opposite direction to that hypothesised. Those with the highest level of self-esteem had reduced odds of being involved in violence compared to those with lower levels, one interpretation being that in the context of major vulnerability and poverty, violence may be a mechanism through which young people retain a sense of self-worth (discussed in more detail below).

The next stage of the modelling involved the addition of the summed risk indicator (model 4) and the summed protective indicator (model 5) scores. As can be seen in table 2, the greater the variety of risk factors the greater the odds of involvement in violence, with high levels of protective factors significantly reducing the odds of violence. Model 5 showed a significant improvement over Model 4 in terms of the pseudo R-squared measure; and, in addition, the strength of effect of the risk score was reduced after the addition of the variety of protection score. Importantly gender (being male) and poverty remain predictive of violence throughout.

Table 2: Re-modelling with summed risk and protective indicators and interaction effects

	All models Violent=1380 Not violent=1552		Model 4		Model 5		Model 6	
Variables	OR	Sig.	OR	Sig.	OR	Sig.	OR	Sig.
Being Male	3.1	.000	3.0	.000	4.6	.000		
Low socio-economic status	1.5	.000	1.5	.000	2.1	.000		
Neigh'hood deprivation	1.4	.003	1.5	.000	1.8	.000		
Family Structure	.99	.961	.92	.471	.97	.864		
Variety of risk indicators	2.6	.000	1.5	.000	2.3	.000		
Variety of protective indicators			.40	.000	.38	.000		
Gender* Low socio-economic status					.51	.000		
Risk*Low socio-economic status					.79	.036		
Pseudo R-squared (Nagelkerke)	.290		.373		.383			

The final stage of modelling tested for interaction effects between gender and the other variables included in Model 5. Only the significant interactions are included in the Model 6. Interestingly, *none* of the interactions between the variety of protective indicator score and other variables proved significant in the modelling.

Gender, poverty and the risk and protection scores remained significant as main effects even when interaction effects were introduced in Model 6. However, two significant interaction effects were found. The first of these interactions indicates that while being a boy and poverty in the form of low socio-economic status continue to be associated with increased odds of involvement in violence as main effects in the model, girls from low socio-economic status households have greatly enhanced increased odds of violence in comparison with other groups. The second of the interactions indicates that although household poverty and the variety of risk score are main effects in the model, a higher concentration of risk indicators increases the odds of violence for those from more affluent backgrounds. In the face of the high levels of risk factors - linked to constructs such as school, caregiver relationships, substance misuse and personality variables - affluence at the household level did not function to protect the young person from involvement in violence.

Discussion and implications

The findings outlined above have profound implications for both theory and policy. We discuss each in turn.

Theory

The results of the modelling provide further support for and extend our theory of negotiated order. The theory argues that young people have to negotiate a complex set of formal and informal regulatory practices (ranging from the formal agencies of youth justice, the police, and school, and informal orders of the 'street' and family life). The dynamics of these practices mirror each other closely in terms of their exclusionary dynamics, with persistent and serious offending becoming a means of retaining a sense of ego integrity (identity) and status in the context of labelling, stigmatization and ultimately rejection by all orders (including peers) (McAra and McVie 2012). In this theory, the existential experience of rule encounter has a key role to play in understanding behavioural and situational practices and in shaping individual identities.

In the analysis undertaken for the purposes of this paper, violence is invoked when the legitimacy of both formal (school) and informal (family/household) orders comes into question. The young people who self-reported involvement in violence had turbulent relationships with caregivers (as evidenced by the significance of the caregiver conflict variable in the modelling), and did not perceive themselves as closely monitored or supervised. While the latter is indicative of the situational opportunities for offending, it also strongly suggestive of order breakdown. Similarly violence was also associated with feelings that school was a waste of time, and of no relevance to the young person. For those with less turbulent and closer care-giver relationships and those who perceived the school context to offer some forms of reward, the risks of violence were significantly reduced. The central power of family and school dynamics to an explanation of violence is reinforced by the final modelling. Whilst low household socio-economic status remained significant as a main effect in the model, the interactional analysis showed that a higher concentration of risk indicators was also associated with increased odds of violence amongst those from more affluent family backgrounds.

What also is highlighted through the modelling, is that violence is a response to, and mechanism utilized by young people for overcoming, experiences of vulnerability and adversity. A key finding is that early experience of the highest levels of victimization, rather than early involvement in violence, is a significant predictor of later involvement in violence, when protective factors are controlled for

(model 3). As we have shown in earlier analysis (McAra and McVie 2012), informal orders (the rules of engagement) justify the use of violence in the context of victimization, as a means of retaining status and power within the peer group. Importantly poverty at the household and neighbourhood levels also exacerbates violence. In this context it is telling that violence is linked to high levels of self-esteem. Those living in the most difficult and impoverished circumstances may gain a sense of self-worth through violence, and their sense of empowerment may support violent responses to threats and antagonism.

The gendered dimension of violence also requires comment here. Boys in all of the modelling are more likely to utilize violence than girls. This fits strongly with our previous analysis (reported in McAra and McVie 2010, 2012) and with the other research reviewed earlier. The informal order of the street, and in particular the gender order rules, are based on gender stereotypes such violence is tolerated to a greater extent amongst boys, and it is expected that it will be used by boys to retain their status and identity amongst peers. For girls violence is much less common. However, as indicated above, the interaction effect in the final stages of modelling, shows that girls from poor households have heightened odds of being involved in violence. Negotiating identity in these circumstances involves recourse to violence.

Policy

As noted earlier, very few of the young people involved in violence (even those who were more persistent offenders) were known to the juvenile justice system and/or social work services. In earlier published work, we have argued that the key to efficacious services to support reductions in offending lies in a maximum diversionary approach (McAra and McVie 2010, 2013). Contact with agencies of youth justice can serve to label and stigmatise young people and inhibit the natural process of desistance which is apparent, in the cohort as a whole, from the early to mid-teenage years onwards.

Our findings have been influential in Scottish policy circles. In particular they have formed the evidence base for the Government sponsored Whole System Approach and Early and Effective Intervention initiatives (implemented from 2011 onwards), which together have led to major reductions in the number of young people being made subject to formal measures, with a concomitant reduction in youth crime (McAra and McVie 2013).

The findings from this paper provide further support for these initiatives. Given that the vast majority of young people involved in violence are unknown to agencies and that system contact is often experienced as damaging, then preventative measures, focused on communities with concentrations of poverty and adversity would have a strong pay-off in terms of violence reduction. There are five further implications which the modelling has highlighted.

(i) Viewing violence as symptomatic of deeper-seated needs

Given the strong links between vulnerability, adversity and violence, the findings presented here highlight the need to treat young people involved in violence first and foremost as vulnerable children rather than as offenders. Many of the risk indicators are beyond the control of the young person, including structural factors needed to transform impoverished neighbourhoods, and the financial support or economic opportunities needed to lift families out of poverty. Moreover the relationship/affective dimensions of family and school involve a dialogic interaction between the child and the institution, the responsibility for which lies with *both* protagonists, not the young person alone.

(ii) Future crime prevention through supporting victims

As was noted, the findings highlight the nexus between victimization and offending. The greater significance of early victimization than early involvement in violence in the modelling, supports policies which focus on tackling bullying and victimization in the primary and early secondary school years, and in particular focusing support for children during the transition from one form of education to the other. Protecting young people through careful policing of victimization by all agencies (including schools) which come into contact with young people would contribute to reductions in future violence – there is a lagged effect within the modelling, such that experiences of victimization continue to impact one year later. However working with young people to support their assertiveness and empowerment and ways of negotiating the complex challenges associated with early adolescence also would have a wider payoff.

(iii) Parenting skills

Importantly, family structure was insignificant at every stage of modelling, suggesting that it is the quality of the relational/ affective dimensions of care-giving that are of greater weight than the composition of the family (whether it be single parents, foster care or living with relatives other than parents). The significance of these relationships demonstrates the importance of supporting parents in their dealings with challenging behavior. A greater focus within the school curriculum (see also below) on parenting skills is likely to have a long term impact both in terms of supporting future parents, but also supporting strategies which would reduce violence in the longer term.

(iv) Curricular transformation

In keeping with other findings from the Edinburgh Study (McAra and McVie 2010), the results of the modelling remind us that the school is crucible of much child development and a context which has a demonstrable impact on offending risk. The young people in our cohort who were involved in violence were highly disaffected with school. Transformations in the curriculum to make its precepts and ambitions more attuned to the goals of young people who are not academic high achievers, is absolutely vital for any violence reduction strategy. Retaining young people in education (through reductions in truancy) also is associated with reduced involvement in violence.

(v) Tackle poverty – increase opportunity

Finally the modelling consistently reveals a link between violence and poverty which needs to be tackled at both an individual family and neighbourhood level. The violence- poverty nexus is not new (identified in many research studies prior to the Edinburgh Study). That it contributes to loss of status for young people who resort to violence as a means of retaining a sense of self-worth, is but one principal reason for tackling deprivation in a way that is both effective and sustained over the longer-term. Wider social, economic and educational policies are needed to address the issues of deprivation: such policies would do much to reduce violence.

Concluding thoughts

This article aimed to test the relationship between violence and poverty. Our findings have shown that poverty and violence are systematically linked, even when a range of risk and protective indicators are introduced into the modelling. Young people who become involved in violence are vulnerable, have limited opportunities for gaining status in more pro-social ways, and do not see education as a route to self-advancement. Caught in a set of destructive and conflictual relationships, with limiting negotiating capacity, violence becomes a way of asserting power and asserting a sense of self. Understanding violence as stemming from deeper seated needs and tackling those needs in ways which empower rather than stigmatise and label would support a less violent, more respectful and inclusive society. That this also requires social and economic transformation to tackle the root causes of deprivation, requires courage and vision on the part of policy-makers. We believe the Scottish Government is taking some of the right steps and we would urge other jurisdictions to take note.

References

Anderson, S., Kinsey, R., Loader, I. and Smith, C. (1994) *Cautionary Tales: Young People, Crime and Policing in Edinburgh*. Aldershot: Avebury.

Batchelor, S., Burman, M. and Brown, J. (2001) Discussing violence: let's hear it from the girls. *Probation Journal* 48(2): 125-34.

BBC News (2005) Scotland worst for violence – UN. Coverage from 18 September 2005: <http://news.bbc.co.uk/1/hi/scotland/4257966.stm>.

Burrington, L.A. (2014) Neighborhood structure, immigrant status, and youth violence: assessing the role of parental supervision. *Youth Violence and Juvenile Justice*, published online August 28, 2014 doi: 10.1177/1541204014547723

Craig, W.M. and Harel, Y. (2004). Bullying, physical fighting and victimisation. In Currie, C., Roberts, C., Morgan, A., Smith, R., Settertobulte, W., Samdal, O., and Barnekow Rasmussen, V. (Eds.) *Young people's health in context. Health behaviour in school-aged children (HBSC): International report from the 2001/02 Survey*. WHO Publication: Health Policy for Children and Adolescents, No. 4.

Currie, C., Nic Gabhainn, S., Godeau, E., Roberts, C., Smith, R., Currie, D., Pickett, W., Richter, M., Morgan, A. and Barnekow, V. (Eds) (2008) *Inequalities in Young People's Health*. HBSC International Report from the 2005/06 Survey. WHO Publication: Health Policy for Children and Adolescents, No. 5.

Currie, C., Zanotti, C., Morgan, A., Currie, D., de Looze, M., Roberts, C., Samdal, O., Smith, O.R.F., and Barnekow, V. (Eds) (2012) *Social determinants of health and well-being among young people*. HBSC Study: International report from the 2009/2010 survey. WHO Publication: Health Policy for Children and Adolescents, No. 6.

Dornbusch, S.M. and Erickson, K.G. (2001) The relation of family and school attachment to adolescent deviance in diverse groups and communities. *Journal of Adolescent Research*, 16, 4, 396-422.

Esbensen, F-A., Peterson, D. and Taylor, T.J. (2011) *Youth violence: sex and race differences in offending, victimization, and gang membership*. Temple University Press: Philadelphia.

Farrell, G., Tseloni, A., Mailley, J. and Tilley, N. (2011) The crime drop and the security hypothesis. *Journal of Research in Crime and Delinquency*, 48(2):147-175.

Farrington, D.P. (1989) Early predictors of adolescent aggression and adult violence. *Violence and Victims* 4:79-100.

Felson, R.B., Savolainen, J., Bjarnason, T., Anderson, A.L. And T. Zohra (2011) The cultural context of adolescent drinking and violence in 30 European countries. *Criminology*, 49(3):699–728.

Fraser, A., Burman, M., Batchelor, S. and McVie, S. (2010) *Youth Violence in Scotland: Literature Review*. Edinburgh: Scottish Government Social Research.

Hawkins, J. D., Laub, J. H., & Lauritsen, J. L. (1998) Race, ethnicity, and serious juvenile offending. In R. Loeber & D. P. Farrington (Eds.) *Serious and violent juvenile offenders: Risk factors and successful interventions*. Thousand Oaks, CA: Sage Publications.

Hawkins, D.J., Herrenkohl, T.I., Farrington, D.P., Brewer, D., Catalano, R.F., Harachi, T.W. and Cothorn, L. (2000) Predictors of youth violence. US Department of Justice Juvenile Justice Bulletin.

Kramer, R. C. (2000) Poverty, inequality, and youth violence. *Annals of the American Academy of Political and Social Sciences*, 567:123-139.

Krug E.G., Dahlberg, L.L., Mercy, J.A., Zwo, A.B. and Lozano, R. (Eds.) (2002) *World report on violence and health*. Geneva: World Health Organization.

Kuntsche, E.N. and Gmel, G. (2004) Emotional wellbeing and violence among social and solitary risky single occasion drinkers in adolescence. *Addiction*, 98:331–339.

Laufer, A. and Harel, Y. T. (2003) The role of family, peers and school perceptions in predicting involvement in youth violence. *International Journal of Adolescent Medicine and Health*, 15(3):235–244.

Loeber, R., and Stouthamer-Loeber, M. (1986). Family factors as correlates and predictors of juvenile conduct problems and delinquency. In N. Morris (Ed.) *Crime and justice: An annual review of research* 7. Chicago, IL: University of Chicago Press.

Losel, F. and Farrington, D.P. (2012) Direct protective and buffering protective factors in the development of youth violence. *American Journal of Preventive Medicine*, 43(2):S8-S23.

Matthews, B. (2014) Where have all the young offenders gone? AQMeN: Research Briefing 4.

McAra, L. and McVie, S. (2010) Youth crime and justice: key messages from the Edinburgh Study of Youth Transitions and Crime. *Criminology and Criminal Justice*, 10(2):179-209.

McAra, L. and McVie, S. (2012) Negotiated order: towards a theory of pathways into and out of offending. *Criminology and Criminal Justice*, 12(4):347-376.

McAra, L. and McVie, S. (2013) Maximum diversion, minimum intervention: key messages from the Edinburgh Study of Youth Transitions and Crime. In *Justice for Young People*. The Howard League Research Medal. <http://www.howardleague.org/medal/>

McVie, S. (2010) Gang Membership and knife carrying: findings from the Edinburgh Study of Youth Transitions and Crime, Edinburgh: Scottish Government Social Research.

Mercy, J., Butchart, A., Farrington, D.P. and Cerdá, M. (2002) Youth violence. In Krug E.G., Dahlberg, L.L., Mercy, J.A., Zwo, A.B. and Lozano, R. (Eds.) *World report on violence and health*. Geneva: World Health Organization.

Moffitt, T.E., Caspi, A., Rutter, M. and Silva, P.A. (2001) Sex differences in antisocial behaviour: Conduct disorder, delinquency, and violence in the Dunedin Longitudinal Study. Cambridge, UK: Cambridge University Press.

Morenoff, J. D., Sampson, R.J. and Raudenbush, S.W. (2001) Neighborhood inequality,

collective efficacy, and the spatial dynamics of urban violence. *Criminology*, 39(3):517–558.

Ostrowsky, M.K. (2010) Are violent people more likely to have low self-esteem or high self-esteem? *Aggression and Violent Behavior*, 15(1):69-75.

Pardini, D.A., Loeber, R., Farrington, D.P. and Stouthamer-Loeber, M. (2012) Identifying direct protective factors for nonviolence. *American Journal of Preventive Medicine*, 43:S28–S40.

Resnick, M.D., Ireland, M. and Borowsky, I. (2004) Youth violence perpetration: what protects? What predicts? Findings from the National Longitudinal Study of Adolescent Health. *Journal of Adolescent Health*, 35(5):424-434.

Sampson, R. J., and Lauritsen, J.L. (1994) Violent victimization and offending: individual-, situational- and community-level risk factors. In Reiss, A.J. and Roth, J.A. (Eds.), *Understanding and preventing violence*, Volume 3: Social Influences. Washington, D.C.: National Academies Press.

Scottish Government (2013) *Homicide in Scotland 2012/13*. Edinburgh: Scottish Government Statistical Bulletin.

Smith, D. J. and Ecob, R. (2007) An investigation into causal links between victimization and offending in adolescents. *British Journal of Sociology*, 58(4):633-659.

Smith, D.J. and McVie, S. (2003) Theory and method in the Edinburgh study of youth transitions and crime. *British Journal of Criminology*, 43(1):169-195.

Smith-Khuri, E., Lachan, R., Scheidt, P.C., Overpeck, M.D, Nic Gabhainn, S., Pickett, W., and Harel, Y. (2004). A Cross-national study of violence-related behaviors in adolescents. *Archives of Paediatric Adolescent Medicine*, 58:539-544.

Soothill, K., Francis, B., Ackerley, E. and Collett, S. (1999) *Homicide in Britain: A Comparative Study of Rates in Scotland and England & Wales*. Edinburgh: Scottish Government Crime and Criminal Justice Research Findings No. 36.

Studenmund, A. and Cassidy, H. (1987) *Using econometrics: a practical guide*. Boston: Little, Brown.