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# Links between deprivation and risk of violence-related injury: a qualitative study to identify potential causal mechanisms

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#### Abstract

#### Background

Deprivation has been shown to have a greater effect on risk of violent injury among adolescent girls than boys, but the mechanisms underlying this association have not been identified.

#### Methods

In this qualitative study designed to identify causal mechanisms, focus groups involving girls aged 14-16 years attending secondary schools in South Wales, UK, were convened. Schools were recruited based on a measure of area-level deprivation. Discussions were audio recorded and transcripts analysed thematically.

#### **Results**

Girls from more deprived areas tended not to participate in organised activities, obtained alcohol from multiple sources, consumed alcoholic drinks of varying strengths in both supervised and unsupervised settings, and tended not to feel trusted by their parents; this led to poor adolescent-parent communication. Girls from less deprived areas tended to participate in organised activities, obtain alcohol from parents, consume low strength alcohol in supervised settings, and have a trusting and communicative relationship with their parents.

#### Conclusion

Deprivation may increase risk of adolescent girls sustaining violence-related injury by increasing their time spent in unsupervised environments, with alcohol and without parental knowledge.

Keywords: gender; social determinants; young people

#### Introduction

Interpersonal violence is a leading cause of harm among the young; globally, it was the fifth commonest cause of death and disability among 15-29 year olds in 2012.<sup>1</sup> In England and Wales, an estimated 22,464 children and adolescents (0-17 years) attended emergency departments (EDs) in 2015 seeking medical treatment following violence-related injury.<sup>2</sup>

Identifying risk and protective factors are fundamental in any public health approach to violence prevention.<sup>3</sup> In England, violence-related injury risk increases sharply in adolescence, with those living in deprived communities most at risk.<sup>4</sup> Although rates of violent injury are generally higher among adolescent boys, an ED-based study in South Wales, UK, found that deprivation increased risk of violent injury among adolescent girls to a greater extent than adolescent boys. Girls aged 11-17 years living in deprived areas were six times more likely to suffer violence-related injury compared to girls of the same age living in affluent areas, and boys living in deprived areas were twice as likely to sustain violent injury compared to their affluent contemporaries.<sup>5</sup> Similar findings have been shown for violent offending in both Germany and the USA.<sup>6,7</sup>

Links between deprivation and risk of violence-related injury are likely to include individual, family and community factors. For example, alcohol intoxication has been identified as a significant risk factor for violence victimisation, and adolescents living in more deprived areas have been shown to be at greater risk of alcohol-related violence.<sup>8,9</sup> Monitoring of children by parents has been identified as a strong protective factor against adolescent delinquency, and deprivation lessens the extent to which parents are able to effectively supervise their children.<sup>10, 11</sup> Deprivation is also linked with increased fear of crime and victimisation.<sup>12</sup> Fear of crime is a motive for weapon carrying and use of a weapon significantly increases both risk and severity of injury.<sup>13, 14</sup> Studies using aggregate data have identified a strong positive association between deprivation and violent injury,<sup>4, 5</sup> but such data fail to provide an understanding of causal relationships. Qualitative studies examining the link between deprivation and violent injury are sparse.

Prompted by the authors' finding that deprivation is more strongly associated with violent injury among adolescent girls than among adolescent boys, <sup>5</sup> this study aimed to identify factors through which deprivation influences risk of violence-related injury among adolescent girls. Since this study sought to identify mechanisms for this association a qualitative approach was needed.

#### Methods

#### **Recruiting schools and participants**

Ten secondary schools in South Wales, UK, were invited to participate in the study: six schools in Cardiff (the capital city of Wales) and four in Rhondda Cynon Taf (an area characterised by ex-coal mining towns and villages). School location was used as a proxy for area of residence; schools were recruited based on the level of deprivation of the electoral ward in which they are located using the Townsend Index of Material Deprivation (an area-level index derived from the UK census and based

on unemployment, over-crowding and non-car and non-home ownership rates).<sup>15</sup> Schools located in electoral wards of high or low material deprivation were approached by contacting the teacher responsible for delivering the Healthy Schools Scheme; a Welsh Government initiative which encourages and promotes health in local schools.<sup>16</sup> Private, same-sex, faith and Welsh speaking schools were not included on the basis that these schools draw pupils from wider geographical areas, making deprivation indices less relevant.

Focus groups were convened with adolescent girls aged between 14 and 16 years. Girls of this age were selected because risk of sustaining injury in violence increases substantially between early and late adolescence.<sup>4</sup> The study fitted into the Personal and Social Education (PSE) aspect of the Welsh secondary school curriculum. Participant information sheets and consent forms were distributed during PSE lessons in order to recruit girls into the study. Informed consent was obtained in writing from both the participant and her parent/guardian. All focus groups took place on school grounds between 9am and 3pm in locations jointly agreed by the researcher and the Healthy Schools Coordinator. Consistent with guidance, focus groups were conducted in locations that were "accessible, comfortable, private, quiet and free from distraction".<sup>17</sup>

#### **Data collection and analysis**

A semi-structured interview schedule was developed to prompt discussion on risk factors for violence drawn from the empirical literature (Table i). All questions were piloted with pupils at a secondary school in Cardiff and adjusted accordingly; data from pilot interviews were not included in the substantive analysis. Focus group discussions were conducted by two moderators (with one acting as notary) between January and June 2014. Each focus group was audio-recorded and transcribed verbatim. Thematic analysis of transcripts was carried out to identify emerging themes and subthemes.

This study is reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ).<sup>18</sup>

#### **Ethical considerations**

Ethical approval was obtained from Cardiff University Dental School Research Ethics Committee. Moderators successfully completed a criminal records check from the Disclosure and Barring Service. Audio-records were destroyed after transcription.

#### Results

#### **Sample characteristics**

Four secondary schools agreed to participate (Table ii). Since there were a limited number of secondary schools in each deprivation quintile which met the inclusion criteria, the study failed to recruit a secondary school from the 'least deprived' quintile in either Cardiff or Rhondda Cynon Taf. There was

no clear evidence of sampling bias when comparing those schools that chose to participate in the study with those that did not.

#### Thematic analysis

Three main themes emerged during focus group discussions:

#### Leisure activities (also see Table iii)

The first theme related to differences in how girls attending schools in more and less deprived areas spent their leisure time. Many of the girls from less deprived areas described how regular participation in organised extracurricular activities such as sports, arts and homework clubs took up a great deal of their time. Activities such as attending the local cinema were less common but were still considered by these girls to be a relatively affordable option, in part because they were often able to minimise travel costs by arranging lifts with parents.

"I'm too busy really. You've got school and then you have to come home and I've got rehearsals and then I have to do homework and so by the time that's happened, I'll have a cup of tea with my parents, then I'll go to bed." (Least deprived, Rhondda Cynon Taf)

In contrast, girls attending schools in the most deprived areas spoke less frequently of engaging in organised activities or accessing local municipal facilities, and referred instead to time spent socialising or 'hanging out' locally with friends, often around local takeaway restaurants. These girls suggested that both leisure activities and facilities for young people were lacking in their areas and that those which were available were either of no interest to them or too expensive.

"There's nothing for our age. We all just walk around." (Most deprived, Cardiff)

"...and if you go down there [Cardiff], say you want to go cinema, you'll probably spend like £7 on the train and then you've got to pay like another £7 for the ticket! (Most deprived, Rhondda Cynon Taf)

#### Alcohol use and regulation (also see Table iv)

Girls in both less and more deprived areas claimed to have consumed alcohol. However, differences were identified in how this alcohol use was regulated. Girls from the least deprived areas typically obtained alcohol from their parents, who were then able to control the type (generally lower strength alcoholic drinks) and the quantity of alcohol consumed.

"I don't think it's easy [to obtain alcohol]. Like if I was going to a party my mum would allow me to take alcohol, but it would be within reason...like it wouldn't be masses, it would be like a WKD [alcopop]." (Least deprived, Rhondda Cynon Taf)

In contrast, girls from the most deprived areas typically obtained alcohol from their parents, older friends or siblings, or purchased it themselves - enabling access to a diverse range of alcoholic drinks.

"My parents would never go and get it [alcohol] for me. I used to...I can get served, but I choose not to just in case. So I get...I'm friends with older people, so they get it." (Most deprived, Cardiff)

"Vodka...any drink you can get hold of really!" (Most deprived, Rhondda Cynon Taf)

Furthermore, focus group discussions demonstrated differences in drinking environments. Girls from least deprived areas tended to drink alcohol at parties with friends or on special occasions, for example, at Christmas or when attending a wedding. For these girls, drinking environments were generally more controlled, with parents supervising parties directly or staying in close proximity; from the girls' responses, parents were more likely to be aware of the party's location and duration and that alcohol was being consumed.

"Yeah and like we went to a party and she had like a four storey house and her mum was just upstairs and we had one floor to ourselves and she just came down to check on us." (Least deprived, Rhondda Cynon Taf)

In contrast, responses from girls attending schools in more deprived areas were less uniform; respondents mentioned drinking alcohol at both supervised and unsupervised parties and some also spoke of drinking alcohol with friends outside of organised party settings.

"Both [supervised and unsupervised locations]. It all depends on what type of person it is. Like some parents don't care and others do, so they'd just rather you do it when they're not there." (Most deprived, Rhondda Cynon Taf)

#### Trust and communication (see also table v)

The third theme identified from the focus groups concerned perceived levels of trust and communication between girls and their parents. For example, parents in least deprived areas seemed happy for their children to spend time unsupervised provided they communicated their whereabouts via phone calls or text messages; parents were also happy to extend curfews in the interests of safety, for example if their child had someone to walk home with late at night. "I'll say, 'well everyone else is staying out until nine and I can walk home with someone', and they'll say, 'you can come back then but don't be late'. You haggle." (Least deprived, Rhondda Cynon Taf)

In contrast, many of the girls attending schools in more deprived areas believed their parents were strict and often lied to their parents about their activities; some girls said their parents were rarely flexible with regard to curfews.

"I give my parents hints and if I get a bad response I won't tell em' because I know they won't let me do half the things that I want to do. They're too strict!" (Most deprived, Cardiff)

Perhaps not unconnected to other themes identified from the interviews, perceptions of trust and communication also seemed to influence girls' attitudes towards alcohol use. For example, girls in less deprived areas reported that because their parents trusted them with small quantities of alcohol they felt compelled to act responsibly.

"Like because my parents let me [drink alcohol], within reason, I don't want to go and do it behind their back because they trust me; I don't want to break their trust. They're big enough to allow me to do this and allow me to go out and they trusted me with it [alcohol], so I don't want to break the boundaries." (Least deprived, Rhondda Cynon Taf)

#### Discussion

#### Main finding of this study

This study has identified three themes which help to explain links between area deprivation and risk of violence-related injury among adolescent girls living in South Wales, UK. First, of the girls who participated in the focus groups, those attending schools in less deprived areas reported participation in more organised activities, such as sports, arts, and homework clubs. In contrast, girls attending schools in more deprived areas were more likely to report spending their free time socialising with friends within the locality. Based on these responses, it is possible that less frequent participation in organised activities by girls from more deprived areas could increase their risk of violent injury by lessening the amount of time they spend under the supervision of others. In contrast, in less deprived areas, girls' more frequent participation in organised extra-curricular activities could lower their risk of violent injury by acting as a protective factor.

Second, girls' responses suggested differences in approaches undertaken by parents to regulate their alcohol use. Girls attending schools in less deprived areas reported drinking alcohol mostly at parties where their parents had purchased the alcohol they consumed. This, they reported, enabled their parents

to control the amount and types of alcohol consumed. These girls suggested that drinking alcohol and attending parties was a rare but enjoyable social activity which was only permitted if they adhered to their parents' firm guidance on alcohol use. In comparison, girls attending schools in more deprived areas perceived their parents as overly strict, speaking openly about how this led to them drinking alcohol unsupervised. In this context it is, perhaps, unsurprising that many of these girls reported having consumed drinks with higher alcohol content.

Third, the level of parental trust perceived by adolescent girls seemed to affect the quality of adolescent-parent communication, which, in turn, may have influenced risk of violent injury. For example, of the girls studied, those attending schools in less deprived areas believed more strongly that their parents trusted them and that this trust was earned through good behaviour. Perceived high levels of parental trust seemed to compel these girls to act responsibly, so not to disappoint their parents or risk losing the privileges that such trust afforded. In contrast, girls attending schools in more deprived areas tended to perceive their parents as untrusting and strict, which led them to be less than honest with their parents regarding certain activities, such as time spent with friends and/or boyfriends.

#### What is already known on this topic

Qualitative studies investigating associations between violent injury and area-deprivation are sparse. However, quantitative research offers some support for the themes identified in this study. For example, adolescents who participate in extracurricular activities have been shown to report more positive social outcomes than non-participants such as less substance use, absenteeism and delinquency.<sup>19</sup> Among adolescent females, participation in extracurricular activities can reduce violence perpetration<sup>20</sup> and engagement in these can reduce the risk of violence victimisation.<sup>21</sup> Furthermore, setting strict alcohol-specific rules and limiting the availability of alcohol are but two examples of parenting strategies that have been shown to reduce alcohol consumption among adolescents.<sup>22, 23</sup> Obtaining alcohol from parents has also been shown to result in fewer units of alcohol consumed<sup>24</sup> and less self-reported incidents of alcohol-related violence<sup>9</sup> compared with obtaining alcohol from other sources. Lastly, inconsistent discipline, permissiveness, and verbal aggression have been identified as parenting styles which increase risk of adolescent delinquency, while parental monitoring, rule setting, and open communication are strong protective factors.<sup>10</sup>

#### What this study adds

Acknowledging a steep upward gradient in risk of violent injury during adolescence,<sup>4</sup> with adolescents living in deprived areas most at-risk,<sup>5</sup> this study provides new explanatory variables and contexts regarding associations between risk of violent injury and area deprivation among adolescent girls. This sets the scene for quantitative testing to establish the validity and reliability of these on a population basis. Based on themes identified in this study, it is possible that a combination of the factors identified in this study may increase the risk of violence-related injuries among adolescent girls living in more

deprived areas. For example, poor adolescent-parent relationships characterised by low levels of parental trust and poor communication, combined with a lack of supervised extracurricular leisure activities, could lead to an increase in unstructured socialising with peers and increase the risk of unsupervised alcohol use and lying to parents about where they are and who they are with.

#### Limitations of this study

Girls were not recruited to this study on the basis of their violence experience. Instead, it was assumed that across whole electoral wards there was equal risk of sustaining violent injury. However, it is possible that this could have led to sample bias if significant behavioural and lifestyle differences exist between girls injured in violence and those not injured, irrespective of the effects of deprivation. Furthermore, school selection was based on a composite area-based measure of deprivation rather than individual measures. It did not prove possible to recruit a secondary school from a less deprived electoral ward in Rhondda Cynon Taf; a school located in the median deprivation quintile of electoral wards, and which had the highest available Townsend score (higher scores indicate lower levels of material deprivation), was recruited as the best possible alternative.

#### Conclusion

Three themes have been identified in this study which may help to explain links between area deprivation and risk of violence-related injury among adolescent girls living in South Wales, UK; namely, differences in the availability of and access to organised leisure activities and relevant facilities; differences in parental approaches to regulating alcohol use among their children; and differences in adolescent-parent relationships, especially regarding perceptions of parental trust and communication. It is possible that a combination of these factors increases the risk of adolescent girls sustaining violence-related injury by locating them in unsupervised environments with alcohol and without parental knowledge.

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#### Contributors

All authors were involved in designing the study. NP and VS recruited the schools and participants. NP and SJ coded the data and developed themes. All authors prepared and approved the manuscript prior to submission.

#### **Competing interest**

None declared.

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Table i:	Semi-structured	interview	schedule
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Topics of discussion	Questions*
Alcohol	<ul> <li>Do you think most people your age regularly drink alcohol?</li> <li>Where do young people your age usually drink alcohol?</li> <li>Have you ever drunk alcohol?</li> <li>Do you think it's easy for young people your age to obtain alcohol?</li> <li>What do you think your parents would say to you if you came home drunk?</li> </ul>
Attitudes towards violence	<ul> <li>Why do you think young people your age resort to violence?</li> <li>What would make you resort to violence?</li> <li>What do you think your parents would say if you were in a fight?</li> </ul>
Community attachment	<ul> <li>Do you feel part of the local community?</li> <li>Do you think young people your age have a bad reputation?</li> <li>Do you feel safe walking alone at night?</li> <li>Do you ever see or hear of any violence locally?</li> </ul>
Family relationships	<ul> <li>Do you spend much quality time with your family during evenings and at weekend?</li> <li>Do your parents regularly ask you where you are going? What you are doing? And who you are spending your time with?</li> <li>Do you have a curfew at night (a time to return home by) and what happens if you break it?</li> </ul>
Prior victimisation	<ul> <li>Have you or any of your friends of the same age ever been involved in a violent incident/fight, or been victim of a violent incident?</li> <li>Have you or any of your friends of the same age ever attended an Accident and Emergency department as a result of a violent incident/fight?</li> </ul>
Routine activities	<ul> <li>What do you do for fun during evenings and at weekends?</li> <li>Where do you normally spend time with friends?</li> <li>What leisure activities are available for young people your age?</li> <li>Do you think there are enough available leisure activities for young people?</li> </ul>

\* Please note that prompts were often spontaneous and discussion-dependent and are therefore not included within the interview guide. Participants were informed that all questions were to be understood in the context of their age group and locality

Unitary Authority	Deprivation quintile <sup>a</sup>	No. of participants	Age (mean)	Duration (minutes)
Cardiff	2	6	14.3	52
	5	6	14.3	43
Rhondda Cynon Taf	3 <sup>b</sup>	8	14.9	50
	5	6	15.5	31

#### Table ii: Focus group information and participant demographics

<sup>a</sup> 1= Least deprived; 2= Next least deprived; 3= Median; 4= Next most deprived; 5= Most deprived <sup>b</sup> There are no secondary schools in the least deprived deprivation quintile in Rhondda Cynon Taf and only one in the next least deprived deprivation quintile (see limitations of this study for further detail).

Least deprived	
Example 1	"There is quite a lot of stuff outside of school, like I train hockey like most of my time." (Cardiff)
Example 2	"We've got D of EDuke of Edinburgh." (Rhondda Cynon Taf)
Example 3	"It's [cinema] quite affordableand like a quarter of an hour drivesometimes we'd organise lifts from parents." (Least deprived, Rhondda Cynon Taf)
Most deprived	
Example 4	I had to take my sister there [youth club] the other day and there was just little kids running round and I was like, 'ah I'm going!' It was rubbish! (Cardiff).
Example 5	It just doesn't appeal to me [youth clubs]. I wouldn't do anything to do with that now." (Cardiff)
Example 6	"We go to Subway [takeaway restaurant]; loads of people do." (Rhondda Cynon Taf)

## Table iii: Further examples of the girls' comments regarding leisure activities

Least deprived	d	
Example 1	"My mum like lets me [drink alcohol]she doesn't want me to but like all my brothers and sisters are old enough to drink. She lets me have like a can of cider, like on special occasions, so like on Christmas I'll be allowed to have something." (Cardiff)	
Example 2	"My mum doesn't allow spirits. So it's alcopops basicallya WKD (Rhondda Cynon Taf)	
Example 3	"It's in like a controlled environment. We don't like drink on the streets." (Rhondda Cynon Taf)	
Example 4	"It's like once a month, not even that. It's just that we've got something to celebrate like a birthday or something and then we'll have a bit of alcohol, but it's not much." (Rhondda Cynon Taf)	
Most deprived	1	
Example 5	They can just go to [supermarket name removed] cos they don't ask for I.D. They didn't ask me and I bought Caribbean Twist [a sparkling alcoholic cocktail] (Cardiff).	
Example 6	"I know shops that I could go in and buy beer." (Cardiff)	
Example 7	"Parties sometimes and sometimes more general." (Cardiff)	
Example 8	"If I'm going to like a party or like a house party then my parents say, 'I'd rather buy it for you then you lot go to a shop." (Rhondda Cynon Taf)	

## Table iv: Further examples of the girls' comments regarding alcohol use and regulation

Table v: Further	examples of the girls?	' comments regarding parental t	rust and communication
	1 8		

Least deprived	
Example 1	"Normally I have to say what time I'm gonna' be home. If they agree with it, it's fine, but if I'm later than that then they're angry. So we agree a time before I go out." (Rhondda Cynon Taf)
Example 2	"Like last night my mum thought I was coming home at like half-eightish and it was like twenty to nine and she was like 'where are you?' And I was like, we're just waiting for [name removed] mum and she was like, 'okay it's fine'. But like if she said 'where are you?' and I didn't reply, she'd like ring me and she'd panic." (Rhondda Cynon Taf)
Example 3	"When I'm out I always have to be on my phone and she'll [mother] always text me and be like 'are you okay? And I'm like, yeah." (Rhondda Cynon Taf)
Most deprived	
Example 4	"I don't tell no-one anything. What happens in my house stays in my house, so I won't tell my friends. But what happens outside stays outside, so I won't tell anyone in my house." (Cardiff)
Example 5	"Yeah, I lie to my parents a lot because I know they won't let me do half the things that I want to do. They're too strict!" (Cardiff)
Example 6	"I'd still get shouted at even if I'm like two minutes late [home]." (Cardiff)