**ORIGINAL ARTICLE** 



# Can education influence the public's vulnerability to county lines?

Chloe-Marie Hayman<sup>1</sup>  $\cdot$  Daniel Robert Stubbings<sup>2</sup>  $\cdot$  Joseph Lloyd Davies<sup>3</sup>  $\cdot$  Libby Payne<sup>1</sup>

Accepted: 15 December 2023 / Published online: 25 January 2024 @ The Author(s) 2024

# Abstract

This paper explored the novel use of an educational tool to assess its influence on County Lines victimisation. Participants (n=122) were randomly assigned to receive either County Lines education or no County Lines education and then, rate their likelihood to engage in five hypothetical scenarios typical of County Lines victimisation verses a text scam. County Lines education did not significantly reduce participant willingness to engage in the scenarios, whilst most participants were not susceptible to a text scam. Demographic data, drug use, social isolation, poor mental health, and financial instability were weak predictors of engagement. Findings suggest that the public may be vulnerable to victimisation and that future research should continue to explore the role that education can have in reducing the likelihood of engaging in County Lines activity.

Keywords County lines · Vulnerability · Public education · Organised crime · Risk

# Introduction

County Lines gangs are an organised crime distribution network providing illicit drugs from urban to rural areas (HM Government 2021; Moyle 2019). Mobile phone lines are used to form and expand distribution networks across county boundaries (Harding 2020) and are integral to the County Lines drug supply model (Brewster et al. 2021). Gangs advertise drugs with mass texts to individuals who use drugs

<sup>&</sup>lt;sup>3</sup> Applied Psychology Department, Cardiff Metropolitan University, 200 Western Avenue, Llandaff, Wales CF5 2YB, UK



Libby Payne lpayne@cardiffmet.ac.uk

<sup>&</sup>lt;sup>1</sup> Applied Psychology Department, Cardiff Metropolitan University, 200 Western Avenue, Llandaff, Wales CF5 2YB, UK

<sup>&</sup>lt;sup>2</sup> Applied Psychology Department, Cardiff Metropolitan University, 200 Western Avenue, Llandaff, Wales CF5 2YB, UK

problematically (Coliandris 2015). The rapid growth of County Lines is a national threat (National Crime Agency; NCA 2018), having negative social and economic effects on the surrounding communities (Windle et al. 2020) including increased knife crime and antisocial behaviour (HM Government 2016). Established County Lines activity has been reported in the force area of 88% of police units across the UK (NCA 2017). County Lines involve multiple components of organised crime, including modern-day slavery, human trafficking, child sexual exploitation and abuse, money laundering, drugs, and firearms (Harding 2020). Members are often recruited from urban cities by senior gang members who can exploit vulnerable individuals through the offer of money and a sense of belonging (Holligan et al. 2020). They can also be recruited via social media through a process of grooming, displaying images of a lavish lifestyle, such as designer clothing and large amounts of money to draw victims in (NCA 2018). Since the implementation of lockdown restrictions because of the Covid-19 pandemic, there has been a rise in this form of recruitment (Brewster et al. 2021). Recruitment is essential to keep a continuous stream of runners to support expanding County Lines (Harding 2020).

The exploitation of vulnerable people that is inherent in County Lines networks, especially children and young people (Ni Charriaghe 2022; Robinson et al. 2018; Spicer 2018), is a prudent concern, given there was a reported 31% increase in referrals of children suspected to be victims of County Lines in 2020 compared to the previous year (HM Government 2021). The full extent of County Lines victimisation is difficult to expound due to several complex interrelated factors—for example, the unhelpful dichotomy of a perpetrator or a victim, police recording practices and a lack of awareness amongst the public (Harding 2020).

#### Who is vulnerable to county lines?

County Lines gangs target those likely to go undetected by the police, such as children (Windle et al. 2020) but victimisation is not exclusive to children (Home Office 2018). A report by the National Referral Mechanism for Modern Slavery indicates adults are underrepresented as victims of County Lines slavery because the victim must consent to the referral, which is often refused (NCA 2018; 2019). There are multiple risk factors believed to be associated with an increase in the likelihood of County Lines victimisation (Home Office 2018), namely socially isolated individuals because they have less support to recognise and intervene in victimisation (Glover-Williams and Finlay 2019) and may seek acceptance from County Lines gangs (Public Health England 2015). Individuals with poor mental health are also considered a high-risk group of County Lines victimisation (NCA 2017, 2018); an NCA (2017) report investigating the exploitation of vulnerable people noted that 37% of police forces reported exploitation of adults with mental health problems. Given that County Lines gangs create the impression of a financially rewarding "career," it is unsurprising that financial instability is considered a risk factor for County Lines victimisation (Ellis 2018), a proposition supported by Merton's Strain Theory (1957). The greatest vulnerability amongst adults targeted by County Lines gangs, however, is drug use (NCA 2018). Individuals who use drugs problematically

are targeted by County Lines gangs to establish a local base or 'trap house' for the purpose of managing, storing and supplying drugs to the local area (Turner et al. 2019). This is known as 'Cuckooing' and is a complex issue which can take many different forms (Spicer et al. 2019). The individuals often believe this exchange is mutually beneficial but are becoming indebted to the gang members (Moyle 2019; NCA 2018). In reality, the cuckooed individuals report experiencing mental abuse and exploitation, intimidation, physical and sexual violence (Coliandris 2015).

#### Education as a preventative measure of victimisation

Target hardening is a crime prevention method aimed at potential victims to reduce the likelihood of victimisation. Target hardening methods suggest that crime can be controlled by potential victims through behaviour and environment modification to reduce the opportunities for criminals to victimise them (Bell and Bell 1987). A meta-analysis revealed target hardening is an effective intervention for decreasing burglary crime (Grove et al. 2012). Historically researchers have been cautious in communicating crime specific information because it may increase the fear of crime (Winkle 1991), but this has not been the finding in the recent literature (Johnson et al. 2017).

Education may be utilised to complement target hardening by improving victims' situational awareness, in the context of County Lines. Evidence suggests that brief education is effective at significantly increasing awareness and knowledge of head injuries in a sample of prisoners (Buchan and McMillan 2022). Furthermore, education programs in the community for users of child sexual exploitation material have targeted and reduced levels of associated risk factors for sexual offence recidivism (Gillespie et al. 2018). However, Gillespie et al. (2018) relied on self-report measures which increase the risk of responding in a socially desirable way (Latkin et al. 2017). Gillespie et al. (2018) did not have a control group and thus, cannot compare whether the effects were because of the program or would have occurred naturally. Education has been effective in other areas of Forensic Psychology (Buchan and McMillan 2022; Gillespie et al. 2018) and is applicable to education as a method for reducing County Lines victimisation.

To date, there is no research investigating the impact of education on County Lines gang victimisation. The literature on County Lines remains relatively small but growing (Robinson et al. 2018; Burt et al. 2022). The research has predominately been qualitative (McLean et al. 2019; Thompson 2019) leaving a gap in the literature for an experimental study. Moreover, a considerable amount of the research focuses on the vulnerability of children and young people (Stone 2018; Thompson 2019). The present exploratory study aims to investigate the use of an educational tool to reduce the publics' vulnerability to engaging in activities that may lead to County Lines, and whether or not the risk factors for County Lines engagement can predict engagement.

÷Ж

## Method

## Participants

Participants (n = 182) were recruited via snowball sampling across social media platforms (Facebook, Twitter, Instagram, WhatsApp, and LinkedIn). A social media advert was posted and shared (see Appendix A). There were 60 participants removed because of incomplete responses. Of the remaining 122, the majority were female (92.6%), white (93.4%) and were aged between 19 and 73 (M=27.92 SD=10.432). There were 63 participants in the control condition and 59 participants in the experimental condition (education).

## Design

The study design was correlational and experimental (with two levels, control and experimental, i.e. education). The dependent variable, likelihood of engaging in activities in line with County Lines victimisation was assessed using five experimental and one control hypothetical scenario vignettes on a continuous variable ranging from 0 to 100 on a sliding scale. Vignettes are important for simulating real-life scenarios (Schoenberg and Ravdal 2000) and are beneficial when assessing sensitive topics that are not assessable in other ways (Barter and Renold 1999). The vignettes were modified based on the examples provided by Burt et al. (2022). Four vignette topics were the same, and two different vignette topics were new (see Appendix B).

The primary independent variable in the current study was the condition participants were randomly assigned to (education or control). Currently, County Lines education programmes are limited, with organisations' (e.g., Crimestoppers, Fearless) target audience being young people. Therefore, the education information sheet was developed by the researcher after a review of the academic literature and was piloted by two participants. Risk factors for County Lines victimisation were also assessed in the current study and included drug use, social isolation, financial instability, and poor mental health. These were captured through several validated psychometric questionnaires and measured continuously.

## Materials

Five hypothetical scenarios were administered to elicit participant engagement in scenarios typical of County Lines victimisation (See Appendix C). The vignettes represented the following scenarios, coffee meet, fake job, free drugs, pay debts, cuckooing. One control vignette (text scam) represented a risky scenario not typical of County Lines victimisation. This was used to assess whether participants were vulnerable to risky scenarios related to County Lines victimisation or vulnerable to risky scenarios in general. The vignettes were developed in collaboration with anecdotal evidence provided by the County Lines experts at the United Kingdom Home Office Violence and Vulnerability Unit (VVU; McNally 2020) Participants were asked to rate their likelihood of engagement using the sliding scale function

on Qualtrics (Provo, UT, USA) to provide a score from 0 (Not likely at all) to 100 (Extremely Likely), e.g. "what is the likelihood of you applying for this job?". The education sheet (see Appendix B) described what County Lines is, how it works, the ways that they recruit people and the risks involved.

Multi-item scales were implemented as per the study designed used by Burt et al. (2022) to provide a quantitative measure of risk factors. Drug use amongst the general public was measured using the Drug Abuse Screening Test (DAST-10; Skinner 1982) which comprises of 10 items regarding illicit drug use within the last 12 months. The DAST-10 is highly correlated with the original, longer version (Skinner 1982). The DAST-10 has been used for a variety of populations, displaying substantial reliability and validity (Yudko et al. 2007). Social isolation was measured using the UCLA 3-Item Loneliness Scale (TILS; Hughes et al. 2004). The TILS measures the three dimensions of loneliness: self-perceived isolation, social connectedness and relational connectedness. The TILS has been shown to be a reliable and valid scale to measure loneliness in the general population and is also highly correlated with the original UCLA 20-item Loneliness Scale (Hughes et al. 2004). Financial instability was measured using the InCharge Financial Distress/Financial Well-Being Scale (IFDFW; Prawitz et al. 2006) which is an 8-item scale measuring an individual's perceived financial distress/well-being. Testing of the IFDWF indicates that it is robust to reliably and validly measure financial distress and wellbeing (Prawitz et al. 2006). Mental health was measured using the WHO-5 scale (WHO 1998) which comprises of 5 items related to mental health and wellbeing within the last two weeks. The WHO- 5 has been used in a number of populations demonstrating adequate reliability and validity (Topp et al. 2015).

## **Ethical considerations**

Ethical approval was obtained from Cardiff Metropolitan University School of Health Science's ethical panel (PGT-5261). The British Psychological Society's guidelines for internet-mediated research were adhered to (British Psychological Society 2021). Participants were provided with an information sheet and were notified that the projects full aims were initially withheld. Participants were presented with an online consent form informing them that participation was voluntary, anonymous (data and identifiable information) and confidential and they could withdraw at any point by exiting the browser. Participants provided their consent twice, once after the information sheet and again after being fully debriefed of the full research aims. Following the completion of the questionnaire, participants were given a debrief sheet which included additional support, and helplines were provided to participants on a downloadable OneDrive file via Qualtrics.

#### Method of analysis

The current study involved a number of different statistical methods of analysis. Initially, several independent samples t tests were conducted to assess group differences between the education and control conditions on the likelihood to engage in County Lines victimisation. Effect sizes were reported as Cohen's *d* and interpreted through Cohen's (1992) guidelines. To establish the likelihood of engagement in the scenarios typical of County Lines victimisation, continuous vignette scores were transformed into dichotomous data. Scores under 50 were categorised as "No, unlikely to engage" and scores 50 and above were categorised as "Yes, likely to engage". This enabled the percentage of engagement scores for yes/no regarding hypothetical engagement of a scenario to be calculated for each vignette. Furthermore, crosstabulations were conducted using the recoded data to determine the demographic characteristics for each condition and their association with engaging in County Lines vignettes. Finally, several Pearson's product moment correlations were conducted between each vignette scenario and risk factor scores for both the education and control conditions. All analyses were conducted using the Statistical Package for the Social Sciences (SPSS, version 28).

## Results

#### Engagement in county lines scenarios

Several independent samples t tests were conducted to assess mean differences in engagement for each County Lines scenario between the education and control conditions (see Table 1). Participants in the education condition had greater levels of engagement in the text scam, fake job, and free drugs scenarios, whilst participants in the control condition had greater levels of engagement in the coffee meet, pay debt and cuckooing scenarios. However, none of these differences were statistically significant.

Type of Vignette	Education condition (N=59)	Control condition (N=63)	t	р	d
Text scam (control)	M = 2.1 SD = 8.1	M=1.8 SD=4.9	28	.78	05
Coffee meet	M=46.3 SD=25.8	M = 54.1 SD = 27.7	1.61	.11	.29
Fake job	M = 8.7 SD = 16.7	M = 6.8 SD = 14.8	64	.53	12
Free drugs	M=21.1 SD=31.7	M = 17.0 SD = 25.3	78	.44	14
Pay debt	M = 28.9 SD = 26.8	M = 31.6 SD = 26.4	.58	.57	.10
Cuckooing	M=49.7 SD=31.1	M=56.4 SD=29.3	1.22	.23	.22

 Table 1
 Mean differences in engagement in County Lines scenarios between education and control conditions

#### Likelihood of engagement in county lines scenarios

To assess the likelihood of engagement in the scenarios typical of County Lines victimisation, the percentage of engagement in each scenario was calculated and compared between the education and control conditions. Percentages of engagement in the vignettes between the control and education conditions, as well as the sample as a whole, can be found in Table 2. In three out of five of the County Lines vignettes (coffee meet, pay debt, cuckooing), engagement rates were lower in the education condition compared to the control condition. In the remaining two County Lines vignettes (fake job, free drugs), engagement rates were lower in the control condition. Engagement rates in the control vignette (text scam) were also lower in the control condition. Engagement rates for the cuckooing vignette were highest for the control and education conditions. Similar engagement rates were found in the coffee meet vignette for the control condition. The lowest engagement rates for both conditions were the test scam vignette and low engagement rates were found in the fake job vignette, for both conditions. The largest difference in engagement rates between the conditions was for the coffee meet, displaying a 14.3% difference. All other vignette engagement rates were similar for both conditions.

### Demographic characteristics and engagement in county lines scenarios

Crosstabulations were conducted to determine the association between demographic characteristics of participants in each condition and their association with engagement in County Lines scenarios. Table 3 displays the percentage of participants in each condition that reported more than a 50% engagement rate in the vignettes. Overall, the youngest age group (18–24 years) displayed the highest engagement rates in three out of five County Lines vignettes. In the control condition, the youngest participants were more likely to engage in the fake job scenario, whilst all other ages presented with zero engagement. Similarly, in the education condition, the two youngest groups were more likely to engage than the two older groups who presented with zero engagement. In both conditions, the youngest age group showed the highest engagement rates for the cuckooing scenario, whilst the oldest participants presented with zero engagement in the free drugs vignette. For all age groups in both conditions, the highest engagement

Table 2Percentage ofengagement in vignettesbetween control condition,	Type of vignette	Control condition	Education condition	Total sample
education condition and total	Coffee meet	63.5	49.2	56.6
sample	Fake job	1.6	6.8	4.1
	Free drugs	14.3	23.7	18.9
	Pay debt	33.3	32.2	32.8
	Cuckooing	65.1	62.7	63.9
	Text scam (control)	0	1.7	0.8

	z	Coffee meet (%)	Fake job (%)	Free drugs (%)	Pay debt (%)	Cuckooing (%)	Text Scam (%)
Age control							
18-24 years	37	70.3	2.7	13.5	40.5	78.4	0
25–34 years	13	46.2	0	23.1	23.1	46.2	0
35-44 years	6	66.7	0	11.1	22.2	66.7	0
45 + years	4	50	0	0	25	0	0
Education							
18-24 years	40	57.5	7.5	25	37.5	75	2.5
25-34 years	7	42.9	14.3	42.9	28.6	42.9	0
35-44 years	7	14.3	0	14.3	14.3	28.6	0
45 + years	5	40	0	0	20	40	0
Sex control							
Male	5	20	0	0	20	09	0
Female	58	67.2	1.7	15.5	34.5	65.5	0
Education							
Male	4	25	25	50	0	0	0
Female	55	50.9	5.5	21.8	34.5	67.3	1.8
Ethnicity control							
White	61	62.3	1.6	11.5	34.4	67.2	0
Mixed	1	100	0	100	0	0	0
Black or Black British	1	100	0	100	0	0	0
Education							
White	53	47.2	7.5	20.8	34	62.3	1.9
Mixed	7	50	0	100	0	50	0
Asian or Asian British	4	75	0	25	25	75	0

rates were displayed in the coffee meet and cuckooing vignettes (excluding 45+years in the control condition).

Females displayed engagement in all five of County Lines vignettes and typically demonstrated higher engagement rates compared to males (excluding the coffee meet, fake job, and free drugs scenarios the education condition). In both conditions, males showed some level of engagement in three out of five of the County Lines vignettes. In both conditions, participants identifying as White exhibited engagement in all five of the County Lines vignettes. In the control condition, participants who identified as Black/Black British and Mixed showed no engagement in three of five vignettes. Participants in the control condition who identified as Mixed and Black/Black British were more likely to engage than participants identifying as White in two out of five vignettes. Participants in the education condition who identify as Asian/Asian British were more likely to engage than those identifying as White and Mixed in three out of five vignettes. Overall participants were not likely to engage in the text scam scenario (control), but one participant did engage. The participant who did engage was in the education condition and was white, female and aged between 18 and 24 years old.

## **Risk factors and correlational data**

The control and education conditions displayed similar levels of the risk factors, namely drug use, social isolation, financial instability, and poor mental health. In both conditions participants displayed low levels of drug use (DAST; Control M=0.75, SD=1.32, Education M=1, SD=1.62) and social isolation (TILS; Control M=5.94, SD=2.02, Education M=5.76, SD=1.69). Moderate levels of poor mental health (WHO-5; Control M=12.37, SD=5.26, Education M=10.98, SD=5.09) and financial instability (IFDFW; Control M=48.87, SD=19.99, Education M=46.22, SD=18.84) were exhibited in both conditions. Higher levels of social isolation, poor mental health and financial instability were exhibited in the control condition compared to higher levels of drug abuse in the education condition.

Several Pearson's product moment correlations were conducted between each scenario and risk factor scores for both the education and control conditions. In the education condition, there was a significant weak, negative correlation between drug use (DAST-10) and the free drugs scenario (r=-0.32, p<0.01). No other significant associations were found in the education condition. Moreover, in the control condition, there was a significant weak, negative correlation between social isolation (TILS) and the free drugs scenario (r=-0.27, p<0.05). No other significant associations were found in the control condition.

## Discussion

The current exploratory study examined the novel use of an educational tool as a potential influencer of the public's vulnerability to County Lines victimisation. It was expected that endorsement of the scenarios would be significantly lower in the

education condition compared to the control condition, but this was not the case. Similar to previous research (Burt et al. 2022), the findings showed that the risk factors were poor predictors of endorsement. There was some level of engagement in all County Lines vignettes in both conditions but 99% of the participants reported that they would not engage in the scam text control condition. A possible explanation for these findings is that the education material might not have been explicit about County Lines enough. It may be difficult for people to see how they themselves might be vulnerable to County Lines. A more formal presentation delivered by an expert may be more effective than a written summary. Buchan and McMillan (2022) provided an education PowerPoint followed by a free recall test and discovered an increase in awareness/knowledge amongst a sample of prisoners. The authors stated that their findings were because of education and that PowerPoint is an effective way to deliver it. However, their results could be because of the free recall test, which can enhance memory (Arnold and McDermott 2013) and possibly long-term retention of information (Roediger and Karpicke 2006). Future research could assess the effectiveness of different types of education materials/information and assess which method is most effective at reducing vulnerability to County Lines.

In comparison with the County Lines vignettes, low engagement rates were displayed in the control (text scam) vignette. This could be because participants have a greater awareness of phishing scams. This is confirmed by literature which suggests an awareness of scams has a positive effect on detecting deception (Wright et al. 2010). Evidence suggests that increased exposure to phishing scams results in greater awareness and reduced susceptibility to victimisation (Chen et al. 2020). Research indicates demographics influence susceptibility to phishing scams, with females being more susceptible than males (Jagatic et al. 2007). Similar findings were found by Sheng et al. (2010) who identified gender and age to be predictors of engaging in phishing scams. Sheng et al. (2010) identified that females are more susceptible and 18–25-year-olds are the most susceptible age group. The demographic characteristics identified in the literature match those of the participants who engaged in the text scam vignette in the current study (female, 18–24 years old).

Engagement in the fake job (depicting money laundering) vignette was low (4.1%) compared to the other County Lines vignettes. Of those who did engage, they were white, and in the two youngest age groups. This could be explained by literature that suggests individuals under the age of 35 years old are more susceptible to fake jobs/money laundering than older adults (Europol 2016). Young people/adults are often the primary targets of money laundering due to them being unaware of committing an offence and thinking they have a legitimate job (Europol 2016). The literature has identified multiple risk factors for money mule victimisation which include economic hardship, unemployment, internet usage and student status (Eso-imeme 2020; Raza et al. 2020). It would have been beneficial to the current study to include employment and student status on the demographic questionnaire to investigate their influence on County lines victimisation.

The crosstabulations across demographics and County Lines engagement produced some noteworthy findings. In three out of five vignettes for both conditions, the youngest age group (18–24) displayed the highest engagement rates. This confirms previous research that has identified that risky-decision making is associated with higher impulsive sensation seeking, commonly identified in 18–25-year-olds (Chase et al. 2017). Gardner and Steinberg (2005) identified risky decision making and risky behaviour to be more prevalent in youths (18–22 years old) compared to adults (24 + years). It is important to note the difference in the grouping of age in the current literature. The differences in classifications of youths/adults make it difficult to compare and generalise the findings. Furthermore, the research elicits risky decision-making responses in artificial environments thus lacking ecological validity and not being an accurate representation of participant responses. This is confirmed by Figner et al. (2009a, b) who identified differences in decision making when comparing artificial environments and real-world scenarios.

When comparing engagement in both conditions and sex, females displayed engagement across all five County Lines vignettes compared to males displaying engagement in three of five of the vignettes. The current study also identified that females were twice as likely to engage in the coffee meet scenario than males and were more likely to engage in the pay debt and cuckooing scenarios than males. The contrast in engagement rates for males and females could be because of personality differences. Evidence suggests females display higher levels of agreeableness than males (Giolla and Kajonius 2018) which is characterised by nurture, tendermindedness, empathy, and altruism (Weisberg et al. 2011). However, it is difficult to draw firm conclusions regarding sex differences in personality due to the methodological limitations in this area of research (Del Giudice et al. 2012). Future research should include a personality measure such as the NEO Personality Inventory-Revised (Costa and McCrae 2008) to measure the effects of personality on engagement in County Lines scenarios.

The findings identified that participants displayed low to moderate levels of the associated risk factors (drug use, social isolation, poor mental health, and financial instability) related to County Lines victimisation. Two statistically significant correlations were identified between the free drugs vignette and social isolation and drug use. The correlations were also negative, which contrasts with existing literature. However, the correlations were weak. The findings appear to suggest the risk factors associated with increased risk of County Lines victimisation are not as influential on engagement, however, given the strong associations between risk factors, and County Lines victimisation in the wider literature these results are likely explained by the novel methodology (i.e. County Lines vignettes) and small sample size used in the current study.

#### Strengths and limitations

One strength of the current research is the novel use of County Lines education to assess its influence on the public's vulnerability to victimisation, a method that has not been employed in other research. However, due to the novel nature of County Lines, there are limited education materials specific for reducing the victimisation of the public. The available resources from organisation websites (e.g., NCA, Crimestoppers, Fearless) target young people and teachers rather than all members of the public. The limited research means it is unknown what information to give to the public to reduce their likelihood of victimisation. Future research should produce education materials/programs specific to the public using the knowledge of multidisciplinary teams, such as County Lines experts and the police. A further strength is using vignettes to depict scenarios typical of County Lines victimisation to elicit participant vulnerability rates. The indirect nature of online vignettes mitigates the effects of social desirability bias, increases participants' anonymity, increasing their willingness to provide accurate and honest answers about sensitive topics (Lydecker 2020), although the study relies on self-report data, which is known to increase inaccurate responses due to social desirability bias (Latkin et al. 2017).

Whilst the findings of the current study add to the limited body of County Lines research, there are several limitations to consider, particularly with regards to the study methodology. For example, the current study included a small sample size which was not inclusive of a representative sample of the UK public, given they were predominantly white, female, and aged between 18 and 24 years. The small number of participants and limited ethnic diversity in the sample makes it difficult to generalise our findings. Furthermore, the use of a written summary as an educational tool in this study may have been insufficient at educating participants about County Lines. To increase awareness, educational tools must provide participants with a better understanding of the personal relevance of County Lines (Arlinghaus and Johnson 2017). Further research should utilise educational tools that are more explicit about the personal relevance of County Lines.

It is also unclear if an endorsement cut off at 50% is the best indicator of engagement. There is no evidence to assert that those who say they are only 25% likely to engage in a scenario will only do so 25% of the time verses those who say they are 75% likely. The study did not assess the participants' personal circumstances, such as income and social adversity, which may have a significant influence on their willingness to engage in county lines activity. However, the aim of this study was to explore the general public's vulnerability to county lines victimisation as opposed a subset of society who would be expected to be particularly vulnerable to exploitation. Future research needs to ascertain to what extent a-priori willingness to engage in County Lines is predictive of actual real-world engagement and how much personal circumstances exacerbate a general willingness to engage.

### Implications for reducing victimisation and crime

Given the exploratory nature of the current study and considering the limitations outlined above, it is important to take caution when interpretating the implications of our findings. However, our findings do suggest that communities in the UK may be susceptible to victimisation which highlights a need to raise awareness of the deceptive tactics used and the implications of County Lines involvement. The study also highlights the need to explore and develop educational materials and programs in this context further, because they have been shown to be effective at increasing awareness and knowledge (Buchan and McMillan 2022), reducing deviant behaviours (Gillepsie et al. 2018) and preventing crime (Robinson et al. 2018). The development and distribution of the crime specific information are an effective target

hardening strategy that reduces victimisation and crime (Grove et al. 2012). Thus, further highlighting the need for the development of County Lines education as a target hardening method for reducing victimisation and subsequently crime. Organisations (Dorset Police, Fearless UK) have aimed to increase awareness by posting video campaigns on Instagram. The information on Instagram has limited visibility to the public as social media users will only see this content if they either search for it or follow the accounts. Currently, there is no research investigating the effective-ness of these campaigns.

## **Appendix A: Project advertisement for participants**

#### PARTICIPANTS NEEDED

I am currently completing a Master's in Forensic Psychology and am looking for people to take part in the following questionnaire, the results of which will form my Master's dissertation and potentially be used to provide the basis for professional publications.

The inclusion criteria included:

You must be aged 18 or older

If you are interested, please click on the following **link**. This will provide you with instructions and detailed information about what the questionnaire involves.

The questionnaire will take approximately 20-25 minutes to complete. The data collected will be completely anonymous and confidential.

If you have any questions, please contact the research supervisors:

- Libby Payne at <a href="mailto:lpayne@cardiffmet.ac.uk">lpayne@cardiffmet.ac.uk</a>
- Dr Daniel Stubbings <u>drstubbings@cardiffmet.ac.ulk</u>

Thank you in advance

## **Appendix B: Vignettes**

## Scenario 1:

You are a member of a Facebook group for your local community. Someone posts about being new to the area and asks for recommendations of things to do in the community. You make a couple of recommendations for local cafes. The person who made the post in the group messages you privately, asking you more about the community. After chatting for a whilst, they seem very friendly, and you have a lot of shared interests. They ask if you would like to meet at one of the cafes you recommended for a coffee.

## What is the likelihood of you accepting this offer?

0 (Not likely at all) 100 (Extremely likely).

## Scenario 2:

You have recently been looking to apply for a new job. You come across a social media account which is advertising a job where you can "work from home, no experience needed and can make money quickly". You want to know more so click on the link. It states that your role would be in finance, managing and processing funds. The money will be deposited into your bank account to be transferred to other accounts. The work is commission based, so you receive a percentage of the funds for each of the transfers you make.

# What is the likelihood of you applying for this job?

0 (Not likely at all) 100 (Extremely likely).

## Scenario 3:

You recently won an online competition to win a hamper, containing food and toiletries. When the hamper arrives, you notice an extra item which you do not recognise. When you open it, it appears to be illegal drugs.

# What is the likelihood of you reporting or destroying this content?

0 (Not likely at all) 100 (Extremely likely).

## Scenario 4:

A friend has come to you saying they are struggling with their mental health. As a result of this, they have been using illegal drugs to cope. However, this has led to them owing money to some dangerous people. They have come to you for help about their current mental health and are worried about their debts to these people. They ask you to pay for their debt.

# What is the likelihood of you paying their debt?

0 (Not likely at all) 100 (Extremely likely).

# Scenario 5:

You have a spare room in your house and have been using Facebook to advertise the room. One day someone privately messages you about the room. They state that they are desperately looking to temporarily move to your local area. They state that they are tidy, responsible and looking to make friends in the local community. They say that they will make payments to cover rent and bills.

## What is the likelihood of you offering your spare room?

0 (Not likely at all) 100 (Extremely likely).

## **Control Vignette**

## Scenario 6:

You receive a text message from an unknown number. The text states you need to pay a customs fee for you most recent online purchase. They state that they need access to your personal details from the purchase. They state that to receive your purchase, you must pay for the customs fee and ask for your card details.

## What is the likelihood of you making this payment?

0 (Not likely at all) 100 (Extremely likely).

# **Appendix C: County Lines Education Sheet**

## What is County Lines?

County lines is a form of crime where gangs use mobile lines to form new distribution networks to sell and transport drugs from urban to rural areas. To facilitate this process, individuals are recruited to work as drug runners. Gangs often target and exploit vulnerable individuals. This includes both adults and children. Gangs can recruit members to often work the high risk, front-line roles of storing, transporting and conducting street sales to drug users. County Lines have been growing significantly over recent years.

## How do the gang members recruit others?

- As stated above, they often target vulnerable individuals.
- The gangs use tactics of grooming, exploitation and financial incentives (money, designer clothing, freebies) to recruit vulnerable individuals.
- Another form of control is known as Cuckooing; this is where gang members take over a vulnerable individual's home as a base to facilitate the drug supply.

## What risks do those involved in County Lines face?

- Arrest
- Sexual assault—for both male and female members. A common form of storing and transporting drugs is known as "plugging." This is where the drug packages are inserted into the anus or vagina.



- Physical assault—gang members often use violence to intimidate and control individuals. Individuals also risk being assaulted by the individuals purchasing the drugs.
- Mental abuse—the individuals mental health is likely to suffer as a result of the risks involved in County Lines.
- Absenteeism from school (if applicable)

#### What makes someone vulnerable to County Lines exploitation?

Psychological research suggests that there are multiple risk factors which makes an individual more likely to engage in County Line activities. These factors include: drug use, social isolation, financial instability and mental health/well-being. Although because of the novel nature of County Lines and the varying means of attracting victims, anyone is vulnerable to these crimes.

**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/ licenses/by/4.0/.

## References

- Arlinghaus, K.R., and C.A. Johnson. 2017. Advocating for behaviour change with education. *Behavioral Medicine Review* 12 (2): 113–116. https://doi.org/10.1177/1559827617745479.
- Arnold, K., and K. McDermott. 2013. Free recall enhances subsequent learning. *Psychonomic Bulletin & Review* 20 (3): 507–513. https://doi.org/10.3758/s13423-012-0370-3.
- Barter, C., and E. Renold. 1999. The use of vignettes in qualitative research. *Social Research Update* 25: 1–4.
- Bell, M. and Bell, M. (1987). Crime control: Deterrence and target hardening. Handbook on crime and delinquency prevention, pp. 45–68.
- Brewster, B., G. Robinson, B.W. Silverman, and D. Walsh. 2021. Covid-19 and child criminal exploitation in the UK: Implications of the pandemic for county lines. *Trends in Organized Crime*. https:// doi.org/10.1007/s12117-021-09442-x.
- British Psychological Society. (2021). Ethics Guidelines for Internet-mediated Research. Leicester. https://doi.org/10.53841/bpsrep.2021.rep155
- Buchan, L., and T. McMillan. 2022. Prisoner knowledge about head injury is improved by brief psychoeducation. *Brain Injury*. https://doi.org/10.1080/02699052.2022.2034187.
- Burt, A.M., L. Payne, and D.R. Stubbings. 2022. Flying under the radar: How susceptible are university students to county lines victimization? *International Journal of Offender Therapy and Comparative Criminology*. https://doi.org/10.1177/0306624X221102844.
- Chase, H.W., J.C. Fournier, M.A. Bertocci, T. Greenberg, H. Aslan, R. Stiffler, J. Lockovich, S. Graur, G. Bebko, E.E. Forbes, and M.L. Phillips. 2017. A pathway linking reward circuitry, impulsive sensation-seeking and risky decision-making in young adults: Identifying neural markers for new interventions. *Translational Psychiatry* 7 (4): 1–9. https://doi.org/10.1038/tp.2017.60.

- Chen, R., J. Gaia, and H. Rao. 2020. An examination of the effect of recent phishing encounters on phishing encounters on phishing susceptibility. *Decision Support Systems* 133: 113287. https://doi.org/10. 1016/j.dss.2020.113287.
- Cohen, J. 1992. A power primer. Psychological Bulletin 112: 155-159.
- Coliandris, G. 2015. County lines and wicked problems: exploring the need for improved policing approaches to vulnerability and early intervention. *Australasian Policing* 7: 26–35.
- Costa, P. T. and McCrae, R. R. (2008). *Neo personality inventory-revised (NEO PI-R)*. Psychological Assessment.
- Del Giudice, M., T. Booth, P. Irwing, and A. Avenanti. 2012. The distance between mars and Venus: Measuring global sex differences in personality. *PLoS ONE* 7 (1): 1–8. https://doi.org/10.1371/journ al.pone.0029265.
- Ellis, K. 2018. Contested vulnerability: A case study of girls in secure care. *Children and Youth Services Review* 88: 156–163. https://doi.org/10.1016/j.childyouth.2018.02.047.
- Esoimeme, E.E. 2020. Identifying and reducing the money laundering risks posed by individuals who have been recruited as money mules. *Journal of Money Laundering Control* 24 (1): 201–212. https://doi.org/10.1108/JMLC-05-2020-0053.
- Europol. (2016). Money Muling. https://www.europol.europa.eu/operations-services-and-innovation/public-awareness-and-prevention-guides/money-muling
- Figner, B., R.J. Mackinlay, F. Wilkening, and E.U. Weber. 2009a. Affective and deliberate processes in risky choice: Age differences in risk taking in the Columbia Card Task. J Exp Psychol Learn Mem Cog 35 (3): 709–730. https://doi.org/10.1037/10014983.
- Figner, B., R.J. Mackinlay, F. Wilkening, and E.U. Weber. 2009b. Affective and deliberative processes in risky choice: Age differences in risk taking in the Columbia card task. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 35 (3): 709–730. https://doi.org/10.1037/a0014983.
- Gardner, M., and L. Steinberg. 2005. Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: An experimental study. *Developmental Psychology* 41 (4): 625–635. https://doi.org/10.1037/00121649.41.4.625.
- Gillespie, S., A. Bailey, T. Squire, M. Carey, H. Eldridge, and A. Beech. 2018. An evaluation of a community-based psycho-educational program for users of child sexual exploitation material. *Sexual Abuse* 30 (2): 169–191. https://doi.org/10.1177/1079063216639591.
- Giolla, E., and P.J. Kajonius. 2018. Sex differences in personality are larger in gender equalcountries: Replicating and extending a surprising finding. *International Journal in Psychology* 54 (6): 705–711. https:// doi.org/10.1002/ijop.12529.
- Glover-Williams, A., and F. Finlay. 2019. County lines: How gang crime is affecting our young people. Archives of Disease in Childhood 104 (8): 730–732. https://doi.org/10.1136/archdischild-2018-315909.
- Grove, L., Farrell, G., Farrington, D. and Johnson, S. (2012). *Preventing Repeat Victimisation: A systematic review*. The Swedish National Council for Crime Prevention.
- Harding, S. (2020). County Lines: Exploitation and drug dealing among urban street gangs. Bristol University Press.
- HM Government (2016). Ending Gang Violence and Exploitation. London.
- HM Government (2021). From harm to hope: a 10-year drugs plan to cut crime and save lives. London.
- Holligan, C., R. McLean, and R. McHugh. 2020. Exploring county lines: Criminal drug distribution practices in Scotland. *Youth Justice* 20 (1–2): 50–63. https://doi.org/10.1177/1473225420902850.
- Hughes, M.E., L.J. Waite, L.C. Hawkley, and J.T. Cacioppo. 2004. A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Research on Aging* 26: 655–672. https://doi. org/10.1177/0164027504268574.
- Jagatic, T.N., N.A. Johnson, M. Jakobsson, and F. Menczer. 2007. Social phishing. Communications of the ACM 50 (10): 94–100.
- Johnson, S., T. Davies, A. Murray, P. Ditta, J. Belur, and K. Bowers. 2017. Evaluation of operation swordfish: A near-repeat target-hardening strategy. *Journal of Experimental Criminology* 13 (4): 505–525. https:// doi.org/10.1007/s11292-017-9301-7.
- Latkin, C.A., C. Edwards, M.A. Davey-Rothwell, and K.E. Tobin. 2017. The relationship between social desirability bias and self-reports of health, substance use, and social network factors among urban substance users in Baltimore, Maryland. *Addictive Behaviors* 73: 133–136. https://doi.org/10.1016/j.addbeh.2017.05.005.
- Lydecker, J.A. 2020. Parent's perceptions of parent-child interactions related to eating and body image: An experimental vignette study. *Eating Disorders* 28 (3): 272–289. https://doi.org/10.1080/10640266.2019. 1598767.



- McLean, R., Robinson, G. and Densley, J. A. (2019). County lines, criminal networks and evolving drug markets in Britain. Springer.
- McNally, M. (2020). Initiatives to tackle county lines and the associated violence and exploitation. Government Presentation. Violence and Vulnerability Unit.
- Merton, R. (1957). Social theory and social structure. (Rev. ed). Free Press.
- Moyle, L. 2019. Situating vulnerability and exploitation in street-level drug markets: cuckooing, commuting, and the "County Lines" drug supply model. *Journal of Drug Issues* 49 (4): 739–756. https://doi.org/10. 1177/0022042619861938.
- National Crime Agency. 2017. County lines violence, exploitation & drug supply 2017. London: National Crime Agency.
- National Crime Agency. 2018. County lines drug supply, vulnerability and Harm 2018. London: National Crime Agency.
- National Crime Agency. 2019. County lines drug supply, vulnerability and harm 2019. London: National Crime Agency.
- Ni Charriaghe, A. 2022. Understanding safeguarding for children and their educational experiences: A guide for students, ECTs and school support staff, 141–150. Bingley: Emerald Publishing.
- Home Office (2018). Criminal exploitation of children and vulnerable adults: County Lines guidance. London.
- Prawitz, A.D., E.T. Garman, B. Sorhaindo, B. O'Neill, J. Kim, and P. Drentea. 2006. InCharge financial distress/financial well-being scale: Development, administration, and score interpretation. *Financial Counselling and Planning* 17 (1): 34–50. https://doi.org/10.1037/t60365-000.
- Public Health England (2015). The mental health needs of gang-affiliated young people. Public Health England.
- Raza, M.S., Q. Zhan, and S. Rubab. 2020. Role of money mules in money laundering and financial crimes in a discussion through cases studies. *Journal of Financial Crime* 27 (3): 911–931. https://doi.org/10. 1108/JFC-02-2020-0028.
- Robinson, G., R. McLean, and J. Densley. 2018. Working county lines: Child criminal exploitation and illicit drug dealing in Glasgow and Merseyside. *International Journal of Offender Therapy and Comparative Criminology* 63: 694–711. https://doi.org/10.1177/0306624X1880674.
- Roediger, H., and J. Karpicke. 2006. Test-enhanced learning: Taking memory tests improves long-term retention. *Psychological Science* 17 (3): 249–255. https://doi.org/10.1111/j.1467-9280.2006.01693.x.
- Schoenberg, N., and H. Ravdal. 2000. Using vignettes in awareness and attitudinal research. *International Journal of Social Research Methodology* 3 (1): 63–74. https://doi.org/10.1080/136455700294932.
- Sheng, S., Holbrook, M., Kumaraguru, P., Cranor, L. and Downs, J. (2010). Who falls for phish? A demographic analysis of phishing susceptibility and effectiveness of interventions. In Proceedings of CHI, pp. 373–382
- Skinner, H.A. 1982. The drug abuse screening test. Addictive Behaviors 7: 363–371. https://doi.org/10.1016/ 0306-4603(82)90005-3.
- Spicer, J. 2018. 'That's their brand, their business': How police officers are interpreting County Lines. Policing and Society 29: 873–886.
- Spicer, J., L. Moyle, and R. Coomber. 2019. The variable and evolving nature of 'cuckooing' as a form of criminal exploitation in street level drug markets. *Trends in Organized Crime*. https://doi.org/10.1007/ s12117-019-09368-5.
- Stone, N. 2018. Child criminal exploitation: 'county lines', trafficking and cuckooing. *Youth Justice* 18 (3): 285–293. https://doi.org/10.1177/1473225418810833.
- Thompson, N. 2019. 'It's a no-win scenario, either the police or the gang will get you': Young people and organised crime—Vulnerable or criminal? *Youth Justice* 19 (2): 102–119. https://doi.org/10.1177/ 1473225419843353.
- Topp, C.W., S.D. Østergaard, S. Søndergaard, and P. Bech. 2015. The WHO-5 well-being index: A systematic review of the literature. *Psychotherapy and Psychosomatics* 84: 167–176. https://doi.org/10.1159/ 000376585.
- Turner, A., Belcher, L. and Pona, I. (2019). *County lines: Responding to children who are criminally exploited*. Children's society.
- Weisberg, Y.J., C.G. De Young, and J.B. Hirsh. 2011. Gender differences in personality across the ten aspects of the Big Five. *Frontiers in Psychology* 178 (2): 1–11. https://doi.org/10.3389/fpsyg.2011.00178.
- Windle, J., L. Moyle, and R. Coomber. 2020. 'Vulnerable' kids going country: Children and young people's involvement in County Lines drug dealing. *Youth Justice* 20 (1–2): 64–78. https://doi.org/10.1177/ 1473225420902840.

- Winkle, F. 1991. Police communication programmes aimed at burglary victims: A test of the near repeat hypothesis. *British Journal of Criminology* 43: 615–633.
- World Health Organisation. (1998). Wellbeing measures in primary health care/the Depcare project. WHO Regional Office for Europe.
- Wright, R.T., S. Chakraborty, A. Bagsoglu, and K. Marett. 2010. Where did they go right? Understanding the deception in phishing communications. *Group Decisions and Negotiation* 19 (4): 391–416.
- Yudko, E., O. Lozhkina, and A. Fouts. 2007. A comprehensive review of the psychometric properties of the drug abuse screening test. *Journal of Substance Abuse Treatment* 32: 189–198. https://doi.org/10. 1016/j.jsat.2006.08.00.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.