The nexus between recreational drug use and the negative societal impacts of the illicit drug trade: A comparison between the UK, Mexico, and Uruguay

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Student declaration

I, *Donia Lourdes Santos Khanegi*, confirm that the work presented in my thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signed: _____

Date: 28th October 2022

Abstract

The illicit drug trade is associated with negative societal impacts, including violence and corruption. Existing attempts to minimise these impacts include increased law enforcement efforts on drug production, trade, and use. However, drug demand remains high and the illicit drug trade is thriving. The current thesis seeks to address these negative impacts through a novel and exploratory approach, by examining drug related behaviours which are posited to help alleviate the negative impacts (reducing drug use, sourcing drugs locally, and campaigning for drug policy reform).

This research gathers data from people who use drugs recreationally (PWUD) in London, Mexico City, and Montevideo. Proximity to the negative impacts appears to influence awareness levels, as participants in Mexico City and Montevideo displayed higher awareness than those in London. However, a reluctance to change drug related behaviours was observed among all participants, indicating that awareness alone is not sufficient to change behaviours. Crime script analysis identifies cocaine purchasing and use in the UK as activities which enable the negative impacts of the drug trade to occur. Furthermore, opportunistic cocaine use presents a potential intervention point where drug use may be reduced. Consequently, the final study of this thesis investigates the factors involved in encouraging behaviour change among PWUD in the UK. Age, frequency of use, empathy level, and similarity between PWUD and drug trade victims were associated with willingness to change behaviours, more so than increased salience of the negative impacts through a video intervention. Optimistically, willingness to change drug related behaviours was mostly reported among the demographic forming the majority of PWUD globally.

Recommendations for future research include replication of these methods in various conditions to strengthen these exploratory findings. In addition, this thesis provides support for the consideration of policy reform and regulated supply of recreational drugs. Informative campaigns targeting specific audiences of PWUD may be effective in changing drug related behaviours, which, if applied widely and long term, may help to alleviate the negative impacts of the drug trade.

Impact statement

This thesis presents the first attempt, as far as I am aware, to observe a "harm to others" approach to drug use and minimising the impacts of the drug trade. Thus far, there has been no research exploring drug related behaviour changes beyond reducing drug use. I address this research gap by investigating whether increased salience of these impacts among PWUD encourages drug related behaviour changes, reducing their contribution to the impacts. The current research methodology incorporates a sequential mixed methods design which successfully gathered informative data by working deductively from focus group discussions. Future exploratory research may target research gaps using the same approach, taking the preliminary steps required for more informed research.

This thesis holds important implications for future research and practice. In particular, the findings ascertain characteristics of PWUD who may be more receptive to interventions and likely to change drug related behaviours. Younger individuals and those who use drugs less frequently were more willing to reduce their drug use, which is promising as this demographic forms the majority of PWUD. Moreover, higher empathy and a stronger sense of shared identity with drug trade victims may influence willingness to campaign for policy reform. These findings indicate a willingness to change drug related behaviours among specific audiences of PWUD, and which can inform future campaigns aiming to encourage drug related behaviour changes. Such campaigns should therefore consider and tailor precise messages to target audiences. Furthermore, the informative and response-evoking intervention videos used in this thesis were effective in raising awareness and salience of the negative impacts. Similar videos may be used in future research, applying noticeable and memorable imagery or information to raise salience of different topics. Lastly, unlike previous crime script analysis studies, the current research identified consequences associated with drug trade activities. In this context, consequences comprised the negative societal impacts, such as violence associated with drug trafficking. This helps to locate intervention points where the negative impacts may be alleviated. For example, by reducing enabling activities like purchasing drugs from the illicit market. This extension to crime script analysis may be applied to other research areas, and the examination of consequences is not limited to negative societal impacts.

In sum, the findings from this thesis may guide future research and practical approaches to drug policy and drug related behavioural interventions. Importantly, this thesis presents an argument for drug policy reform in the UK, emphasising the potential benefits of a regulated supply of illicit drugs like cannabis. At the very least, future practices should consider raising awareness of ethical sources of cannabis rather than solely promoting abstinence. Such reforms, which are increasingly supported within the literature, may help to reduce the negative societal impacts of the illicit drug trade.

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Table of Contents

Student declaration **2**
Abstract **3**
Impact statement **4**
Acknowledgements **5**
Table of Contents **6**
List of Tables **8**
List of Figures **10**
Chapter 1. Introduction **11**
1.1 Research aims 13
1.2 Thesis outline 13
Chapter 2. The illicit drug trade and recreational drug related behaviours **15**
2.1 Introduction 15
2.2 Drug use 15
2.3 Drug policy 19
2.4 Negative societal impacts of the illicit drug trade 24
2.5 Why do people use drugs? 28
2.6 How to change recreational drug related behaviours? 31
2.7 The nexus 37
2.8 Conclusion 44
2.9 Research questions and hypotheses 44
Chapter 3. Research framework **46**
3.1 Introduction 46
3.2 Data sample 46
3.3 Data collection 48
Chapter 4. Exploring drug related behaviours in London, Mexico City, and Montevideo **52**
4.1 Introduction 52
4.2 Methods of measuring drug use 52
4.3 Data and methods 55
4.4 Results 61
4.5 Discussion 84
4.6 Limitations 89
4.7 Conclusion 90

Chapter 5. Assessing drug related behaviours and awareness of the negative societal impacts of the drug trade **92**
5.1 Introduction 92
5.2 Research rationale 92
5.3 Data and methods 94
5.4 Results 100
5.5 Discussion 110
5.6 Limitations 116
5.7 Conclusion 117
Chapter 6. A crime script of the illicit cocaine drug trade from South America to the UK **119**
6.1 Introduction 119
6.2 Crime script literature 119
6.3 Methods 122
6.4 Crime script 125
6.5 Discussion 131
6.6 Limitations 135
6.7 Conclusion 135
Chapter 7. Investigating the likelihood of drug related behaviour changes following awareness campaigns **137**
7.1 Introduction 137
7.2 Changing drug related behaviours 137
7.3 Data and methods 139
7.4 Results 150
7.5 Discussion 155
7.6 Limitations 160
7.7 Conclusion 162
Chapter 8. Discussion and Conclusion **163**
8.1 Main findings 163
8.2 Limitations 165
8.3 Contributions to the literature 168
8.4 Implications for policy and practice 172
8.5 Future research 175
8.6 Conclusion 177
References **178**
Appendices **199**

List of Tables

Table 1. *Factors required to encourage pro-environmental behaviour* 40
Table 2. *Focus group participant sociodemographic information* 57
Table 3. *Focus group discussion topics and example questions* 59
Table 4. *References to themes in each focus group* 61
Table 5. *"Reasons for drug use" sub-themes and definitions* 64
Table 6. *References to reasons for drug use in each focus group* 65
Table 7. *Drug types and number of references in each focus group* 66
Table 8. *"Sources of drugs" sub-themes and definitions* 72
Table 9. *List of drug sources and number of references in each focus group* 73
Table 10. *"Negative societal impacts" sub-theme definitions* 75
Table 11. *References to "negative societal impacts" sub-themes in each focus group* 76
Table 12. *References indicating awareness of the negative impacts in each focus group* 79
Table 13. *References to the "nexus" in each focus group* 81
Table 14. *Gender and age distribution of survey participants* 96
Table 15. *Distribution of participants into clusters to determine formation of nexus* 99
Table 16. *Descriptive statistics "Have you ever sought drugs from ethical sources?"* 100
Table 17. *Kruskal-Wallis test for city of residence against frequency of ethically sourced drugs* 101
Table 18. *Mann-Whitney test comparing frequency of seeking ethically sourced drugs in London and Mexico City* 101
Table 19. *Mann-Whitney test comparing frequency of seeking ethically sourced drugs in London and Montevideo* 101
Table 20. *Descriptive statistics "Have you ever campaigned for drug policy reform?"* 102
Table 21. *Kruskal-Wallis test for city of residence against frequency of campaigning for drug policy reform* 102
Table 22. *Mann-Whitney test comparing frequency of campaigning for drug policy reform in Montevideo and London* 102
Table 23. *Mann-Whitney test comparing frequency of campaigning for drug policy reform in Montevideo and Mexico City* 102
Table 24. *Descriptive statistics "What contribution does recreational cannabis purchase and use have on the following negative impacts?"* 103
Table 25. *Kruskal-Wallis test for city of residence against opinions on the contribution of recreational cannabis use to specific negative impacts* 103
Table 26. *Mann-Whitney test for opinions on the contribution of cannabis use on violence and homicides in London and Mexico City* 104
Table 27. *Mann-Whitney test for opinions on the contribution of cannabis use on violence and homicides in London and Montevideo* 104
Table 28. *Mann-Whitney test for opinions on the contribution of cannabis use on violence and homicides in Mexico City and Montevideo* 104
Table 29. *Descriptive statistics "What contribution does recreational cocaine purchase and use have on the following negative impacts?"* 104
Table 30. *Kruskal-Wallis test for city of residence against opinions on the contribution of recreational cocaine use on specific negative impacts* 105
Table 31. *Reported frequency of drug use among all participants in the last 12 months* 105

Table 32. *Descriptive statistics "Have you ever sought drugs from ethical sources?"* 106
Table 33. *Spearman's rho correlation between frequency of drug use and frequency of seeking ethically sourced drugs* 106
Table 34. *Descriptive statistics "Have you ever engaged in protests/campaigns supporting drug policy reform?"* 106
Table 35. *Spearman's rho correlation between frequency of drug use and frequency of campaigning for drug policy reform* 107
Table 36. *Frequent vs infrequent PWUD responses to "How does cannabis use contribute to the following negative impacts?"* 107
Table 37. *Spearman's rho correlation between frequency of drug use and opinions on the impact of recreational cannabis use* 107
Table 38. *Frequent vs infrequent PWUD responses to "How does cocaine use contribute to the following negative impacts?"* 108
Table 39. *Spearman's rho correlation between frequency of drug use and opinions on the impact of recreational cocaine use* 108
Table 40. *Descriptive statistics for willingness to change drug related behaviours* 109
Table 41. *Spearman's rho correlation between nexus formation and willingness to change drug related behaviours* 109
Table 42. *Spearman's rho correlation between empathy score and willingness to change drug related behaviours* 110
Table 43. *Template for organising crime script information* 120
Table 44. *Crime script template* 123
Table 45. *Negative societal impacts associated with cocaine trafficking* 132
Table 46. *Summary of experiment group conditions* 140
Table 47. *Gender and age distribution of experiment participants* 145
Table 48. *Frequency of participant drug use in the last year* 146
Table 49. *ANOVA test for experiment group and frequency of drug use* 146
Table 50. *Path model variables used to test H3, H4, and H5* 148
Table 51. *Spearman's rho correlation coefficients for manifest variables* 150
Table 52. *Spearman's rho correlation coefficients for predictor and control variables* 150
Table 53. *Crosstabulation for frequency of use and awareness of negative impacts* 151
Table 54. *Chi-Square analysis for frequency of use and awareness of negative impacts* 151
Table 55. *Descriptive statistics for likelihood of reducing drug use among PWUD* 151
Table 56. *Descriptive statistics for likelihood of using locally grown over imported cannabis among PWUD* 151
Table 57. *Descriptive statistics for likelihood of actively campaigning among PWUD* 152
Table 58. *Covariances of exogenous variables in model* 152
Table 59. *Path model fit measures* 153
Table 60. *Path analysis regressions for the three outcome variables* 154
Table 61. *ANOVA results for experiment group and likelihood of behaviour change* 154
Table 62. *Tukey post hoc test results following ANOVA (only significant values presented)* 155
Table 63. *Tests of normality for variables used in chapter 5 analyses* 199
Table 64. *Key search terms used to identify documents for crime script analysis* 202

List of Figures

Figure 1. *Model of attitude change and behavioural change through communication* 39
Figure 2. *The process of drug related behaviour changes and expected outcomes* 43
Figure 3. *Document analysis process* 124
Figure 4. *Crime script of the illicit cocaine drug trade* 127
Figure 5. *Measurement model of manifest variables and latent variable* 149
Figure 6. *Path analysis regression coefficients* 153
Figure 7. *Moderation regression model showing coefficients between variables* 155
Figure 8. *Diagram showing the combined results of the experiment analysis* 160
Figure 9. *Histograms of data for variables used in chapter 5 analyses* 200
Figure 10. *Dendrogram showing cluster analysis output identifying nexus formation (chapter 5)* 201

Chapter 1. Introduction

The use of recreational drugs is illegal in most countries. Despite restrictions placed on drug supply and use, demand for drugs has not decreased (United Nations Office on Drugs and Crime (UNODC), 2021). Attempts to control drug use through the "war on drugs" approach have consequently resulted in suppressed criminality and a lucrative illegal market (Polomarkakis, 2017). In addition, the unregulated market through which illicit drugs are produced, trafficked, and sold has contributed to numerous issues that negatively impact society (Singer, 2008). These negative impacts include violence and homicides, exploitation, coerced labour and trafficking, corruption, youth involvement in the drug trade, and increased fear of crime and insecurity. Poorer regions with weaker state institutions are particularly vulnerable to these impacts where illicit drug production and trafficking are prevalent (Garzón-Vergara, 2016).

Currently, most governments have attempted to tackle the negative impacts of the drug trade through increased law enforcement and imposed penalties or restrictions on activities relating to production, trade, and use. Despite these attempts, the illegal market is thriving (Bergman, 2018a), drug demand is high (UNODC, 2021), and the negative societal impacts are multiplying (Rolles et al., 2016). Prohibition efforts are therefore ineffective in reducing both drug use and the negative societal impacts of the illicit drug trade. Policy reforms such as drug decriminalisation and legalisation have been proposed to counteract the negative impacts associated with prohibition (Dalgarno et al., 2021), proving successful to some extent in countries such as Portugal (Drug Policy Alliance, 2015; Hughes & Stevens, 2010) and Uruguay (Cruz et al., 2016; Instituto de Regulación y Control del Cannabis, 2018).

The universal common denominator concerning the negative impacts of the drug trade is the final stage of the process – drug demand – as drugs are consumed worldwide (UNODC, 2021). To date, limited research exists investigating the extent to which people who use drugs recreationally (PWUD) are aware of the negative societal impacts of the illicit drug trade, and if awareness influences their drug related behaviours. Awareness, defined as knowledge or perception of a situation or fact (Oxford Languages, n.d.), is a useful concept. However, in relation to drug related behaviours and the negative societal impacts of the illicit drug trade, this research also studies the concept of salience. Salience refers to the ability to connect with what is happening, identify what is important, and what is particularly noticeable (Cambridge University Press, n.d.). To address salience, the current research examines the nexus between recreational drug use and the negative societal impacts of the illicit drug trade. That is, the conscious connection between personal drug use and the indirect contribution to the negative impacts. The term "nexus" in this context refers to a connection that has an impact on behaviour. It is therefore hypothesised that increased salience and subsequent formation of the drugs nexus will

bring about behaviour change. The behaviours of focus include reduced frequency of drug use, ethical sourcing of drugs, and actively supporting drug policy reform. These behaviours, applied widely and long term, are postulated to help alleviate the negative impacts of the illicit drug trade.

Through primary data, this thesis identifies existing levels of awareness of the negative impacts of the drug trade among PWUD and whether a nexus can be formed through increased salience. Additionally, this research provides insights into the conditions required to encourage drug related behaviour changes through informative campaigns about the negative societal impacts of the illicit drug trade. Many aspects of this research are exploratory, so applications within other disciplines such as pro-environmental behaviour and alcohol misuse are used as comparisons, where a similar nexus has been established (Kollmuss & Agyeman, 2002; Wakefield et al., 2010). Although the current research will not influence the large-scale negative impacts of the drug trade, this thesis offers preliminary and essential insights about the awareness of PWUD to these negative impacts, how to establish the drugs nexus, and whether these efforts are likely to influence drug related behaviours.

The negative societal impacts are most prevalent in countries where drugs are produced and trafficked. For example, Mexico is a major trafficking route for cocaine from Colombia to the United States (Castillo et al., 2014). Consequently, homicide rates in Mexico were over four times the global average in 2017, with most of these homicides associated with the illicit drug trade and subsequent organised crime (UNODC, 2019). Public awareness of the negative societal impacts of the drug trade is expected to be higher in countries such as Mexico because of increased exposure. This thesis compares data from PWUD in three countries: the United Kingdom, Mexico, and Uruguay. Broadly speaking, Latin American countries are relevant for comparison in this research for several reasons. Supply of illicit drugs in this region is high, demand is relatively low, and the cost of labour is far lower than in other regions. Furthermore, the cost of drug trafficking is reduced by a lower likelihood of detection, severity of sanctions, and corruption within the criminal justice system (Bergman, 2018b). Drug trafficking is easier in these countries and thus occurs more frequently, so the negative impacts examined in this thesis are more prevalent. The UK is included in this research because of high rates of drug use (Office for National Statistics (ONS), 2020) and low involvement in drug production and trafficking compared with other regions (UNODC, 2021). Paired with the convenience of data collection in this country, these factors make the UK an insightful comparison to Mexico and Uruguay.

This research involves a combination of techniques for gathering and analysing data, presented in four empirical chapters. Firstly, focus groups and surveys were conducted to explore drug related behaviours and opinions from PWUD in each of the three countries. These data qualitatively and quantitatively ascertained awareness levels of the negative societal impacts of the drug trade, and whether participants were likely to have

formed the drugs nexus. Additionally, crime script analysis was applied to detect relevant stages of the process from cocaine production in South America to international trafficking and consumer behaviour in the UK. Notably, the crime script details where cocaine arriving at large consumer countries like the UK has originated, and the trail of negative societal impacts occurring at each stage. This enables the identification of intervention points at the later stages of the script relating to decision-making around recreational drug related behaviours. Finally, an experiment was conducted to test the effect of an intervention on willingness to change drug related behaviours among PWUD in the UK. The intervention aimed to increase awareness and salience of violence within the illicit drug trade, and ways in which this violence may be minimised.

1.1 Research aims

By applying the methods outlined in the previous section, this thesis firstly aims to explore awareness of the negative societal impacts of the illicit drug trade among PWUD in the UK, Mexico, and Uruguay. The second aim is to assess the extent to which a nexus has been formed between recreational drug use and the negative societal impacts of the illicit drug trade. The final aim is to offer preliminary findings on the effect of increased salience and formation of the drugs nexus on willingness to change drug related behaviours among PWUD in the UK.

1.2 Thesis outline

To address the research aims, this thesis begins with a review of the relevant literature in chapter 2, highlighting the resulting research questions and hypotheses. Chapter 2 outlines information pertaining to rates of drug use, existing drug policy, and the negative societal impacts of the illicit drug trade. Literature on why people use drugs and how behaviour change may be encouraged is then discussed, with examples of applications from disciplines where a similar nexus has been established. Chapter 3 presents the research framework containing a brief overview of the methodology applied within each of the empirical chapters. Chapter 4 presents focus group data from the capital cities of each of the three countries examined in this research. This chapter concludes that most PWUD displayed low salience and a lack of willingness to change behaviours despite high awareness levels, suggesting that salience may need to be increased to bring about behaviour change.

Chapter 5 includes the survey data gathered from the three cities. As predicted, analysis of this data revealed higher awareness of the negative impacts among Latin American participants as compared with British participants. Participant awareness levels, however, were not shown to correlate with drug related behaviours, supporting the chapter 4 findings. Nonetheless, the survey data suggested that PWUD who have already begun to engage in positive drug related behaviour changes were more willing to adopt

additional behaviour changes. Chapter 6 incorporates the data gathered from chapters 4 and 5 by presenting a crime script of the stages involved in the cocaine drug trade from cultivation in South America to final drug use in the UK. This was populated using existing literature and data on PWUD decision-making gathered from previous chapters. The crime script highlighted several direct, enabling, and fuelled consequences associated with cocaine drug trade activity. Additionally, opportunistic cocaine use was identified, which presents a point of intervention for potential behaviour change through informative campaigns. Identification of key negative impacts and intervention points in the crime script were helpful when designing the experiment in chapter 7 of this thesis.

Accordingly, chapter 7 presents the final empirical section of this thesis, which includes the results of the experiment conducted among PWUD in the UK. This study builds upon the findings of chapters 5 and 6, measuring the impact of formation of the nexus on willingness to change drug related behaviours. The findings indicate that non-random participant characteristics were more influential than increased salience through the video intervention. Participants of certain demographics were more willing to engage in specific drug related behaviour changes, irrespective of the intervention video shown to them. This demographic, comprising young people who use drugs infrequently, forms the majority of PWUD worldwide, which suggests that similar campaigns may be effective in addressing a large, targeted audience. Lastly, this thesis concludes with the overall discussion and conclusion in chapter 8, highlighting the implications for policy and practice and recommendations for future research.

Chapter 2. The illicit drug trade and recreational drug related behaviours

2.1 Introduction

In this chapter, I examine topics relevant to this thesis from the fields of crime science and psychology. Firstly, trends in drug use are summarised. Drug policy specific to the UK, Mexico, and Uruguay are included along with details of each countries level of involvement in the illicit drug trade. The negative societal impacts associated with existing drug policy and the ensuing illicit drug trade are outlined, highlighting the need for the current research.[1] I then consider decision-making in the context of drug related behaviours, addressing why people use drugs and how to change drug related behaviours. The current research methodology borrows from other disciplines where the successful formation of a similar nexus has resulted in behaviour change. I draw upon these examples to highlight the gap in the literature regarding the nexus between recreational drug use and the negative societal impacts of the illicit drug trade. Applications from other disciplines help to develop the current research methodology and identify important factors involved in establishing the nexus. Lastly, the current research questions and hypotheses are presented.

2.2 Drug use

For purposes of this research, "illicit drugs" refer to psychoactive substances considered illegal in the UK. Legal drugs such as prescribed medicinal drugs, alcohol, tobacco, and caffeine are excluded under this definition. Examples of illicit drugs include cannabis, cocaine, and ecstasy, among others. The current research involves three countries where drug policy differs, thus for simplicity and comparison between countries, this single definition is applied to all. For instance, cannabis is legalised in Uruguay, although it is considered an illicit drug in the context of the current research even with reference to data collected from Uruguay.

When illicit drugs are smoked, injected, inhaled, or ingested, they can result in a "high". These substances are used primarily for the rewarding physiological effects that they induce. The effect varies depending on the drug type, quantity taken, and individual circumstances of the person using the drug. Illicit drugs can be categorised into

[1] "Negative societal impacts" are those resulting from illicit drug trade activity. These activities include drug cultivation, production, trafficking, distribution, and other organised crime activities fuelled by the drug trade. Examples of negative societal impacts are discussed in section 2.4 and occur as a direct result of the illicit drug trade and indirect result of drug policy. The negative impacts examined in this research do not refer to those directly affecting PWUD, but those that impact society more broadly.

stimulants, depressants, narcotics (pain relievers), or hallucinogens based on their effect on the brain (Houck & Siegel, 2015). Regulation of these substances by governments is intended to reduce use and thus harm, through prohibiting the production, distribution, possession, and use of certain substances. Of these controlled substances, cannabis is the most widely used globally, followed by non-medical opioids,[2] amphetamines,[3] and cocaine (UNODC, 2021). In Europe, cannabis is the most commonly used drug, followed by cocaine (European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), 2021). The World Drug Report (2021) states that men are three times more likely than women to use drugs, specifically cannabis, cocaine, or amphetamines. In addition, younger people are more likely than older people to use illicit drugs. Adolescence is the critical risk period for drug use initiation and drug use prevalence is highest among young people aged 18-25. Importantly, PWUD do not comprise the stereotypical group of rebellious adolescents (Measham et al., 1998). Illicit drug use is also occurring among middle-class and middle-aged individuals, particularly where cocaine is concerned (Tabary, 2017).

Drug policy, namely the prohibition of drugs, gave rise to the illicit drug market. Governments reduced the supply of drugs by enforcing legal penalties on activities associated with drug production, trafficking, and distribution. However, prohibition alone was not deterrent enough to reduce demand. The World Drug Report (2021) estimates 5.5% of the entire population aged 15-64 had used illicit drugs at least once in the year 2019. Demand for drugs and rates of use remain high worldwide and are expected to rise as the general population increases, proving prohibition to be ineffective. Where demand of a product remains high and supply low, there is great potential for financial profits. The enormously successful illicit drug trade is evidence of this (Rolles et al., 2016). Furthermore, increased law enforcement efforts are used to tackle the criminality associated with the drug trade, which results in a cyclical process that fails to fulfil the initial purpose of reducing use. Law enforcement efforts aside, the illicit drug trade is now associated with high levels of criminality far worse than drug use. It is therefore imperative to address the impacts associated with the illicit drug trade from a new perspective, which is a key aim of the current thesis.

2.2.1 Recreational versus dependent use

In this section, I discuss the two types of drug use and prevalence of both. This helps to identify drug related behaviours associated with the majority of PWUD and informs the target population for the current research. Firstly, certain types of illicit drugs such as cannabis are less physically addictive (Zehra et al., 2018), compared with more addictive illicit drugs like heroin (Smith & Fitchett, 2002). Drug use can be categorised into two different types: recreational and dependent. Individuals using drugs recreationally are

[2] Opioids are members of the narcotics family, such as codeine, fentanyl, and morphine.
[3] Amphetamines are stimulant drugs, such as methamphetamine.

not physically dependent on drug use and continue to use drugs because they want to, not because they need to. This may be occasional or regular use, but does not include the misuse of drugs (Nicholson et al., 2002). In comparison, PWUD dependently are addicted to drugs and struggle to function without them (Maisto et al., 2014). These individuals develop an increased tolerance to drugs and thus use drugs more frequently and in higher quantities.[4] Such use is compulsive, often with no control over the amount of drugs consumed (Kenny, 2006).

There is no single definition of dependent drug use as it cannot simply be measured by quantity or frequency. Nor is there a single definition of typical recreational drug use as contexts of drug use vary widely (Dalgarno & Shewan, 2005). It may be more appropriate to distinguish between the two types through the contexts of and reasons behind use (Edwards, 2016). For example, someone who uses drugs recreationally is likely to only use drugs socially or at certain events. These individuals will display control over their drug use and may view intoxication as a means to achieve other things, not as a goal in itself (Järvinen & Ravn, 2011). Contrastingly, dependent drug use may be impulsive and for the sole purpose of craving for the drug (Ersche et al., 2013). Dependency may be evident by any form of harm resulting from drug use, even unintended, on PWUD or those around them. However, for simplicity within the current research, dependent use is operationalised as high frequencies of drug use in non-social contexts.

The current research focuses on recreational drug use as these individuals have the capacity to rationally consider their drug related behaviours. The lack of impulse and need for drugs allows PWUD recreationally to consider the negative impacts of the illicit drug trade, and their personal contribution. Consequently, these individuals will likely be more able and willing to change their drug related behaviours. Those who engage in dependent drug use experience a physical need for drugs that may interfere with normal daily functioning, for example, upholding a job. The urge to use drugs will likely override any salience of the negative societal impacts of the illicit drug trade, and therefore reduce the likelihood of behaviour change. The World Drug Report (2021) states that just 13.0% of people who used drugs in 2019 suffered from drug use disorders, i.e., dependent use and/or requiring treatment. Recreational use therefore forms the overwhelming majority of global drug use, meaning that targeting these individuals for the current research has greater potential to influence drug related behaviours on a large scale.

2.2.2 Cannabis

In the following two sections, I explain why I examine two specific illicit drugs within this thesis. It is sensical to focus on cannabis as this is the most widely used drug globally. In 2019, 4.0% of the entire population had used cannabis (UNODC, 2021). Worldwide,

[4] Increased tolerance to a substance means that one requires larger doses of the drug to achieve the same high.

PWUD are more likely to use cannabis than other drugs. This means that when comparing PWUD from different countries, cannabis is a valuable and generalisable comparison. Not only this, but cannabis also has the most varied legislation of recreational drugs across the world. The data produced from this thesis can infer the influence of different drug policies on drug related behaviours and opinions. Given the more tolerant attitude towards cannabis legislation compared with other illicit substances, potential interventions and policy recommendations are likely to be better received for cannabis. Although cannabis is considered an illicit drug, it has been legalised in some countries for medical use. Other countries have gone further to decriminalise or legalise cannabis for recreational use, meaning that people may purchase, grow, possess, or use the drug without legal penalty. Definitions and examples of cannabis legislation are provided later in section 2.3 of this chapter.

Despite a decline in cannabis seizures, the World Drug Report (2021) indicates an increase in cannabis trafficking since 2015. Cannabis can be cultivated in several forms, mainly herb, resin, and hash oil. It is difficult to estimate the global area of cannabis cultivation in the same way as other plant-based drugs like cocaine and opium, as cannabis production is not limited to specific regions. Cannabis is produced in almost all countries. It can be cultivated outdoors as well as indoors under controlled conditions, and while indoor cultivation is less common, it is increasing particularly in Europe. Seizures of cannabis herb suggest that trafficking is intra-regional. Therefore, cannabis herb used in the UK is likely to originate in other countries in Europe, particularly the Netherlands, Spain, and Albania. Globally, the region reporting the largest seizures of cannabis herb in 2019 was the Americas (UNODC, 2021).[5] Cannabis resin, however, is more geographically concentrated than herb and mainly originates in Morocco and Afghanistan.

2.2.3 Cocaine

Cocaine is the second illicit drug that is examined in this thesis and another commonly consumed substance. In Europe, cocaine is the second most commonly used drug, with 1.2% of people aged 15-64 using cocaine in 2019 (EMCDDA, 2021). Worldwide, an estimated 0.4% of the population had used cocaine in the same year (UNODC, 2021). Furthermore, the cocaine cultivation and trafficking process is well documented in the literature (Bergman, 2018a; Calderoni, 2012; Keefer & Loayza, 2010; Kenney, 2007). It is also one of the drugs most associated with the negative societal impacts that the current research investigates. Thus, it is appropriate for comparison in this research and potentially suitable for examination using crime script analysis.

Cocaine can be traced to coca bush cultivation in the Andean region of South America, specifically Colombia, Peru, and Bolivia. Coca bush cultivation is limited to these three

[5] Namely the United States, Paraguay, Brazil, Colombia, and Mexico.

countries, making the cocaine trafficking route to other regions quite intuitive. Colombia contributes to two thirds of global coca bush cultivation, followed by Peru and lastly Bolivia. Despite a decrease in coca bush cultivation in 2019 for the first time since 2013, output levels of global cocaine are at a record high, suggesting a more efficient supply chain (UNODC, 2021). Cocaine takes several forms before manufacture of the final product, such as coca paste and cocaine base. Although most of the cocaine trafficked globally is in the final product form, there is an emerging trend in trafficking of intermediary cocaine products, indicating that the final stages of cocaine manufacturing are increasingly occurring outside cultivation countries (Rainsford & Ford, 2022). Cocaine-manufacturing laboratories have been discovered in the United States, Brazil, Panama, and European countries such as Belgium and the Netherlands (UNODC, 2021).

Much of the cocaine produced in the Andean countries is trafficked to the US via central American and Caribbean routes, mostly intended for the domestic market. The next largest trafficking flow is to Western and Central Europe, where cocaine seizures largely occur at sea or in seaports. Belgium is an important destination port for cocaine trafficking, accounting for 28.0% of all cocaine seizures in Europe in 2019 (UNODC, 2021). From Belgium, the cocaine would be trafficked to criminal organisations in the Netherlands and then distributed across Europe (Eventon & Bewley-Taylor, 2016). Generally, cocaine arriving at European countries originates mostly in Colombia (68.0%), then Peru (19.0%), and much less so in Bolivia (4.0%) (UNODC, 2021). The patterns in cocaine seizures indicate transnational connections between large criminal organisations. As a result of more efficient cocaine flows, availability and use have increased in Europe, particularly in the UK (UNODC, 2021).

Cocaine production, trafficking, distribution, possession, and use is prohibited and legally punishable in most countries worldwide. In Colombia, Peru, and Bolivia, coca plant cultivation is legal. A larger number of countries have decriminalised cocaine, so PWUD are not legally penalised for possessing small amounts intended for personal use or being under the influence of cocaine. Drug legislation is discussed further in the following section.

2.3 Drug policy

In this section, I consider the most prevalent approaches to drug policy and examine the effectiveness of each. Drug policy varies between countries and even states within the same country, such as the US and Australia. Assessing the existing methods used by governments to reduce drug production, use, and the associated negative impacts helps to ascertain where new approaches may be necessary and beneficial to the negative impacts examined in this thesis.

2.3.1 Criminalisation of drugs

The most significant and widespread view on drugs has been that they are "bad" and therefore drug use should be prevented. Governments attempt to control supply and demand by criminalising processes associated with drugs, from cultivation to use. This approach is justified by the possible risks associated with drug use. It is true that drugs cost lives. Half a million people died from drug misuse in 2019 and millions more experience drug dependency (UNODC, 2021). The World Drug Report (2021) suggests that while drug potency is increasing, PWUD do not see drug use as harmful and rates of use continue to rise. Additionally, new synthetic psychoactive substances are emerging with high potency levels, posing health and social threats (EMCDDA, 2021). The main threats of drug use are misuse leading to overdose or dependence, negative reactions to intoxication such as panic attacks, and because of criminalisation, legal penalty (DrugWise, 2017).

Prohibition policy and subsequent drug law enforcement has been labelled the "war on drugs". This gave rise to two markets: the legal drug market producing drugs for medicinal purposes and the illicit drug market (Rolles et al., 2016). Current rates of drug use reveal that prohibiting substances does not reduce demand (UNODC, 2021). Where there is demand for a product, criminals see opportunities to provide and will profit from it (Bergman, 2018b; Rolles et al., 2016). Thus, the illicit drug trade has thrived since the criminalisation of drugs as it has become the only source of certain illicit substances. Whilst I do not deny the presence of issues associated with drug misuse, I argue within this thesis that prohibition exacerbates some of the risks associated with drugs. Additionally, criminalisation has created an array of new and unnecessary problems that stem from the illicit drug trade (Fischer et al., 2020).

There are several arguments against drug law enforcement such as its costly nature on the criminal justice system and contribution to the negative impacts caused by the illicit drug trade (Jensen et al., 2004; Rolles et al., 2016). Indeed, increased law enforcement in areas of high demand for drugs produces higher profits for drug dealers, resulting in more incentives for production and trafficking (Bergman, 2018a). Research suggests that legal penalties may be less effective in countries like the UK where drug dealing is more fragmented, with a diverse set of enterprises rather than large-scale organisations (Black, 2020; Dorn & South, 1990). Prohibition can result in a substantial increase in supply of illicit drugs but only a comparatively small decrease in demand, suggesting that prohibition is ineffective in disrupting drug use (Miron & Zwiebel, 1995). Furthermore, increased law enforcement likely contributes to the violence observed within the drug market. Enforcement reduces the scope for criminals to avoid the law which means that they resort to violence more frequently when dealing with conflicts (Miron, 2001; Reuter, 2009; Snyder & Duran-Martinez, 2009). Significant associations between drug law enforcement and drug market violence have been observed, particularly gun violence and homicide rates (Michaelsen & Salardi, 2020; Werb et al., 2011).

Drug prohibition contributes to accidental poisonings and overdose due to uncertainty of product quality (Miron & Zwiebel, 1995; Rolles et al., 2016). Similarly, prohibition has contributed to the spread of public health problems such as infectious diseases as a result of unregulated drug distribution (Rolles, 2010). Instead of prohibiting drug use, researchers argue that drug markets should be regulated as the war on drugs has been proven destructive and counterproductive (Polomarkakis, 2017a; Rolles et al., 2016). This position in favour of regulating drug markets is receiving increasing support from major national and international institutions (Dalgarno et al., 2021).

2.3.2 Decriminalisation and legalisation

As discussed in the previous section, criminalisation is evidently not a solution to the negative impacts associated with drug use and trade. In this section, I discuss alternatives to the war on drugs approach and assess their effectiveness. Alternative policies include decriminalisation and legalisation, often combined with other programmes. Decriminalisation involves removing or loosening penalties for drug use and possession, while the production and sale of drugs remain illegal. Legalisation additionally removes all laws against drug use whilst regulating the drug market (Snapp & Valderrábano, 2020). These policies involve restrictions on drug use such as age and quantity (Rolles, 2009), but aim to reduce the negative impacts of prohibition. Mexico, for example, has attempted to reduce the burden on the criminal justice system through decriminalisation (Russoniello, 2012; Scheim et al., 2020). However, limited research into the effectiveness of this reform thus far reveals little influence on drug possession or violent crime arrests (Arredondo et al., 2018), and few people receiving relevant treatment for drug dependence (Werb et al., 2014).

Where health issues are a concern, decriminalisation of drugs may prevent the spread of drug-related deaths and illnesses through unregulated illicit drug use. Portugal first decriminalised all illicit drugs in 2001 with the aim of combating the public health crisis occurring because of drug misuse (Vale de Andrade & Carapinha, 2010). Activities relating to drug demand were decriminalised, i.e., acquiring, possessing, and consuming illicit drugs (Laqueur, 2015). Drug decriminalisation, combined with investments in treatment and harm reduction services, has proven successful (Drug Policy Alliance, 2015). In this instance, PWUD are directed towards treatment programmes instead of receiving legal penalties. Despite a small but anticipated rise in illicit drug use among adults, Portugal has observed reduced problem use and adolescent use (EMCDDA, 2019), as well as reduced drug-related deaths and infectious diseases (Hughes & Stevens, 2010).

If the illicit drug trade is a primary concern, then legalisation and subsequent regulation may reduce consumer demand within the illicit market. Uruguay legalised cannabis in 2013 to combat the illicit drug trade and in 2017, licensed dispensaries began selling cannabis in limited quantities (Mercadante, 2018). These reforms are relatively new and the full impact on the illicit drug trade has yet to be observed (Leung et al., 2019).

Nevertheless, there is debate around the potential of the law reform to achieve its aims of disrupting the drug market as only one illicit drug is affected (Graham, 2015). In addition, two-thirds of frequent users in Uruguay reported sourcing cannabis illegally, highlighting the need to investigate why the illicit market is still favourable over legal sources (Boidi et al., 2016; Queirolo, 2020).

Research examining the impact of cannabis legalisation has revealed varying findings. A general increase in cannabis use has been observed (Gouron et al., 2020; Kim et al., 2021), although one study found no change in adolescent use prevalence (Midgette & Reuter, 2020). Additional studies revealed no significant long term effects on violent crime (Lu et al., 2021) or adverse consequences of cannabis use (Dills et al., 2016). Evidently, drug policy reforms such as decriminalisation and legalisation and their impacts are complex with a wide range of influencing factors. The present discourse is shifting from whether reform should occur at all to how it can effectively be implemented (Obradovic, 2021), as different approaches to legal market regulation have varying outcomes (Hammond et al., 2020). However, there is hope of legalisation impacting the illicit drug trade, as research suggests that the markets for different drugs beyond cannabis are not independent of the law reform (Meinhofer & Rubli, 2021).

2.3.3 Enforcing legislation through education

In addition to drug policy, I examine education campaigns aimed at enforcing legislation through raising awareness and understanding of drug use. This section therefore outlines another approach to reducing drug use and trade, which is important in evaluating existing methods of combating the negative impacts. Education programmes intending to prevent drug use among adolescents have been adopted in many countries, but the effectiveness of these programmes varies. In the UK, research suggests that less specific, community focused, and long term life-skills programmes are more effective than school-based interventions in preventing drug use (Cuijpers, 2002; Lloyd et al., 2000). The Drug Abuse Resistance Education programme (D.A.R.E)[6] implemented in the US originally aimed to prevent substance use among school children. Evaluations of D.A.R.E.'s early approach suggest that it was largely unsuccessful in long term reduction of drug use (Clayton et al., 1996; Pan & Bai, 2009; West & O'Neal, 2004). However, the programme has since proven more successful following a shift in focus to building students' communication and decision-making skills, based on the belief that these skills reduce the likelihood to perform high-risk behaviours (Nordrum, 2014).

Although many education campaigns exist that are designed to increase awareness of the direct impacts of drug use and misuse on PWUD, there are limited interventions that aim to increase awareness of the impacts of the illicit drug trade on society. One example of

[6] https://www.dare.org/

the latter is the CrimeStoppers online campaign targeting "county lines" trafficking,[7] placing emphasis on the victims (CrimeStoppers, n.d.). The purpose of this campaign was to increase awareness of the harm inflicted on young and vulnerable people through "county lines" drug trafficking and inform the public of how to identify potential victims. The CrimeStoppers website provides much of this information as well as an anonymous form for members of the public to submit relevant information. However, there is currently no empirical research assessing the effectiveness of campaigns such as this or whether these campaigns influence behaviour. There have been similar campaigns focusing on issues such as human trafficking and pro-environmental behaviour, which are discussed later in section 2.7 of this chapter.

In the next section, comparisons between drug policy and drug trade involvement in the UK, Mexico, and Uruguay are reviewed. These are the three countries included for empirical examination in this thesis. A full justification for the selection of these countries is explained later in chapter 3, albeit this is related to the differences in drug policy and drug trade involvement that are reviewed in the sections that follow.

2.3.4 The United Kingdom

All drugs are illegal in the UK apart from alcohol, tobacco, caffeine, and medicinal drugs, and there is relatively strong drug enforcement. Production, sale, possession, and use of illicit substances are therefore punishable under criminal law. National drug policy is limited by commitments to international law shaped by the United Nations, however, these arguably dated conventions are increasingly under pressure as more countries deviate from the restrictions and legalise cannabis (Rolles et al., 2016). The illicit drug trade in the UK is fragmented, comprising small-scale distributors and fewer large criminal organisations (Coomber & Moyle, 2014). The negative societal impacts of the illicit drug trade therefore occur less frequently than in other regions of the world, as the UK is not a significant production or transit country (UNODC, 2021).

2.3.5 Mexico

In 2009, the Mexican government decriminalised small amounts of all controlled substances, such as decriminalising the possession of less than 5 grams of cannabis, as well as enforcing treatment for repeat offenders (Mackey et al., 2014). Mexico consequently sits between the UK and Uruguay in terms of the stringency of drug legislation and enforcement. However, there is an apparent disparity between official legislation and police practice of these laws, in that some law enforcement officials do not follow the reform and corruption is at play (Arredondo et al., 2018; Beletsky et al., 2016).

[7] "County lines" trafficking involves the exploitation of young and vulnerable people, often children or teenagers, who are usually coerced into transporting drugs within the UK. I discuss this in section 2.4.3.

Mexico is heavily involved in the illicit drug trade. It is a large production and transit country due to its position between Latin American countries and the US. Approximately 80.0% of the world's cannabis is produced in Latin America, with a large portion of this production taking place in Mexico (Bergman, 2018a). Mexico also produces a wide variety of synthetic drugs such as amphetamines, importing chemical precursors for this purpose from the Far East. Transit of illicit drugs is similarly high in Mexico, even among drugs which have not been produced in the country, for example, cocaine produced and trafficked from Colombia (Bergman, 2018a; Castillo et al., 2014).

2.3.6 Uruguay

The possession of all drugs for personal use is decriminalised in Uruguay, with cannabis legalised to the extent that citizens can purchase it from legal vendors and grow limited amounts for personal use (Mercadante, 2018). A report by the Institute of Regulation and Control of Cannabis revealed that over 35,000 people are registered to obtain cannabis legally. Through drug sharing, the policy is estimated to reach about 55.0% of PWUD in Uruguay (Instituto de Regulación y Control del Cannabis, 2018). Uruguay is situated in Latin America, a region associated with large-scale illicit drug production and trafficking, although Uruguay is predominantly a transit and consumer country (Bergman, 2018a). Therefore, while Uruguay is not largely associated with the illicit drug trade and has some of the lowest rates of violence in Latin America, drug transportation through the country and associated violent crime rates are rising (Asmann, 2018).

2.4 Negative societal impacts of the illicit drug trade

In the previous section, I discussed the different approaches to drug policy and therefore how governments currently deal with drug use and trade. In this section, some of the main negative societal impacts of the illicit drug trade are outlined, highlighting the need for the current research and the importance of reviewing existing drug policy to tackle the illicit drug trade. Although the negative impacts of drug misuse are well documented, the negative impacts of drug policy enforcement are often ignored. The current research focuses on the negative impacts of the illicit drug trade on society which predominantly occur where illicit drugs are produced and trafficked. These negative impacts stem from drug policy which enabled the rise of organised crime relating to drug production, trafficking, and distribution. It is important to note that different illicit drugs have different production and trafficking processes. Therefore, the negative impacts discussed in this section will not apply to all drug markets. The current research focuses on cannabis and cocaine, the latter being more highly associated with the negative societal impacts discussed.

2.4.1 Violence

Illicit markets operate beyond the law, therefore actors in criminal markets such as the drug trade cannot rely on legally bound contracts to protect their organisations. Instead, organised crime groups (OCG) rely on fear to deter others from threatening their business or status (Andreas & Wallman, 2009). This fear results from violence which is used to maintain reputation, recover loss, and seek revenge (Topalli et al., 2002). Understandably, violence in illicit markets is avoided where possible because of the associated costs and inefficiencies (Bergman, 2018b). However, violence may arise amid competition when markets are not well established and is often limited to street conflicts, avoiding middle and upper level operations (Bergman, 2018b; Schneider, 2013; Seffrin & Domahidi, 2014). Latin American countries in particular experience some of the highest violence and homicide rates in association with illicit drug trafficking, more so than countries in other regions where similar criminal economies exist (Garzón-Vergara, 2016).

The relationship between the illicit drug trade and violence varies depending on the type of drug being distributed. More violence is associated with cocaine and heroin trade than cannabis and ecstasy, for example (Andreas & Wallman, 2009). This is because drugs that are associated with greater risks at production and trafficking stages are more expensive at the retail stage, and higher prices result in increased competition and violence within these markets (Reuter & Kleiman, 1986; Wilson & Stevens, 2008). Additionally, youth involvement in drug markets is argued to increase violence as these individuals may lack foresight and resort to violence more readily, particularly where more money is at stake (Reuter, 2009). Research conducted in the US revealed that increased drug law enforcement in one jurisdiction simply increased the drug market in an adjacent jurisdiction, causing higher rates of violent crime (Rasmussen et al., 1993). There is extensive literature on the negative impact of law enforcement on market violence (Calderón et al., 2020; Castillo et al., 2014; Hawken et al., 2013; Manaut, 2015; Rolles et al., 2016; Werb et al., 2011; Wrathall et al., 2020).

Furthermore, the impact of the illicit drug trade on violence varies depending on a country's relative involvement in the drug trade. Mexico is largely involved in drug production and trafficking (Bergman, 2018a; Castillo et al., 2014), and consequently experiences high levels of drug trade related violence (Rolles et al., 2016; UNODC, 2019; Widner et al., 2011). Drug violence in Mexico often results from large and middle-scale OCGs competing for territory and trafficking routes out of the country (Felbab-Brown, 2009). Additionally, cocaine interdiction policies introduced in Colombia since 2007 caused the displacement of drug activity from Colombia to Mexico, resulting in increased drug trafficking and violence in Mexico (The London School of Economics and Political Science, 2014). The impact of the illicit drug trade on violence rates is clear in Mexico, where the number of intentional homicides reached almost 35,000 in 2019, and continues to increase (Calderón et al., 2020).

Uruguay is not a major drug production country, nor is it heavily involved in drug trafficking relative to Mexico. Violence generally does not represent a serious threat to Uruguay's public security (Ávila, 2017), however, violence and homicide rates are rising (Mora, 2018). This is arguably because Montevideo is increasingly being used as a transit point for cocaine between South America and Europe (Sampó & Troncoso, 2022). In comparison, the illicit drug market in the UK is less prolific than those in large production and trafficking countries like Mexico (Windle & Briggs, 2015b). The UK comprises fewer large-scale drug trafficking organisations, where small-scale or individual drug distributors are more common (Black, 2020; Coomber & Moyle, 2014; Dorn & South, 1990). Consequently, the drug market in the UK is generally not characterised by violence (Taylor & Potter, 2013). Therefore, the difference in drug market violence levels observed between different countries is related to the level of activity in drug production and trafficking. Additionally, violence has been attributed to context more so than commodity, e.g., the availability of weapons and market competition (Garzón-Vergara, 2016; Williams, 2009), as well as weak government institutions (Bergman, 2018b).

Although this violence is typically selective and targeted towards drug market participants, it is nonetheless a significant impact on society. Victims are often innocent individuals and nonparticipants in the drug trade, including the police, local politicians, and journalists (Michaelsen & Salardi, 2020; Windle et al., 2020). Furthermore, young people are increasingly implicated in violence relating to the illicit drug trade (Blumstein, 1995; Seffrin & Domahidi, 2014). Not only is violence impacting young people around the world, but it also contributes to an increased fear of crime and reduces the quality of life in these areas (Felbab-Brown, 2009). Violence and armed conflict linked to the drug trade have escalated to year-long wars involving paramilitary forces and governments. An example is the half-century conflict between the Fuerzas Armadas Revolucionarias de Colombia (FARC)[8] guerrilla army and the Colombian government. This war caused hundreds of thousands of deaths and forced millions of people to leave their homes (Otis, 2014), again highlighting the negative impact of drug law enforcement. A key issue is that these conflicts, including the weapons used, were largely funded through drug trafficking (UNODC, 1998). When the violence caused by the drug trade rises to this scale, it becomes an impact on entire countries and not just participants within the market.

2.4.2 Corruption of officials

The illicit drug trade can undermine the legitimate economy and threaten the safety and security of society through the corruption of law enforcement and government officials (Interpol, n.d.; Rolles et al., 2016). Drug prohibition has enabled OCGs to accrue large amounts of wealth and firepower. These criminal organisations can use this power to challenge the state, particularly where government institutions are weaker and criminals are more organised (Rolles et al., 2016). Consequently, the impact of corruption is

[8] The Colombian Revolutionary Armed Forces.

greatest in developing countries where illicit drugs are produced and trafficked (Madarie & Kruisbergen, 2019; UNODC, 2010). That is not to suggest that corruption does not also occur in developed countries, but that the level of prevalence and associated impacts are lower (Madarie & Kruisbergen, 2019; National Crime Agency (NCA), 2020). Corruption can take several forms such as through bribery or force, involving the exchange of money, favours, information, drugs, and impunity (Morris, 2013; Sampó & Troncoso, 2022). Moreover, it has been argued that successful OCGs cannot operate on such a large scale without some form of corruption (O'Day & López, 2001).

Research conducted on cocaine trafficking at the Port of Rotterdam in the Netherlands revealed high levels of corruption of both private and public port organisations (Roks et al., 2021). This study observed that corruption can be passive, such as sharing information about ships or containers, or more active, such as directly facilitating access. The impacts of corruption are clear, including undermining public trust and confidence in law enforcement and government. It can have more serious societal impacts such as providing dangerous criminals with impunity and the power to influence politics and business at high levels (Rolles et al., 2016). Corruption and extortion have taken more severe forms in Mexico, for example, kidnappings and threats of murder for refusing to accept bribes (Felbab-Brown, 2009). Essentially, through maintaining the success of OCGs, corruption heightens all other negative societal impacts of the illicit drug trade.

Research suggests that successful attempts to breach corruption through drug law enforcement may result in increased violence, creating a cycle of negative impacts (Reuter, 2009; Snyder & Duran-Martinez, 2009; Werb et al., 2011). This further highlights the ineffectiveness of drug law enforcement and the need for new methods of addressing the negative societal impacts. As discussed, corruption caused by the drug trade is salient in transit countries where criminals are organised, and government institutions are weak. As a result, these regions suffer the pitfall of prohibition and the illicit drug trade.

2.4.3 Human trafficking and modern slavery

Drug trafficking organisations may engage in other forms of serious organised crime to maintain their business. In addition to committing violent crime, drug traffickers frequently exploit young and vulnerable people into the drug trade (Black, 2020; Worrall, 2015). People coming from socially and economically deprived backgrounds are particularly vulnerable to exploitation. They may be driven to drug trafficking by a lack of money and opportunity or coercion and exploitation from individuals further up the drug trade hierarchy (Rolles et al., 2016). Victims of exploitation are at a further disadvantage as they often do not seek help in fear of contacting law enforcement and reprisals from offenders (NCA, 2020; Singer, 2008). In Latin America, drug trafficking organisations have diversified into human trafficking as a result of the tightening of border controls between the US and Mexico (Shelley, 2012). The victims are predominantly Central American migrants who are held for ransom or forced to join drug

trafficking organisations, and have previously been killed by traffickers for refusing (Meyer & Brewer, 2010).

The NCA states that cannabis gangs are notorious for the trafficking and exploitation of Vietnamese children and vulnerable people (NCA, n.d.-b). These individuals are trafficked into the UK and forced to live and work in dangerous cannabis factories, often treated like criminals if they are discovered by the police (Kelly, 2019). Furthermore, young and vulnerable people are increasingly being coerced into the drug trade through "county lines" trafficking in the UK (NCA, 2020; Windle et al., 2020).

> *"County Lines is where illegal drugs are transported from one area to another, often across police and local authority boundaries (although not exclusively), usually by children or vulnerable people who are coerced into it by gangs. The 'County Line' is the mobile phone line used to take the orders of drugs. Importing areas (areas where the drugs are taken to) are reporting increased levels of violence and weapons-related crimes as a result of this trend."*
>
> (NCA, n.d.-a)

County lines trafficking, defined above, exposes young and vulnerable people to the illicit drug trade, placing them at risk of physical and mental harm and legal penalty (Black, 2020). Additionally, this ensures that major gang members are protected from the risks associated with drug trafficking (Windle & Briggs, 2015a). County lines trafficking imposes high levels of violence in order to intimidate and maintain control of members and victims, which may explain the recent increase in violent crimes occurring in England and Wales (Clark, 2022). Research suggests that while some young people willingly work the county lines, the majority are exploited as a result of debt bondage by members higher up in the drug gang hierarchy (Robinson et al., 2019). Human trafficking and exploitation are therefore exacerbated by the illicit drug trade not only through large OCGs in Latin American countries but also smaller drug gangs in the UK, albeit at lower levels.

2.5 Why do people use drugs?

This thesis aims to ascertain the extent to which PWUD are aware of the negative societal impacts discussed in the previous section. Therefore, to better understand drug related behaviours, it is necessary to evaluate the reasons why people engage in drug use. With an understanding of the factors influencing drug use, it is possible to identify the challenges that may be encountered when trying to encourage behaviour change. Multiple factors influence human decision-making. In the next sections, I discuss psychological theories used to explain general decision-making followed by decision-making in the context of drug use.

2.5.1 Decision-making theories

Decision-making theories provide explanations for drug use behaviours and may guide the current research later when designing interventions which encourage changes to drug related behaviours.

Decision-making is thought to be a rational, conscious process, following the theory of reasoned action, theory of planned behaviour, and rational choice theory (Hechter & Kanazawa, 1997). The theory of reasoned action suggests that behavioural intentions are influenced by social norms, attitude towards the behaviour, and intentions (Fishbein & Ajzen, 1975). This theory posits that decision-making is a conscious process and therefore the stronger the intention, the more likely a person will engage in a behaviour. This theory is closely linked to the expectancy-value model which suggests that attitudes towards a behaviour (and subsequent likelihood of engaging in the behaviour) are influenced by a person's evaluations of the associated outcomes of that behaviour (Ajzen, 1996). If a desirable outcome is expected, then one is more likely to engage in that behaviour. The theory of planned behaviour similarly suggests that attitudes towards the behaviour, subjective norms, and perceived behavioural control influence subsequent behaviour (Ajzen, 1991).

There are criticisms of theories surrounding rational choice, however, as they do not account for habitual decisions and behaviours, lack falsifiability, and are based upon ambiguous terms like "attitudes" (Manstead, 2011; Trafimow, 2009). Nonetheless, these theories have been effectively applied to psychological research, such as those examining alcohol consumption (Norman & Conner, 2006). These theories are useful in understanding the decision-making processes and behaviours occurring in the context of recreational drug use.

2.5.2 Decision-making in the context of recreational drug use

In this section, I discuss why people might engage in recreational drug use from a decision-making perspective, applying the theories outlined in the previous section. Determinants of illicit drug use include a combination of factors, often varying depending on the type of drug in question (Forsyth, 1996). Research suggests that people consider the perceived benefits and adverse outcomes of a drug when deciding whether to use it, assuming that they know what the drug is (Aldridge et al., 1998; Johnston et al., 2013). Similarly, specific functions of different drugs influence decision-making, inferring that drug use is planned and people select drugs based on their current or desired mood (Boys et al., 1999). Reported reasons for drug use include to relax, stay awake, become intoxicated, enhance an activity, alleviate depressed moods, and have fun (Aldridge et al., 1998; Boys et al., 2001). These studies support the theory of reasoned action, suggesting that drug related decision-making is rational and intentional.

In contrast, drug use initiation is argued to be more impulsive and involve less planning than the rational decision-making theories would suggest (Smith & Fitchett, 2002). Other variables are believed to influence reasons for using drugs, such as a person's age or gender (Parker et al., 2002). Impulsivity also increases the likelihood of drug use, and this along with positive reward seeking is associated with all stages of decision-making from initial and repeated drug use to abstinence (Bevins & Bardo, 2004). Previous findings have revealed associations between certain behaviours and illicit drug use, such as tobacco smoking and heavy alcohol consumption (Vallance et al., 2016; Wadsworth et al., 2004). Wadsworth et al. (2004) highlight specific factors associated with PWUD, namely being male (Cox et al., 2010; Mennis & Mason, 2011), below the age of 25, holding higher education qualifications, taking risks, and neuroticism.

In addition, environmental features may increase the likelihood of drug use. Mennis and Mason (2011) report physical features of locations which could either enhance or mitigate the likelihood of substance use, such as alcohol outlets, violent crime locations, and recreational centres. Sociodemographic factors such as problematic family relations and having parents who use drugs have also been shown to increase the likelihood of drug use among young people (Çiftçi Demirci et al., 2015; Morera et al., 2015). Cox et al. (2010) observed factors such as communication with parents and delinquent acts to influence age of drug use initiation. Socioeconomic factors may play a role in the use of hard drugs, as research suggests that injecting drug use is associated with lower socioeconomic status (Havinga et al., 2014). Similarly, social influence and conformity among peers may influence substance use, particularly among youths (Aldridge et al., 1998; Morera et al., 2015). Factors influencing conformity may include a favourable perception of the social group as well as external factors such as drug use among family and friends (Bearden et al., 1994). Moreover, normalisation and subsequent societal acceptance of recreational drug use may contribute to rationalisation of drug use (Järvinen & Demant, 2011; Measham & Shiner, 2009; Parker, 2005; Parker et al., 2002). Finally, individuals may use illicit drugs to relieve mental health disorders such as anxiety and behaviour disorders (Conway et al., 2016), and further research has identified an association between mental health disorders and substance misuse (Jane-Llopis & Matytsina, 2006).

2.5.3 Physiological effects of drugs

In the previous section, I discussed how people make decisions in the context of recreational drug related behaviours. But how do the direct physiological effects of drug use interact with the aforementioned factors to influence decision-making? In this section, I outline the rewarding neurological and physiological effects of drug use which influence a person's decision to use drugs. This knowledge is relevant to the current research by highlighting features of drug use which may pose obstacles to encouraging formation of the drugs nexus and drug related behaviour changes.

It is widely understood that drugs alter the brain chemistry in different ways to bring about temporary effects on the mind and body of the user. These effects can be extremely desirable and include improving moods, calming the mind, increasing confidence, and bringing about a euphoric or out-of-body experience. In addition to the decision-making processes and external influences discussed in the previous sections, the internal effects of drugs encourage initial drug use out of curiosity and repeated use as individuals seek the effects once again. Nearly all drugs target the brain's reward system which involves three major systems: dopamine, opioid, and gamma-aminobutyric acid (Koob, 1992). Illicit drugs that affect the reward system increase activity in specific areas of the brain, creating a pleasurable experience that the user associates with the drug. Reinforcement of drug use through reward systems in the brain can lead to addiction, although this is dependent on the type of drug. Where drug use is non-addictive, researchers suggest that the process of using drugs to alter one's own mental state and facilitate non-drug related behaviours is learned, labelling this as "drug instrumentalisation" (Müller & Schumann, 2011). This concept may explain non-addictive drug use as people consciously and rationally seek the rewarding effects of certain drugs, for example, using cocaine to increase confidence.

The dopamine system is particularly relevant to drug use because of its involvement in the neural coding of reward and motivation, and the majority of illicit drugs increasing dopamine activity (Ernst & Luciana, 2015). Only drugs that affect feelings of pleasure will influence the dopamine system, such as cocaine and amphetamines (National Institute on Drug Abuse, 2017). Other drugs produce effects on the body in different ways, for example, depressants such as cannabis are facilitated through cannabinoid receptors, inhibiting the release of neurotransmitters and bringing about the functions of the drug (Iversen, 2003). Functions of neurotransmitters are activated or inhibited by drugs, bringing about the neurological effect on the PWUD. These internal effects play a role in motivating drug use, for example, a person looking to elevate their mood might use ecstasy, compared to cannabis when relaxing or calming the mind.

The overall discourse in the literature around why people engage in recreational drug use highlights the influence of rational choice, personal circumstances, external factors, and reward seeking in drug related decision-making. With knowledge of these potentially mediating variables and the factors motivating recreational drug use, study designs and interventions within this thesis will be more effective in potentially encouraging formation of the drugs nexus and behaviour change.

2.6 How to change recreational drug related behaviours?

The previous section presented the variables involved in motivating drug use. In the next section, I assess the literature on behaviour change which is useful in informing the methodology applied within this thesis. The current research hypothesises that an increase in salience and subsequent formation of the nexus between recreational drug

use and the negative impacts of the drug trade will encourage drug related behaviour changes. To test this, it is first necessary to examine how to possibly encourage behaviour changes, particularly of a rewarding activity such as drug use. I begin this section by outlining the rationale behind the chosen drug related behaviours, followed by a discussion of the factors that may influence behaviour change.

2.6.1 Recreational drug related behaviours

This thesis focuses on three drug related behaviours which are postulated to reduce contributions of PWUD to the negative societal impacts caused by the illicit drug trade. These behaviours include reducing drug use, ethically sourcing drugs (e.g., locally produced drugs), and actively supporting drug policy reform.

As emphasised in section 2.4 of this chapter, the negative societal impacts examined in this thesis are those caused by illicit drug market activity. Therefore, behaviour changes which reduce the engagement of PWUD with the illicit market should also reduce contributions to the associated negative impacts. This begs the question: *How can we divert recreational PWUD away from the illicit drug market?* An obvious solution is a reduction in the frequency of drug use, as this reduces demand within the illicit market. Therefore, this behaviour forms the first outcome variable for use in the current research. However, reducing drug use will likely be a challenging behaviour to encourage because of the rewarding effects of drug use and lack of a viable alternative. Therefore, in addition to reducing frequency of use, this thesis examines two other possible behaviour changes which reduce the engagement of PWUD with the illicit market. The second behaviour change is sourcing drugs ethically. Ethically sourced drugs refer to those that are not obtained from the illicit drug market, for example, cannabis purchased from a local dealer who grows cannabis plants in their home. This alternative drug source is still prohibited in many countries, however, it does not engage the illicit market, nor does it contribute to the associated negative impacts.

The final behaviour change involves PWUD actively supporting drug policy reform. The discussion in section 2.3 highlights how different policies can contribute to worsening or alleviating the negative impacts of the drug trade. For example, drug legalisation enables citizens to obtain drugs through a legal regulated market, which reduces engagement with the illicit market. Support for drug policy reform within the literature is growing (Dalgarno et al., 2021; Rolles et al., 2016), therefore, it is appropriate for the behaviour change examined in the current research to follow suit. Research suggests that exposure to the issue in question and evoking anger through social media among participants successfully increases motivation for activism (Chan, 2016; Smith et al., 2020). Therefore, the current research posits that highlighting the problems with existing drug policy by emphasising the victims of the illicit drug trade will increase the support of PWUD for drug policy reform. Participants may be willing to actively support policy reform in a myriad of ways, e.g., attending protests or donating money to support campaigns.

2.6.2 Human empathy and prosocial behaviours

One factor influencing behaviour change is empathy, particularly in relation to prosocial behaviours. The feeling of empathic concern for another individual is argued to evoke altruistic motivation (Brown & Leary, 2016), even in high personal cost situations (Paciello et al., 2013). Prosocial behaviours are those that benefit others, such as donating to charity. The literature on empathy and prosocial behaviours is relevant to the current research because drug related behaviour changes at the expense of PWUD and for the benefit of members of society may be considered a prosocial act. In the following section, the factors involved in encouraging empathy and prosocial behaviours are discussed. This information is useful when designing awareness raising interventions for the current research, which aim to evoke empathy among PWUD and encourage drug related behaviour changes.

Early research on prosocial behaviours suggests that altruism and concern for others are primary motivators for prosocial behaviour, evoked by emotional reactions to the perceived distress of others (Stiff et al., 1988). Research conducted on agreeableness and empathy revealed that agreeableness, relationship to the victim, and situation significantly predicted willingness to incur costs for victims (Graziano et al., 2007). Moreover, research conducted on fund-raising appeals suggests that communicating the potential benefits to others and evoking negative emotions are effective in obtaining donations (Fisher et al., 2008). Similarly, it is argued that anticipated guilt is a motivational factor in prosocial behaviour (Lindsey, 2005). However, in the case of bone marrow donation there was no relationship observed between empathy and willingness to donate (Lindsey et al., 2007). These findings suggest that unique situational circumstances are important influences on willingness to engage in prosocial behaviour, particularly when the cost of the behaviour is higher.

Furthermore, researchers argue that justice plays a role in motivating prosocial behaviour, as our perception of justice determines how we react to certain events (Ross & Miller, 2002). Therefore, perceiving injustices in awareness campaigns may increase empathy and prosocial behaviours in response. In contrast, empathy avoidance is a relevant concept whereby people actively avoid feeling empathy for those in need (Shaw et al., 1994). Empathy avoidance may occur when people are aware that they will be asked to help and that the act of helping will be costly, thus they avoid the interaction. This notion extrapolated to the current research would suggest that formation of the nexus between drug use and the negative impacts of the drug trade may be challenging. If PWUD consider changing their drug related behaviours to be a costly act, then they may actively avoid considering the victims of the illicit drug trade (i.e., displaying low salience despite awareness).

2.6.3 The bystander effect

The bystander effect provides a conceptual framework which could be applied when considering the likelihood of drug related behaviour changes. The bystander effect occurs when the presence of other people interferes with one's willingness to help through the diffusion of responsibility, whereby people assume that others will help so they themselves do not need to (Barrett et al., 2016; Darley & Latané, 1968; Garcia et al., 2009). This effect is observed particularly where larger groups of people are present, such as crowds of people walking past a homeless person on the street. The same may be observed with regards to recreational drug use, whereby PWUD may feel that their individual behaviour change would be insignificant in the grand scheme of the illicit drug trade (Cramer et al., 1988; Pelletier et al., 1999). Additionally, PWUD may not feel responsible for the negative societal impacts of the illicit drug trade because they assume that there are others who should instead help (Kok & Siero, 1985).

Social factors may influence bystander behaviour, such as an increased sense of accountability (Levine & Crowther, 2008; Rutkowski et al., 1983). Levine and Thompson (2004) observed that social category relations are important in increasing prosocial behaviour. The researchers examined the role of identity salience in intervention after a natural disaster, concluding that prosocial intervention increased if the disaster occurred in a location that was relevant to the participant's identity. This observation is significant to the current research where behaviour changes are similarly compared between PWUD in Latin America (where the negative impacts are more salient) and the UK. In addition, research suggests that situations perceived to be dangerous and where the perpetrator is present are likely to increase prosocial intervention (Fischer et al., 2011). Other research emphasises the role of social norms and perceived personal implication in moderating the extent to which the bystander effect occurs (Chekroun & Brauer, 2002). This research further stresses the importance of situational context and personal impact on the person engaging in the act when encouraging prosocial behaviours.

Although literature on the bystander effect largely refers to emergency situations and immediate intervention, applications of the bystander effect to nonemergency situations have been conducted in previous research (Hudson & Bruckman, 2004). Comparably, the current research applies this construct to the nonemergency situation of drug related behaviour change following increased salience of the negative societal impacts of the illicit drug trade. PWUD are arguably "bystanders" to the victims of illicit drug trade activities. Altering this thought process may be necessary to bring about increased empathy among PWUD, formation of the drugs nexus, and subsequent behaviour change, beginning with raising awareness. Previous studies have shown that bystander intervention barriers affect women less than men, because of increased awareness and empathy in women (Burn, 2009). Additionally, research on sexual violence has shown prosocial behaviour and intervention to be highest among people who had greater knowledge of sexual violence (Banyard, 2008; Banyard et al., 2004). These findings

support the hypothesis that PWUD will be more willing to change their drug related behaviours if they are better informed about the associated negative societal impacts and display higher empathy levels.

2.6.4 Substance use interventions

It is useful within the current research to consider previous attempts to reduce substance use and/or abuse. Such interventions assist in identifying what may or may not work when encouraging behaviour change and can inform the rationale and subsequent methodology applied within this thesis.

Clinical trials have tested the efficacy of pharmacotherapy for cocaine dependency. These treatments have a harm reduction focus and aim to reduce cocaine use by substituting the illicit drug for legal and less harmful alternatives. However, research suggests that these attempts have largely been ineffective in reducing cocaine use or improving retention of treatment (Alvarez et al., 2010; Chan et al., 2019; Kishi et al., 2013; Minozzi et al., 2015). In fact, these studies conclude that applying behavioural interventions may increase the effectiveness of harm reduction treatments. A recent study in the United States implemented a behavioural intervention among youth in the form of interactive sessions with health educators (Ferguson et al., 2020). However, retention within the programme was low, and rates of alcohol and illicit drug use did not reduce following intervention attendance. Despite these findings, there is significant evidence of the effectiveness of harm reduction strategies when the focus is on injectable illicit drugs (Ritter & Cameron, 2006). The authors found more support for effective harm reduction interventions for illicit drug use than alcohol or tobacco consumption. Therefore, it is appropriate to tailor interventions and use different methods when the focus is on different substances.

Contrastingly, cannabis use interventions promote cessation rather than encouraging use of an alternative, suggesting a lack of viable alternative to cannabis use. One such study involved a meta-analysis of behavioural interventions for cannabis use, revealing that motivational interviewing as an intervention was ineffective in reducing cannabis use among adolescents (Steele et al., 2020). Similar studies have reported consistent findings (Copeland et al., 2001; Walsh et al., 2020), although internet and computer based interventions may effectively reduce cannabis use in the short term (Tait et al., 2013).

The ineffectiveness of existing substance use interventions in reducing illicit drug use highlights the need for different approaches to reducing drug use. Within this thesis, I propose a novel approach to tackling the negative impacts of the illicit drug trade, and in doing so, reducing the prevalence of illicit drug use. Considering the failure of existing interventions in drug use and harm reduction, I posit that establishing the drugs nexus may be an effective way forward.

2.6.5 Awareness of the negative societal impacts of the illicit drug trade

Section 2.6.3 highlighted the importance of awareness and understanding of a problem in preventing the bystander effect and encouraging prosocial intervention. The current research hypothesises that increased awareness and salience of the negative societal impacts of the drug trade will encourage behaviour changes among PWUD. To test this hypothesis, it is necessary to first ask: *How aware are PWUD of the negative societal impacts of the illicit drug trade?* Addressing this question helps to direct the focus of informative interventions, i.e., whether the focus should be on increasing awareness, or salience, or both. In the following section, I discuss the evidence for awareness levels among PWUD.

Drug dealing takes multiple forms from large-scale international trafficking to local street dealing, and therefore the negative impacts associated with each differs. It is not uncommon for PWUD to obtain illicit drugs through friends-of-friends networks (Bennett & Holloway, 2019; Parker et al., 2001) or online markets (Barratt et al., 2016). Thus, the end user may never be exposed to the true world of drug dealing. Taylor and Potter (2013) observed an unstructured control of drug supply among drug dealers in the UK, who unintentionally evolved from social supply into "real" dealing. Even though they would class themselves as drug dealers, they maintained social supply values of friendship and trust with suppliers and customers. It is through this ease of obtaining illicit drugs that the negative societal impacts of the illicit drug trade are less apparent, particularly in regions where the impacts are already less prevalent. There is currently little research on public awareness of the negative societal impacts of the illicit drug trade, emphasising the need for the current research. This research hypothesises that because of a lack of exposure to the negative societal impacts of the illicit drug trade, awareness will be low among PWUD in countries where the impacts are less prevalent. It is important to investigate awareness levels among recreational PWUD because it is these individuals who engage with the illicit drug market and hold the power to disrupt this market by changing their behaviours.

In sum, the discussion on how drug related behaviours may be changed emphasises the importance of firstly increasing awareness and understanding of the negative societal impacts of the drug trade. An increase in awareness and salience of the negative impacts, as well as evoking empathy and urgency for the victims of these impacts, is hypothesised to encourage behaviour change among PWUD. Additionally, this research hypothesises that PWUD who identify more with the victims of the illicit drug trade, i.e., of the same cultural identity, will consequently be more willing to change their behaviours to help these victims.

2.7 The nexus

At the time of writing, there is a lack of existing research on public awareness of the negative societal impacts of the drug trade, let alone among the population of PWUD. There have also been no recorded attempts to increase awareness or evaluate existing methods of doing so. There appears to only be a single paper assessing the implications of a wider "harm to others" approach to drug policy that is similar to the current research. This paper by Wilkinson and Ritter (2021) discusses the "alcohol's harm to others" framework, which aims to improve policy by reporting the impacts on the people around those who consume alcohol. The authors suggest that similar political strategies applied to illicit drugs should extend beyond an individualistic focus to incorporate the broader impacts, for example, of the illicit drug trade. They warn against focusing on individual PWUD and the impacts caused by drug use, which could contribute to increased stigmatisation of these individuals (Wilkinson & Ritter, 2021). The authors, however, have not conducted empirical research to test these arguments and measure the impact of a "harm to others" approach in relation to illicit drugs. This is a gap in the literature which the current research aims to address.

Although the current research presents the first attempt to examine the nexus between drug use and the negative impacts of the drug trade, research establishing a similar nexus has been conducted albeit within other disciplines. In the next section, examples from disciplines where a similar nexus has been established and resulted in societal behaviour change are described. The psychological theories behind behaviour change are discussed, assessing the influence of factors such as attitudes and intention. These examples, combined with conclusions drawn from the previous sections outlining factors important in behaviour change, are used to guide the current research methodology and understanding of the factors involved in developing a nexus.

2.7.1 Pro-environmental behaviour

There is a vast literature on the factors influencing pro-environmental behaviour, incorporating different decision-making and behavioural models (Abrahamse, 2019). Behaviours such as recycling have been encouraged through informative campaigns detailing the global impacts of climate change, how society contributes to them, and specific information on how individuals can help to reduce their contribution (Steg & Vlek, 2009). Although these campaigns are not always successful, there are factors that may increase their effectiveness. Pelletier et al. (1999) suggest that those who feel helpless or daunted by the environmental crisis are consequently unable to foresee how their contribution could bring about favourable outcomes on a large scale. This causes a lack of motivation to adopt pro-environmental behaviours. Additionally, this is supported by research suggesting that perceived power has a direct effect on pro-environmental

behaviour (Ertz et al., 2016).[9] Despite these findings, research suggests that interpersonal and media communications may be effective in encouraging people to recycle if the message addresses concerns of the target audience (Larson & Massetti-Miller, 1983). More recent research has assessed different intervention types, identifying that while general informative interventions do raise awareness, tailored information and message framing (i.e., aligning messages with people's values or beliefs) may be more effective in encouraging pro-environmental behaviour (Abrahamse, 2019).

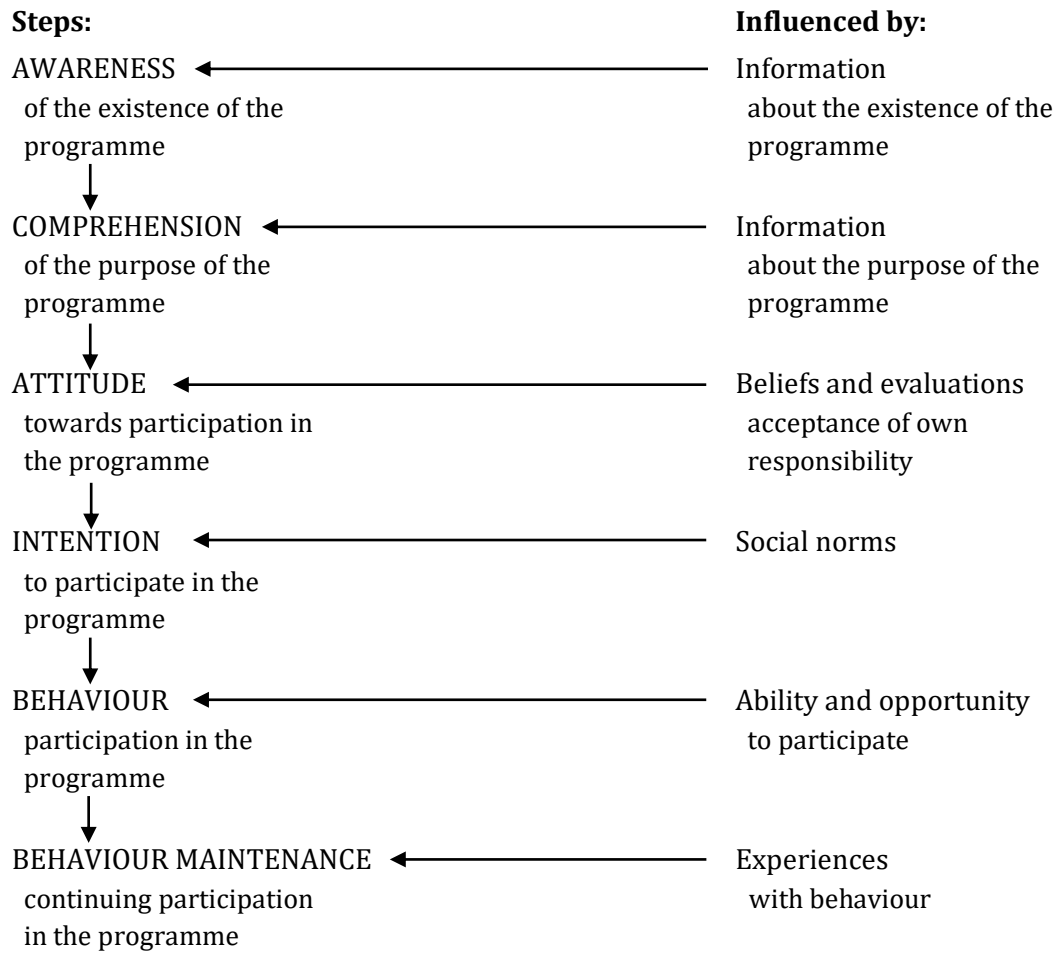
Kok and Siero (1985) suggest that people engage in recycling programmes if they receive information about it (Ölander & Thogersen, 1995), comprehend what it entails, and have a favourable attitude. Thus, it is not only important that relevant information is accessible to target individuals, but they must also be motivated to bring about the desired change or have existing concern for the issue. The authors suggest that behavioural intention strongly predicts volitional behaviour, including a person's ability and opportunity to perform the desired behaviour (Norman & Conner, 2006). Additional research has observed a strong influence of behavioural intention on actions, to the extent that it almost entirely mediates the influence of other variables on behaviour (Rise et al., 2010). However, the intention-behaviour gap highlights the inconsistency between intention and behaviour that often exists, suggesting that other factors may better explain behaviour (Sheeran & Webb, 2016).

Moreover, the theory of norm emphasises acceptance of responsibility and participation in creating the existing problem, as well as the ability to help relieve the problem (Schwartz, 1977). Responsibility may influence pro-environmental behaviour as people with high levels of responsibility will engage in behaviour consistent with their attitudes (Kok & Siero, 1985). A useful model depicting the main points from these theories in relation to pro-environmental behaviour is shown in Figure 1.

Existing research emphasises the importance of memory processes in recycling behaviour, particularly remembering when and how to recycle after initially being informed of its importance (Heckler, 1994). Similarly, higher levels of recycling have been observed among residents who received interpersonal reminders or fliers about scheduled pickups, as well as details of how to prepare materials and the economic advantages of recycling (Krendl et al., 1992). This was compared to residents who did not receive reminders or information, suggesting that consistent forms of communication increased the salience of recycling and environmental issues and hence encouraged the behaviour.

[9] Perceived power, also known as "self-efficacy" (Bandura et al., 1999), is a psychological state referring to the perception of one's capacity to enact a behaviour.

Figure 1. *Model of attitude change and behavioural change through communication*



Source: adapted from Kok and Siero (1985)

In contrast, research has highlighted the influence of environmental values on pro-environmental behaviour (Latif et al., 2013; Ruepert et al., 2016). Latif et al. (2013) found that the significant effects of environmental knowledge on environmental behaviour are removed when environmental values are introduced as a mediator. Environmental values therefore intervene in the relationship between environmental knowledge and pro-environmental behaviour. Similarly, personal goals have been found to influence pro-environmental behaviour, whereby the combination of different goals can either encourage or prevent pro-environmental behaviour (Steg et al., 2014; Unsworth et al., 2013). It is also suggested that social norms encourage pro-environmental behaviour, particularly increased visibility of recycling and "social pressure" exerted by the knowledge that others recycle (Thomas & Sharp, 2013). Thus, it appears that a combination of the internal and external factors discussed can influence pro-environmental behaviour. A summary of the factors identified within the literature to influence pro-environmental behaviour is presented in Table 1. Several factors in the "awareness" and "internal response" columns must repeatedly occur to reinforce and sustain the behaviour change.

Table 1. *Factors required to encourage pro-environmental behaviour*

Awareness	Internal response	Behaviour
Information through specific targeted campaigns	Understand the issue	Behavioural intention (ability and opportunity)
Regular reminders of the information	Favourable attitude towards the issue	
Observe others engaging in pro-environmental behaviours	Accept responsibility for the issue	
	Compatible personal goals and environmental values	
	Perceived power	

It is possible to extrapolate these findings to the nexus being examined in the current research. Upon examining the literature on pro-environmental behaviour and behaviour change, the current research hypothesises that presenting targeted, informative interventions which increase empathy among PWUD will encourage formation of the drugs nexus and willingness to change drug related behaviours.

2.7.2 Alcohol misuse

Alcohol misuse is another research area where applications may be appropriate to the current research, particularly as alcohol produces a desired and rewarding effect on the consumer like illicit drugs. Despite the negative impacts of alcohol misuse predominantly affecting the consumer, interventions may be aimed at reducing the harm caused to others. Alcohol misuse occurs despite awareness of the negative impacts, so an understanding of the factors influencing this behaviour may be applied to recreational drug use. Due to the similarities between alcohol consumption and recreational drug use, the current research examines a parallel of the two areas by looking at practices aimed at minimising alcohol misuse.

In their analysis of the Global Drug Survey in the UK, Shiner and Winstock (2015) found that alcohol was widely used among respondents, despite a quarter of them rating alcohol as the most damaging substance. This reveals an awareness of the risks of alcohol misuse in the long term, but a disregard of this to achieve short term benefits. The authors propose reasons for this such as the ready availability of alcohol and relatively permissive social attitudes. Regardless, awareness of the negative impacts to oneself evidently does not discourage the behaviour, as 93.0% of respondents had consumed alcohol in the last month. It appears that the key differences between alcohol and illicit drugs are legislation and subsequent availability and social attitudes. These findings emphasise the influence of cultural and social trends on behaviours, more so than the potential impact to one's own health.

Barry and Goodson (2010) conducted a review of campaigns aimed at promoting responsible drinking and observed inconsistencies in definitions of "responsible", both

by advertisement campaigns and academic researchers. This can cause confusion and misperceptions of alcohol use and misuse among society. Research has revealed the harmful effects of misperceived drinking norms in college environments, such as exacerbating drinking behaviours because of the large social influence (Perkins, 2002). Essentially, when students held these misperceptions and believed that their peers were engaging in exaggerated drinking levels, they too would drink more (Perkins et al., 2005). Attempts to combat this issue included educational interventions publicising data about actual drinking norms through campaigns and orientation sessions, a method known as social norms initiatives (Turner et al., 2008). Interventions aimed at reducing misperceptions of peer norms have been successful, resulting in reduced alcohol misuse (Perkins & Craig, 2006) and reduced negative consequences associated with alcohol use (Turner et al., 2008). Moreover, further research has observed a positive influence of early developmental prevention programmes on social deviance among at-risk populations (Manning et al., 2010).[10]

Mass media campaigns aimed at changing behaviour such as alcohol misuse have encouraged positive changes and reduced negative changes across large populations (Wakefield et al., 2010). These campaigns raised awareness of potential negative impacts of engaging in the behaviour and positive impacts of stopping, which can be effective through social influence as well as direct exposure. Family-based, generic psychosocial and life-skills school programmes were proven effective in reducing alcohol use among youths (Foxcroft & Tsertsvadze, 2012). Wakefield et al. (2010) argue that multiple interventions applied simultaneously are effective and have a greater impact on one-off or episodic behaviour than those that are habitual or ongoing. The authors highlight the difficulties in achieving the aims of these campaigns, such as powerful social norms and the habitual or addictive nature of certain behaviours.

Furthermore, existing approaches have considered the harms of alcohol beyond the person consuming it, for example, violence and financial difficulties experienced by family members (Manton et al., 2014; Wilkinson & Ritter, 2021; World Health Organization, 2019). Such research highlights the existing policy focus on harm to those consuming alcohol, and instead suggests incorporating the wider societal impacts of alcohol consumption to improve policy (Casswell et al., 2011; Warpenius & Tigerstedt, 2016). Wood et al. (2014) suggest that media reporting of the harms caused by alcohol to wider society would encourage a population-based intervention. Despite existing literature on the harms of alcohol to others, there is still the need to effectively apply these findings to policy and evaluate the outcomes (Greenfield et al., 2019). Similar research has not yet been conducted in relation to illicit drug use. Drawing from these findings, I therefore aim to examine the effectiveness of these applications to PWUD and the influence of interventions on willingness to change drug related behaviours.

[10] Including alcohol consumption and illicit drug use.

2.7.3 Human trafficking and modern slavery

As discussed, one of the negative impacts associated with the illicit drug trade is its contribution to human trafficking, particularly in underdeveloped countries but also to a lesser extent in developed countries such as the UK (Black, 2020). Research on public awareness of human trafficking and modern slavery is relatively sparse as with the impacts of the illicit drug trade. The negative impacts of human trafficking affect members of society, however, ordinary members of the public can sometimes help to reduce the impacts of human trafficking. Increased understanding of the different forms of human trafficking and modern slavery can enable people to identify when it is occurring and appropriately help victims. The literature on awareness of human trafficking is therefore examined in parallel with the current research.

It is important to consider how public awareness campaigns targeting human trafficking may be ineffective, to determine what doesn't work when encouraging formation of a nexus and subsequent behaviour change. The literature stresses the harm caused by misunderstandings among the public. Researchers highlight the risks of narrowing the scale of the problem, such as depicting "ideal" offenders and victims of human trafficking, which may lead to public misunderstandings and misconceptions (Austin & Farrell, 2017; Farrell & Fahy, 2009; O'Brien, 2016). Furthermore, survey data has been examined in UK communities where human trafficking and modern slavery is known to occur (Dando et al., 2016). The results revealed misconceptions of the nature of human trafficking and a disparity between theoretical frameworks and understanding of psychological coercion, suggesting a lack of understanding of these issues. Due to a lack of knowledge of the situations where human trafficking occurs, members of the public may not consider the possibility that it is occurring and therefore would not have the capability to intervene.

Additionally, a longitudinal study in the US revealed the need to improve public awareness of human trafficking (Zhang, 2011). The researchers suggest that apathy, naivety, and a lack of understanding of the coercive nature of human trafficking should be addressed for the public to be able to help with these issues where possible. Moreover, research in Poland suggests that knowledge of human trafficking is learned through the media, either on television or the internet, but there is no broadly available information on various aspects of human trafficking (British Embassy Warsaw, 2010). Participants who were interviewed had common knowledge of what human trafficking is, but this knowledge was shallow. Importantly, the findings revealed limited knowledge on how to help victims of human trafficking besides contacting the police, and participants could not recall any organisations available to help victims. Existing awareness campaigns went unnoticed by over a third of participants, highlighting the need for more specific, targeted campaigns.

Interventions relating to human trafficking and modern slavery include raising awareness and understanding of the issue so that members of the public may intervene

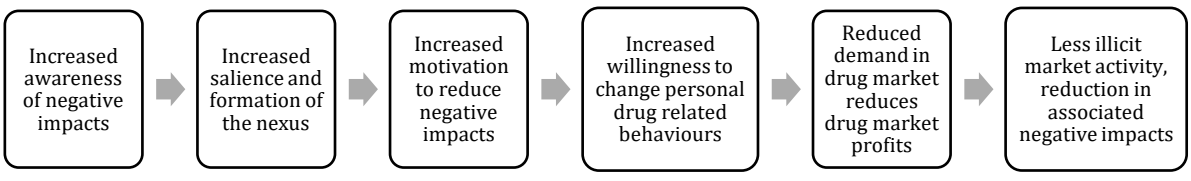
appropriately. The human trafficking literature is at a stage whereby the lack of awareness and understanding has been acknowledged and interventions are being applied to increase awareness and help to reduce the impacts. Increased awareness and subsequent behaviour change is expected to help reduce the impacts of human trafficking and modern slavery (Home Office, 2020). The literature reviewed in this section emphasises the importance of accurate understanding of the issue and awareness of ways in which people can help to reduce it. While general education or awareness campaigns have mixed results, informative and targeted campaigns may be more effective in encouraging behaviour change among receptive audiences (i.e., those who are able to and have the opportunity to help).

2.7.4 Establishing the nexus for recreational drug use

Evidently, the nexus observed in other disciplines has proven successful in encouraging behaviour change within specific contexts and among certain audiences. The literature suggests that exposure to issues in informative, consistent, and response-evoking ways, as well as targeting specific attitudes, beliefs, and norms through tailored interventions, may encourage nexus formation and behaviour change. Additionally, the previous sections highlight the need to control for exogeneous variables that are personal to the target audience.

I consider these factors in the current research, which posits that increased salience and formation of the nexus between drug use and the negative societal impacts of the drug trade will bring about behaviour changes among PWUD. The drug related behaviour changes are expected to help reduce the impacts of the illicit drug trade on society. Following observations from the literature, I will target response-evoking and informative interventions towards a specific audience, which includes people who use drugs recreationally in the UK. Figure 2 depicts the process involved in establishing the drugs nexus and the expected behavioural outcomes if these are applied widely and long term. Reviewing the literature on nexus establishment in other disciplines assists with the second stage outlined in Figure 2, i.e., addressing how salience of the negative impacts of the drug trade can be increased to encourage formation of the drugs nexus among PWUD.

Figure 2. *The process of drug related behaviour changes and expected outcomes*



2.8 Conclusion

The existing literature, and in some areas lack thereof, reveals the need for the current research. Little is known about awareness levels of the negative societal impacts of drug policy and the illicit drug trade. This knowledge is essential in identifying the salience of these issues among PWUD. Empirical, exploratory research is required to identify whether a nexus has been formed between drug use and the negative impacts of the drug trade. Through observations in other disciplines, it is reasonable to expect that formation of this nexus is possible and could encourage drug related behaviour changes. Long term and widely applied drug related behaviour changes are hypothesised to help reduce the negative impacts of the illicit drug trade.

2.9 Research questions and hypotheses

In sum, this thesis serves to address the following research questions:

RQ1: To what extent have people formed a nexus between recreational drug use and the negative societal impacts of the illicit drug trade?
RQ2: Does increased salience of these negative impacts and formation of the nexus increase willingness to change recreational drug related behaviours?

Considering the existing literature discussed in this chapter, I present the hypotheses which will be tested in the current research, and reiterate a brief rationale for each:

Hypothesis 1: *Participants in London are less aware than participants in Mexico City and Montevideo of the negative societal impacts of the illicit drug trade.* This hypothesis is based on the understanding that geographic proximity to the negative societal impacts increases exposure and subsequent awareness, e.g., through mainstream media. The literature suggests that the negative societal impacts are prevalent where drugs are produced and trafficked (Rolles et al., 2016), and because of high drug trade activity in Latin America (Bergman, 2018a; Garzón-Vergara, 2016), residents in this region are expected to have a higher awareness.

Hypothesis 2: *Participants reporting higher frequencies of drug use are less aware of the negative societal impacts of the illicit drug trade*. This hypothesis is based on the literature on prosocial behaviour and the notion that awareness of people in need, particularly where these situations are considered dangerous, results in a willingness to help (Fischer et al., 2011; Kok & Siero, 1985). In the context of the current research, helping involves reduce one's contribution to the impacts through drug related behaviour changes, which includes a reduction in drug use.

Hypothesis 3: *Participants who have begun to form a nexus between recreational drug use and the negative societal impacts are more willing to change their drug related behaviours.* This hypothesis is based on a similar notion to that of H2, in that formation of a nexus between awareness (and salience of the negative societal impacts of the illicit drug trade) and behaviour (drug use) is expected to encourage prosocial behaviours (changes to recreational drug related behaviours) (Abrahamse, 2019; Burn, 2009; Steg & Vlek, 2009).

Hypothesis 4: *Participants reporting higher empathy levels are more willing to change their drug related behaviours.* This hypothesis is based on the literature suggesting that human empathy is linked to prosocial behaviours, and altruistic motivation (willingness to change drug related behaviours) can be encouraged by evoking responses such as empathy (Brown & Leary, 2016; Graziano et al., 2007; Torstveit et al., 2016).

Hypothesis 5: *Participants of the same personal identity as victims will be more willing to change their drug related behaviours.* The final hypothesis is based on the literature suggesting that similar identity salience between the person in need (victims of the illicit drug trade) and the person helping (PWUD) is likely to encourage prosocial behaviour (Levine & Thompson, 2004).

Chapter 3. Research framework

3.1 Introduction

In the previous chapter, I examined the relevant literature which gave rise to two research questions. The purpose of this chapter is to present an overview of the methods applied within the following empirical chapters. In this chapter, I justify the methods and sampling procedures which address the research questions and subsequent hypotheses. More specific information pertaining to the methods, sampling, participants, and analyses are detailed later within each of the four empirical chapters (chapters 4 to 7).

This thesis involved four separate stages of data collection. The initial two stages, i.e., chapters 4 and 5, addressed research question 1: *"To what extent have people formed a nexus between recreational drug use and the negative societal impacts of the illicit drug trade?"*. The crime script in chapter 6 helped to reveal the negative societal impacts occurring within the illicit drug trade. Chapter 7 addressed research question 2: *"Does increased salience of the negative impacts and formation of the nexus increase willingness to change recreational drug related behaviours?".* The following section explains the sampling procedure used in these studies.

3.2 Data sample

3.2.1 Why London, Mexico City, and Montevideo?

When considering countries for inclusion in this research, it was important that the involvement of each country in the illicit drug trade was different. This enabled the comparison between PWUD in countries with different levels of exposure to the negative societal impacts of the drug trade. Therefore, I could assess the effect of this exposure on salience of the negative societal impacts of the drug trade, and subsequent drug related behaviours and opinions. In addition, I selected countries where drug legislation differed, to observe the impact of policy on drug related behaviours and opinions. Understanding the influence of drug policy and exposure to the negative impacts of the drug trade helps to identify the factors that may hinder or encourage formation of the nexus and positive behaviour changes. It was also considered valuable to gain participants' insights into drug policy and their opinions on what works both in their own country and what they may have observed internationally.

The UK was included in this research for the reason of it being my home country as well as where I reside and completed my PhD. These factors made recruitment and data collection in the UK straightforward. In addition, the UK is relevant for the current research because it is a key consumer country. The UK presents high rates of drug use,

low prevalence of the negative impacts of the drug trade, and PWUD are likely to be receptive to the interventions in the current research. I chose to focus as well on two Latin American countries because of the high involvement of this region in the illicit drug trade. My choices were limited to countries where my primary supervisor and I held contacts who were able to assist with participant recruitment. This left Mexico, Uruguay, and Brazil as options for inclusion in this research. I decided that Uruguay would be a valuable comparison due to its unique drug legislation. Finally, Mexico was chosen over Brazil because, like Uruguay, it is a Spanish speaking country. Therefore, the study design and data collection would be more efficient, preventing the need to translate data further into Portuguese as well as Spanish. Understandably, countries with high involvement in cocaine production such as Colombia would have been beneficial in addressing the current research aims, particularly with regards to the crime script in chapter 6. However, data collection in Colombia was not possible for this thesis because of a lack of contacts and gatekeepers. This would have made participant recruitment and data collection not only difficult in Colombia, but also dangerous for a lone researcher investigating the illicit drug trade.

Having selected the UK, Mexico, and Uruguay, I then narrowed data collection to the capital cities of these countries: London, Mexico City, and Montevideo. The reasons for this were threefold. Firstly, chapter 4 involved in-person focus groups, so it was convenient for participants from each country to reside in the same city. Secondly, although country-wide data collection in the UK was realistic, it would be difficult to do the same for Mexico and Uruguay, particularly as my contacts in these countries were from the capital cities. Finally, drug use prevalence and related behaviours may vary between urban and rural areas, so narrowing the research focus to a single city in each country controlled for this variable and ensured that the data collected from the three countries were comparable.

The final experiment in chapter 7 was conducted only in the UK and was therefore opened to participants within the whole of the country. It was not necessary to limit the experiment to London as I was not comparing this data to the other two cities. In addition, opening the experiment to the whole country allowed for a larger sample size and more generalisable conclusions to PWUD in the UK. Unfortunately, I could not conduct experiments in Mexico and Uruguay within the time and funding restraints of this thesis.

3.2.2 Participants

For purposes of the current research, people who use drugs recreationally were defined as *"individuals who have used an illicit drug in the last 12 months and are not addicted to this or any other illicit drug"*. An illicit drug referred to a psychoactive substance. Substances not considered illicit drugs included prescribed medicinal drugs, alcohol, tobacco, and caffeine. Therefore, individuals were eligible to participate even if they regularly use any of these substances. Illicit drugs included all those prohibited in the UK,

even if the substance is decriminalised or legalised in other countries. This enabled the comparison between all countries examined in the current research. Moreover, this definition of recreational drug use allowed for a variety of PWUD to take part in the research – both frequent and infrequent. This provided a wider and more insightful range of data as individuals with varying levels of use are also likely to display different drug related opinions and behaviours. In addition to this requirement, participants were aged 18 years or above (no upper age limit) and resided in the city of data collection (London, Mexico City, or Montevideo). The age limit was set so that participants could provide consent to take part. The second limitation ensured that participants were representative of PWUD in the city of data collection, who were familiar with sourcing illicit drugs and general opinions on drug related behaviours and legislation within that country.

The current research targeted recreational drug use. Therefore, to filter out potential dependent drug use, each stage of data collection asked about frequency and contexts of drug use. Participants who reported very frequent use in specific contexts (e.g., daily use when alone at home) were considered to engage in dependent use and therefore not the target population of the current research. The other eligibility requirements were controlled for through demographic questions. These included age, location of residence, and the length of time participants had lived in that city. Any responses which did not meet these criteria were excluded from analysis.

3.3 Data collection

Having summarised the sampling procedure, I now present an outline of the data collection applied within each of the four empirical chapters. These methods were devised considering those applied within the existing literature, observations from preceding stages of data collection in the current research, and time and resource availability. At each data collection stage, self-report was used to identify levels of drug use among participants. The approach adopted in the current research follows an overall exploratory sequential mixed methods design. An initial qualitative study was followed by quantitative studies to attain generalisability, quantify relationships and effects, and test boundary conditions.

3.3.1 Focus groups

I gathered preliminary data through focus groups in London, Mexico City, and Montevideo, which formed chapter 4 of this thesis. This stage of data collection tested the following hypothesis:

> ***H1:*** *Participants in London are less aware than participants in Mexico City and Montevideo of the negative societal impacts of the illicit drug trade*

In doing so, participants shared where they source illicit drugs and whether they knew the origins of these drugs. Focus groups provided insights into drug related behaviours, opinions, and awareness of the negative societal impacts. As much of the research conducted in this thesis is exploratory, focus groups were beneficial in allowing detailed dialogue with many PWUD in each of the three cities. The data collected from the focus groups provided key observations which were used to direct the focus of the remainder of this thesis. Firstly, the focus groups identified the most prevalent drugs used in each city from the perspective of recreational PWUD. Consequently, the survey and experiment focused on cannabis and cocaine, and the crime script focused on cocaine. Secondly, the focus groups identified awareness levels of drug sources and insights into the negative societal impacts of the drug trade among PWUD, which guided the focus of questions used in the survey. The discussions around sourcing illicit drugs and contexts of drug use were useful in populating the crime script in chapter 6.

3.3.2 Survey

Chapter 5 comprised the second stage of data collection which was an online survey distributed among participants in each of the three cities. The survey tested the following hypotheses:

> ***H1:*** *Participants in London are less aware than participants in Mexico City and Montevideo of the negative societal impacts of the illicit drug trade* (building on the analysis conducted in the study in chapter 4)
> ***H2:*** *Participants reporting higher frequencies of drug use are less aware of the negative societal impacts of the illicit drug trade*
> ***H3:*** *Participants who have begun to form a nexus between recreational drug use and the negative societal impacts are more willing to change their drug related behaviours.*
> ***H4:*** *Participants reporting higher empathy levels are more willing to change their drug related behaviours*

The survey questions focused on cannabis and cocaine use, gathering similar data to the focus groups. The benefit of conducting a survey following focus groups was to provide a larger and more generalisable sample. The idea of "salience" was introduced at this stage of data collection, which was operationalised by asking participants about existing drug related behaviours and determining whether these displayed consideration of the negative impacts of the drug trade. This also inferred whether participants were likely to have established the drugs nexus. The findings of the survey directed the focus of the subsequent experiment, which examined effects of increased salience. The survey results further helped to populate the decision-making stages of the crime script in chapter 6.

3.3.3 Crime script analysis

The crime script presented in chapter 6 focused on the processes involved in cocaine production and use, from cultivation in South America to use in the UK. Therefore, only

the decision-making of people who used cocaine in the UK were considered. The crime script focused only on cocaine because production is limited to a specific region of the world, therefore the trafficking process is limited and easy to trace. This makes production of a crime script with cocaine possible within the scope of this research. Cannabis, however, is cultivated around the world, making it difficult to narrow the stages involved in the production and trafficking of cannabis consumed in the UK.

This study did not test a hypothesis but had the research objective of building a crime script that revealed the negative societal impacts occurring within the illicit drug trade. In doing so, the crime script helped to collate and convey the findings from chapters 4 and 5 alongside existing literature on the illicit drug trade, whilst guiding the experiment methodology in the final empirical chapter. I used a crime script analysis paper by Alonso-Berbotto and Chainey (2021) to guide the current method. I gathered information for the crime script from online open-source data, which are detailed later in chapter 6. Sections of the crime script which could not be populated using the data sourced via open sources were noted as blanks. These blanks were then filled where possible using data collected within chapters 4 and 5, namely at the final stages of the crime script (decision-making relating to drug use in the UK). The crime script offered many useful findings and highlighted the need for further research to investigate the effect of interventions designed to raise awareness and salience among PWUD on drug related behaviours. Therefore, the crime script analysis study helped in designing the experiment reported in chapter 7.

3.3.4 Experiment

The final empirical study involved an online experiment conducted with PWUD in the UK, presented in chapter 7 of this thesis. This experiment applied a video intervention with the aim of increasing awareness and salience of the violence associated with the illicit drug trade. The experiment subsequently measured the effect of increased salience on participants' willingness to change their drug related behaviours. This was useful in testing the following hypotheses (building on the testing of these hypotheses in the previous studies within the current research):

> ***H2:*** *Participants reporting higher frequencies of drug use are less aware of the negative societal impacts of the illicit drug trade*
> ***H3:*** *Participants who have begun to form a nexus between recreational drug use and the negative societal impacts are more willing to change their drug related behaviours*
> ***H4:*** *Participants reporting higher empathy levels are more willing to change their drug related behaviours*
> ***H5:*** *Participants of the same personal identity as victims will be more willing to change their drug related behaviours*

The existing literature and findings from the current research's preceding studies highlighted the need to empirically test whether drug related behaviour changes can be

encouraged by increasing salience of the negative societal impacts of the illicit drug trade. The advantage of applying a classic experiment to this research is that it ensures internal validity and control of variables such that the direct impact of the experiment intervention can be measured. In this way, the experiment compliments the correlational results of the survey with causal conclusions. Therefore, whilst addressing the current research questions, the experiment also provided valuable contributions to the literature and recommendations for future research.

Chapter 4. Exploring drug related behaviours in London, Mexico City, and Montevideo

4.1 Introduction

Chapter 2 revealed a lack of empirical research examining awareness levels among PWUD of the negative societal impacts of the illicit drug trade. An understanding of awareness levels and drug related behaviours is necessary to determine whether a nexus has been formed between drug use and the negative impacts of the drug trade. In this chapter, I present the first stage of data collection where the aim was to gain insights into drug related behaviours and opinions, as well as awareness levels of the negative impacts that the current research examines. Data was collected through focus groups conducted with PWUD in London, Mexico City, and Montevideo. This study addressed research question 1 and hypothesis 1, presented below.

RQ1: *To what extent have people formed a nexus between recreational drug use and the negative societal impacts of the illicit drug trade?*

H1: *Participants in London are less aware than participants in Mexico City and Montevideo of the negative societal impacts of the illicit drug trade*

4.2 Methods of measuring drug use

In this section, the methods used in the existing literature to measure drug use which are relevant to inform the current research methodology are described. Self-report is the overarching technique used for examining drug use, but which has several limitations such as the inability to validate participant recall. However, there are methods for improving self-report reliability and these are discussed in this section. The first part of the current section involves outlining the different types of data collection methods for measuring drug use. In the second part, I draw on existing research to assess the methods used when sampling participants and reporting on sensitive topics such as illicit drug use.

4.2.1 Participant self-completion of data

Self-administered methods of data collection whereby participants respond without interacting with a researcher include paper or online questionnaires, computer-assisted self-administered interviews, audio computer-assisted self-interviewing, and interactive voice response (Krumpal, 2013). The most widely used method of measuring drug use is self-completed surveys (Aldridge et al., 1998; Cox et al., 2010; Johnston et al., 2013; Measham et al., 1998; Neutel & Walop, 2000; Perkins & Craig, 2006; Riley et al., 2001; Sanchez et al., 2013; Turner et al., 1998; Wadsworth et al., 2004). Many government

reports and national surveys such as the Crime Survey for England and Wales are dependent on self-report as it efficiently produces a large dataset (Home Office, 2018; Johnston et al., 2013; UNODC, 2021). Moreover, self-administered methods allow participants to feel comfortable about sharing sensitive information without judgment on behalf of the interviewer. A review conducted by Harrison & Hughes (1997) suggests that self-report methods where participants are not required to respond aloud increases reports of drug use. The authors identify methods of increasing validity of responses, such as audio computer-assisted self-interviews. Other researchers have corroborated the effectiveness of this technique in increasing the level and accuracy of self-reported drug use, as well as assisting participants with completing the survey (Turner et al., 1998).

Self-report has been combined with other methods to increase validity of self-reported drug use, such as analysis of urine samples (McLouth et al., 2022), however not all drugs are easily detected using assay tests (Cook et al., 1995). Comparably, the list experiment method has proven successful when addressing sensitive topics that people may be reluctant to disclose. Research conducted among US college student-athletes recorded drug and alcohol use through this method, which allowed students to state how many of the listed substances they had used, rather than which ones specifically (Druckman et al., 2015). Furthermore, vignette type scenarios have been presented to participants who then completed a questionnaire on the information provided (Bearden et al., 1994).

4.2.2 Interviewer-administered data collection

Interviewer-administered methods include personal interviews, group interviews or discussions, computer-assisted personal interviews, and computer-assisted telephone interviews (Krumpal, 2013). These methods provide more in-depth qualitative data. Compared with interviews, focus groups gather input from multiple participants simultaneously whilst maintaining high levels of detail (Acocella, 2012). Additionally, smaller focus groups of between five and eight individuals enable more detailed responses to be obtained (Krueger & Casey, 2015). Participants may also feel more comfortable talking openly about sensitive topics such as illicit behaviours within a group environment, as opposed to one-to-one interactions with a researcher (Guest et al., 2017). Participant observation is another method used in drug-related research, often combined with other data collection methods such as group discussions (Glassner & Loughlin, 1987; Jacques & Bernasco, 2013; Smith & Fitchett, 2002; Taylor & Potter, 2013).

Furthermore, interviews have been used to gather detailed information regarding drug use (Aldridge et al., 1998; Boys et al., 1999, 2001; Forsyth, 1996; Horwood et al., 2010; Vallance et al., 2016), enabling participants to elaborate on topics rather than being limited to survey questions. Other methods of measuring drug use include more scientific approaches such as urban wastewater analysis (Irvine et al., 2011). This involves measuring target metabolic residues known to be produced from certain illicit

substances. This approach was used in two major cities within Colombia to measure approximate illicit drug use, revealing high rates of cocaine usage and comparatively lower rates of other drugs such as cannabis and ecstasy (Bijlsma et al., 2016). While this method is effective in estimating large-scale drug use, it is not appropriate for use in the current research which focuses on the opinions and behaviours of PWUD, and less so on verifying specific levels of use.

4.2.3 Questioning: What to ask and how?

Research emphasises the importance of carefully planned survey questions that reflect the specific type of information needed (Neutel & Walop, 2000). The authors asked participants two questions which although worded differently, required the same response, and observed inconsistencies and inaccuracies in responses. Likewise, questions used in existing surveys have been direct, asking about specific types of drugs rather than allowing participants to recall different types, and similarly providing categorised or single option responses as opposed to open ended responses (Aldridge et al., 1998; Johnston et al., 2013; Mann, 2014; Riley et al., 2001; Turner et al., 1998). Where questions have produced qualitative data regarding drug dealing, responses were categorised into topics, themes, events, and actors, to name a few (Smith & Fitchett, 2002). The current research applies these methods, whereby participants are asked about specific drug use.

Surveys have been used in other disciplines where a similar nexus has been examined, for example, pro-environmental behaviour (Latif et al., 2013). Questioning techniques applied in these studies are useful for the current research, particularly later at the survey and experiment stages. For example, the "laddering" technique has been adopted in interviews to provide a deeper understanding of motivations behind pro-environmental behaviour (Bagozzi & Dabholkar, 1994). This involves asking for participants reasoning behind certain thoughts, feelings, and behaviours, then repeatedly asking why the stated reason is important, why that stated importance is important, and so on. Ultimately, this technique addresses the core reasoning behind a behaviour or lack thereof, which will be applied in the focus groups conducted within the current study. Similar to literature on drug use (Horwood et al., 2010), research investigating public understanding of human trafficking has combined analysis of quantitative data with themed categorisation of qualitative data (Dando et al., 2016), which will be applied within the current research. Moreover, research suggests that a combination of multiple data collection techniques improves the overall effectiveness of online surveys (Vaske, 2011).

4.2.4 Sampling participants

Previous studies have used self-selected and convenience samples for completion of surveys, such as snowball sampling or student participants (Graziano et al., 2007; Riley et al., 2001). Snowball sampling is convenient for research conducted on sensitive topics

where participants are difficult to reach, such as illicit drug use (Biernacki & Waldorf, 1981), and particularly in qualitative research studies (Parker et al., 2019). This sampling method is not without its limitations, as it relies on the researcher's resources and contacts and thus presents selection bias. Although studies have acknowledged the lack of replicability of convenience samples, it is nonetheless argued to be a useful method (Mullinix et al., 2015). Despite these criticisms regarding selection bias and subsequent lack of external validity, convenience sampling is the most appropriate and effective option for the current study. The lack of funding for this research presents limitations, thus focus group, survey, and experiment promotion relies largely on convenience, volunteer, and snowball sampling.

The most prevalent method of data collection relating to drug use is self-report because it is convenient, inexpensive, produces a large sample size, and yields valuable data particularly in conjunction with other data collection techniques. As with population surveys, self-report is used at all stages of data collection within the current research (chapters 4, 5, and 7) to obtain data on drug related behaviours and opinions.

4.3 Data and methods

Ethical approval for primary data collection through focus groups was granted by the University College London Research Ethics Committee. The following section details the materials, sample, design, and procedure applied within the present study.

4.3.1 Materials

Materials for this study, including the participant information sheet, consent form, and focus group topics and questions are available on the Open Science Framework: https://osf.io/qbt9x/

4.3.2 Target population and recruitment

One focus group was held in each city. The target sample size for each focus group was five participants, comprising PWUD recreationally who are aged over 18 and live in the city of data collection. Convenience, volunteer, and snowball sampling were applied. These recruitment methods likely attracted individuals with an interest in drug use and legislation, with many experiences and opinions to share. This stage of data collection was exploratory and warranted detailed insights into a sensitive topic. Smaller groups ensured that participants had the opportunity to share these in-depth contributions among the group, producing valuable data for the current research. Despite best efforts to obtain the target sample size, it was not possible in all three cities for various reasons explained below and in the limitations section of this chapter. University students were targeted for participation because younger people are reportedly the most likely to use

drugs (UNODC, 2021).[11] Additionally, university students were an accessible population because of the contacts and resources available in each of the three cities.

The first focus group was organised through contacts at the University of the Republic, a public university in Montevideo. My contacts at this university were professors in Anthropology and Sociology, who informed students of the requirements for the focus group and arranged for them to attend at a given date and time. Approximately 40 students enrolled on these undergraduate courses were invited to participate.

The second focus group was organised through University College London with members of UCL's Application of Psychedelics Society, which supports the use of psychedelic drugs for medicinal purposes. I shared promotional information about the focus group on social media platforms and emailed approximately 30 students who were approached during the Freshers Fair.[12] Students were contacted through university society Facebook pages, of which there were hundreds of members, although the response rate from most groups was low. Participants completed a poll used to gain consent for the researcher to contact them and organise a suitable date and time for all participants to attend.

The final focus group in Mexico City was difficult to recruit for without a translator and with fewer academic contacts held in the city. My contacts living in Mexico City invited friends and colleagues to take part, applying a snowball sampling strategy. For this focus group, participants were first invited by the contacts, then agreed to be emailed directly by the researcher to organise a date and time. A colleague volunteered to translate the discussion if participants could not complete it in English, which was not necessary.

4.3.3 Sample

Table 2 presents sociodemographic information of participants from the three focus groups. Participants were students and young professionals who had lived in the city for at least nine months prior to the focus group.

The Montevideo focus group included three full time university students and an interpreter. The interpreter was a middle-aged Uruguayan woman from Montevideo, all participants were also of Uruguayan nationality and only one was not originally from Montevideo. Participants in this focus group were extremely open and comfortable discussing their experiences and opinions on drug use, often raising the topic without being prompted by the researcher. Participants clarified drug legislation in Uruguay and provided detailed information on law reforms and related issues. P2 MVD was studying drug policy as part of her postgraduate degree. P1 and P3 MVD were acquaintances from

[11] Individuals aged between 15 and 34, according to the World Drug Report (2021).
[12] Promotional material was shared via Facebook and Twitter. The Fresher's Fair is an annual welcome event for new students, where I conducted in-person recruitment for the focus group in London in September 2018.

an undergraduate class. All participants held strong opinions on drug use and legislation, most of which they agreed on, however, they were comfortable speaking up when this was not the case.

Table 2. *Focus group participant sociodemographic information*

		Age	Gender	Nationality	Occupation	Other relevant information
Montevideo	*Participant 1 (P1 MVD)*	26	Male	Uruguayan	Anthropology undergraduate student	
	Participant 2 (P2 MVD)	28	Female	Uruguayan	Political Science postgraduate student, also works in the faculty	Studying drug policy as part of postgraduate programme
	Participant 3 (P3 MVD)	28	Male	Uruguayan	Anthropology undergraduate student	
London	*Participant 1 (P1 LDN)*	19	Male	Romanian	Psychology with Education undergraduate student	
	Participant 2 (P2 LDN)	20	Female	Polish	Chemistry undergraduate student	
	Participant 3 (P3 LDN)	20	Male	British	English Literature undergraduate student	
	Participant 4 (P4 LDN)	33	Male	British	Electrical company owner	Lives with wife and two stepchildren
	Participant 5 (P5 LDN)	18	Male	Russian	Biochemistry undergraduate student	
Mexico City	*Participant 1 (P1 MXC)*	31	Female	Mexican	Works in Security, conducts research	Participant did not offer more information about her work
	Participant 2 (P2 MXC)	22	Female	Spanish	Works in Human Rights and Human Right Defenders (previously in Urban Policy)	Born and raised in Spain. Moved to Mexico two years prior to focus group
	Participant 3 (P3 MXC)	29	Female	Mexican	Environmental consultant	
	Participant 4 (P4 MXC)	31	Male	Mexican	Publicist in Marketing firm	

The second focus group comprised five participants in London. All participants were members of the UCL Application of Psychedelics Society, four were also current UCL students. Some participants were initially more open to discussing their experiences of drug use than others, who needed easing into the topic. All participants eventually became comfortable discussing the topic. Several participants mentioned illicit drug use before being prompted by the researcher, as was observed in Montevideo. Most participants held strong opinions on legislation and negative impacts of illicit drug use and were comfortable debating with one another when they did not agree. P4 LDN appeared particularly well informed about drug types and sources, the remaining participants appeared relatively well informed, while P1 LDN appeared less informed.[13] P1 and P5 LDN were acquaintances who had met through the Application of Psychedelics Society. P1, P2, and P5 LDN were not British but were studying their undergraduate

[13] Awareness levels throughout this chapter refer to participants' reported opinions for which the objectivity and accuracy have not been measured.

degrees in London. These individuals had been living in London for at least nine months prior to the focus group.

Lastly, the focus group in Mexico City took place with four participants. P1 and P4 MXC were friends, as were P2 and P3 MXC. Participants had no reservations about discussing their drug use and disagreeing with each other. They displayed varying levels of awareness of drug sources and negative impacts associated with drug use and trade. P1 MXC worked in Security and appeared particularly well informed about drug legislation in Mexico. Most participants had strong opinions on drug legislation and emphasised their awareness of the fact that they were not representative of all people in Mexico. This group of individuals were young middle-class professionals, who appeared educated about illicit drugs and could afford more expensive illicit substances. P2 MXC was not Mexican but had been living and working in Mexico for two years prior to the focus group.

4.3.4 Focus group procedure

All focus groups took place within a seven-month period between October 2018 and May 2019. The focus group in Montevideo took place at the university campus, ensuring the security of participants and researcher. A translator was present as the discussion was completed in Spanish. The London focus group took place at UCL in the Department of Security and Crime Science building. This location was secure and had facilities required for the focus group. My main contact in Mexico City worked in the Secretariado Ejecutivo and provided access to a meeting room for the focus group in this building.[14]

All focus groups were audio and video recorded after obtaining consent from participants. Upon arrival at the focus group, participants were given an information sheet and consent form to read and sign and could then ask questions about the research. Participants voluntarily took part and most expressed an interest in being contacted later about research findings and future studies. Participants were told that the purpose of the focus group was to gain insights into experiences of drug use and opinions on use and legislation from different countries. They were not informed of the specific focus on negative societal impacts associated with the illicit drug trade.

A detailed list of the focus group discussion topics is available on the Open Science Framework, linked in section 4.3.1. However, a summary of the themes discussed and examples of questions within each is presented in Table 3.

[14] The Executive Secretariat of the National Public Security System is an official Government department building in Mexico City.

Table 3. *Focus group discussion topics and example questions*

Topic	Examples
Hobbies	What do you enjoy doing in your spare time? Can you describe your ideal Friday night?
Substance use	When doing *X activity*, how often are drugs involved? Where do you use *X drug*?
Sourcing drugs	Where do you get *X drug* from? Do you know where *X source* gets it from?
General negative impacts	Can you think of any issues associated with using drugs? What about broader issues?
Specific negative societal impacts	Are there any issues among society that you think ordinary people like me, or you are partly responsible for?
Nexus	How do you think these issues could be reduced? Do you ever associate your own drug use with these issues?

I was not looking to conduct a survey with participants in this study, but rather had a set of topics and questions. These covered drug types, quantities, frequencies, contexts of use, reasons for use, sourcing illicit drugs, and negative impacts associated with drug use, trade, and legislation. The focus group discussions were broad, including less relevant topics such as hobbies which were used to build a rapport and ease participants into the topic of substance use. The topics and questions were designed with the current research questions in mind, looking at existing drug use surveys as guidance for wording. For example, the 2017 Crime Survey for England and Wales Questionnaire asked: *"How often during the last 12 MONTHS have you taken CANNABIS?"* (ONS, 2017). The same format of direct questioning about specific drug types was adopted in the current research. The discussions were not rigid, allowing participants to explore other relevant issues if they wished. The laddering technique (Bagozzi & Dabholkar, 1994) was used to question participants about sourcing drugs and identify whether participants were aware of the drugs country of origin. The objective accuracy of statements was not tested, only the level of information offered by participants.

When discussing negative impacts associated with illicit drugs, participants were not prompted about the specific societal impacts that the current research focuses on. If participants raised these issues independently then this inferred high levels of awareness. After revealing participants' awareness levels, I mentioned the specific negative societal impacts of the drug trade and asked their opinions on possible solutions. These questions may appear leading, for example, *"Do you consider these issues important enough to change your behaviour?"*. However, these questions were only asked once participants had revealed their existing awareness levels of the negative impacts. Questions such as this were important in gauging existing salience levels of the negative impacts and whether a nexus was likely to have been formed among participants.

I transcribed the London and Mexico City focus groups, however, a Uruguayan colleague transcribed and translated the Montevideo focus group. For data security purposes, the translator and transcriber signed a confidentiality agreement stating that any

information they were exposed to from the discussion could not be shared. Participants in the Montevideo focus group were informed of this and consented to having an external translator present at the discussion and an external transcriber viewing the recording later. The focus groups lasted between 1 hour and 1 hour 20 minutes.[15] I did not objectively verify the accuracy of participants reported personal drug use, insights into societal use and attitudes, nor where their drugs originated. I did not offer my opinion on drug use or legislation during the focus groups to not appear biased or lead the discussion in any way. The influence of my presence in the focus groups is discussed in the limitations section of this chapter.

4.3.5 Analysis and coding strategy

I conducted all coding of the focus groups. I standardised the coding of the discussions by coding each mention of a theme as a single reference. For example, two participants stating different things about drug legislation, despite referring to the same theme and speaking after one another, were coded separately. If participants mentioned the same concept, for example, one participant agreeing with another, then this was coded as a single reference. The example below, for instance, was coded as two separate references to the theme "legislation".

> ***P2 LDN:*** *When I was buying anything or just smoking weed in Poland, you must literally look everywhere around you. […] It makes you more prone to a bad trip, I would say as well because you start getting paranoid.*
> ***P5 LDN:*** *When I hear a police siren, even here, like in any country at this point, I just get scared because I've been a criminal technically for four years now, ongoing. [laughs]*

The following example was coded as a single reference to the theme "legislation".

> ***P5 LDN:*** *It's very much local to the place though, like in Russia weed costs a lot more, it's a lot harder to get…*
> ***P4 LDN:*** *Harder to grow.*
> ***P5 LDN:*** *…And the penalties, like the chances of you getting in trouble and the penalty that you will get for it are way more severe.*

I conducted thematic analysis of the focus groups in NVivo (version 1.6.1) using an inductive approach. I began by reading through the three focus groups and noting the recurring topics. Consequently, I obtained the list of themes for analysis from the discussions and did not have a pre-determined list of themes. I then went through each focus group in-depth, assigning quotes to the identified themes in NVivo. Following this, I combined the thematic analysis of each of the three focus groups and obtained basic quantitative data from NVivo, such as the percentage of each discussion that was spent talking about a certain topic. The combination of qualitative and quantitative

[15] Focus groups lasted for 1 hour in Mexico City and 1 hour 20 minutes in London and Montevideo.

presentation of data was adopted to ensure that the richness of the qualitative data was not lost, whilst enabling a more objective comparison of the three focus groups and addressing the criticisms of idiographic approaches to research.

4.4 Results

The results are organised by the themes identified from the thematic analysis conducted in NVivo. When reporting specific quotes from the focus groups, "R" refers to the researcher. Participants were anonymised and identified only by a number and corresponding city.[16]

4.4.1 Coding themes

Eleven themes were identified from the thematic analysis. Table 4 presents the number of references to each theme and the percentage of the whole discussion each theme covered. Several themes were further categorised into specific sub-themes which are defined later in this section. The percentage coverage of each theme indicates the level of insights participants offered, i.e., participants spent more time discussing the themes that they had stronger opinions on and more information about.[17] Some quotes were coded to multiple themes, explaining why the percentage coverage for each focus group does not equal to 100.

Table 4. *References to themes in each focus group*

Theme	Montevideo		London		Mexico City	
	N	*%*	*N*	*%*	*N*	*%*
Hobbies	24	10.8	6	2.5	7	4.0
Attitudes towards drugs	15	11.2	26	20.4	21	17.4
Reasons for drug use	22	8.8	64	18.8	26	9.4
Types of drugs	54	16.4	**172**	**46.3**	67	29.1
Contexts of drug use	22	13.1	35	16.7	26	12.6
Changes in drug use	12	11.6	14	9.0	19	14.6
Drug legislation	30	17.6	25	16.1	34	30.0
Sources of drugs	41	13.6	56	16.2	47	12.5
Negative societal impacts	**76**	**29.9**	69	20.8	**105**	**43.5**
Awareness	5	5.0	10	6.3	23	16.3
Nexus	17	10.8	25	11.6	36	27.9

The theme most discussed in Montevideo and Mexico City was negative societal impacts (29.9% and 43.5% respectively), followed by drug legislation which included references

[16] For example, P1 LDN = participant 1 in London, P4 MXC = participant 4 in Mexico City, P1 MVD = participant 1 in Montevideo.

[17] Note: Henceforth in this chapter, tables depicting percentages of references to a theme are in relation to the *entire* focus group discussion. For example, Table 4 shows that 10.8% of the focus group in Montevideo was spent discussing participants' hobbies.

to drug law enforcement (17.6% and 30.0%). In London, however, participants mostly discussed drug types (46.3%) followed by the negative societal impacts (20.8%). Definitions of themes and sub-themes are provided in the relevant sections below. The results from each of the focus groups are presented concurrently within each theme.

4.4.2 Theme 1: Hobbies

Participants were asked how they spend their free time, unrelated to drug use, to get an idea of their personalities and interests. Participants discussed changes in their hobbies over time and eased into the topic of illicit drug use through this discussion.

Participants in all three focus groups shared similar hobbies and interests. Participants generally enjoyed attending music events, socialising with friends in various contexts, going out to pubs and bars or cantinas,[18] and alone time spent reading, listening to music, or watching a movie. P2 and P3 MXC attended different dance classes. P4 LDN was married with two stepchildren and reported spending most of his time with his partner. Similarly, P3 MVD spent his free time at home with his girlfriend. P2 MVD was interested in drug policy, reportedly spending much of her free time engaging in activist and community-related activities.

> ***P2 MVD:*** *I'm a member of a cannabis club.*[19] *We do every activity collectively and we also do other types of activities, we spread information and it's a place for activism […] I also partake in a programme called "Imaginario 9" that aims to reduce the negative effects in leisure spaces and work for harm reduction in common spaces.*

Participants mentioned attending events specific to each city/country. For example, open air parties were reportedly common in Montevideo, specifically "sunset" parties and all-night parties.[20] There were no other significant differences in this theme between the three focus groups.

4.4.3 Theme 2: Attitudes towards drugs

This theme included general attitudes towards drugs and drug use, both in terms of personal and societal attitudes.

Participants in London generally felt negatively towards alcohol consumption being widely accepted as a cultural norm in the UK, while illicit drugs are stigmatised. In Mexico, participants mentioned that they live in a largely conservative and religious country

[18] Cantinas were described as the Mexican equivalent of British pubs – venues where Mexican music is played, and food and alcoholic drinks are served.
[19] Cannabis clubs are legal clubs with a membership fee and usually additional monthly fees. Members receive access to limited supplies of cannabis each month, which is grown and cultivated within the clubs.
[20] "Sunset" parties run from the early afternoon until midnight, compared with all-night parties which begin later and could go on until 7am. Both are organised events at official venues.

where drug use is associated with high levels of stigma. Montevideo participants identified higher stigmatisation of drugs used predominantly by poorer communities (e.g., crack cocaine) and believed that society in Uruguay generally stigmatises all drugs apart from cannabis.

> ***P1 MVD:*** *When you were 16 and you smoked a joint, everyone looked at you like you were an addict. But now, a lot of people smoke.*
> ***P3 MVD:*** *This de-stigmatisation of cannabis came along thanks to legalisation.*

An apparent difference between the focus groups was attitudes towards alcohol, which was discussed to a large extent in London but scarcely in Montevideo or Mexico City. P4 LDN emphasised the difference in a person's ability to function whilst drunk (quote "completely sloppy drunk") compared with being high on cannabis, which allows you to maintain coherency. London participants believed that misinformation about illicit drugs among society had led people to view them as bad. Despite this, they acknowledged the dangers of misuse, particularly of addictive drugs like cocaine and heroin. In Uruguay, P2 MVD identified a similar societal attitude towards drugs, highlighting societies ignorance towards illicit drugs and how attitudes are constantly changing. Interestingly, P3 MXC mentioned independent organisations in Mexico that attend events where drugs are known to be consumed despite being prohibited.[21] These organisations reportedly test the composition and potency of drugs without penalising individuals for using them, ensuring that drug use is safe in these contexts and suggesting a shift in attitudes towards drugs.

P3, P4, and P5 LDN expressed a curiosity towards trying many different illicit substances despite negative experiences of drug use. P1 MVD also shared this view, stating that he sometimes uses drugs even if he feels like he may have a bad trip.[22]

> ***P4 LDN:*** *It [a bad trip] just means I've got to do more research […] it's all about education. Educate, don't regulate.*
> ***P3 LDN:*** *That sort of thing didn't stop me. When I was doing a lot of drugs […] If anything, I sped up.*

In contrast, P1 LDN associated drug use with special occasions, believing that there must be a specific purpose for his drug use. P2 LDN perceived drugs as beneficial to mental health. In Mexico, participants similarly spoke about illicit drugs used in medical contexts and how this is becoming more prevalent around the world.

> ***P4 MXC:*** *All medicines are drugs, essentially […] I know a guy doing research on taking ketamine and mushrooms to treat depression, he's a super esteemed psychologist. He's presenting a lot of his findings in San Francisco at Stanford's research centre.*

[21] Such as music festivals.
[22] A "bad trip" refers to negative mental/psychological experiences when high on psychoactive substances, which can be severe.

London participants believed that society in the UK has become more open to cannabis use and police are less interested in penalising cannabis use. Furthermore, participants in London suggested that governments are reluctant to reform drug policy and decriminalise illicit drugs because it does not benefit them financially. In Montevideo, where cannabis is legalised, participants appreciated the liberty in their country and ability to use cannabis in the street without fear. This contrasts the attitudes of London participants who mentioned sometimes feeling like "criminals" or "outlaws" because of their drug use.

4.4.4 Theme 3: Reasons for drug use

This theme comprised nine sub-themes, including personal reasons for use and those that participants believed are shared among society. Table 5 presents these sub-themes and definitions. Not all sub-themes were referenced in each of the focus groups, the distribution is presented later in Table 6. Participants in Montevideo and Mexico City mostly attributed their drug use to specific activities (4.4% and 4.0% respectively), whereas in London it was mostly to expand consciousness (6.4%) and socialise (6.4%).

Table 5. *"Reasons for drug use" sub-themes and definitions*

Sub-theme	Definition
Curiosity / experience	General curiosity about the drug taking experience, wondering how a high would feel and/or the effects of different drugs
Energy	Using stimulants specifically to increase energy and alertness
Escapism	Temporary escape from reality and aspects of daily life, drug use serves as a distraction
Expand consciousness	This refers to specific drugs that have a desired mental effect, for example, psychedelic drugs may be used as they make the user think differently and/or deeply
Improve mood / mental health / medical	Illicit drugs used (unprescribed) for mental or physical wellbeing
Other	Drug use for reasons stated besides the specified sub-themes
Relax	Illicit drugs used to relax, destress, help to sleep, etc., either alone or with other people
Socialise	Drug use as a form of socialising with other people
Specific activities	Planned drug use which occurs on specific occasions/events, for example, when attending a music festival

Mexico City participants did not reference curiosity, escapism, or expanding consciousness as reasons for use. This was also the only group to mention increasing energy as a reason for use. Participants in Mexico City identified drug use within the workforce among society, specifically the use of cocaine in the medical, financial, and legal sectors.

P3 MXC: *Whereas with MDMA, it would be in a very specific time. Like we're going to a music festival that lasts three days, how are we going to survive this? Drugs! Of course, it makes you feel happy […] there's that, but there's also the fact that you're standing for ten hours straight and dancing, there's no human possible way you could do that without drugs.*

P1 MXC: *Coke [cocaine] I would do when I'm going to a club and staying up really late, or at weddings, to be able to deal with the wedding.*
P4 MXC: *[…] especially if it's an out-of-town wedding, you know you're going to stay there until like 7am. Everybody is going to be wasted and you don't want to be the most wasted guy in the room, right? So, you do coke.*

Participants in all focus groups reported using drugs when socialising with friends, simply because they got together to socialise and using drugs was something to do. Reasons for drug use coded to the "other" sub-theme include the fact that sober venues, such as cafés, close early in the UK compared with other countries. London participants therefore argued that there is not much else to do besides drink or consume drugs when going out beyond certain hours of the day. Culture specific reasons were mentioned in Montevideo, suggesting that drugs are used in parts of Latin America as cultural rituals. In all focus groups, some participants admitted to using drugs "just because", i.e., for no other reason besides wanting to get high.

P5 LDN: *I think the majority of my drug use is just because I like drugs, there's no deeper meaning.*

P3 MXC: *Smoking a joint [cannabis] would be more often without even thinking about it, more casual.*

Table 6. *References to reasons for drug use in each focus group*

Reason for drug use	**Montevideo**		**London**		**Mexico City**	
	N	*%*	*N*	*%*	*N*	*%*
Curiosity / experience	1	0.3	11	6.1	-	-
Energy	-	-	-	-	5	3.3
Escapism	1	0.7	6	3.6	-	-
Expand consciousness	2	1.6	**7**	**6.4**	-	-
Improve mood / mental health / medical	1	0.2	9	6.3	2	1.1
Other	6	4.2	7	2.4	4	1.9
Relax	2	1.7	2	1.0	2	0.7
Socialise	4	3.9	**9**	**6.4**	5	2.3
Specific activities	**6**	**4.4**	7	2.9	**6**	**4.0**

4.4.5 Theme 4: Types of drugs

This theme covered specific drug types that participants reported using and believed were commonly used within their country. Table 7 presents the 11 drug types identified.

"Alcohol" was coded despite being legal because it was discussed in all focus groups and particularly in-depth in London. "Psychedelics" was included as a discrete sub-theme because participants sometimes referred to psychedelic drugs more generally, as well as discussing specific psychedelic drugs like acid and mushrooms.

Table 7. *Drug types and number of references in each focus group*

Drug type	Montevideo		London		Mexico City	
	N	*%*	*N*	*%*	*N*	*%*
Alcohol	1	0.7	22	8.2	6	2.9
Cannabis	**18**	**8.0**	**56**	**25.0**	**21**	**15.5**
Cocaine	11	6.5	11	3.4	14	8.6
Crystal meth	4	2.1	-	-	-	-
Heroin	-	-	4	1.8	1	0.3
Ketamine	5	3.0	10	4.7	1	0.7
LSD / acid	4	2.5	15	7.8	2	1.1
MDMA / ecstasy	5	3.0	10	4.5	9	7.1
Mushrooms	-	-	9	4.0	5	3.0
Other	5	2.5	9	1.9	5	2.9
Psychedelics	1	0.6	17	8.6	-	-

Cannabis was the most referenced drug in all three focus groups (8.0% in Montevideo, 25.0% in London, 15.5% in Mexico City), followed by cocaine in Montevideo and Mexico City (6.5% and 8.6%), and psychedelic drugs in London (8.6%). Outliers among the list of drug types appear to be crystal meth and heroin as these were seldom referenced and not present in all focus groups. In Montevideo, participants disclosed using "crystals" occasionally.[23]

> ***P3 MVD:*** *Pills, ketamine, and crystals I use rarely, when I go to a party or when I am at home with my girlfriend.*

Heroin was referenced in London and Mexico City (1.8% and 0.3%), although only regarding wider societal use. Participants did not report using this drug.

> ***P4 LDN:*** *If they did legalise cannabis, you would probably get less stabbings. Then police can focus more on things like coke [cocaine] and heroin, which can kind of destroy lives if used incorrectly.*

> ***P1 MXC:*** *[on decriminalisation] I think it's huge because maybe heroin I think is up to 1 gram or something.*

[23] Participants mentioned that crystals were a relatively new and expensive drug in Montevideo.

The "other" sub-theme referred to a variety of drugs, not all of which are illicit. In the London focus group, this included new synthetic drugs and "smart drugs".[24] Similarly in Montevideo, this included new synthetic drugs. Lastly, in Mexico City, the "other" sub-theme included gasoline, cement, or glue as alternatives to more expensive illicit substances. These were not used by participants but believed to be common in Mexico among poor communities.

4.4.6 Theme 5: Contexts of drug use

Contexts of drug use referred to two sub-themes: "frequency/quantity" of use, and "when/where/with whom" drug use occurred. Quotes coded within this theme included specific reports of drug use, for example, smoking cannabis with friends at a party.

Frequency/quantity

Reported frequency of drug use varied widely among focus group participants. Some reported frequent use, for example, using cannabis almost daily, whereas others reported only using drugs several times a year. There were no apparent differences in frequency or quantity of drug use between each of the three focus groups.

When/where/with whom

Participants typically reported using drugs with other people, either a partner, friend, or group of friends. The exceptions were P4 MXC who mentioned smoking cannabis alone in the park whilst walking his dog, and P1 MVD who disclosed sometimes smoking cannabis alone after a long day of work. Drug use for most participants in London and Mexico City was reportedly initiated among friends at secondary school. Participants in Montevideo mentioned seeing young teenagers with "dilated pupils"[25] at open air music events with limited age control, suggesting an early onset of drug use. Reported drug use among peers at university was also common in London.

The situations in which drug use occurred varied. Participants in the three cities reported using more stimulant drugs such as ecstasy, cocaine, and ketamine in low doses when attending parties, raves, club nights, or festivals with a focus on specific music genres. This form of drug use is usually planned with a specific purpose. P3 MVD, for example, mentioned using cocaine every time he rehearsed with his music band. Additionally, psychedelic drugs were discussed in detail among London and Montevideo participants, which was often a planned event and consumed indoors. In general, the contexts of drug use depended largely on the drug in question. Cannabis was reportedly used in the widest range of contexts which indicated more casual and spontaneous use.

[24] "Smart drugs" are those that improve mental performance, for example, Adderall. These are legal if prescribed for medical purposes but are often used unprescribed in academic/work contexts.
[25] A common physiological response to the use of certain drugs, namely stimulants.

P5 LDN: *I'm gonna say that it probably became more about the substance in question rather than the atmosphere.*

There were several participants who used drugs in less common, drug-focused contexts. P4 LDN reported attending coffee shops in London,[26] cannabis events around the country, and discussed plans of opening a private cannabis club. P2 MVD was a cannabis club member and engaged in drug use and other related activities within the club.

P4 LDN: *Since finding Instagram, I've met loads of people in the cannabis community. There are events, "Jerk and Fire", down in Brighton, which was great. You go along, cooking jerk chicken there and you've got these tents and you go and buy weed out in public, in the open.*
P2 LDN: *There are coffee shops in London, you just need to know the connections.*

P2 MVD: *I am a member of a cannabis club. We do every activity collectively and we also do other types of activity, we spread information and it's a place for activism.*

4.4.7 Theme 6: Changes in drug use

This theme comprised changes to personal and societal drug use over time. Participants discussed changes in drug types, quantities, frequencies, and reasons for using specific drugs. The two sub-themes identified were "changes among participants" and "changes among society".

Changes in participant drug use

Participants in London described alcohol as a "gateway drug" in their personal experience as well as among society, eventually leading to increased illicit drug use and less interest in alcohol. This transition was a natural progression, for example, out of curiosity and exposure to different illicit drugs through friends. Additionally, the transition was encouraged through better experiences when consuming drugs compared with alcohol.

For P4 LDN, negative experiences of drug use caused him to change the types and quantities of drugs consumed but did not halt or reduce his use. P2, P3, and P5 LDN suggested that their drug use had changed since moving to London. Frequency of use decreased when first arriving and before finding a dealer, then the types of drugs they used changed as a wider variety was readily available in London. P5 LDN admitted that his drug use had stabilised as he now knows which drugs he enjoys using, after trying many different types out of curiosity.

[26] These are reportedly cannabis cafés, such as those observed in Amsterdam, the Netherlands. However, they would be illegal in London, UK.

P5 LDN: *There was a time when I would try virtually anything that I was given, so there were some weird compounds […] now it's becoming more conscious, especially with drugs I'm more familiar with.*

In Montevideo and Mexico City, participants briefly discussed changes to their drug use, which among them was influenced by changes in hobbies and music taste. There was a common association between electronic/techno music events and illicit drug use, namely pills like ecstasy. P3 MVD attributed a shift in his drug use to getting older in age, suggesting that the "hangover" after a night of drug use was undesirable.

P2 MVD: *I started [drug use] far later, when I was 24 more or less, I became acquainted with electronic music […] I thought electronic was very monotonous until I tried pills, that was when I learned to enjoy it and dance to it.*

P2 MXC: *I used to go out to techno clubs much more and I would do drugs quite often […] but now I use them much less. If I go out to a normal concert or to like dance, I normally wouldn't use drugs.*

Changes in societal drug use

Participants highlighted the influence of drug policy and law enforcement on societal drug use. For example, participants in London argued that fewer police patrols[27] meant that police now prioritise more serious crimes and consequently focus less on cannabis use. This, in turn, meant that drug use appeared to increase as members of the public were less concerned about the legal consequences. In Mexico, P4 MXC speculated that drug dealers had branched out following cannabis legalisation in California.[28] This introduced a variation of cannabis products available in Mexico which were produced using cannabis oil, such as baked goods.

Moreover, London participants attributed substance use to a need for escapism from the negativity occurring around the world, such as poverty, which was not mentioned among Mexico City or Montevideo participants. P5 LDN[29] suggested that escapism has become more prominent among society in countries like the UK, driving an increase in societal drug use.

P5 LDN: *There was this peak of a more comfortable life when there were prospects in the future and then suddenly it got the point where the country, but also the world, is crumbling and falling apart. Everybody can feel it whether they have different ideas of what's happening, different perspectives on it, but everybody can feel that something is wrong when the most fundamental institutions are falling apart. When the morality of everything is changing. When you're walking down Central London*

[27] Government budget cuts resulted in reduced funding for London police departments.
[28] California is a large consumer state of the Mexican drug supply chain.
[29] P5 LDN was born and raised in Russia but had been living in London for nine months prior to the focus group.

*and there are like 100 people living on the street in 10 metres. People can see that, and I think that kind of increases the drive for escapism. Whereas say in Russia, it's been horrible for the past 200 years, it's not really… people do drink and take drugs but it's in a more flowing fashion I would say. [**P4 LDN:** They're used to it]. It's not an abrupt burst, there's no binge drinking, it's sort of quiet TV beer type…*

In Montevideo, participants suggested that cannabis had become more difficult to obtain despite legalisation, which resulted in cocaine becoming more popular among society (or rather, those who can afford cocaine).

***P3 MVD:** It's easier to get cocaine than marijuana.*
***P1 MVD:** Nowadays, yes.*

Additionally, participants in Montevideo described the change in nightlife culture which brought about a change in societal drug use, namely different types of drugs. The introduction of "open air electronic music parties" in the early 2010s with international DJs and lax age restrictions increased the popularity of electronic music and drug consumption, specifically ecstasy.

4.4.8 Theme 7: Drug legislation

References to drug legislation and drug law enforcement were coded within this theme. Participants firstly outlined existing drug policies in their countries. The overarching, collective opinion on legislation among the focus groups was that it largely impacts on drug related attitudes and behaviours, as discussed in themes 2 and 6. In London, participants who were not originally from the UK believed that drugs were harder to obtain in their home countries because of harsher drug law enforcement. The risks and severity of penalties for drug use and trade in London, in participants' opinions, are lower than in other parts of Europe.[30] In Mexico, where the possession of limited quantities of drugs is decriminalised, participants raised the issue of corruption within law enforcement. Participants believed that law enforcement officials in Mexico do not follow the reform and police treatment is often influenced by a person's social class. Similarly, corruption was discussed in Montevideo, where P3 MVD disclosed purchasing cocaine from a police officer that had presumably been confiscated by a member of the public. Participants in Montevideo and Mexico City believed that corruption enables cartels to exist and become so successful.

***P1 MXC:** That has happened to me with a couple of friends. I didn't know they had any drugs on them. We were walking around the park close to here and they were smoking weed, so a patrol stopped around us and were like "what are you doing?" Then they checked them, and he had some coke [cocaine]. And he was like "oh now you're going to jail because of this", but they didn't even measure it or consider if it's under 1g. So, what happened was of course my friends said, we don't want to be taken to the*

[30] The participants disclosing this opinion were originally from Poland and Russia.

precinct, how much money do you want? And they just gave them like $500… or maybe $250, I don't know, it was a lot. [Other participants are surprised]

Participants in London discussed the negative aspects of drug legislation, for example, the inconsistency in drug policies in certain countries.

P4 LDN: *It's like Amsterdam, it's [cannabis] not legal in Amsterdam, it's only legal in the coffee shops. But getting it to the coffee shops is still illegal. So, you've got all these illegal people growing at home and they sell it to coffee shops, and you've got a runner who goes… as soon as they've got it to the coffee shops its now fine. But getting it to the coffee shop, they're breaking the law.*

Among all focus groups, participants agreed that prohibition is ineffective and worsens the impacts of drug use and trade. Drug legislation was argued to contribute to misinformation about drugs, making drug use appear worse than it truly is. Participants in Mexico City mentioned how the situation, particularly violence, had worsened following the "war on drugs".[31]

P3 MXC: *They [cartels] were more organised, they kind of financed a lot of things in the public spaces like putting new lights in rural areas. But then there was this war on drugs, but the way they did it was kind of like killing the leaders. But you don't realise when you kill the leaders, all the groups will come up.*
P4 MXC: *When you kill the leaders, five people will start fighting because they all want to replace it. So, you make a bloody war […] Or the group starts splitting up. Like if you incarcerate one guy then two heads start fighting, they couldn't make up their mind, so now they split and have two groups. And now there's no one to control them so they become very bloody and very violent very quickly. He [President Calderon] just kept arresting or killing people…*

Participants in Montevideo discussed the benefits of drug decriminalisation and cannabis legalisation in Uruguay and agreed that the stigma associated with cannabis had reduced because of drug policy reform. Similarly, P4 MXC suggested that a benefit of legalisation would be providing legal job opportunities for people currently working in the illicit market. Furthermore, participants in London suggested that the motivations behind drug prohibition are dubious. For instance, governments argued health concerns to be the principal motive, however, participants questioned this.

P4 and P5 LDN agreed that decriminalisation of drugs would be the most beneficial policy reform. Full legalisation would negatively impact current growers and sellers within the illegal market and provide the government with excessive profits and control over distribution. Participants argued that this would be a negative outcome. A similar notion was highlighted in Montevideo whereby participants reported the difficulty in obtaining cannabis through legal routes.

[31] Enforcing drug prohibition through harsher penalties and increased drug law enforcement efforts.

P3 MVD: *To acquire cannabis you have the legal way which is going to the drugstore, but sometimes they run out or you must queue […] if I wanted to buy legally, I don't even know where I would have to go. You take a bus for 20 minutes to an hour, and when you get there, you don't even know if there's any left for you.*

P2 MVD reported accessing cannabis easily through her cannabis club but admits that these clubs are often expensive. Additionally, she believed that the quality of cannabis from legal dispensaries was not as good as other sources. Legalisation had reportedly enabled better quality cannabis to be trafficked into Uruguay through the illicit market, reducing the public's willingness to obtain cannabis legally. In Montevideo, participants highlighted the contradictory nature of cannabis regulation campaigns and the ignorance of older generations towards the issue. P2 MVD mentioned that one side of regulation allows citizens the liberty to use cannabis, however, the message of preventing harm is contradictory in that it promotes abstinence.

Participants in London suggested that the community of PWUD in the UK is largely in favour of removing prohibition, evident by the level of support and engagement in legalisation campaigns in parts of the country. However, participants also appreciated the difficulty in deciding which drugs to decriminalise/legalise.

P5 LDN: *Decriminalisation in larger quantities, so not just like 10 grams for personal use, but you can grow like 50 plants [cannabis] in your flat and you're not prosecuted even if you're caught selling them. That will give a massive spike to the local industry and people, especially in smaller communities. People are going to tend towards locals, just because it's way nicer and people will be able to bring the prices down.*

In Montevideo, participants agreed that the existing drug legislation essentially criminalises poverty. This is because of criminal penalties enforced only on the drugs which are predominantly used within poor communities.

P2 MVD: *All of them are the same [decriminalisation of drugs in Uruguay] except for cannabis […] but there is certain criminal prosecution on some drugs, mostly crack cocaine, which is like criminalising poverty.*

4.4.9 Theme 8: Sources of drugs

This theme comprised 11 sub-themes relating to where participants obtained their illicit drugs. Definitions of sub-themes are presented in Table 8.

Table 8. *"Sources of drugs" sub-themes and definitions*

Sub-theme	Definition
Awareness of sources	The ways in which participants learned about different drug sources and origins, i.e., knowledge of where their drugs had come from
Cannabis club	In Uruguay, where legal cannabis sources are available, participants can become members and grow/obtain cannabis through these clubs

Drug dealer / illicit drug trade	Buying from a dealer who obtains drugs through the illicit drug trade
Friends / acquaintances	This referred to people sharing drugs with others, without the exchange of money
Imported	Where participants specifically stated that their drugs had been imported from another country
Informal dealing	This was a source identified in each of the three focus groups, whereby someone would buy larger quantities of a drug, keep some for personal use and sell the remainder to friends
Internet / social media platforms	Buying drugs online
Legally	In Uruguay, participants can grow cannabis plants or buy from legal dispensaries
Locally grown	Where participants specifically stated that the cannabis they use had been grown locally, in their city or country
Other	Any other source not listed in these sub-themes
Self-grown	Where participants grow their own cannabis plant

Table 9 shows the distribution of references to each drug source. In Montevideo, participants mentioned all drug sources apart from the internet. London participants discussed all apart from legal sources. Cannabis clubs were mentioned by P4 LDN with reference to his plans to open a club in London, not that he already sources drugs through these means. In Mexico City, the only drug sources not mentioned were cannabis clubs and legal routes. Drug dealers via the illicit drug trade was the most referenced source in Montevideo and Mexico City (4.3% and 8.3%). In London, the most discussed source was informal dealing (5.1%). Some of these sub-themes overlap, for example, drugs purchased from a dealer or through the internet[32] may also be imported.

Table 9. *List of drug sources and number of references in each focus group*

Drug source	**Montevideo**		**London**		**Mexico City**	
	N	*%*	*N*	*%*	*N*	*%*
Awareness of sources	3	1.2	3	2.3	7	4.7
Cannabis club	1	0.4	2	1.0	-	-
Drug dealer / illicit drug trade	**13**	**4.3**	7	4.4	**14**	**8.3**
Friends / acquaintances	6	3.9	10	4.8	7	5.1
Imported	3	1.5	10	4.0	1	1.4
Informal dealing	2	1.0	**7**	**5.1**	3	2.4
Internet / social media platforms	-	-	10	4.6	3	2.4
Legally	8	3.4	-	-	-	-
Locally grown	2	0.9	3	1.5	7	4.5
Other	2	2.9	2	1.0	2	0.7
Self-grown	4	1.1	2	0.9	2	0.8

[32] Participants in London and Mexico City mentioned purchasing drugs through the social media website and app, Instagram (https://instagram.com).

Participants reportedly became aware of different drug sources through speaking to other people, specifically friends, drug dealers, or bar owners. P5 LDN stated that his knowledge had accumulated over time making it difficult to pinpoint exact sources of information, however, he discussed reading online articles and listening to podcasts on the topic. P3 MVD reported knowing several people who purchased cannabis legally through dispensaries to sell on to other people. P2 MVD stated that Uruguay is not a production country and therefore does not have large cartels, meaning that drugs sourced illegally are imported. This participant, however, obtained cannabis legally and previously grew her own cannabis plants. P1 and P3 MVD reportedly obtained drugs through dealers or friends, who sometimes grew their own cannabis plants.

In Mexico City, P1 and P4 MXC provided more information about drug sources than others. P3 MXC, for example, did not know where her dealer originally obtained drugs. Interestingly, P1 and P4 MXC stated that the source was obvious in their experience, particularly when purchasing from a dealer who is part of a larger criminal network. Additionally, P4 MXC suggested that taxis in Mexico City are a part of the large network of dealers, as he previously had drugs delivered to him by a taxi driver.

> ***P4 MXC:*** *Usually it's a network. You can tell because if you ask them something, they will forward you the exact same message that you get from every other dealer. You know which cartel they belong to.*
> ***P2 MXC:*** *Really?*
> ***P3 MXC:*** *Really? I don't know which cartel my dealer is with.*
> ***P1 MXC:*** *La minion of course.*
> ***P4 MXC:*** *La minion, there's only two big cartels who run this city.*
> ***P2 MXC:*** *And they tell you?*
> ***P4 MXC:*** *It doesn't say in the message, but you can tell from the message. There are two different types of messages, and you can tell which one is from the stronger one.*

While P4 LDN appeared well informed about drug sources from the level of insights he offered, other participants in London did not know where their drugs had come from beyond their dealer. General sources of imported drugs speculated in London were the US, Spain, Morocco, the Netherlands, Latin America, and India.

> ***P4 LDN:*** *They get tonnes and tonnes of Cali stuff always getting shipped over from Jungle boys, Bugatti boys, all these US places*
> ***R:*** *Do you know that they're grown in the US?*
> ***P4 LDN:*** *They're grown in the US and then they're flown here, flown here not grown here, hashtag – you'll see everything is all US. But I prefer to get UK green because I want to get the stuff that's grown by UK growers, I want to support the UK market, and they're making just as good stuff.*

Participants in all focus groups discussed the ease of obtaining drugs through a dealer, whom they would find out about through their friendship networks. Moreover, in

London, participants believed that the network of dealers in the UK was not as sophisticated or large-scale as one might expect.

> ***P5 LDN:*** *I didn't really have access to such a variety before, currently I'm at the level where I just want some weed. That's where the people that are just dealing from hand come in, and they're not quite as sophisticated. They're not the dealer that goes from the gang to the street. They're not connected, they're not integrated necessarily into the drug network. They're just integrated into the local community of students, high schoolers, whatever. They just happen to know a place where they can get like 10 grams at a time and then sell it. It's really way more lowkey and a lot more homey.*

Although some participants in London and Mexico City reported a preference for locally grown cannabis, if this was not an option then participants would still source drugs from another dealer. Essentially, all participants agreed that sources of certain drugs are limited, for example, it is impossible to produce cocaine locally within the UK. Where these limitations are placed, participants reported seeking alternative sources.

4.4.10 Theme 9: Negative societal impacts

This theme incorporated 13 sub-themes, 11 of which were specific negative impacts of illicit drug use and trade. The final two sub-themes related to how participants became aware of this information and how they believed these impacts could be reduced. Not all focus groups referenced each of the sub-themes, this distribution is presented later in Table 11. Table 10 outlines the sub-themes and their definitions.

Table 10. *"Negative societal impacts" sub-theme definitions*

Sub-theme	Definition
Cartels / gangs	Organised drug production and distribution. "Cartels" were referenced in Montevideo and Mexico City, while "gangs" were referenced in London
Corruption	Instances of government or law enforcement officials acting dishonestly, for example, bribery
Health risks	Direct physiological and mental impacts of illicit drugs on the user, such as a bad trip or risk of misuse
Human trafficking & exploitation	Exploitation and coercion of vulnerable individuals into the drug trade. This code also referenced indirect impacts of the drug trade, like drug money used to fund human trafficking
Jobs in the illegal market	The illicit drug trade generates jobs for many people which would be lost if the market were eradicated
Marginalisation	Societal inequality resulting in different drug use between the social classes. The criminalisation of drugs used predominantly by poorer communities, which penalises and marginalises these members of society
Media, government, education	Misinformation in the media which is exaggerated and used as a distraction from other government and societal issues. Inaccurate information and a lack of education about drugs driving stigmatisation as well as being unsafe
Other	Any other negative impact mentioned by participants which does not fall under the specified sub-themes

Prohibition	Negative impacts caused or enhanced by the criminalisation of drugs
Reducing impacts	Participants' opinions on what could be done to reduce the negative impacts coded within this theme
Sources of awareness	References to how participants became aware of these negative societal impacts
Stigmatisation	Stigma surrounding drugs and drug use, whether accurate or not, which contributes to marginalising members of society or misinformation about drugs
Violence	Acts of violence against people committed at different stages of the illicit drug trade

References to negative societal impacts made up 30.6% of the entire focus group discourse in Montevideo, 19.2% in London, and 36.5% in Mexico City. Therefore, participants in Mexico City and Montevideo offered more insights into the topic than those in London. The most discussed negative societal impact differed between each of the focus groups. Montevideo participants mostly discussed problems with media, government, and education (9.5%). In London, participants mostly discussed drug prohibition as a source of many associated problems (7.3%). Lastly, participants in Mexico City mostly discussed violence associated with the drug trade (16.8%). This is shown in Table 11.

Table 11. *References to "negative societal impacts" sub-themes in each focus group*

Negative societal impact	**Montevideo**		**London**		**Mexico City**	
	N	*%*	*N*	*%*	*N*	*%*
Cartels / gangs	2	2.7	6	1.5	11	13.3
Corruption	4	6.9	6	2.6	5	5.3
Health risks	6	2.6	7	2.6	4	3.1
Human trafficking & exploitation	2	3.3	6	2.9	2	1.9
Jobs in the illegal market	4	2.0	1	2.0	2	1.7
Marginalisation	3	1.8	-	-	4	4.5
Media, government, education	**10**	**9.5**	4	4.6	1	1.3
Other	5	2.3	2	1.2	-	-
Prohibition	8	6.1	**9**	**7.3**	7	8.9
Reducing impacts	7	4.3	6	3.9	15	16.7
Sources of awareness	5	3.3	1	0.4	8	8.1
Stigmatisation	8	4.9	5	5.1	3	1.5
Violence	7	6.4	7	2.0	**14**	**16.8**

The most apparent difference between focus groups was in their references to drug cartels/gangs. London participants did not mention cartels, only drug gangs operating in the UK that they perceived as smaller, less organised networks. Participants attributed violence and stabbings in London to competition between gangs for control over areas for drug distribution. London participants also suggested that these gangs engage youths in dangerous activities. For example, "county lines" related exploitation whereby youths are ensnared into trafficking drugs, exposing them to risks of harm and legal penalties.

Participants in Montevideo and Mexico City similarly acknowledged the prevalence of violence associated with the drug trade in Latin America.

> ***P3 LDN:*** *County lines.*
> ***P4 LDN:*** *Just around the green belt, around London.*
> ***P5 LDN:*** *What are they [drug gangs] doing?*
> ***R:*** *Exploiting children and teenagers as drug traffickers.*
> ***P4 LDN:*** *Actually, getting them in debt first and then they will literally kidnap them and go, "right, you're coming with us".*

> ***P2 MXC:*** *Besides the violence it causes, I think it's also a thing of power concentration. Of course, the fact that these groups have so much power allows them to be very violent towards a big part of society. And the state will also use violence to combat them in theory […] It just really relates to violence.*

> ***P2 MXC:*** *Everyone, also beyond our circle, everyone knows or at least most people in Mexico know that drugs come from drug cartels and these cartels are extremely bloody. That's not very specialised knowledge.*
> ***P4 MXC:*** *Everyone knows that. There has been 500,000 people dying because of this, I think everyone knows.*

Drug cartels made up a noticeably higher proportion of the discourse in Mexico City, where the financial power and status of cartels was said to negatively impact society. For example, P1 and P4 MXC mentioned cartels forcing bar owners to allow dealers to sell drugs at their venues. In Montevideo, cartels were discussed far less and mainly in the context of the media exaggerating cartel-related incidences.

Corruption was a common theme among the focus groups and participants' views on this issue concurred. Participants placed the responsibility on governments for colluding and allowing criminal organisations to thrive. P4 LDN suggested that corruption may not be entirely negative, however, in that the more the current system is broken down and control over drugs is revoked from governments, the better it will be for the negative impacts.

> ***P2 MXC:*** *Cartels exist because they collude with the government, otherwise they could not operate the same way. [**P1 MXC** agrees] There has been this massive display of these bad cartels, that they are monsters and are extremely organised, which is a very distorted version of reality. They work very closely with local police forces and higher political instances. So, this image of the cartel is very much projected from the State as an excuse to militarise the country.*

Participants in Montevideo largely discussed problems with the media, government, and education around drugs. Participants' main concern was that the media exaggerates the impacts of the illicit drug trade, which the government welcomes as a distraction from other societal issues and as a means of maintaining prohibition. Additionally, participants in London and Montevideo suggested that misinformation about drugs through current

education systems and policies negatively impacts society. For example, enabling corruption, instilling fear of drugs which marginalises members of society and increases the risk of bad trips, creating stigma around drugs and drug use, and preventing the beneficial application of illicit substances in medical contexts.

Prohibition was frequently discussed among the focus groups. The consensus was that most negative societal impacts associated with drug use and trade stem from prohibition policy. Drug decriminalisation and legalisation were argued as the best methods of reducing the negative impacts associated with the illicit drug trade. Another common suggestion was providing accurate education about drugs from an early age. Participants agreed that humanity will likely always use drugs, thus the best option is to permit use in a safe and informed way.

> ***P4 LDN:*** *If they did legalise cannabis, you would probably get less stabbings. Then police can focus more on things like coke and heroin, which can kind of destroy lives if used incorrectly.*
>
> ***P2 LDN:*** *It [drug law enforcement] makes you more prone to a bad trip, I would say, because you start getting paranoid.*
> ***P2 MVD:*** *The problem is that when they [dealers] sell it to you, they tell you it's LSD and then you realise it's something else.*
>
> ***P1 MXC:*** *The risk of it being illegal, then you can overdose and die because you don't know what you're consuming.*
>
> ***P4 MXC:*** *The really terrible consequences that we're living here, it [prohibition] is not helping. I don't see how current legislation helps us fight violence or drug cartels or whatever.*
>
> ***P2 MXC:*** *We have to start talking about drug legislation and all these things because it's not just about consumption, it's also about a massive problem in the country.*

Most participants could not pinpoint exact sources of the information they provided within this theme. In London, participants attributed their awareness to friends, online sources, and the media. Participants in Montevideo suggested that most people in Uruguay are aware of these issues, but also mentioned their university professors speaking of the issues in class. Similarly in Mexico City, participants inferred that knowledge of issues like drug cartel violence was generally prevalent among society, however, these participants had more awareness.

> ***P3 MXC:*** *I think there is a lack of communication and interactions with different social groups, like between the different levels of class or whatever. There's not a lot of interaction between one class and another. I would say in the group of people that I hang around with, they are very aware. We read the news, also because we all work in public policy, so we read the news every day. But I wouldn't dare to say I think no one is aware or yes everyone is aware, I don't know, I really don't know.*

R: *Do you think the ordinary person in Mexico City would have the same level of awareness as you?*
P1 MXC: *No, I think we have a greater level of awareness [others agree]*
P4 MXC: *Well, I think everyone is aware that there is a problem going on, it's just we have a little bit more facts and detail.*
P3 MXC: *The level of awareness, I think it might be because it's also something very visual and something very close. I remember when the war on drugs, almost every day or every couple of days there was somebody hanged with a poster or sign saying like "La union against Zetas",*[33] *or whatever.*

4.4.11 Theme 10: Awareness

This theme included awareness of the connection between drug use and the negative societal impacts of the illicit drug trade.[34] References related to whether participants knew the original source of their drugs, and if not, whether they had ever considered this information. Furthermore, did participants connect these sources to the negative impacts coded to theme 9?

Table 12. *References indicating awareness of the negative impacts in each focus group*

City	References indicating awareness	
	N	*%*
Montevideo	5	5.0
London	10	6.3
Mexico City	23	16.3

Table 12 reveals a larger proportion of the focus group discourse in Mexico City was related to awareness (16.3%). P1 and P4 MXC believed that regular drug dealers were connected to larger cartel-run networks. Although P2 and P3 MXC displayed less awareness of this information, all participants in this focus group made the connection between criminal cartel organisations and the negative impacts discussed in theme 9.

R: *Do you know where your dealers get it [drugs] from?*
P3 MXC: *I have no idea.*
P4 MXC: *Well, we believe that they come from a cartel.*
P2 MXC: *My dealer is a female, so I always assume she doesn't belong to any cartel. [laughs]*
P3 MXC: *For example, when I talk to my dealer I really don't know where the weed comes from, or the MDMA or the LSD. But when I smoke weed with a friend, I know that he goes to his friend that grows weed. So, this person has a bunch of plants in their back yard.*

[33] "Los Zetas" is a large Mexican criminal syndicate and drug cartel organisation.
[34] For theme 10, this referred to the *general connection* between drug use and the negative impacts, not necessarily participants own drug use and their personal contribution.

P3 MXC: *This cartel against that cartel, and somebody hanged. It was on the news; it was just very often. The first one was like [gasps in shock], but then you normalise it, and it's like damn it! Because it's so often that you normalise it, which is horrible, but it just happens. But then that sticks to our collective memory, it just sticks with you. And maybe that's why there's more awareness [in Mexico]*

Some participants admitted to not knowing where their dealer obtained drugs from and never considered asking this information.[35] P1 and P3 MVD reportedly sourced all their drugs illegally but did not state where their dealers had obtained them from. P4 LDN suggested that drugs such as psychedelics were being produced in "home labs", inferring that we cannot be certain whether they originated in the UK or elsewhere. Participants in Montevideo believed that most drugs they obtained illegally had been imported into the country. Similarly, London participants believed that almost all the drugs they obtained had been imported into the UK but were not always aware of the exact source. P3, P4, and P5 LDN, however, inferred that they knew people who purchased drugs online or through a dealer to sell on, either as a business or "hobby".[36]

P5 LDN: *There's no attempt at expanding, there's no attempt at any sort of control. If somebody else wants to deal drugs, they just both deal, there's no competing. It's just a guy who has some weed who's willing to share if you give something, basically. It's not so much a business as it is just a hobby.*

Therefore, participants in London suggested that dealers in the UK were perhaps less involved in the violence associated with the illicit drug trade. Nonetheless, participants in London offered more specific information on the original source of their illicit drugs than those in Montevideo and Mexico City.

4.4.12 Theme 11: Nexus

Like the previous theme, theme 11 referred to awareness of the negative impacts highlighted in theme 9. However, "nexus" specified the connection between participants own drug use and their personal contribution to the negative impacts of the drug trade, i.e., had formation of the nexus result in behaviour change? References within this theme included participants' consideration of their personal drug use contributing to the negative impacts, the level of concern they displayed, and whether they acknowledged or justified their contribution. Mentions of adopting behaviour changes to reduce their contribution to the negative impacts were also coded within this theme.

[35] Specifically, P1 MVD, P1 LDN, P3 LDN, P2 MXC, and P3 MXC.
[36] Participants had friends who bought drugs in bulk and sold these casually to friends, not as a business but for the sake of sharing and to essentially get their own drugs for free.

Table 13. *References to the "nexus" in each focus group*

City	References to "nexus"	
	N	*%*
Montevideo	17	10.8
London	25	11.6
Mexico City	36	27.9

Table 13 reveals that participants in Mexico City made references to the nexus between negative societal impacts associated with the illicit drug trade more frequently than the other focus groups (27.9%). The analysis of the current study thus far suggests that most participants offered some awareness of drug sources and the associated negative societal impacts. However, some participants admitted to never questioning the original source of their drugs beyond dealers. Additionally, some did not connect their personal drug use to the negative societal impacts, nor the fact that their behaviours may contribute to worsening or alleviating them. In some instances, participants downplayed their role in the process and redirected the responsibility of the negative impacts.[37]

> ***P4 LDN:*** *I'm not harming anyone else, so I don't see the problem. I don't really use too many things that impact too many other people, I suppose. [**P2 LDN** agrees]*
>
> ***P2 LDN:*** *I think the whole issue is just too complicated for a single person to think about […] Obviously, to some extent we can do something, but it is a problem with the system surrounding these things.*
>
> ***P2 MVD:*** *You have all these problems with violence but there isn't an alternative.*
>
> ***P1 MVD:*** *I think the most negative effect of drugs is the news media. [Other participants agree]*
>
> ***P1 MXC:*** *I think Mexicans understand that cartels are a transnational group, so it's not only Mexicans who are consuming and making them rich. So, we don't see it as only our fault, it's also consumption in the US, Europe, etc. I think that shows that even when you're faced with the violence, it doesn't change your behaviour, maybe.*

Other participants admitted to being aware of the issues but not considering them important enough to change their behaviours. This was observed in all three focus groups, but particularly among Mexico City participants who argued that individual change is insignificant in helping alleviate the negative societal impacts.

[37] To governments and systemic structures in place, as well as other, larger consumer countries.

R: *Is it not important enough for you to change your behaviours?*[38]
P4 MXC: *It's not important for me.*
P2 MXC: *For me, if it was part of like a greater movement or something, I could do it. But me alone, as an individual, without any sort of campaign or movement, I think it's completely insignificant.*
P1 MXC: *I think it's irrelevant as well […] I mean, I've done drugs like 15 times in my life, so it's not going to be like a major change […] I don't believe as much in individual change, I don't even think climate change can be stopped through individual change. I think we need a huge systematic change […] So, we don't believe that you stopping your consumption of drugs will…*
P4 MXC: *Yeah, I don't believe in passing the responsibility […] Unless we can change everything, it doesn't matter if individual people change. Individual change becomes nothing, it's just a small group that thinks they're making a change and having an effect but it's just because we keep surrounding ourselves with the same people over and over again.*

P5 LDN: *I don't necessarily have, I don't know, enough will power to not do it [drugs] because of these issues. [**P2 LDN** agrees] So, when I have the option, I will try to go for more people friendly products [ethically sourced], but when I don't, I'm just gonna go for whatever is on offer just because… you know.*
R: *If you wanted to get marijuana, would you rather go the legal route or…*
P3 MVD: *easy [laughs], it's easier to call the usual guy. [drug dealer]*

P3 MVD: *When I'm on a good trip dancing, I'm not thinking about the wife of someone dying so that I can be dancing at the party.*
P2 MVD: *I separate myself [from the negative impacts]. We are all part of these policies, so I think it's good to incorporate awareness into the regime that governs. It's also good to reflect on whether regulations are the effective way to combat this or not or if they are reinforcing drug trafficking and prohibition, but also like a more regional thing, what role Latin America plays in the whole drug trade maybe would create a consciousness of not using drugs because that way I don't contribute to violence… But I don't think that's the solution. Humanity has always used drugs and will always find a way to get drugged.*

Participants in all focus groups mentioned the suffering associated with the production of other goods consumed on a regular basis, such as clothing produced through the exploitation of vulnerable people. They compared these to drug use and the associated negative impacts, inferring that people consume many other products that are harmful to society, making illicit drugs no different and no worse.

The current research focuses on three behaviour changes: reducing frequency of use, sourcing drugs ethically, and actively supporting policy reform. Some participants referenced these specific behaviours without being prompted by the researcher. For example, P4 and P5 LDN mentioned buying UK grown cannabis to support local growers,

[38] Note: This question was only asked once participants had revealed their existing awareness levels of the negative impacts and was used to investigate whether nexus formation was likely to encourage behaviour changes.

benefit the environment as less transport is required, and prevent the suffering associated with the illicit drug trade. In Montevideo, P2 MVD reported sourcing her cannabis legally and was actively engaged in drug campaigns and other community focused activities. P2 MXC reported some of her friends choosing not to use drugs because of the societal impacts of the illicit drug trade, nonetheless, she herself was aware of these issues but decided to continue using drugs. P3 MXC expressed a preference for locally grown cannabis but admitted that if this was not an option, then she would still purchase from a dealer who does not grow their own cannabis.

Conversely, no participants were willing to reduce their drug use to prevent the impacts of the drug trade. There was more willingness to purchase drugs ethically through local growers, however, participants highlighted that this was not always an option. Participants expressed mixed opinions on campaigning for drug policy reform, despite policy reform being suggested as the best solution to the negative impacts. P4 LDN and P2 MVD were the only participants in the three focus groups who reported actively campaigning for drug policy reform, despite all participants claiming to support the notion. P1 MXC admitted that she would not want to be associated with legalisation campaigns, while other participants felt it was not important to them.

> ***R:*** *If there's a protest or something relating to drug policy reform, would you guys be involved or are you not that concerned about it?*
> *[**P3 MXC** shakes head]*
> ***P1 MXC**: No […] There's a very big stigma around drug use. Like, you're not even allowed to talk about it, so yeah. I won't do it.*
> ***P3 MXC:*** *For me, it's because it's not a priority. I would rather go out to protest to legalise abortion for example, or women's rights and all that. But if I see a weed manifestation I would think "oh cool", then move on. I wouldn't say "oh wait I'll stop and go". Just because it's not a priority, personally. I would say, "yay guys! Do it for me… Thank you!" [laughs], but I wouldn't.*

Participants in Montevideo and London shared the view that certain drugs increase empathy among users, making them naturally consider more suffering and inequality in the world. They argued that these individuals would be more likely to change their drug related behaviours to reduce the negative impacts of the drug trade. P3 MVD suggested that the specific "high" induced by certain drugs may cause people to reflect on the negative impacts. This participant therefore believed that not everyone would consider the issues, only those who reflect will become aware and consider doing something about it. A similar understanding was expressed by participants in London.

> ***P3 MVD:*** *It also depends on how you get when it [drugs] hits you, if you don't think much or see past your own nose…*

> ***P5 LDN:*** *If they take a compound that makes them feel more empathetic, they will eventually come to conclusions that consider more human suffering than they did before […] There seems to be some sort of correlation between your political leanings*

and your drug habits. People that do psychedelics, most people I've seen, if not actively campaigning, they at least recognise the issues that are brought on by the economic inequalities that we have.

P4 LDN: *With acid, it made me look outwards and I was like looking at socioeconomic problems and everything else and saying, "oh how can the world be better?". But then I'm like well, fuck it [shrugs] I'll smoke some weed and chill anyway.*

Lastly, participants in Montevideo and Mexico City discussed past campaigns targeting tobacco smoking and alcohol consumption. P3 MVD mentioned cannabis regulation campaigns that air on television in Uruguay, however, these only highlight legislation issues and not the negative societal impacts of the illicit drug trade. This participant also referenced campaigns that had successfully resulted in behaviour and attitude changes. However, not all participants agreed with this view. In Mexico City, P1 MXC mentioned an old campaign targeting drug use by highlighting the number of lives lost due to the illicit drug trade, which she believed was ineffective.

P3 MVD: *You were talking about awareness, it makes me think for example, with tobacco, with a very shocking and strong awareness campaign, use was driven down. With traffic accidents the same thing happened with alcohol, very impactful and everything and traffic accidents went down. We could think that if there was an awareness campaign for drugs and what your contribution is as a user, maybe there would be a similar effect in reduction. Because I think awareness campaigns tend to reduce the numbers […] of course, tobacco and alcohol awareness campaigns help reduce…*
P1 MVD: *Yes, alcohol at least, yes.*
P2 MVD: *I don't believe drug use would change here in Uruguay.*

4.5 Discussion

Before beginning the discussion, it is important to include a self-reflexive account to situate myself as the researcher when analysing and interpreting the focus group discussions. I have a neutral stance on drug use and hold no judgment or prejudice towards PWUD. I did not have any preconceived notions or attitudes towards drugs or PWUD prior to this study, and I believe that this attitude was relayed to focus group participants at the time of data collection. Furthermore, I maintained an impartial stance throughout the data collection and write up process, whilst considering the relative contexts of participants. For example, my interpretation of results considered the fact that drug legislation differed between the cities, and so the opinions and behaviours of participants may be influenced by these legislations.

The focus groups revealed important exploratory insights into drug related behaviours and awareness of the negative impacts of the drug trade among PWUD in London, Mexico City, and Montevideo. The study presented in this chapter addressed RQ1 and

H1, specified below. In the next section, I summarise the findings from the focus groups and discuss how these reflect on the existing literature.

> ***RQ1:*** *To what extent have people formed a nexus between recreational drug use and the negative societal impacts of the illicit drug trade?*
>
> ***H1:*** *Participants in London are less aware than participants in Mexico City and Montevideo of the negative societal impacts of the illicit drug trade*

4.5.1 Drug related behaviours

The current research focuses on recreational drug related behaviours and postulates that encouraging formation of the nexus between drug use and the negative impacts of the drug trade may in turn encourage drug related behaviour changes. The focus groups identified drug related behaviours of participants, from sourcing drugs to contexts of use. This information assists in understanding the decision-making of PWUD and therefore whether they consider the negative societal impacts of the drug trade in these decisions.

Participants in the focus groups were of a comparable demographic, i.e., young people living in the city who use recreational drugs. Analysis revealed similar reported illicit drug use among participants, who believed that the most widely consumed drugs in their countries were cannabis and cocaine. According to the most recent available data in each of the countries, participants were correct for Mexico and England & Wales (Gobierno de México, 2017; ONS, 2020). However, in Uruguay the most commonly used drug behind cannabis was opiates, followed by cocaine (Junta Nacional de Drogas, 2019). Psychedelic drugs were mentioned to a greater extent in London which reflected the sampling method, i.e., members of the UCL Application of Psychedelics Society which supports the medical use of psychedelic drugs. Drug use was reportedly initiated out of curiosity but mostly occurred as a means for socialising or partaking in specific activities. Stimulant drugs like ecstasy were particularly associated with techno/electronic music and were used to enhance the experience of music events and stay awake for longer.

Participants in all groups stated that they typically obtained drugs through friends or a drug dealer and had some idea of the processes involved in the illicit drug trade. However, not all participants knew where their drugs originated from beyond their immediate sources. Most participants in Mexico City and Montevideo described deeper networks of dealers, implying that local dealers were connected to large drug trafficking organisations. Those in Montevideo suggested that Uruguay is a transit rather than production country, suggesting that their drugs were imported. Contrastingly, although participants in London acknowledged larger drug trafficking organisations in other regions, they believed that these groups were not present in the UK where there are instead low-level street dealers who work alone. These are accurate perceptions in each of the countries (Bergman, 2018a; Dorn & South, 1990; Felbab-Brown, 2009; Garzón-Vergara, 2016; InSight Crime, 2019; Taylor & Potter, 2013; UNODC, 2021; Windle &

Briggs, 2015b), showing high awareness of illicit drug trade activity among participants. P1 MXC worked in Security, which possibly biased her level of knowledge on the topic. Additionally, P2 MVD studied drug policy as part of her postgraduate degree. Furthermore, volunteer sampling likely attracted individuals who are interested in the topic and know more about the drug trade than others. Therefore, it is debatable whether other people who use drugs in these cities share the same levels of awareness.

Participants described the ease with which they obtain illicit drugs in each of the three cities. Those in Montevideo stated that purchasing cannabis through their dealer was easier than obtaining it legally. This suggests that despite legal alternative drug sources, people will continue buying from the illegal market if it is more suitable, concurring with existing literature (Boidi et al., 2016; Queirolo, 2020). Thus, the desire to use drugs appears to outweigh other considerations such as legal consequences and contributing to the negative societal impacts of the illicit drug trade. Participants in London reported feeling safe obtaining drugs through friends or people who they know. In this way, these participants were distanced from the illicit drug trade which expectedly lowers the salience of the negative societal impacts. Previous research on sourcing illicit drugs has revealed similar findings, in that participants would frequently obtain drugs informally from friends (Bennett & Holloway, 2019).

4.5.2 Negative societal impacts

The negative societal impacts were referenced in each of the focus groups, indicating awareness among participants. Nonetheless, participants in Mexico City and Montevideo offered richer insights into the negative impacts than those in London. This might suggest higher levels of awareness among participants who were geographically and culturally closer to the issues, supporting H1. Participants agreed that prohibition policy is ineffective and worsens the impacts associated with drug use and trade. Drug decriminalisation and legalisation were therefore argued to be effective solutions to the existing problems. However, there was a disparity between participants' opinions and their willingness to contribute to bringing about this change. Participants were reluctant to engage in protests and campaigns for drug policy reform. This could imply that the negative societal impacts were not salient enough to encourage this behaviour and perhaps the association with this movement was undesirable because of societal stigma surrounding illicit drug use.

Throughout the London focus group, participants did not link the negative societal impacts to Latin America specifically, despite this region being one of the most significant within the illicit drug trade (Bergman, 2018a). Participants in London discussed "county lines" drug trafficking in the UK which they were exposed to through word of mouth and news or media outlets. In Mexico City and Montevideo, however, participants independently mentioned the negative impacts occurring in Latin America because of the drug trade. Evidently, varying awareness levels of regional-specific negative impacts

were observed between focus groups, which is likely attributed to participants' proximity to the issues. This suggests that physical and perhaps psychological proximity (e.g., identity salience) to the issues, as well as the focus of local news and media outlets, could impact awareness and salience. Similar findings have been observed in research conducted within other disciplines, whereby proximity to an event or location influenced awareness levels (Cale & Kromer, 2015; Donnelly, 2005).

Moreover, participants felt strongly about corruption of law enforcement and other government officials. This issue was raised in all focus groups, although more specific details and examples were offered in Mexico City and Montevideo. Participants in the Latin American countries believed that corruption was present among police officers who do not follow law reforms.[39] This observation may have been heightened by the difference in drug legislation between the three countries, particularly the legalisation of cannabis in Uruguay and the enforcement of this policy in Montevideo. In all three focus groups, participants agreed that corruption is a considerable issue that stems from high profile government members. Participants blamed individuals with statutory power for colluding with drug cartels, enabling their success and, therefore, causing the negative impacts associated with the drug trade. In this way, participants revealed that they did not feel responsible for the negative societal impacts. Consequently, participants felt that they, as individuals, could not help to reduce the impacts. This may be the bystander effect at play, where people feel a lower sense of responsibility in a situation because they believe others are likely to help instead (Garcia et al., 2009). This was directly observed when P3 MXC expressed gratitude towards other people protesting drug policy reform but said she herself would not get involved. Therefore, despite high awareness among participants, it appears that most participants had not formed the nexus as there was a reluctance to change personal behaviours. This observation addresses RQ1.

4.5.3 The nexus between recreational drug use and the negative impacts

In all focus groups, participants had clearly formed the connection between the illicit drug trade and the negative societal impacts, i.e., they displayed awareness. However, not all participants knew whether their drugs had originated from within the illicit drug trade. Some participants in each of the focus groups admitted to never questioning the original source of their drugs beyond dealers. This reveals low salience levels, assuming that higher levels would encourage people to seek out this information (Banyard, 2008). In addition, participants admitted that the negative impacts associated with the illicit drug trade were not important enough to change their behaviours. Therefore, these participants directly displayed a lack of formation of the drugs nexus, despite high awareness levels. Participants were observed to downplay their role in the illicit drug trade and contribution to the negative impacts. They justified their behaviour by

[39] For example, when someone is found in possession of drugs and instead of checking whether it is within the legal limit, police officers ask for money in exchange for their release.

comparing drug use to other harmful activities that society regularly engages in, again suggesting low salience levels within the focus groups. This has similarly been observed within the literature, whereby people who use drugs downplay their levels of use as compared to others, thus justifying their behaviours (Palamar et al., 2012; Shiner & Winstock, 2015). Cognitive dissonance theory may also be relevant, which suggests that when individuals have multiple contradictory cognitions towards a topic or issue, they will feel an unpleasant state of dissonance which is only resolved by changing these cognitions (Festinger, 1957). This theory would infer that PWUD go through the process of altering their cognitions to avoid the discord between wanting to use drugs and an awareness of the negative impacts that it contributes to.

Despite these findings, there were instances where participants expressed willingness to change drug related behaviours, or were aware of others who had, which suggests formation of the nexus to some extent. This was observed in all three focus groups, indicating no difference in willingness to change behaviours between participants in London, Mexico City, or Montevideo. Levine & Thompson (2004) suggest that responsibility to help shifts as personal identities shift, i.e., a person is more willing to help another if their personal identities are alike. The current research findings appear to refute this, however, this observation may be due to London participants focusing on closer issues like "county lines" drug dealing, instead of those occurring in Latin America. This observation reveals the need for further research to examine the differences in willingness to change behaviours between PWUD of varying personal identities to the victims of the illicit drug trade.

Additionally, some participants speculated that awareness campaigns informing people about the negative impacts of the illicit drug trade may be effective. Although there were mixed opinions on this, which is similarly observed in the literature relating to campaign effectiveness (Larson & Massetti-Miller, 1983; Latif et al., 2013; Pelletier et al., 1999; Perkins & Craig, 2006; Turner et al., 2008; Zhang, 2011), some participants considered it possible which is promising for the current research. Participants from London and Montevideo believed that certain people may be more likely than others to consider the negative impacts. They suggested that people who use specific drugs associated with increased empathy were more likely to reflect on the negative impacts and consequently change their behaviour. Interestingly, this would suggest a correlation between drug types, empathy levels, and willingness to change drug related behaviours, regardless of country of residence. Existing literature highlighting the role of empathy in prosocial behaviour corroborates this idea (Brown & Leary, 2016; Paciello et al., 2013; Stiff et al., 1988). Therefore, the current research findings highlight the need for further research to examine the impact of mediating factors on the effectiveness of awareness campaigns.

Participants displayed awareness of the negative societal impacts and the connection between recreational drug use, however, there was an overwhelming belief that individual contributions are insignificant in the grand scheme of the issues. Although

some participants were engaging in drug related behaviours indicative of formation of the nexus to some extent, most participants were not willing and did not believe that changing their own behaviours would be impactful. Participants appeared willing to change their behaviours only where it is convenient and required the least effort, an important observation for the current research. Participants may also have been reluctant to reduce their drug use because of a lack of viable alternative to illicit drugs, which suggests that encouraging the other behaviour changes may be more effective. Therefore, the results from the current study suggest that formation of the nexus varied between participants even residing in the same city, and that generally, the nexus had not been formed despite awareness of the negative impacts. These findings emphasise the need for further research to examine the impact of salience on drug related behaviours.

4.6 Limitations

There are important limitations to consider when interpreting the results from the focus groups which were reduced where possible. Reports of drug use were not objectively measured but relied upon participant self-report. Nonetheless, participants were guaranteed of their anonymity and security of the data they provided. They were in an environment alongside other people who use drugs and each of them volunteered to take part, indicating their willingness to openly discuss the topic. Furthermore, the operationalisation of dependent drug use was not objectively measured throughout this thesis, and so it is possible that under different definitions of "dependent" drug use, the inclusion/exclusion of participants would have differed. This limitation was accounted for in the focus groups as participants discussed their drug related behaviours in such detail that dependent use would have been easy to identify, i.e., drug use which indicates some form of harm to the PWUD or those close to them. Another factor to consider when interpreting results and guiding future research is the lack of inter-rater reliability and double coding of the discussion themes. Although double coding would have strengthened the reliability of the analysis, it was not possible in this study due to a lack of funding, a limitation which is discussed further in this section.

Recruitment of participants was difficult, particularly in Mexico City and Montevideo. The language barrier between researcher and target population, as well as a lack of direct access to this population, resulted in difficulty obtaining the desired sample size. For the Montevideo focus group, I was unable to contact students personally, and therefore could not guarantee the attendance of all participants. Much of the recruitment was the responsibility of contacts in the two cities. In addition, it is possible that the Mexico City focus group taking place in a government building deterred individuals from attending because of the nature of the discussion. However, it was the only available location that ensured the security of participants and researcher. These limitations meant that response and participation rate was low for the focus groups. Without funding for the focus groups, it was difficult to incentivise participation.

Additionally, participants in the focus groups likely provided more informed insights than the general public because of their backgrounds. London participants were members of the Application of Psychedelics Society and consequently presented a more pro-drug attitude than the average person. In Montevideo, participants studied Anthropology and Sociology, and one studied drug policy specifically. The same was observed in Mexico City where one participant worked in Security and had more knowledge of the illicit drug trade. These factors meant that participants had a more vested interest in the current research topic and higher awareness levels than the average person who uses drugs. However, the population samples were limited because of a language barrier, low response rate, and limited contacts in Mexico City and Montevideo. Above all, the lack of funding for the current research meant that I could not offer incentives to participants at this stage of data collection. Although these factors present limitations, the focus group data was valuable for the current research at this preliminary stage of data collection. The purpose of the focus groups was not to obtain generalisable data for each country, but to qualitatively explore drug related behaviours, opinions, and general awareness levels in each city, which these participants provided.

Another factor influencing data collection was my presence in the focus group discussions, as a young British woman who did not speak Spanish. Mexican and Uruguayan participants may have been less trusting of a foreign researcher questioning them about drug related behaviours and opinions. This was mitigated as the participants were contacted and invited to take part by people within their own country whom they know and trust. Furthermore, I was a student of a similar age to participants and therefore could relate to them, which enabled participants to feel more comfortable disclosing information. This was evident by friendly interactions in all three cities and participants showing an interest in being contacted again for further research. Despite small sample sizes, the focus groups provided detailed and informative insights. For instance, the Montevideo focus group had the fewest participants but the longest duration, and participants remained on topic throughout the discussion. The quality of information gathered from the focus groups was considered sufficient and therefore the selection of participants was ultimately conducted well. The participants provided valuable data on patterns of use and insights into the illicit drug trade, which helped to inform the following stages of data collection and address the current research aims.

4.7 Conclusion

The present study revealed high awareness of the negative societal impacts of the illicit drug trade, particularly among Mexico City and Montevideo participants, which supports H1. However, in addressing RQ1, awareness did not encourage formation of the nexus in any of the three cities. This was evident by participants' reluctance to change their drug related behaviours, and not considering the negative impacts important enough. This relates to the concept of salience, which is the level to which people identify with what is important or particularly noticeable. Therefore, the current study highlights the need to

examine the impact of increased salience of the negative societal impacts of the drug trade among PWUD. Specifically, further research should examine the impact of informative interventions aimed at encouraging formation of the nexus on subsequent drug related behaviour change. This research should also consider proximity to the negative impacts and empathy levels of PWUD in mediating behaviour change. Lastly, the present study contributes valuable insights into PWUD decision-making, which will assist in populating the crime script in chapter 6.

Chapter 5. Assessing drug related behaviours and awareness of the negative societal impacts of the drug trade

5.1 Introduction

Chapter 4 presented the focus groups which indicated high levels of awareness of the negative societal impacts of the illicit drug trade, particularly among participants in Mexico City and Montevideo. However, a lack of formation of the nexus between drug use and the negative impacts was indicated by a lack of willingness to change drug related behaviours. The conclusions drawn from chapter 4 highlight the need for further research to examine the impact of increased salience on drug related behaviours. However, it is first necessary to quantify the effects observed in chapter 4 to conduct statistical tests and produce generalisable results which can more accurately guide the remaining chapters of this thesis. Subsequently, the present chapter sought to expand on the focus groups by replicating the questions in an online survey among a larger sample in London, Mexico City, and Montevideo. The following section outlines the rationale behind the research question and hypotheses addressed by this study.

5.2 Research rationale

The literature reviewed in chapter 2 highlighted the need for empirical research to examine whether a "harm to others" approach is effective in changing drug related behaviours (Wilkinson & Ritter, 2021), as has been successful with alcohol misuse (Manton et al., 2014; World Health Organization, 2019). That is, it is unclear whether increased salience and establishing a nexus between drug use and the negative impacts is likely to bring about drug related behaviour changes among PWUD. Existing research examining a similar nexus in other disciplines such as pro-environmental behaviour suggests that several prerequisites are required to establish the nexus and encourage behaviour change. These include the audience having accurate information about the problem, e.g., through targeted informative campaigns, accepting responsibility for contributing to the problem, details on how to help alleviate the problem, the ability and willingness to help, and behavioural intention (Abrahamse, 2019; Conner & Norman, 2005; Kok & Siero, 1985). Similarly, research on prosocial behaviour indicates that altruistic motivation induced by increased empathy is likely to encourage such behaviours (Brown & Leary, 2016; Burn, 2009; Fisher et al., 2008).

The current research aims to apply these findings to drug related behaviours, by studying the extent to which people have formed a nexus between recreational drug use and the negative societal impacts of the illicit drug trade (**RQ1**). The current research posits that formation of the nexus may be encouraged through increased awareness and salience of

the negative impacts of the drug trade.[40] Nexus formation is further posited to bring about drug related behaviour changes (reduced frequency of use, ethically sourced drugs, and campaigning for policy reform), which applied long term may help to alleviate the negative impacts associated with the drug trade. To date, there appears to be no literature on the awareness of PWUD to the negative societal impacts of the illicit drug trade. Therefore, the first aim of the current research was to investigate awareness among PWUD and increase understanding of drug related decision-making and behaviours. In doing so, I will then be able to assess whether and how salience might be increased to bring about behaviour change.

The negative societal impacts of the drug trade are more prominent in areas where illicit drug trade activities like production and transportation are more prevalent, such as Latin America (Garzón-Vergara, 2016). In addition, regions where government institutions are weak and criminal organisations are powerful are likely to experience higher levels of negative societal impacts (Bergman, 2018b). Consequently, the current research hypothesises that participants residing in areas where drug trade activities are more prevalent (i.e., the Latin American countries) will be more aware of the associated negative impacts, because of increased exposure (**H1**). In addition, the rationale for the current research is such that increased awareness and salience will bring about behaviour changes (Abrahamse, 2019), including a reduction in drug use. Therefore, I hypothesise that participants who report higher frequencies of drug use will also indicate low awareness levels of the negative societal impacts of the drug trade (**H2**). This is through processes such as cognitive dissonance, which is when people alter their cognitions and behaviours to avoid unpleasant feelings such as the conflict between drug use and awareness of the negative impacts of the drug trade (Festinger, 1957). Similarly, I hypothesise that participants who have begun to form the nexus between drug use and the negative impacts, indicated by their reported drug related behaviours, will be more willing than other participants to adopt other drug related behaviour changes (**H3**). Finally, existing research suggests that prosocial behaviours are more likely to occur among individuals with higher levels of empathy (Torstveit et al., 2016). The behaviour changes observed in the current study are arguably prosocial, as they involve adapting personal drug related behaviours for the benefit of other members of society. Therefore, I hypothesise that participants reporting higher empathy are more willing to change their drug related behaviours (**H4**).

In sum, the present chapter aims to identify the extent to which people have formed a nexus between recreational drug use and the negative societal impacts of the illicit drug trade. Testing the above hypotheses will provide insights into factors that may be important in formation of the nexus and subsequent behaviour change. Information pertaining to the data and methods of this study are outlined in the following section.

[40] Awareness in this context refers to knowledge of the negative societal impacts of the illicit drug trade. Salience refers to the ability of participants to connect their own drug related behaviours with these negative impacts.

5.3 Data and methods

Ethical approval for primary data collection through the survey was granted by the University College London Research Ethics Committee. The following section details the materials, sample, survey design, and procedure applied within this study.

5.3.1 Materials

All study materials, including the full list of survey questions, empathy questionnaire, participant information sheet, and participant consent form are available on the Open Science Framework: https://osf.io/kdwh2/

In this section, I specify the survey questions that formed the variables used in subsequent analyses and a brief rationale for these variables. I describe in detail the statistical tests applied to each hypothesis later in section 5.3.4. Some survey questions included the response options: "I don't know" or "No opinion". These were excluded from analysis to enable tests that required ordinal measures. The survey was programmed using Qualtrics Survey Software. Participants provided demographic information including their age, gender, and city of residence. These responses formed the independent variable for some of the analyses.

Following observations in chapter 4, the present study focused only on cannabis and cocaine use. Participants were asked how many times they had used cannabis/cocaine in the last 12 months *(1 = once or twice, 2 = less than once a month, 3 = once a month, 4 = once a week, 5 = almost daily, 6 = daily)*. Responses were gathered separately for the two drug types, although responses were aggregated for analysis because differences between specific drug types were not being assessed within this study. These data formed the variable that operationalised **frequency of use**. For some analyses, this variable was reduced to *1 = infrequent* or *2 = frequent*, the former comprising participants who used drugs once a month or less and the latter using drugs once a week or more.

To assess **existing frequency of sourcing drugs ethically**, participants were asked: "Have you ever actively sought drugs from more ethical sources?" *(1 = yes, several times, 2 = yes, once or twice, 3 = no, but I would consider doing so, 4 = no, I don't know how to obtain these, 5 = no, I don't think it's important)*. Similarly, participants were asked: "Have you ever engaged in protests or campaigns supporting changes to drug policy?" *(1 = yes, several times, 2 = yes, once or twice, 3 = no, but I would consider doing so, 4 = no, I am concerned about negative consequences of these actions, 5 = no, I don't think it's important)*. This data identified **existing frequency of campaign behaviour**. For analysis purposes, responses to the two aforementioned questions were reduced to *1 = no*, *2 = yes, once or twice,* and *3 = yes, several times*. Participants who reported frequently engaging in these behaviours were believed to have begun to form the nexus between recreational drug use and the negative societal impacts of the drug trade. This is because these behaviours

indicate 1) an awareness of the negative societal impacts of the illicit drug trade, and 2) a conscious attempt to reduce one's contribution to the impacts.

Next, participants indicated the **extent to which they believed that cannabis and cocaine use had negative impacts** ("What contribution do you think purchasing and using cannabis/cocaine for recreational use has on these negative impacts associated with the illegal drug trade?" *1 = no contribution, 2 = slight contribution, 3 = moderate contribution, 4 = large contribution)*. Participants responded separately for cannabis and cocaine in relation to three specified negative impacts: violence and homicides, human trafficking and exploitation, and money laundering. Participants who reported larger expected contributions of recreational drug use to the negative impacts were thought to have begun to form the drugs nexus as they feel more responsible. These variables formed the dependent variable for H1 and H2.

Participants reported their willingness to engage in drug related behaviour changes. Participants were asked: "How willing would you be to adopt the following behavioural changes in order to reduce your contribution to the illegal drug trade?" *(1 = not at all willing, 2 = slightly willing, 3 = moderately willing, 4 = highly willing)*. The three behaviour changes specified in the survey were: "Reduce the frequency in which I buy and use illegal drugs" (**reduce drug use**), "Obtain my drugs from more ethical sources" (**source drugs ethically**), and "Engage in protests or campaigns supporting changes to drug policy" (**campaign for policy reform**). These variables formed the dependent variables for H3 and H4.

The final variable measured participants' reported **empathy** using the Toronto Empathy Questionnaire (Spreng et al., 2009). This questionnaire comprised 16 statements to which participants responded on a Likert scale from *0 = never* to *4 = always*. Responses referred to how frequently participants feel or act in the manner described in each statement. Examples of statements include: "I enjoy making people feel better" and "I become irritated when someone cries". Responses to these statements were assigned a value and an overall sum was calculated, revealing an empathy score for each participant. A Cronbach's Alpha was conducted to test the reliability of responses to the empathy questionnaire, revealing a value of $\alpha = .799$, which was deemed reliable for analysis.[41]

5.3.2 Target population and sample

Participants comprised individuals aged 18 years or above who used drugs recreationally and lived in either London, Mexico City, or Montevideo at the time of data collection. G*Power (version 3.1.9.4) was used to run an a-priori power analysis and calculate the required survey sample size (Faul et al., 2007). To detect a medium effect of 0.3 (f^2) with 80.0% power in a MANOVA with three groups, G*Power suggested a total sample size of

[41] $\alpha = .799$ is considered "good" according to George & Mallery (2003).

276 (n = 92 for each group). A medium effect size was deemed appropriate as this research was exploratory and there were no prior studies to inform effect size. Despite best efforts to obtain the target sample size, it was not possible in all three cities for various reasons explained below and in the limitations section of this chapter.

The survey was completed by 124 participants from London, 83 from Mexico City, and 54 from Montevideo. Data cleaning involved removing responses less than 50.0% complete as these responses did not include the dependent variable measure and thus would not have been useful at the data analysis stage. Next, participants who displayed dependent drug use and therefore were not the target population were excluded based on reported frequency and contexts of use. This included participants who reported using illicit drugs daily and in contexts which were not social, which may indicate dependent use. Lastly, participants who did not live in either London, Mexico City, or Montevideo were excluded. This left 109 responses from London, 69 from Mexico City, and 42 from Montevideo. Gender and age distribution of participants in each city are presented in Table 14. Most participants were aged between 18 and 34 (91.5%). Gender distribution in London and Montevideo was relatively equal, however, a larger proportion of participants from Mexico City were males (65.0%).

Table 14. *Gender and age distribution of survey participants*

Age	London				Mexico City				Montevideo			
	Female	*Male*	*Did not disclose*	*Total %*	*Female*	*Male*	*Did not disclose*	*Total %*	*Female*	*Male*	*Did not disclose*	*Total %*
18-21	10	5	0	21.7	2	1	0	7.5	6	2	0	24.2
22-25	12	14	1	39.1	4	4	0	20.0	1	8	0	27.3
26-29	5	13	0	26.1	3	5	0	20.0	4	6	0	30.3
30-34	3	1	0	5.8	2	13	0	37.5	3	2	0	15.2
35-39	2	0	0	2.9	0	2	3	12.5	0	1	0	3.0
40+	0	3	0	4.3	0	1	0	2.5	0	0	0	0.0
Total %	46.4	52.2	1.5	-	27.5	65.0	7.5	-	42.4	57.6	0.0	-

5.3.3 Survey design and procedure

Before distributing the final survey, I ran a pilot study with PhD students in the UCL Department of Security and Crime Science to test survey length, ease of completion, and comprehension. A native Spanish speaking colleague translated the survey for Mexico City and Montevideo, before a second pilot was run with other native Spanish speaking students. Some of these students were born and raised in Mexico and Uruguay, so were able to advise on country-specific questions and accuracy of the translation. Upon finalising the survey design, it was distributed through volunteer, snowball, and convenience sampling. I targeted university students for participation in London and Montevideo, which was an accessible population because of the available contacts and resources in these cities. Additionally, the majority of recreational PWUD are of a young demographic, making students a suitable population (UNODC, 2021). In Mexico City,

participants were recruited through contacts living in the city, who then applied a snowball sampling strategy.

I released the survey first in London between March and April 2020. I distributed the survey among UCL students via email, shared on UCL student union and society pages, and posted on social media platforms including Facebook, Twitter, Instagram, and WhatsApp. The survey was also promoted among my personal social network through friends of friends. I expected the London survey to obtain a higher response rate than Mexico City and Montevideo because of a significantly larger social network and easier access to the population sample, including the possibility of in-person recruitment. I intended to promote the survey by approaching individuals on UCL campus, distributing flyers, and attending events where eligible individuals were likely to be present.[42] However, this was not possible due to the COVID-19 pandemic and subsequent lockdown interrupting in-person university teaching in the UK. To compensate for this and obtain the anticipated participation rate in London, I offered a £100 Amazon voucher to one participant in a prize draw.[43] This incentive allowed for as large a sample size as possible, which would strengthen statistical tests and the generalisability of findings. Unfortunately, it was not possible to also run a prize draw in Mexico City and Montevideo due to a lack of funding for this research.

The survey was released simultaneously in Mexico City and Montevideo between August and September 2020 but was extended for an additional month until October in Montevideo. The surveys were distributed on social media platforms (Twitter and WhatsApp) and among contacts held in both cities who then forwarded the invite to eligible individuals. Language and geographical barriers meant that I could not directly access the target populations in these cities. This caused a heavy reliance on contacts within both cities to distribute the surveys and made recruiting participants difficult, particularly in Montevideo. In addition to COVID-19 restraints slowing correspondences, recent elections in Uruguay resulted in a change of political leadership and newly appointed government employees. As a result, well-known contacts in Montevideo had also moved on and were no longer in positions to help distribute the survey for this research. Academic contacts working in Montevideo were not granted permission from their university to promote external research among students and were unable to promote the survey in-person as teaching was interrupted by COVID-19. These factors caused a setback in data collection in Montevideo and required an extension of the Montevideo survey for an additional month to increase the sample size. Despite these limitations, I considered a range of possible contacts and methods of distributing the survey, including friends and colleagues of contacts from both cities and relevant online forums. Previous focus group participants who agreed to be contacted about future research were also asked to distribute the survey among eligible friends.

[42] For example, certain UCL student society events.
[43] Funded by my department through my primary supervisor.

In each survey, participants were firstly presented with an information sheet and required to give their consent to participate in the study. There was a preliminary question about recreational drug use as well as demographic questions at the end relating to age and city of residence, allowing for the exclusion of ineligible participants. Participants were told that the study was looking at drug related behaviours and opinions on drug use and legislation. The surveys were identical between each of the three cities apart from country-specific questions relating to drug legislation. The survey was largely quantitative, meaning that a translator was not required for analysis and interpretation of the responses from Mexico City and Montevideo. Where there were open-ended questions, the responses were brief and clear, and I was able to interpret these. In the case of uncertainty, colleagues from either Mexico or Uruguay were available to assist.

5.3.4 Analysis strategy

I analysed the survey data using SPSS (version 27). The planned statistical tests that would address the current research hypotheses included multivariate analysis of variance (MANOVA) and linear regression. Upon collating the dataset, I tested the assumptions of these analyses. Results of the assumption tests are presented in Appendix 1. The following section includes the variables used to test the hypotheses and the statistical tests applied. In addition, where assumptions were not met by the dataset, I detail the alternative analyses conducted.

> ***H1:*** *Participants in London are less aware than participants in Mexico City and Montevideo of the negative societal impacts of the illicit drug trade*

The independent variable for H1 was *city of residence*. The dependent variables used to assess awareness of the negative societal impacts were *frequency of seeking ethically sourced drugs, frequency of campaigning for policy reform*, and *opinions on the contribution of recreational cannabis and cocaine use to the negative impacts*. Ideally, a MANOVA would be used to test mean differences of the four dependent variables across the city of residence, however, the dataset did not meet the test assumptions. The sample sizes from each of the three cities were small and unequal, the dependent variables were not measured at interval or ratio level, and the data was not normally distributed or linear. Consequentially, a Kruskall-Wallis H test was conducted followed by a Mann-Whitney U test to determine statistically significant between-group differences.

> ***H2:*** *Participants reporting higher frequencies of drug use are less aware of the negative societal impacts of the illicit drug trade*

The independent variable for H2 was *frequency of use*. Participants were first divided into two groups based on their level of drug use: frequent (once a week or more) or infrequent (once a month or less). If a single participant reported using both cannabis and cocaine

at different frequencies, then they were grouped with the higher frequency.[44] The dependent variables assessing awareness levels were the same as described for H1: *frequency of ethically sourcing drugs, campaigning for policy reform,* and *opinions on the contribution of recreational cannabis and cocaine use on the negative societal impacts.*

Linear regression should be computed to test H2, however, the assumptions were not met by the dataset. Assumption testing for linear regression revealed that the data was not normally distributed, was non-linear, and homoscedasticity was not observed among the variables. An appropriate alternative test is a non-parametric correlation analysis, I therefore applied a one-tailed Spearman's rho correlation coefficient.

> ***H3:*** *Participants who have begun to form a nexus between recreational drug use and the negative societal impacts are more willing to change their drug related behaviours*

To test H3, it was first necessary to determine whether participants had begun to form the nexus between drug related behaviours and the negative societal impacts of the illicit drug trade. The variables used to measure level of nexus formation were the same used to measure awareness: *frequency of ethically sourcing drugs, campaigning for policy reform,* and *opinions on the contribution of recreational cannabis and cocaine use to the negative societal impacts*. These variables formed the independent variable for H3. To determine formation of the nexus, a cluster analysis was computed incorporating the four independent variables.

A hierarchical, Ward's linkage method was applied to ensure groups produced from the cluster analysis were roughly of equal size. Euclidean distance was used as a measure. The cluster analysis distributed participants based on whether they displayed behaviours suggesting that they had (cluster 2) or had not (cluster 1) begun to form the nexus. Unfortunately, participants who did not respond to all four questions incorporated in the cluster analysis were automatically excluded and not assigned to a cluster. This is because participants selecting responses "No opinion" or "I don't know" were coded as N/A to allow for the ordinal measurement of responses. Therefore, there was a lower number of participants included in the hierarchical cluster analysis (n = 96). The cluster analysis distribution is presented in Table 15 (see Appendix 2 for the dendrogram depicting links between participants following cluster analysis).

Table 15. *Distribution of participants into clusters to determine formation of nexus*

	Frequency of participants	
	N	*%*
Cluster 1 (nexus not formed)	32	33.3
Cluster 2 (nexus formed)	64	66.7
Total	96	100.0

[44] For example, a frequent cannabis user who used cocaine infrequently was coded as "frequent".

The dependent variables for H3 were participants' willingness to change three drug related behaviours: *reduce frequency of use*, *obtain drugs from ethical sources*, and *campaign for policy reform*. H3 testing involved a Spearman's rho correlation coefficient to assess the relationship between variables.

H4: *Participants reporting higher empathy levels are more willing to change their drug related behaviours*

Participants were presented the Toronto Empathy Questionnaire which was used to calculate an overall empathy score for each participant. According to this scale, the higher the empathy score, the more empathetic the participant. There were 139 complete responses to the empathy questions, with scores ranging from 21 to 62.[45] The two lowest empathy scores were outliers and believed to be the result of participants selecting the first option from the dropdown menu when responding to the empathy questions. Thus, these responses were removed, leaving a total of 137 responses used in the analysis. *Empathy score* formed the independent variable for H4, and the dependent variable was willingness to change drug related behaviours *(reduce frequency of use, obtain drugs from ethical sources, and campaign for policy reform)*. Once again, a Spearman's rho correlation coefficient was conducted on these variables.

5.4 Results

This section presents the results of the statistical tests outlined in the previous section to address each of the four hypotheses. Results are organised by hypothesis and subsequent dependent variables (DV) and independent variables (IV) used to test them.

5.4.1 H1 testing: Participants in London are less aware than participants in Mexico City and Montevideo of the negative societal impacts of the illicit drug trade

DV1: Frequency of seeking ethically sourced drugs

Descriptive statistics for this variable are presented in Table 16. The data suggest that a larger proportion of participants in Montevideo (57.2%) and Mexico City (55.2%) had sought ethically sourced drugs at least once, compared with London where only 25.0% had done so.

Table 16. *Descriptive statistics "Have you ever sought drugs from ethical sources?"*

	London		**Mexico City**		**Montevideo**	
	N	*%*	*N*	*%*	*N*	*%*
No	69	75.0	26	44.8	15	42.9
Yes, once or twice	13	14.1	8	13.8	8	22.9
Yes, several times	10	10.9	24	41.4	12	34.3

[45] For reference, 45 is considered an average empathy score (Spreng et al., 2009).

The Kruskal-Wallis test results are presented in Table 17. The results reveal a statistically significant between-group difference in the frequency of seeking drugs from ethical sources, $\chi^2(2) = 21.349, p < .001$. The mean rank values indicate that the largest difference was observed between London and the two other cities. This observation was further investigated through Mann-Whitney tests between two cities at a time. Tables 18 and 19 present the results of these tests.

Table 17. *Kruskal-Wallis test for city of residence against frequency of seeking ethically sourced drugs*

Ranks				
	N	*Mean rank*		
London	92	76.95	*Kruskal-Wallis H*	21.349
Mexico City	58	109.36	*df*	2
Montevideo	35	108.07	*Asymp. Sig.*	<.001

Table 18. *Mann-Whitney test comparing frequency of seeking ethically sourced drugs in London and Mexico City*

Ranks					
	N	*Mean rank*	*Sum of ranks*		
London	92	65.49	6025.00	*Mann-Whitney U*	1747.000
Mexico City	58	91.38	5300.00	*Wilcoxon W*	6025.000
				Z	-4.155
				Asymp. Sig. (2-tailed)	<.001

Table 19. *Mann-Whitney test comparing frequency of seeking ethically sourced drugs in London and Montevideo*

Ranks					
	N	*Mean rank*	*Sum of ranks*		
London	92	57.96	5332.50	*Mann-Whitney U*	1054.500
Montevideo	35	79.87	2795.50	*Wilcoxon W*	5332.500
				Z	-3.580
				Asymp. Sig. (2-tailed)	<.001

Statistically significant Mann-Whitney U values were observed between both London and Mexico City ($U = 1747.0$, $p < .001$), and London and Montevideo ($U = 1054.5$, $p < .001$). The mean ranks for Mexico City and Montevideo were significantly higher, despite both samples being smaller than that of London. The results suggest that participants from Mexico City and Montevideo sought ethically sourced drugs more frequently than participants in London. This observation was statistically significant, supporting H1.

DV2: Frequency of campaigning for drug policy reform

Descriptive statistics for this variable are presented in Table 20. Participants in Montevideo reported the highest level of engagement in drug policy campaigns (46.9% had at least once), compared with Mexico City (30.0%) and London (16.5%).

Table 20. *Descriptive statistics "Have you ever campaigned for drug policy reform?"*

	London		Mexico City		Montevideo	
	N	*%*	*N*	*%*	*N*	*%*
No	71	83.5	35	70.0	17	53.1
Yes, once or twice	8	9.4	11	22.0	11	34.4
Yes, several times	6	7.1	4	8.0	4	12.5

Results of the Kruskal-Wallis test, presented in Table 21, revealed a significant between-groups difference, $\chi^2(2) = 10.388$, $p = .006$. This was investigated further through Mann-Whitney tests. The greatest difference in mean ranks occurred between Montevideo and the other two cities, therefore the tests were conducted between these groups.

Table 21. *Kruskal-Wallis test for city of residence against frequency of campaigning for drug policy reform*

Ranks				
	N	*Mean rank*		
London	85	76.15	*Kruskal-Wallis H*	10.388
Mexico City	50	86.71	*df*	2
Montevideo	32	100.61	*Asymp. Sig.*	.006

Tables 22 and 23 present the Mann-Whitney test results. A statistically significant difference was observed between Montevideo and London ($U = 963.5$, $p < .001$). The mean rank values suggest that participants in London reported campaigning for drug policy reform significantly less frequently than those in Montevideo, indicating lower awareness of the negative impacts of the drug trade in London. This finding supports H1.

Table 22. *Mann-Whitney test comparing frequency of campaigning for drug policy reform in Montevideo and London*

Ranks					
	N	*Mean rank*	*Sum of ranks*		
Montevideo	32	71.39	2284.50	*Mann-Whitney U*	963.500
London	85	54.34	4618.50	*Wilcoxon W*	4618.500
				Z	-3.212
				Asymp. Sig. (2-tailed)	.001

Table 23. *Mann-Whitney test comparing frequency of campaigning for drug policy reform in Montevideo and Mexico City*

Ranks					
	N	*Mean rank*	*Sum of ranks*		
Montevideo	32	45.72	1463.00	*Mann-Whitney U*	665.000
Mexico City	50	38.80	1940.00	*Wilcoxon W*	1940.000
				Z	-1.507
				Asymp. Sig. (2-tailed)	.132

DV3: Opinion on contribution of recreational cannabis use to the negative impacts

Descriptive statistics for this variable are grouped based on the specific negative impact, presented in Table 24. Most participants believed recreational cannabis use slightly or moderately contributed to violence and homicides, slightly contributed to human trafficking and exploitation, and moderately contributed to money laundering.

Table 24. *Descriptive statistics "What contribution does recreational cannabis purchase and use have on the following negative impacts?"*

	Violence and homicides						**Human trafficking and exploitation**						**Money laundering**					
	LDN		**MXC**		**MVD**		**LDN**		**MXC**		**MVD**		**LDN**		**MXC**		**MVD**	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
None	13	18.8	8	20.0	1	3.0	19	27.5	10	25.0	3	9.1	6	8.7	5	12.5	2	6.1
Slight	27	39.1	14	35.0	11	33.3	24	34.8	10	25.0	13	39.4	15	21.7	8	20.0	10	30.3
Moderate	20	29.0	6	15.0	14	42.4	11	15.9	9	22.5	11	33.3	25	36.2	12	30.0	13	39.4
Large	4	5.8	9	22.5	7	21.2	8	11.6	5	12.5	4	12.1	19	27.5	10	25.0	3	9.1
Unsure	5	7.2	3	7.5	0	0.0	7	10.1	6	15.0	2	6.1	4	5.8	5	12.5	5	15.2

The Kruskal-Wallis test results are presented in Table 25, revealing a statistically significant between-group difference in responses for the question relating to violence and homicides, $\chi^2(2) = 8.394$, $p = .015$. Mann-Whitney tests were conducted on this data.

Table 25. *Kruskal-Wallis test for city of residence against opinions on the contribution of recreational cannabis use to specific negative impacts*

Ranks					
		N	*Mean rank*		
Violence and homicides	*LDN*	64	60.11	*Kruskal-Wallis H*	8.394
	MXC	37	66.45	*df*	2
	MVD	33	83.02	*Asymp. Sig.*	.015
Human trafficking and exploitation	*LDN*	62	58.94	*Kruskal-Wallis H*	3.847
	MXC	34	63.97	*df*	2
	MVD	31	74.15	*Asymp. Sig.*	.146
Money laundering	*LDN*	65	67.95	*Kruskal-Wallis H*	2.071
	MXC	35	64.51	*df*	2
	MVD	28	56.46	*Asymp. Sig.*	.355

Mann-Whitney test results are presented in Tables 26 to 28. A statistically significant difference was observed between London and Montevideo ($U = 680.0$, $p = .002$). The mean rank for responses from London was significantly lower than that of Montevideo, suggesting that participants in London believed less strongly that recreational cannabis use contributes to violence and homicides. This finding implies higher awareness among Montevideo participants of the violence caused by the illicit cannabis trade, which provides support for H1.

Table 26. *Mann-Whitney test for opinions on the contribution of cannabis use on violence and homicides in London and Mexico City*

Ranks					
	N	*Mean rank*	*Sum of ranks*		
London	64	49.48	3167.00	*Mann-Whitney U*	1087.000
Mexico City	37	53.62	1984.00	*Wilcoxon W*	3167.000
				Z	-.719
				Asymp. Sig. (2-tailed)	.472

Table 27. *Mann-Whitney test for opinions on the contribution of cannabis use on violence and homicides in London and Montevideo*

Ranks					
	N	*Mean rank*	*Sum of ranks*		
London	64	43.13	2760.00	*Mann-Whitney U*	680.000
Montevideo	33	60.39	1993.00	*Wilcoxon W*	2760.000
				Z	-3.031
				Asymp. Sig. (2-tailed)	.002

Table 28. *Mann-Whitney test for opinions on the contribution of cannabis use on violence and homicides in Mexico City and Montevideo*

Ranks					
	N	*Mean rank*	*Sum of ranks*		
Mexico City	37	31.82	1177.50	*Mann-Whitney U*	474.500
Montevideo	33	39.62	1307.50	*Wilcoxon W*	1177.500
				Z	-1.671
				Asymp. Sig. (2-tailed)	.095

DV4: Opinion on contribution of recreational cocaine use to the negative impacts

Descriptive statistics for this variable are presented in Table 29, revealing that most participants believed recreational cocaine use contributes largely to all three negative impacts.

Table 29. *Descriptive statistics "What contribution does recreational cocaine purchase and use have on the following negative impacts?"*

	Violence and homicides						**Human trafficking and exploitation**						**Money laundering**					
	LDN		**MXC**		**MVD**		**LDN**		**MXC**		**MVD**		**LDN**		**MXC**		**MVD**	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
None	2	2.9	3	7.5	0	0.0	2	2.9	4	10.0	0	0.0	2	2.9	2	5.0	0	0.0
Slight	9	13.0	2	5.0	3	9.1	8	11.6	4	10.0	7	21.2	7	10.1	2	5.0	6	18.2
Moderate	18	26.1	10	25.0	14	42.4	19	27.5	4	10.0	12	36.4	12	17.4	6	15.0	11	33.3
Large	34	49.3	19	47.5	15	45.5	29	42.0	20	50.0	12	36.4	46	66.7	22	55.0	13	39.4
Unsure	6	8.7	6	15.0	1	3.0	11	15.9	8	20.0	2	6.1	2	2.9	8	20.0	3	9.1

Table 30 presents the Kruskal-Wallis test results, revealing no statistically significant differences between the three cities. This finding does not support H1 as it indicates no difference in awareness levels of the negative impacts among participants in each group.

Table 30. *Kruskal-Wallis test for city of residence against opinions on the contribution of recreational cocaine use on specific negative impacts*

	Ranks				
		N	*Mean rank*		
Violence and homicides	*LDN*	63	64.99	*Kruskal-Wallis H*	.099
	MXC	34	66.28	*df*	2
	MVD	32	63.66	*Asymp. Sig.*	.952
Human trafficking and exploitation	*LDN*	58	61.91	*Kruskal-Wallis H*	1.375
	MXC	32	64.69	*df*	2
	MVD	31	55.48	*Asymp. Sig.*	.503
Money laundering	*LDN*	67	68.52	*Kruskal-Wallis H*	5.061
	MXC	32	68.47	*df*	2
	MVD	30	53.43	*Asymp. Sig.*	.080

The results of the statistical tests carried out on the four dependent variables suggest that H1 is partially supported by the survey data.

5.4.2 H2 testing: Participants reporting higher frequencies of drug use are less aware of the negative societal impacts of the illicit drug trade

IV: Frequency of drug use

All participants' responses were aggregated for these analyses because the differences between cities or specific drug types were not being tested. Descriptive statistics for frequency of drug use are presented in Table 31. When aggregated, the ratio of frequent to infrequent users was relatively equal (44.1% to 55.9%).

Table 31. *Reported frequency of drug use among all participants in the last 12 months*

	Cannabis		**Cocaine**		**Aggregated**	
	N	*%*	*N*	*%*	*N*	*%*
Infrequent	117	55.7	78	94.0	123	55.9
Frequent	93	44.3	5	6.0	97	44.1
Total	210	100.0	83	100.0	220	100.0

DV1: Frequency of seeking ethically sourced drugs

Descriptive statistics for this variable are presented in Table 32. A higher proportion of frequent users reported seeking ethically sourced drugs at least once.

Table 32. *Descriptive statistics "Have you ever sought drugs from ethical sources?"*

	Infrequent users		Frequent users	
	N	*%*	*N*	*%*
No	74	73.3	36	42.9
Yes, once or twice	11	10.9	18	21.4
Yes, several times	16	15.8	30	35.7
Total	101	100.0	84	100.0

This observation was investigated further through correlation analysis. The results of the one-tailed Spearman's rho correlation are presented in Table 33, revealing a significant positive correlation between frequency of use and frequency of seeking ethically sourced drugs ($p < .001$). The results suggest that frequency of use does predict the frequency in which PWUD sourced drugs ethically, however the direction of the correlation refutes H2 predictions, suggesting that H2 is not supported by the data.

Table 33. *Spearman's rho correlation between frequency of drug use and frequency of seeking ethically sourced drugs*

		Freq. ethically sourced drugs
Frequency of drug use	*Correlation coefficient*	.304
	Sig. (1-tailed)	<.001
	N	185

DV2: Frequency of campaigning for drug policy reform

Descriptive statistics for DV2 are presented in Table 34. The data suggests that participants who reported more frequent drug use also reported campaigning for drug policy reform more frequently.

Table 34. *Descriptive statistics "Have you ever engaged in protests/campaigns supporting drug policy reform?"*

	Infrequent users		Frequent users	
	N	*%*	*N*	*%*
No	81	87.1	42	56.8
Yes, once or twice	9	9.7	21	28.4
Yes, several times	3	3.2	11	14.9
Total	93	100.0	74	100.0

A one-tailed Spearman's rho correlation revealed a significant positive association between frequency of use and frequency of campaigning for drug policy reform, shown in Table 35 ($p < .001$). Again, the findings indicate a significant relationship between frequency of use and frequency of campaigning for policy reform, however the direction of the correlation refutes H2 predictions, therefore H2 is not supported.

Table 35. *Spearman's rho correlation between frequency of drug use and frequency of campaigning for drug policy reform*

		Freq. campaigning
Frequency of drug use	*Correlation coefficient*	.345
	Sig. (1-tailed)	<.001
	N	167

DV3: Opinion on contribution of recreational cannabis use to the negative impacts

Descriptive statistics are presented in Table 36, which suggest that infrequent users reported a greater perceived impact of cannabis use on all three problem spaces. However, frequent users reported a larger contribution of cannabis use on violence and homicides.

Table 36. *Frequent vs infrequent PWUD responses to "How does cannabis use contribute to the following negative impacts?"*

	Violence and homicides				Human trafficking and exploitation				Money laundering			
	Infrequent		Frequent		Infrequent		Frequent		Infrequent		Frequent	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
None	15	18.8	7	11.3	20	25.0	12	19.4	6	7.5	7	11.3
Slight	30	37.5	22	35.5	27	33.8	20	32.3	18	22.5	15	24.2
Moderate	24	30.0	16	25.8	16	20.0	15	24.2	28	35.0	22	35.5
Large	6	7.5	14	22.6	9	11.3	8	12.9	23	28.8	9	14.5
Don't know	5	6.3	3	4.8	8	10.0	7	11.3	5	6.3	9	14.5

The results of the one-tailed Spearman's rho correlation are presented in Table 37, revealing negative correlations between frequency of use and the three problem spaces. A significant correlation was observed between frequency of use and opinions on the impact of cannabis use on money laundering (p = .020). This suggests that participants who used drugs less frequently believed more strongly that cannabis use contributes to money laundering, which supports H2. However, there were no significant relationships observed between the remaining two problem spaces, suggesting that the support for H2 is only partial.

Table 37. *Spearman's rho correlation between frequency of drug use and opinions on the impact of recreational cannabis use*

		Violence and homicides	Human trafficking/ exploitation	Money laundering
Frequency of drug use	*Correlation coefficient*	-.025	-.127	-.182
	Sig. (1-tailed)	.386	.077	.020
	N	134	127	128

DV4: Opinion on contribution of recreational cocaine use to the negative impacts

Descriptive statistics for the final DV of H2 testing are presented in Table 38. Infrequent users appear to have reported a greater contribution of cocaine use to the three negative impacts, which was investigated further through correlation analysis.

Table 38. *Frequent vs infrequent PWUD responses to "How does cocaine use contribute to the following negative impacts?"*

	Violence and homicides				Human trafficking and exploitation				Money laundering			
	Infrequent		Frequent		Infrequent		Frequent		Infrequent		Frequent	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
None	2	2.5	3	4.8	3	3.8	3	4.8	2	2.5	2	3.2
Slight	10	12.5	4	6.5	9	11.3	10	16.1	7	8.8	8	12.9
Moderate	21	26.3	21	33.9	20	25.0	15	24.2	12	15.0	17	27.4
Large	40	50.0	28	45.2	36	45.0	25	40.3	55	68.8	26	41.9
Don't know	7	8.8	6	9.7	12	15.0	9	14.5	4	5.0	9	14.5

The results of the one-tailed Spearman's rho correlation are presented in Table 39, revealing significant negative correlations between frequency of use and opinions on the impact of cocaine use on human trafficking and exploitation (p = .016), and money laundering (p < .001). These observations indicate that participants who reported less frequent drug use believed more strongly that cocaine use impacts human trafficking and exploitation, and money laundering, which supports H2.

Table 39. *Spearman's rho correlation between frequency of drug use and opinions on the impact of recreational cocaine use*

		Violence and homicides	Human trafficking/ exploitation	Money laundering
Frequency of drug use	*Correlation coefficient*	-.129	-.195	-.276
	Sig. (1-tailed)	.073	.016	<.001
	N	129	121	129

In sum, the results of these analyses suggest that H2 is partially supported by the data, although some observations reveal conflicting implications. These are discussed further in section 5.5.

5.4.3 H3 testing: Participants who have begun to form a nexus between recreational drug use and the negative societal impacts are more willing to change their drug related behaviours

DV: Willingness to change drug related behaviours

Descriptive statistics for the dependent variables are presented in Table 40. Most participants were more willing to obtain drugs from ethical sources and less willing to reduce their frequency of drug use. The groups assigned by the cluster analysis were tested against willingness to change drug related behaviours.

Table 40. *Descriptive statistics for willingness to change drug related behaviours*

	Reduce frequency of drug use		Source drugs ethically		Campaign for drug policy reform	
	N	*%*	*N*	*%*	*N*	*%*
Not at all willing	32	24.1	9	6.6	26	19.4
Slightly willing	34	25.6	6	4.4	18	13.4
Moderately willing	20	15.0	20	14.6	34	25.4
Highly willing	47	35.3	102	74.5	56	41.8
Total	133	100.0	137	100.0	134	100.0

The one-tailed Spearman's rho correlation results are presented in Table 41, revealing two statistically significant relationships. Firstly, there was a significant positive correlation between formation of the nexus and willingness to reduce frequency of drug use (p = .005). A second significant positive correlation was observed between formation of the nexus and willingness to obtain drugs from ethical sources (p = .007). These findings suggest that participants from cluster group 2, who had begun to form the nexus, were more willing to change these two behaviours. These findings indicate support for H3.

Table 41. *Spearman's rho correlation between nexus formation and willingness to change drug related behaviours*

		Reduce use	Source ethically	Campaign
Nexus formation	*Correlation coefficient*	.270	.253	-.021
	Sig. (1-tailed)	.005	.007	.421
	N	91	95	92

5.4.4 H4 testing: Participants reporting higher empathy levels are more willing to change their drug related behaviours

IV: Empathy level

Whilst the dependent variable for H4 is willingness to change drug related behaviours, the independent variable is empathy level. The average empathy score among all participants was 47.2 (on a scale from 0 to 64). The results of the one-tailed Spearman's rho correlation are presented in Table 42, revealing a statistically significant positive correlation between empathy score and willingness to source drugs ethically (p = .045). This suggests that empathy score predicts willingness to change one of the specified behaviours, and that H4 is partially supported.

Table 42. *Spearman's rho correlation between empathy score and willingness to change drug related behaviours*

		Reduce use	Source ethically	Campaign
Empathy level	*Correlation coefficient*	.095	.147	.026
	Sig. (1-tailed)	.142	.045	.383
	N	129	134	130

5.5 Discussion

The current study sought to investigate the extent to which the nexus between recreational drug use and the negative societal impacts of the illicit drug trade had been formed among PWUD. In doing so, four hypotheses were tested which predicted the impact of different factors on awareness of the negative impacts and subsequent likelihood of behaviour change, which is indicative of nexus formation. In this discussion, I summarise the findings from the surveys, considering the existing literature and current research questions and hypotheses.

5.5.1 ***H1:*** *Participants in London are less aware than participants in Mexico City and Montevideo of the negative societal impacts of the illicit drug trade*

The first observation suggests that participants in Mexico City and Montevideo sought ethically sourced drugs significantly more frequently than those in London. This behaviour reveals awareness of the negative impacts and a conscious effort to avoid contributing to these impacts. Therefore, the findings support H1 and suggest higher awareness levels among participants in Mexico City and Montevideo. There are several possible explanations for this difference observed between cities, firstly, the availability of "ethical" drugs. In Uruguay, cannabis is legal and subsequently there are numerous ethical cannabis sources. Citizens can legally grow a limited number of cannabis plants, join a cannabis club, or purchase from state-regulated pharmacies (Snapp & Valderrábano, 2020). These options allow citizens to easily obtain ethically sourced cannabis. This may be the reason for Montevideo participants reporting a significantly higher frequency of obtaining drugs ethically. Although this may explain the difference observed between Montevideo and London, it does not explain the difference between Mexico City and London. In Mexico, like the UK, legal cannabis sources are not available, which raises the question of why a significant difference was observed between participants in Mexico City and London.

Another potential explanation for this observation is participants' proximity to the negative impacts of the illicit drug trade. Mexico is largely involved in the illicit drug trade and consequently the negative impacts are prominent (Bergman, 2018a; Castillo et al., 2014; UNODC, 2019). Research conducted on public awareness of news media (Donnelly, 2005) and nuclear energy information (Cale & Kromer, 2015), for example, suggests that proximity to an event or location influences awareness levels. This could explain the

observation in the current study. Assuming that proximity is the reason for the difference observed, participants in Mexico City would seek ethically sourced drugs more frequently than London participants through the following process:

1) Increased exposure to the negative impacts of the illicit drug trade resulted in higher awareness levels among participants in Mexico City
2) These participants understood how individuals and communities in their country and wider region are affected, which caused them to sympathise with victims
3) Consequently, participants were more motivated to help relieve these negative impacts
4) Participants began to change their behaviours to reduce their contribution to the negative impacts

The opposite would then be observed among participants in London, whereby participants were less proximal to the negative societal impacts of the drug trade and therefore had lower awareness. This was reflected in London participants seeking ethically sourced drugs significantly less frequently than Mexico City participants. Similarly, significantly more participants in Montevideo believed that cannabis use contributes largely to violence and homicides, while those in London reported a lower contribution. Assuming that reporting a higher contribution of recreational drug use to the negative impacts correlates with higher awareness levels, this finding supports H1. The results therefore imply that participants in Montevideo were more aware of the negative impacts of the drug trade than those in London, further highlighting the difference between London and Latin American participants. Although it is not possible to conclude a causal relationship between proximity to the negative impacts and awareness of these issues, the data from this study and existing literature indicate that it is likely. Factors such as sample size, demographic features, and levels of drug use were accounted for during data collection. Despite these between-group controls, statistically significant differences were observed in participants' responses. This suggests that the manipulated variable, i.e., city of residence, influenced reported awareness levels.

Moreover, the drugs that participants reported using may have influenced whether they could source their drugs ethically. Almost half of London participants reported using cocaine at least once in the last year (45.0%), compared with lower percentages in both Mexico City (26.0%) and Montevideo (38.0%). Cocaine cannot be sourced ethically because coca plant cultivation is limited to the Andean region of South America (UNODC, 2021). Therefore, the higher proportion of participants in London reporting cocaine use could explain the lower frequency in which they reported seeking ethically sourced drugs. This argument is weakened, however, as London participants also reported using cannabis but still sought ethically sourced drugs less frequently. Although legal sources of cannabis are not available in the UK, people can avoid contributing to the illicit market by growing cannabis plants or buying from dealers who grow plants locally. This suggests that other factors besides drug type explain the difference in awareness levels observed

between London and the two Latin American cities, strengthening the argument for proximity to the negative impacts influencing the results.

The results revealed that participants in Montevideo actively supported drug policy reform significantly more frequently than participants in London. This finding was expected considering that cannabis is legalised in Uruguay, and years of promotion and campaigning were likely to have contributed to the policy reform and differences in attitudes towards drugs among Montevideo participants. Protesting drug policy is indicative of high awareness and salience of the negative societal impacts of the illicit drug trade. The reasons one might support drug policy reform include to enable safe and easy access to drugs, reduce the stigma surrounding drug use, reduce the health harms of drug use, remove the criminalisation of drug use and consequent risk of legal penalty, and reduce the harm caused by the illicit drug trade. Therefore, this behaviour may correlate with awareness of the negative societal impacts and provide support for H1. Participants of this study were not asked why they actively support policy reform, however, the motivations discussed in the Montevideo focus group in chapter 4 align with these reasons and indicate high awareness of the negative impacts.

Finally, no significant differences were observed between participants in the three cities regarding the reported contribution of recreational cocaine use to the negative societal impacts of the illicit drug trade, suggesting that all groups displayed high awareness of the impacts of the cocaine trade. This refutes the hypothesis that participants in Mexico City and Montevideo would display higher awareness. In contrast, the question relating to cannabis use revealed notable differences in participants' opinions between the cities. An explanation for this is since coca plant cultivation is limited to a specific region of the world. The original source of cocaine is limited, and awareness of this naturally informs trafficking routes and consequential impacts (Black, 2020). Cannabis differs in that it can be cultivated around the world. It is difficult for PWUD to identify where their cannabis was cultivated, the transit route, and therefore whether the trade of that cannabis contributed to the negative impacts specified in this research. Furthermore, the media coverage on the cocaine trade and its associated impacts appears to be more common and widespread than the cannabis trade. This occurs through popular television series such as "Narcos" and other depictions of Latin American cocaine drug cartels. The differences in production and distribution of cannabis and cocaine, as well as media depiction of the cocaine trade, may explain the similarity in participants awareness of the cocaine trade.

Hypothesis 1 was supported by the survey data, corroborating the observations from chapter 4 of this thesis. In the focus groups, Mexico City and Montevideo participants argued that media outlets in their countries exaggerated the negative impacts of the drug trade, which implies that coverage of these issues is frequent and thorough. The same was not observed in London, most likely because the negative impacts are less prevalent in the UK and local issues are instead reported more frequently. Although drug trafficking

occurs in the UK, it is not a major production or transit country as compared to Mexico, for example (UNODC, 2021). Consequently, many of the negative impacts observed on a large scale in Latin America are not observed in the UK, explaining the lower awareness among participants in London revealed by their reported drug related behaviours.

5.5.2 ***H2:*** *Participants reporting higher frequencies of drug use are less aware of the negative societal impacts of the illicit drug trade*

The second research hypothesis predicted higher levels of awareness among infrequent users, based on the assumption that increased awareness of the negative impacts discourages drug use. Hypothesis 2 was only partially supported by the data, and in some instances, there were significant observations which refuted the hypothesis. Firstly, positive correlations were observed between frequency of use and frequency of sourcing ethical drugs and campaigning for drug policy reform. These findings suggest higher awareness of the negative impacts among frequent users, which goes against expectations and indicates that increased awareness does not encourage a reduction in drug use. Hypothesis 2 was informed by the literature on pro-environmental behaviour and alcohol misuse, whereby people change their behaviours upon being informed of the negative impacts of that behaviour and appropriate ways to change (Manton et al., 2014; Steg & Vlek, 2009). The present study, however, suggests that the same may not be observed when attempting to reduce recreational drug use.

Frequent PWUD may have reported engaging in these behaviours more regularly because they were more informed about the drugs they use, including where drugs originate and some of the consequential impacts of production and trafficking. Therefore, while awareness of the negative societal impacts of the illicit drug trade may not encourage a reduction in drug use, it may instead encourage ethical sourcing of drugs and support for drug policy reform. This supports the focus group findings presented in chapter 4, whereby participants displayed awareness of the illicit drug trade and the associated negative impacts yet reported frequent drug use. PWUD seek the specific effects induced by the drug, such as cannabis to relax or ecstasy to improve mood (Aldridge et al., 1998; Boys et al., 2001). These desired benefits of drug use appear to outweigh awareness of the negative impacts of the illicit drug trade. Moreover, this finding adds to the literature on the intention-behaviour gap which identifies inconsistencies in what people believe, intend to do, and actually do (Hassan et al., 2016). Importantly, this observation suggests that awareness alone is not enough to change drug related behaviours, and further research should investigate the impact of increased salience instead.

In contrast, there were two statistically significant findings which present support for H2. Analysis revealed that infrequent users believed more strongly than frequent users that cannabis use contributes to money laundering, and that cocaine use contributes to both money laundering and human trafficking/exploitation. The literature suggests that drug trafficking largely contributes to these two issues (Beittel, 2019; Interpol, n.d.; Rolles et

al., 2012; Shelley, 2012; Soudijn, 2016). Demand for drugs indirectly contributes to these issues as it drives drug trade activities. Therefore, the current research finding implies greater awareness of the negative impacts of the drug trade, particularly of cocaine, among less frequent PWUD. It is possible that increased awareness encouraged the reduction in drug use among these participants, although this is not a causal observation which would require questioning participants on their reasons for drug use and comparing previous rates of drug use to current rates. Interestingly, the same correlation was not observed for violence and homicides, despite evidence in the literature of a strong association between the illicit drug trade and violence (Bergman, 2018a; Garzón-Vergara, 2016; Rolles et al., 2016; Seffrin & Domahidi, 2014; UNODC, 2019). It is, of course, possible that participants were unaware of the connection between the drug trade and violence, however, this is unlikely as media and literature coverage of the drug trade largely focuses on violence. It is possible that participants placed a greater responsibility for violence and homicides on other external factors besides drug use, such as drug policy or law enforcement.

The results suggest partial support for H2 in that less frequent PWUD reported a greater contribution of recreational drug use to the negative societal impacts. However, the significant observations which refute H2 cannot be ignored. These findings suggest that increased awareness is unlikely to discourage drug use but may be effective in encouraging ethical sourcing of drugs and campaigning for policy reform.

5.5.3 ***H3:*** *Participants who have begun to form a nexus between recreational drug use and the negative societal impacts are more willing to change their drug related behaviours*

The results of H3 testing were mostly significant, suggesting that formation of the nexus may predict willingness to change two of the three specified drug related behaviours. Participants were asked about reducing drug use, sourcing drugs ethically, and campaigning for drug policy reform. The former two behaviours were significantly correlated with nexus formation, indicating that PWUD with an awareness of the negative impacts, who may already have begun to change their behaviours, may be willing to reduce their drug use or source drugs ethically. An interesting observation in H3 testing was that participants were less willing to campaign for policy reform than the other two behaviours. This concurs with chapter 4 findings as some focus group participants admitted that they would not want to campaign for drug policy reform despite expressing support for drug legalisation. In the present study, it was unknown whether participants supported drug policy reform, and therefore the lack of willingness to campaign may be due to a general lack of support for reform. Other possible reasons for this finding may be the stigma surrounding illicit drug use, which understandably results in PWUD not wanting to be associated with the pro-legalisation movement. This would suggest that societal attitudes towards illicit drugs are influential in PWUD behaviours.

Hypothesis 3 was informed by the literature on pro-environmental behaviour, which is comparable to drug related behaviours as both contexts encourage behaviours which benefit wider society rather than the person engaging in the behaviour. The literature suggests that people are more likely to adopt and maintain pro-environmental behaviours if they have a favourable attitude towards it and believe that their contribution will help (Conner & Norman, 2005; Ertz et al., 2016; Kok & Siero, 1985). The present study suggests that the same may be observed with recreational drug use, whereby participants who had a pre-existing favourable attitude towards drug related behaviour changes were more willing to further change their behaviours. These findings are promising for future research aiming to encourage drug related behaviour changes through increased salience of the negative impacts of the drug trade. Furthermore, they assist in informing the design of future interventions aimed at increasing salience, emphasising the need for the target audience to feel that their behaviours will be impactful. However, when interpreting the results of H3 testing, it is important to consider that the data was aggregated, and these analyses did not consider participants' country of residence or which illicit drug they used (cannabis or cocaine). Moreover, the current study only tests willingness to change drug related behaviours and not actual behaviour change. These factors may interact differently when controlled for and in longitudinal studies, and thus should be considered in future research.

5.5.4 ***H4:*** *Participants reporting higher empathy levels are more willing to change their drug related behaviours*

Testing of the final hypothesis revealed a significant relationship between empathy and willingness to source drugs ethically. When comparing this behaviour to the other two options presented to participants, ethical sourcing of drugs requires the least amount of effort whilst still enabling drug use. Therefore, it is perhaps sensical that participants were most willing to engage in this behaviour. However, it is surprising that participants were only willing to engage in one of the three behaviour changes, which refutes existing literature suggesting that empathy increases willingness to help others (Brown & Leary, 2016; Paciello et al., 2013). These studies, however, focus on general prosocial behaviour such as helping a homeless person. Therefore, the difference in findings within the current research may reflect the nature of the behaviour change being examined. It is possible that empathy interacts differently in the context of drug related behaviours than with sporadic altruistic acts, as the current research findings suggest. Perhaps the difference is that "helping" in this case requires effort and involves disadvantaging the helper in some way. Where helping others typically involves donating time or money, the three behaviours specified in the current research ask much more of the person giving, both in terms of effort and sacrifice (i.e., reducing drug use). Further research is required to investigate the relationship between empathy and behaviour change, particularly when salience of the negative impacts of the drug trade is increased. The variables may interact differently when empathy is intentionally heightened through informative and response-evoking interventions.

In sum, this study provides a replication of the focus group study in chapter 4 and observed similar findings. Participants in Mexico City and, more so, Montevideo, displayed higher awareness of the negative societal impacts of the illicit drug trade than those in London. However, awareness did not always correlate with willingness to change drug related behaviours. This study therefore confirms that awareness of the negative impacts is not enough to influence behaviour changes, emphasising the need for further research to examine whether salience can be increased to encourage behaviour changes among PWUD. In addition, regardless of the difference in cannabis policy between Mexico City and Montevideo, the results were consistent between these cities. In contrast, there were significant differences between London and both cities, suggesting that factors besides drug policy contributed to the observations of this study.

5.6 Limitations

Limitations were present within the study design, although these were reduced where possible. Firstly, it is possible that the small sample sizes from each of the three cities, particularly Montevideo, resulted in less reliable conclusions being drawn. This was controlled for by selecting appropriate statistical tests (non-parametric) and ensuring that assumptions for these tests were fulfilled by the dataset. However, it is possible that having a smaller sample size reduced the power of the study, which should be considered when interpreting the results. Furthermore, the demographic of the survey sample, although consistent between groups, was somewhat limited. These findings may not be extrapolated to wider populations as the data was gathered predominantly from university students. This audience was targeted due to ease of access and higher likelihood of drug use, nonetheless, a wider population sample may have provided more valid results. Snowball sampling, for example, limited the sample to people of the same socioeconomic status. However, the most appropriate methods were chosen for the current research considering the available time and resources.

As with most studies on drug use, reliance on self-report is unfortunately both a limitation and often the only means of obtaining primary data. One limitation of self-report is response bias, whereby participants provide socially acceptable or desirable responses rather than reporting accurate reflections of their behaviours. This may occur particularly where sensitive topics are concerned, such as drug use (Latkin et al., 2016; Marquis et al., 1986). Participants may overreport their drug use to meet the eligibility criteria and obtain the incentive.[46] They may also underreport their drug use out of fear of judgement due to stigma around illicit drug use. These factors were accounted for in the current research by guaranteeing participant anonymity, removing the researcher and instead using an online survey platform, and providing participants with a detailed information sheet which emphasised secure handling of data and deletion after analysis.

[46] This was only relevant to the current research for the London survey, where there was a prize draw for one participant to win a £100 Amazon voucher.

This ensured that participants felt comfortable sharing their honest drug related behaviours and opinions (Babor et al., 1987; Werch, 1990). Additionally, the survey design prevented people from participating more than once, which avoided multiple attempts after being told they did not meet the eligibility criteria and thus could not complete the survey. This avoided overreporting of drug use.

Furthermore, it is apparent that full interpretation of the results is not possible without additional information from participants. For example, questioning their reasons behind engaging in specific behaviours. The total survey completion time was intentionally kept below 15 minutes to encourage participation and reduce the potential of participation fatigue. Participation fatigue occurs when participants are reluctant or refuse to continue participation in research because it has mentally or psychologically exhausted them (Ashley, 2021). This may result in participants hastily completing the survey with low quality responses or exiting the survey before completing. For this reason, open-ended questions were avoided where possible, however, it meant that detailed reasoning behind participants' reported behaviours and opinions were not always possible to obtain. This limitation was accounted for by not overstating the findings. In addition, keeping questions concise and ordering questions so that important responses (i.e., those gathering data for dependent variables) were answered towards the start of the survey. Fortunately, it is often evident in the dataset where participants have hastily selected random responses to end the survey sooner, therefore, these responses were filtered out at the data cleaning stage.

Lastly, future research should consider the implications of confounding characteristics on the dependent variables, which were not adjusted for in the analyses conducted in this study. These additional analyses would strengthen the comparisons between groups, for example, including demographic information of participants as well as their country of residence and reported drug related behaviours. Although the present study gathered some demographic information from participants, the limitation to non-parametric statistical tests meant that covariates were not included in the between-group tests. However, future research should acknowledge this limitation to build on these findings.

5.7 Conclusion

This study served to examine the extent to which participants had formed the nexus between drug use and the negative societal impacts of the illicit drug trade. Participants in Mexico City and Montevideo displayed greater awareness of the negative impacts than participants in London, evident through existing drug related behaviours which suggest a consideration of these impacts. Mexico City and Montevideo present consistent findings despite different drug policies, suggesting that other factors such as proximity to the negative impacts may influence awareness levels. However, participants engaged in frequent drug use despite awareness of the negative impacts, and willingness to change behaviours was inconsistent, corroborating the focus group findings. Furthermore, the

current study revealed that although PWUD more frequently were not willing to reduce their frequency of drug use, these individuals may be more willing to ethically source drugs and campaign for policy reform.

The current study aimed to increase quantifiability and generalisability of the observations in chapter 4 and in doing so provided support for the focus group findings. Further research would be valuable in assessing the effect of increased salience of the negative impacts on drug related behaviours. The studies in chapters 4 and 5 of this thesis have revealed the ineffectiveness of awareness in encouraging drug related behaviour changes. Furthermore, the observations highlight the need for further research to focus on other drug related behaviours besides reducing frequency of use. Considering the current research findings, future studies should consider exogenous variables which may influence the interaction between salience and behaviour change, including frequency of use and empathy.

Chapter 6. A crime script of the illicit cocaine drug trade from South America to the UK

6.1 Introduction

Thus far in this thesis, I have discussed the existing literature on recreational drug related behaviours and the negative societal impacts associated with the drug trade. The studies presented in chapters 4 and 5 revealed drug related behaviours of PWUD from the sourcing of illicit drugs to contexts of use. The research objective of the current study is to build a crime script that reveals the negative societal impacts occurring within the illicit drug trade. Building a crime script requires identifying the stages involved in the drug trade, from cultivation to international trafficking and decision-making and drug use of PWUD in the UK. Data for the script was obtained from two sources: open-source online data and data from chapters 4 and 5 of this thesis. In constructing a crime script, this chapter served to both collate the findings from the previous empirical chapters and inform the intervention for chapter 7 by increasing understanding of specific negative impacts and potential intervention points.

The previous studies in this thesis have focused on both cannabis and cocaine. The crime script, however, only includes data on the cocaine drug trade. This is because the production of cocaine is limited to a specific region of the world. The trafficking process associated with cocaine is therefore limited and easy to trace, we know where all cocaine has originated. Production of a crime script with cocaine is possible, enabling the current research objective to be met. Cannabis, however, can be produced around the world. It is not possible to trace where all cannabis consumed in the UK has originated. This makes it difficult to narrow the stages involved in cannabis production and trafficking in the same way as cocaine. Despite this, I anticipate that some of the findings from this study can be informative for understanding processes and negative societal impacts related to the cannabis drug trade.

6.2 Crime script literature

In this section, I discuss crime script analysis and justify its relevance as a method of use in the current study. Crime script analysis (CSA) is a method used to simplify complex events and clarify understanding of an action of sequence (Tompson & Chainey, 2011). Crime scripts involve breaking down a complex crime event into individual decisions and actions that must occur for the crime to take place. Cornish (1994) suggested that scripts can help to organise knowledge about the procedural aspects and requirements of crime commission, thus moving from police perspectives of crime towards an offender focus. A crime script framework was produced, including eleven scenes or functions, ranging from “preparation” to “exit” (Cornish, 1994).

This framework has since been simplified. The process outlined in a crime script generally consists of preparation, target selection, commission of the act, escape, and aftermath, as well as situational variables relevant during the criminal activity (Beauregard et al., 2007). CSA has borrowed from the situational crime prevention approach, which operates under the notion that crime is an outcome of choices and decisions made by offenders (Furnham, 1981). Following from this view is the idea that removing opportunities for crime ultimately reduces crime itself, as would-be offenders cannot be tempted by opportunities and, therefore, will not commit crimes (Clarke, 1997). Interestingly, this approach places emphasis on the environments and situations within which crimes occur rather than offenders themselves. CSA incorporates these ideas but develops them further by providing a systematic, step-by-step thought and action process that takes place before, during, and often after crime commission (Chiu et al., 2011). Ultimately, crime scripts help to inform intervention strategies including awareness, detection, and prevention by revealing points throughout the process of a crime event where law enforcement and other capable individuals can intervene.

6.2.1 Applications within crime science

Script analysis has been applied to many areas of crime science in recent years, such as environmental crime, sex offending, human trafficking, mass shootings, hit-and-runs, robbery, and cyber-crime (Borrion et al., 2017; Brayley et al., 2011; Hopkins & Chivers, 2018; Hutchings & Holt, 2015; Leclerc et al., 2011; Osborne & Capellan, 2017; Petrossian & Pezzella, 2018; Tompson & Chainey, 2011). Three types of scripts are identified, with "performed" scripts predominantly applied within the crime science literature (Borrion, 2013). Performed scripts are developed based on empirical data, detailing sequences of actions that occur in a crime event.[47] The use of crime scripts has been particularly helpful in increasing understanding of child sex trafficking (Brayley et al., 2011). The authors developed a simple script for internal child sex trafficking, identifying three distinct stages of the process. This script depicts how offenders might complete each required action, for example, at the groom stage the offender might flatter the victim by complimenting them. Potential interventions are suggested with the aim of increasing effort, increasing risk, reducing benefit, removing provocation, and removing excuses.

Table 43. *Template for organising crime script information*

Act 1	**Act 2**	**Act 3**	**Act 4**	**Act 5**	**Act 6**
Scene:	Scene:	Scene:	Scene:	Scene:	Scene:
Cast:	Cast:	Cast:	Cast:	Cast:	Cast:
Activities:	Activities:	Activities:	Activities:	Activities:	Activities:

Tompson & Chainey (2011) provide a template for organising information within a crime script, presented in Table 43. Detailed CSA has been conducted on oil theft in Mexico

[47] As opposed to "potential" or "planned" scripts.

following this template (Alonso-Berbotto & Chainey, 2021). These authors went further than specifying activities and conditions required for oil theft to occur, to include details of the cast (actors involved at each stage) and equipment required. This level of detail enables more accurate and effective intervention design.

6.2.2 Applications to the illicit drug trade

Crime scripts have been used to increase understanding of drug manufacturing and trade, even within the online illegal market (Leontiadis & Hutchings, 2015). Researchers have created a crime script of the illicit drug trade in Amsterdam, gathering data through interviews with drug dealers and independent observations of drug trade interactions (Jacques & Bernasco, 2013). Financial crime scripting, depicting the expenses and profits associated with cocaine trade in the Netherlands, has also been carried out (van Santvoord & van Ruitenburg, 2022). Open-air drug selling has been examined through crime scripts, revealing the step-by-step process by which drug transactions occur (Sytsma & Piza, 2018). Furthermore, Chiu et al. (2011) reviewed public transcripts from court cases on drug manufacturing in clandestine laboratories. The script produced from this analysis revealed useful information such as sourcing and storage of goods, and packaging and distribution of the product. Additionally, the script revealed social networks used to provide resources and defined the differences between large-scale and small-scale operations. The effectiveness of using crime scripts to understand illegal drug manufacturing is evident through Chiu et al.'s (2011) recommendations for prevention. The authors identified intervention points throughout the script where members of the public can report suspicious activities to the police, therefore helping to identify clandestine drug laboratories.

CSA is relevant to the current research because the illicit drug trade is a complex process involving many stages, from drug production to drug use. A crime script detailing the steps involved from drug production to user decision-making and drug use could identify potential points for effective intervention. Furthermore, the use of a crime script approach may help to identify where the negative societal impacts are occurring within each stage of the drug trade process. To date, existing scripts on the illicit drug trade do not include decision-making on behalf of PWUD or the identification of the negative societal impacts that are present at each stage. They instead focus solely on the criminal activities involved in drug production and trafficking. Therefore, the present study involves the first attempt, as far as I am aware, to create a crime script that examines the stages of the drug trade in relation to user decision-making and the presence of negative societal impacts within each stage. Through an increased understanding and clear depiction of the decision-making process involved in obtaining and using illicit drugs, we can potentially identify better points of intervention where drug related behaviour changes may be encouraged.

6.2.3 Negative societal impacts

The negative societal impacts occurring at each activity will be depicted in the crime script. These negative societal impacts include violence, corruption of officials, and can feed into other criminal enterprises such as human trafficking and exploitation (Bergman, 2018a; NCA, 2020; Rolles et al., 2016; Singer, 2008; Werb et al., 2011). Gómez-Quintero et al. (2022) devised a method of assessing the harm caused by organised crime. The authors propose three types of crime that contribute to associated harm: direct offences, enabled offences, and fuelled offences. Direct offences are directly related to the organised crime activity, which is cocaine trafficking in the current study. Enabling offences are those which facilitate direct offences but may not involve the specific victim and illegal commodity. Finally, fuelled offences are facilitated by the direct offence but, like enabling offences, do not involve the specific victims or illegal commodity. For example, activities within the drug trade which provide profits that are then used to fuel other criminal enterprises (Gómez-Quintero et al., 2022). While useful in illustrating how crime scripts can be extended to consider other associated criminal behaviour, in the current study I add to this extension of CSA by considering the *consequences* of the criminal activity. That is, the negative societal impacts of the illicit drug trade.

6.3 Methods

I used the crime script created by Alonso-Berbotto & Chainey (2021) as a methodological guide and followed the script template specified in the authors' study. This template is presented in Table 44 and includes three main sections within each act of the script: scene, cast, and conditions. I used document analysis when selecting data to populate the script to ensure a systematic approach to data sourcing and quality of information included in the analysis (Bowen, 2009). Document analysis has previously been applied to CSA, ensuring transparency of methods used and quality assurance within the crime script literature (Alonso-Berbotto & Chainey, 2021). I elaborate on the document analysis process later in section 6.3.1.

The current study focuses on the negative societal impacts of the illicit drug trade (i.e., a consequence of the illicit drug trade), therefore, I have added a fourth section titled "consequences – negative impacts" within each act. This section identified the stages at which negative societal impacts occur, what happens, who inflicts these actions, and who is affected. I followed the method devised by Gómez-Quintero et al. (2022) that involved them distinguishing between direct, enabling, and fuelled offences. In the current study, I adapt this approach by considering direct, enabling, and fuelled consequences of the activities identified within each stage in the illicit cocaine drug trade.

Table 44. *Crime script template*

Act: The key stages in the crime commission process. A crime script typically includes multiple acts, with each act consisting of scenes, a cast, and conditions	
1. Scene: The settings within which each act occurs and is divided into four classifications	
Preparation	Description of the planning and preparation that is required for the activity to occur
Pre-activity	Description of the activities that occur immediately prior to the activity itself
Activity	Description of the main activity occurring in the act
Post-activity	Description of the activities that occur immediately after the activity itself, and that need to occur to exit the activity
2. Cast: Description of the participants within each scene, or at least the roles they perform	
3. Conditions: The conditions within which the criminal activity occurs, described in terms of three types of conditions	
Prerequisites	The preconditions that need to be satisfied before illegal activity is initiated
Facilitators	The factors that make it easy and profitable to engage in the activity
Enforcement conditions	The legislation, regulations, and licensing that govern the act
4. Consequences – negative impacts: Details of specific negative societal impacts occurring within each act of the script and who/what is involved, distinguishing between direct, enabling, and fuelled consequences of the activities	

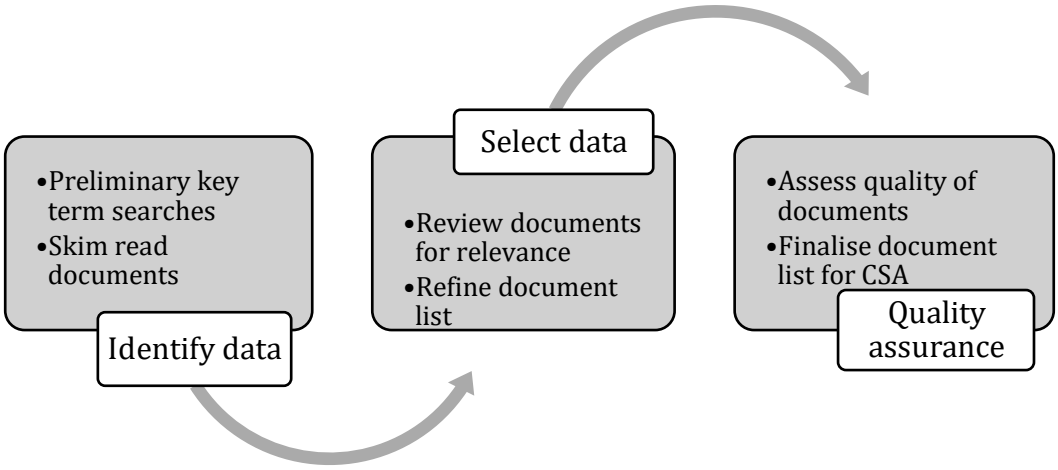
6.3.1 Document analysis

Document analysis, the process of critically selecting data for CSA, includes content analysis and thematic analysis (Bowen, 2009; Gross, 2018). Content analysis and thematic analysis involve organising information into categories and themes relevant to the current research. The document analysis process applied to this study is depicted in Figure 3. The first stage involved a preliminary search on Google, Google Scholar, Scopus, and the UCL online library database to identify data for inclusion (Gross, 2018). Approximately 40 key terms were used in searches, for example, “cocaine production”, “cocaine trafficking Europe”, and “cocaine trade harm” (full list included in Appendix 3).

Data on cocaine production, trafficking, distribution, and negative societal impacts associated with these stages were obtained from online open-source data. These were mostly government reports, peer-reviewed journal articles, and official news reports from reputable sources. These documents provided information about the modus operandi of the activities involved in the cocaine drug trade, rather than specific instances of drug production or trafficking. I provide some examples of these sources in section 6.4 of this chapter. This methodology followed the same process applied in previous CSA research which used open-source intelligence to populate a script (Alonso-Berbotto & Chainey, 2021). The latter stage of the crime script detailing decision-making when

sourcing and using drugs was populated primarily using data collected via the empirical studies reported in chapters 4 and 5 of this thesis, as well as open-source government reports on PWUD profiles and patterns of use.

Figure 3. *Document analysis process*



After identifying documents in the first stage, I refined the selection by reviewing the documents and excluding those that were irrelevant or out of date. This involved devising inclusion and exclusion criteria, such as only including documents produced from 2010 onwards. One document published pre-2010 was included in the CSA, however this was deemed appropriate and credible due to the consistency of the data with more recent research (Kenney, 2007). Following this, I critically assessed the quality of documents by adopting document analysis procedures that examine authenticity, credibility, accuracy, and representativeness (Bowen, 2009). In doing so, I considered the current research objective to determine whether sources provided valuable information which would help to populate the script. When conducting quality assurance, I considered factors such as each document's author, audience, purpose, context, and source. Although data extraction forms were not applied within the current study, I adopted a process ordinarily followed in document analysis and applied within existing CSA studies (Alonso-Berbotto & Chainey, 2021; Gross, 2018).

6.3.2 Populating the script

The final document list selected for CSA, including data presented in chapters 4 and 5 of this thesis, was then analysed to determine the acts forming the crime script. I conducted content analysis of the data which involved thorough reading, reviewing, and interpretation of documents (Gross, 2018). Thematic analysis of the data involved coding and categorising data. Categorisation of data was conducted using a deductive approach, where I began with a predetermined set of categories derived from the literature (i.e., known stages associated with the illicit drug trade). Following this, I refined the categories by methodically reading through the documents and identifying more specific acts involved in the crime script. This process led to the identification of five acts involved

in the cocaine drug trade: production, transportation/trafficking, distribution, purchasing, and use.

With the acts identified, the final task was to populate the script. I conducted further thematic analysis to categorise data into one of the four sub-sections within the respective act: scene, cast, conditions, and consequences – negative impacts. Data categorised within the "scene" sub-section detailed the specific activities occurring and preparation required to enable these. For example, "coca plant is cultivated and harvested". The "cast" sub-section included actors or specific roles identified within the activities, such as "crop pickers". Data forming the "conditions" sub-section revolved around situational factors required for the activities to take place, and those that may inhibit the activity. For example, "corruption of port authorities enabling international transportation of cocaine". Finally, data categorised within the "consequences – negative impacts" sub-section related to the negative societal impacts that occurred because of activities specified in the crime script. For example, "corruption of officials". Within this sub-section, I further categorised the data into either direct, enabling, or fuelled consequences of the activities within the cocaine drug trade. For example, "violence observed at European ports" is a direct negative societal impact of the cocaine drug trade.

6.4 Crime script

In this section, I present the results of the CSA. The final crime script is presented in Figure 4, which shows that the activities within the cocaine drug trade are largely controlled by OCGs. These groups may oversee all stages from production in South America to wholesale distribution to smaller retail operations in the UK. As a result, many of the direct negative societal impacts occur at these stages. More detailed information regarding the five acts within the crime script are provided in the sections following.

Although the focus of this crime script is on cocaine, it is important to note that the script is also applicable to other drug types. By applying the same methods used in this study, the crime script can be tailored to other illicit drug markets. Moreover, at certain stages of the crime script, the data indicates an overlap between different drug markets. For example, cocaine is often distributed in the UK at wholesale level with crack and heroin, and at retail level cocaine may be sold alongside ecstasy (Black, 2020). Therefore, the distribution processes involved in these drug markets and the associated negative societal impacts will be similar.

6.4.1 Production

The first stage of the cocaine trade identified by the crime script is production. Production is overseen by OCGs, either producer OCGs in the source country, or international OCGs who have set up direct supply chains from source country to end markets. First, coca plants are planted and cultivated on farmland limited to Colombia, Peru, and Bolivia. Once

harvested, coca plants are transported to cocaine laboratories for chemical processing into a base form. The base cocaine form is then adulterated, which means that cutting agents are mixed with the cocaine (Keefer & Loayza, 2010). Finally, the resulting powder cocaine is pressed into blocks for transport. The last two stages may be skipped, and base form may instead be shipped to Europe where it arrives at laboratories for production into the final cocaine form. Cocaine production laboratories have been uncovered by law enforcement in Spain and the Netherlands (EMCDDA, 2022; Rainsford & Ford, 2022).

Actors involved in the production stage are growers, crop pickers, transporters, producers, OCGs, and law enforcement. Cocaine production may be hindered by law enforcement efforts to eradicate coca farms and shut down clandestine cocaine laboratories (International Crisis Group, 2021). However, the individuals who suffer the consequences of law enforcement efforts at this stage are growers and producers whilst the "higher ups", i.e., OCG leaders, remain unscathed. Organised crime groups coerce growers through violence and intimidation to grow coca plants and sell them in volume within the illegal market. In addition, if coca plant farms and cocaine laboratories are shut down by police, OCGs can easily exploit other farmers in coca production (Muse, 2021).

Several significant negative societal impacts were identified from the crime script at the production stage. These include three direct and one fuelled consequence of activities involved in production. Firstly, growers, crop pickers, and producers of coca plants are exploited or coerced in the cocaine trade (Amnesty International, 2020). OCGs may also engage in illegal grabbing of land from farmers or landowners for coca cultivation, including the use of violence against individuals who resist (Muse, 2021). Further violence is observed between law enforcement or military officers and the actors involved in production (International Crisis Group, 2021). The final impact is a fuelled consequence, whereby OCGs exploit sex workers to towns near major growing areas, for use by those involved in the production stage (Muse, 2021).

6.4.2 Transportation/Trafficking

The second stage of the crime script is transportation/trafficking. I grouped these together because the movement of cocaine within production and transit countries is sometimes referred to in the literature as "transportation" and "trafficking" interchangeably. Transportation begins with the transfer of cocaine from producers to traffickers. Traffickers are part of OCGs in the origin country that provide cocaine in large volumes to international wholesale distributors. The process of exporting cocaine may be the responsibility of OCGs in the origin country or the international OCGs, such as Albanian groups who dominate the European cocaine trade (Black, 2020). The group whose responsibility it is to export the illicit goods will gain the most profits, i.e., higher risk, higher reward. The present crime script focuses on cocaine trade to the UK. Therefore, I examine the route of cocaine to Europe. Cocaine is predominantly transported by traffickers to Europe via several well-known maritime routes on boats.

The first is from the production country, primarily Colombia, through Central American or Caribbean countries, to Southern Europe. From Southern Europe, cocaine arrives at the UK via Belgium, the Netherlands, or Spain (Gordon & Olson, 2018; Rainsford & Ford, 2022; Roks et al., 2021). Another route is transportation from production country through South America (e.g., via Brazil), where the cocaine is then shipped to Western or South Africa. From there, cocaine may be trafficked through Eastern Europe or Southern Europe before arriving in the UK (Black, 2020). While commercial flights are used to transport cocaine to Europe via human couriers, or drug "mules", this route is less common (Kenney, 2007; UNODC, 2011).

Cocaine trafficking involves many actors. Transporters are responsible for bringing packaged cocaine from production laboratories to the traffickers who arrange international shipment. International wholesale OCGs arrange the transportation of the drug in bulk in preparation for wholesale distribution across the UK. Law enforcement officials, port authorities, and border patrols are tasked with preventing the trafficking of illicit substances by seizing them when it occurs. However, it is not uncommon for OCGs to bribe or coerce officials to allow them to freely traffic cocaine across borders (Ford, 2020). This results in corrupt law enforcement and government officials. Corruption is a direct consequence of cocaine trafficking which threatens the safety and security of society, creating instability in countries (Madarie & Kruisbergen, 2019). Corruption enables OCGs to establish more wealth and power so they can continue challenging the state and growing their criminal enterprise (Interpol, n.d.).

The trafficking of cocaine across Europe has become more fragmented in recent years, resulting in more OCGs competing for transportation routes and destination markets (Black, 2020). With this competition comes a significant increase in market violence, which has been observed in cocaine trafficking at European ports. Drug market violence between OCGs and law enforcement is another direct consequence of cocaine trafficking, bringing with it increases in homicides, fear of crime and insecurity, and consequently reducing the quality of life in the areas where it occurs (Bergman, 2018a; Redgrave, 2022). Victims of violence are not always those directly involved in the drug trade, meaning that innocent people are increasingly impacted (Muse, 2021; Windle et al., 2020). Moreover, young and vulnerable people are exploited in the illicit drug trade, made to produce or traffic cocaine nationally and internationally (NCA, n.d.; Worrall, 2015). Exploitation of these individuals in the cocaine trade is a direct consequence which negatively impacts society. The trafficking/transportation stage also contributes fuelled consequences. Organised crime groups commit sexual exploitation of women (UNODC, 2021), and may use profits from cocaine trafficking to expand their criminal enterprise and engage in other exploitative activities, such as human and weapons trafficking (NCA, 2020).

Figure 4. *Crime script of the illicit cocaine drug trade*

	Production	Transportation/Trafficking	Distribution	Purchasing	Use
Acts					
Scene	•Producer OCGs oversee production stage •Coca plant is cultivated and harvested, then taken to lab •Physically and chemically processed into a base form •Adulterated with cutting agents •Final form pressed into blocks and packaged for transport •Base form may instead be shipped for final production stages in European labs	•Wholesale OCGs arrange transportation of cocaine •Cocaine transported from producers to traffickers •Some cocaine shipped directly from Colombia to Western and Central Europe •Cocaine shipped from producer country to either Central America, the Caribbean, or South America •From Central America or the Caribbean, shipped to Europe, then to UK through Belgium or the Netherlands •From South America, shipped to Europe via Portugal, Spain, or the Netherlands •Also shipped from South America to West/South Africa in transit to Europe, via Eastern European countries to the UK	•Wholesale and retail distribution levels •After cocaine is trafficked to UK, wholesale OCGs sell it to retail operations •Smaller retail operations engage local dealers •Some retail operations occur online •Local dealers sell to consumers •Distribution of cocaine is often informal and less organised, e.g., shared amongst friends	•Consumers desire effects of cocaine (alertness, confidence, mood boost) •Favourable attitude towards recreational use of powder cocaine •Lack of nexus between recreational use and negative societal impacts of cocaine trade •Consumers plan to use cocaine, easily find a means of accessing it •Buy cocaine from dealer or online •Mostly shared for free amongst friends	•In environment where cocaine use is desired •No alternative to cocaine •Consumers share cocaine with friends •Some use is opportunistic, e.g., no premeditated plan to use it, only used because friends are offering •Majority of recreational use is infrequent
Conditions	•Farmland in Andean region (Colombia, Peru, or Bolivia) •Coca plant seeds •Fertiliser •Harvesting equipment •Concealed cocaine lab •Production equipment and chemicals •Packaging material •Cocaine production is illegal, law enforcement hinders production stage	•Shipping containers •Vehicles •Boats •Concealment of packaged cocaine •Weapons when dealing with conflict between other OCGs or with law enforcement on trafficking routes/borders •Trafficking across borders is hindered by authorities. Corruption/intimidation of port authorities, law enforcement, and government officials may counter this	•Connections between wholesale and retail distributors •Vehicles •Burner phones •Measuring equipment •Packaging material •Access to dark web •High demand for cocaine in UK •Cocaine dealing and use is illegal, law enforcement hinders distribution stage	•Intention to use cocaine •Availability of cocaine: introduction to dealer, informal dealing through networks of friends, friends who share cocaine •Access to dark web •Risk-free access to cocaine, e.g., online, through friends/people known to the consumer •Burner phones •Cocaine dealing and use is illegal, consumers must be discrete	•Attending an event, e.g., party, club, rave, festival •Friends are using cocaine and/or offering it •Cocaine use is illegal, consumers must be discrete
Cast	•Growers •Crop pickers •Transporters •Producers •OCGs •Law enforcement officers/military	•Transporters •Human couriers (mules) •Traffickers at origin country •OCGs •Port authorities •Law enforcement officers •Government officials	•Wholesale OCGs (e.g., large Albanian groups) •Retail level distributors •Local dealers •Online distributors •Consumers •Law enforcement officers	•Consumers •Network of consumers (e.g., friends freely sharing cocaine) •Dealers (UK dealers generally older, white men) •Online distributors •Law enforcement officers	•Consumers (mostly people aged below 30) •Network of consumers •Law enforcement officers
Consequences – negative impacts	•DIRECT – exploitation/coercion of growers, crop pickers, and producers in the cocaine trade •DIRECT – illegal grabbing of land from farmers/landowners for coca cultivation, and violence towards those who resist •DIRECT – violence between law enforcement/military and those involved in production •FUELLED – exploitation of sex workers to those involved in production stage	•DIRECT – corruption of officials •DIRECT – violence between OCGs and law enforcement on trafficking routes and at ports •DIRECT – exploitation of young and vulnerable people into drug trafficking •DIRECT – increased fear of crime and insecurity, subsequent reduced quality of life in these areas •FUELLED – may provide revenue to OCGs that pursue other exploitative activities, e.g., human trafficking, weapon trafficking	•DIRECT – violence between local dealers/smaller drug gangs •DIRECT – exploitation of young and vulnerable people, e.g., "county lines" trafficking •DIRECT – increased fear of crime and insecurity, reduced quality of life in these areas	•ENABLING – contributing to illegal market profits and activities	•ENABLING – contributing to illegal market profits and activities

6.4.3 Distribution

Distribution of cocaine in the UK comprises wholesale and retail supply. Distribution begins with wholesale OCGs who arrange the shipment of cocaine from source countries to destination markets. Upon arrival in the UK, the wholesale distribution of cocaine is dominated by Albanian OCGs who sell cocaine to smaller retail operations across the country (Black, 2020). Therefore, wholesale and retail cocaine suppliers are directly linked to one another. Retail distribution occurs on a smaller scale and is limited to specific regions of the UK where distributors operate, involving fragmented networks of groups or enterprises (Hall & Antonopoulos, 2017). Local dealers are the final stage of distribution, these individuals sell cocaine to consumers in their area. Additionally, the cocaine market includes online distribution via the dark web (Rhumorbarbe et al., 2016; UNODC, n.d.). However, the existing literature and studies conducted in chapters 4 and 5 of this thesis suggest that many consumers obtain cocaine through friends (Black, 2020). In this way, the crime script identified that distribution of cocaine often occurs informally within "friends of friends" networks.

There were three key direct consequences associated with cocaine distribution in the UK, which negatively impact members of society. Firstly, violence occurs between smaller drug gangs or dealers (Windle & Briggs, 2015a). This violence occurs as displays of authority in a local area, mostly among young individuals involved in cocaine distribution. Although violence among local dealers is less likely to occur in the cocaine market as compared with other drug markets in the UK like crack and heroin, it is nonetheless a consequence of the distribution stage of the cocaine drug trade (Black, 2020). Additionally, the trafficking of young and vulnerable people into cocaine distribution was observed as a direct consequence. Trafficking operations such as "county lines" in the UK are known to involve the coercion and exploitation of youths, exposing them to harm, risk of legal penalty, and distracting them from education (Black, 2020; Home Office, 2020; NCA, 2017). The final negative societal impact occurs because of the previous two, which is the increased fear of crime and insecurity, and subsequent reduced quality of life in areas where cocaine distribution and associated violence occurs.

6.4.4 Purchasing

Some information was available in the existing literature surrounding contexts of cocaine use and methods of obtaining cocaine. However, data from the focus groups and survey presented in chapters 4 and 5 of this thesis were required to populate decision-making of PWUD when obtaining and using cocaine. The first step identified in the purchasing stage of the crime script was a desire for the effects of cocaine. Cocaine provides the PWUD with a boost in energy, mood, and confidence. It is often sought when staying up late and socialising. Therefore, a desire for the effects of cocaine is a precursor to purchasing the drug. Another precursor is a favourable attitude towards recreational cocaine use. The focus groups and survey identified that PWUD perceive recreational

powder cocaine use to be harmless, and that PWUD are not worried about the risks of obtaining and using cocaine. Closely linked to this is low salience and subsequent lack of formation of the nexus between recreational cocaine use and the negative societal impacts of the cocaine drug trade. The findings presented in chapters 4 and 5 indicate that despite awareness of the negative impacts, low salience was revealed through participants' lack of willingness to change their drug related behaviours. Therefore, it was concluded in the crime script that low salience and lack of formation of the nexus are precursors to purchasing and using cocaine.

When consumers plan to use cocaine, they may purchase it online via the dark web, or reach out to a known cocaine dealer or friends who have cocaine (Black, 2020; Rhumorbarbe et al., 2016). If purchasing from a dealer, consumers arrange to pick up a specific volume of cocaine from the dealer in exchange for a named price. If obtaining cocaine informally from friends, this may or may not involve the exchange of money. The crime script identified that cocaine is often shared between friends, sometimes for free. A key observation from the purchasing stage of the crime script was the ease by which PWUD can obtain cocaine.

There were no direct or fuelled consequences identified in the purchasing stage of the crime script, at least not associated with the recreational use of powder cocaine. The activities included in this stage of the crime script involve little risk of harm and associated consequences, for example, "cocaine is shared for free amongst friends". However, cocaine can only be produced in the Andean region of South America, which means that all cocaine purchased in the UK originates from South America. Consequently, purchasing cocaine, whether online, through a dealer, or shared amongst friends, indirectly contributes to the negative societal impacts associated with previous stages of the crime script. Purchasing cocaine, regardless of the method of purchase, is therefore an enabling activity.

6.4.5 Use

Recreational use of cocaine in the UK occurs in a range of contexts. The script indicates that recreational cocaine use is dependent on being in a suitable environment where use is desired and cocaine is present. Data from the literature and studies conducted in chapters 4 and 5 suggest that contexts of cocaine use in the UK include attending parties, pubs, clubs, raves, and music festivals (Black, 2020). As mentioned in section 6.4.4., cocaine is used because of the specific effects that it has on the user. Therefore, use occurs when these effects are desired, for example, wanting to stay awake for longer. Where there is no alternative means of achieving these effects, cocaine use occurs. The crime script suggests that the majority of recreational cocaine use in the UK is infrequent (ONS, 2020), and often occurs when consumers share the drug with each other, which may be planned or opportunistic (i.e., only using cocaine because a friend is offering it in the moment).

The current study focuses on the consequences associated with the cocaine drug trade, not those occurring directly to PWUD. Therefore, the only consequence identified at the use stage of the crime script was an enabling activity. By increasing demand for cocaine, recreational cocaine use enables all negative societal impacts occurring at previous stages of the crime script to occur.

6.4.6 Negative societal impacts

To summarise, the *direct* negative societal impacts identified by the crime script were exploitation or coercion of growers, crop pickers and producers, illegal grabbling of land for coca cultivation and the use of violence in doing so, violence at production, transportation and distribution stages and resulting fear of crime, corruption of law enforcement and government officials, and the exploitation of young and vulnerable people into the cocaine trade both internationally and in the UK. The *enabling* activities identified were purchasing and using cocaine, which contributes to the direct consequences occurring at previous stages of the crime script. Finally, the *fuelled* consequences identified by the crime script occurred at production and transportation/trafficking stages, involving large OCGs who use profits from the cocaine trade to fund other exploitative enterprises.

6.5 Discussion

The research objective of the current study was to apply crime script analysis to identify the key stages involved in the illicit trade of cocaine from producer countries to the UK. From this, the consequences of the illicit cocaine trade, in the form of negative societal impacts, could be identified. Identification of these stages, as well as details of the negative societal impacts that occur within each stage, can then be used to identify points of intervention where policy and behaviour changes may help to reduce the impacts on society. The crime script identified five main stages within the illicit cocaine trade: production, transportation/trafficking, distribution, purchasing, and use. Six direct negative societal impacts were identified within these stages, as well as two enabling and two fuelled activities. The final stage of the script is the driving force of all other stages, as without demand there would be no reason to produce and traffic cocaine. Therefore, drug use enables the consequences associated with each stage of the crime script to occur. Of course, prohibition has contributed to the formation and success of the illicit drug trade, which I discuss with regards to implications in section 6.5.3.

In the next section, I discuss points of intervention within each act where the negative societal impacts can be reduced, considering the existing literature and drug legislation. I focus particularly on the purchasing and use stages of the script, where there are currently gaps in the literature.

6.5.1 Points of intervention

The literature on cocaine trafficking is vast and detailed. Crime script analysis of the cocaine trade revealed thorough insights into the processes involved and associated negative societal impacts. I summarise the negative impacts in Table 45. The direct consequences are committed by OCGs and occur at the first three stages of the script: production, transportation/trafficking, and distribution. If enabling activities are removed, then this could possibly reduce the impact of the direct and fuelled consequences.

Table 45. *Negative societal impacts associated with cocaine trafficking*

Crime script activity	Direct	Enabling	Fuelled
1. Production	Exploitation/coercion of growers, crop pickers, and producers		
1. Production	Illegal grabbing of land for coca cultivation, violence towards those who resist		
1. Production			Exploitation of sex workers to those involved in production stage
1. Production *2. Transportation/ Trafficking* *3. Distribution*	Violence involving OCGs, law enforcement, smaller drug gangs/dealers, and ordinary individuals		
2. Transportation/ Trafficking	Corruption of officials		OCGs use revenue from cocaine trade to fund other exploitative activities
2. Transportation/ Trafficking *3. Distribution*	Increased fear of crime and insecurity, reduced quality of life		
2. Transportation/ Trafficking *3. Distribution*	Exploitation of young and vulnerable people into cocaine trade		
4. Purchasing *5. Use*		Contributing to illicit market profits and activities	

Existing attempts to reduce these impacts revolve around stricter legislation and penalties for activities relating to cocaine production and trafficking. For example, coca plant eradication efforts in Colombia (International Crisis Group, 2021). Policy makers and law enforcement have therefore targeted points of intervention where each of the direct consequences presented in Table 45 may be disrupted. However, the literature shows that disruption to production efforts has little impact on OCGs as producers and growers are easily replaced and the cocaine trade continues to thrive (Grisaffi & Ledebur, 2016; Rolles et al., 2016). These efforts essentially penalise poor farmers or the victims of exploitation and coercion, whilst doing little damage to the higher ups in the cocaine trade. In addition, increased drug law enforcement often exacerbates violence and other

negative societal impacts associated with the illicit drug trade (Michaelsen & Salardi, 2020; Rolles et al., 2016).

Therefore, I emphasise the points of intervention at the purchasing and use stages of the crime script, where consumer decision-making is considered. I argue, with support from the crime script, how policy makers may address consumer decision-making and recreational drug related behaviours, in a novel approach to combatting the negative societal impacts of the illicit drug trade.

6.5.2 Cocaine purchasing and use

I focus on the final two stages of the crime script in this section to highlight the points of intervention where behaviour change might be encouraged to reduce the contribution of PWUD to the negative societal impacts associated with the drug trade. The purchasing stage of the crime script revealed that consumers in the UK often obtain cocaine informally through "friends of friends" networks. Cocaine is even shared between consumers without the exchange of money. Data included in the CSA revealed that recreational cocaine use rarely occurs outside of a social context (Black, 2020). The script identified opportunistic cocaine use among recreational users, who form the majority of PWUD in the UK (ONS, 2020). Opportunistic use occurs when drugs are consumed without premeditated planning and only because the potential consumer was presented with the drug by another person, often a friend. This context of drug use presents an intervention point where the decision-making process of potential consumers may be changed through methods such as informative campaigns.

The script identified that precursors to seeking cocaine include having a favourable attitude to cocaine use and having not formed a nexus between drug use and the negative impacts associated with the illicit drug trade. I postulate that informative, response-evoking campaigns raising awareness of the negative societal impacts identified in the crime script may in turn raise salience of these issues, resulting in formation of the nexus and subsequent behaviour change. This means that presentation of cocaine in an opportunistic setting will remind potential consumers of the societal harm caused when producing and transporting the drug, and possibly encourage a reduction in use.

6.5.3 Implications

The final two stages of the crime script are essential to our understanding of consumer decision-making and drug related behaviours within the cocaine trade. As demand for drugs is the driver of the entire market, purchasing and use stages help to identify intervention points for potential drug related behaviour changes that may reduce the consequences of the illicit drug trade. Existing policy in most countries addresses demand for drugs through prohibition and legal penalties. However, the crime script emphasises the ease by which consumers can still obtain and use cocaine despite legal restrictions on

drug related behaviours. I postulate that changes to drug policy which enable regulated production and supply of currently illicit substances may help to reduce the negative impacts associated with the illicit drug trade. Regulated drug distribution may divert consumers away from the illegal market, and therefore remove the enabling element of purchasing and use identified in the crime script. This has been observed in several countries where cannabis is legalised, for example, Uruguayan citizens may purchase or grow limited quantities of cannabis for personal use (Mercadante, 2018).

Understandably, there are difficulties encountered when considering policy reform, particularly where an addictive substance like cocaine is involved. However, decriminalisation of all drugs has been applied in Portugal where the focus was on harm reduction, and has resulted in reductions in drug related diseases and deaths (Vale de Andrade & Carapinha, 2010). People in Portugal who are found in possession of addictive substances are directed to government programmes where they may receive controlled access to the substance alongside treatment (Drug Policy Alliance, 2015). Although this approach focuses on drug misuse, it is nonetheless orientated towards PWUD. I argue that a similar approach would be appropriate for recreational drug use, where recreational users are provided with regulated access to drugs to avoid buying from the illicit market and enabling the associated consequences to occur. Further research should investigate the possible implications of such policy changes.

I pose several alternative suggestions as methods of potentially reducing the consequences associated with the drug trade and how the findings of the current study can be applied to other illicit drugs. Firstly, most of the negative societal impacts identified in the crime script relate to activities conducted by OCGs in the production, trafficking, and distribution stages. Therefore, any attempt to divert drug purchasing and use behaviours may be effective in reducing the impact of these OCG-committed activities. For example, raising awareness and salience of the impacts among PWUD may reduce the frequency of drug use among recreational users. Not only this, but formation of the nexus between recreational drug use and the negative impacts of the drug trade may also encourage other positive behaviour changes among PWUD. Raising awareness of the harm caused by drug prohibition through enabling the illicit drug trade to thrive may encourage people to actively support policy reform through campaign behaviours. In addition, where possible, consumers may choose to seek “ethical” means of obtaining illicit drugs which do not involve enabling the illicit market. For example, purchasing locally grown cannabis rather than imported cannabis. These suggestions for behaviour change mean that PWUD will not have to completely stop their drug use in order to reduce their contribution to the negative impacts identified in the crime script. Ethical sources of drugs may not be relevant to all drugs, for example, it is not possible to obtain locally produced cocaine in the UK. Nonetheless, people who use cocaine may adopt other behaviour changes instead, such as campaigning for policy reform.

Further research should examine the impact of interventions aimed at raising awareness and salience of the negative impacts identified by the crime script. It is important to identify which audiences would be suitable for targeted campaigns and the features that might make individuals more likely to change their behaviours. This knowledge will help to guide future intervention strategies when designing campaigns, targeting appropriate audiences, and encouraging behaviour changes that will help to reduce the negative societal impacts caused by the illicit drug trade.

6.6 Limitations

The application of crime scripts, although effective in improving understanding of a crime commission and identifying intervention points, brings with it limitations. Firstly, the narrow focus of scripts on specific decisions and actions means that other factors influencing behaviours are not considered. For example, an ordinary crime script does not focus on the negative societal impacts of the activities, as was done in the current research. Therefore, another crime script detailing the activities in the drug trade would have identified growing and producing cocaine as "criminal" offences, although these activities may be coercive or exploitative. Additionally, personal circumstances of actors within the script are not considered, which means that conclusions may be gathered which are not generalisable. To avoid this, it is important to consider the conclusions drawn from CSA within the context that it was designed and conducted.

Subsequent to the present study being completed, the use of data extraction forms was identified as a potential way to enhance the process that was used for selecting appropriate and relevant information to populate the crime script (Büchter et al., 2020). Such methods may strengthen the document analysis procedure by applying a more objective and systematic approach. Future research aiming to populate crime scripts using document analysis of data from open sources could benefit from using data extraction forms. In addition, with regards to data collection for the document analysis, I was limited to documents produced in English. This excluded an extensive library of data in Spanish relating to production and trafficking where it occurs in Latin America. Although this is important to note, it was less of an issue in the current study as I focused more on purchasing and use of cocaine in the UK. Of course, this presents a further limitation as the findings are not generalisable to other cocaine markets and is specific to recreational cocaine use in the UK. Further research should consider the application of a similar method in other regions of the world as well as examining other drug markets.

6.7 Conclusion

The present chapter collated relevant literature and the findings from chapters 4 and 5 to help identify decision-making around recreational cocaine use in the UK. In addition, this chapter ascertained the key negative societal impacts occurring at different stages of

the cocaine drug trade, which helps to inform the intervention video designed in the following chapter of this thesis.

Crime script analysis was effectively applied to the illicit cocaine trade, detailing production and trafficking from South America to purchasing and use in the UK. The script identified five stages in the cocaine trade: production, transportation/trafficking, distribution, purchasing, and use. Within each of these stages were specific activities conducted, conditions required, cast involved, and associated consequences which negatively impact society. The final sub-section included in the crime script, i.e., *consequences*, is an innovative extension to CSA in the form of examining negative societal impacts that are direct, enabling, or fuelled consequences of activities within the illicit drug trade. Although the current study focused on the illicit cocaine trade, the findings are applicable to other drug markets where the production of similar crime scripts and identification of consequences are possible. In addition, examination of "consequences" associated with criminal activities within crime scripts is a novel approach that can be applied to other areas, not only the negative societal impacts. For example, consequences of activities within crime scripts may relate to direct harm inflicted on PWUD through drug use, or financial impacts of criminal behaviour. Therefore, further research may examine the application of consequences within crime script analysis to other research areas.

The application of this approach to the illicit drug trade revealed that all direct consequences of the cocaine drug trade were committed by OCGs and occurred at the first three stages of the crime script: production, transportation/trafficking, and distribution. Importantly, the crime script also identified that consumer behaviour in the form of drug purchasing and use enables these consequences, as well as other fuelled consequences identified in the crime script, to occur. This highlights the importance of addressing the negative societal impacts through drug related behaviour changes among PWUD, rather than focusing efforts on increased drug law enforcement. Building the crime script in this study enabled the identification of potential points for intervention at purchasing and use stages of the script. These include drug policy reform such as decriminalisation and legalisation, and drug related behaviour changes such as reducing recreational drug use, sourcing locally produced drugs where possible, and campaigning for policy reform.

I postulate that these interventions may reduce the negative societal impacts of the illicit drug trade. However, further research is required to consider the design of such interventions aimed at raising awareness and salience of messaging, and subsequently establishing the nexus between recreational drug use and the negative societal impacts of the drug trade. It is also necessary to conduct empirical research to identify the conditions that are important for encouraging behaviour changes among PWUD.

Chapter 7. Investigating the likelihood of drug related behaviour changes following awareness campaigns

7.1 Introduction

The crime script produced in chapter 6 identified recreational drug purchasing and use as important enablers of the negative societal impacts associated with the illicit drug trade. The conclusions drawn from the crime script analysis include several suggestions that may help to alleviate the negative impacts, such as drug policy reform. In addition, specific drug related behaviour changes were posited to reduce the contribution of PWUD to the negative impacts of the drug trade. Similarly, the studies in chapters 4 and 5 explored awareness of PWUD to these negative impacts, revealing that awareness does not predict willingness to change drug related behaviours. In addition, these studies highlighted factors which may contribute to likelihood of nexus formation and behaviour change, such as empathy, drug policy, and proximity to the negative impacts. All three chapters revealed the need for further research to investigate the influence of increased salience of the negative impacts on recreational drug related behaviours.

To address this gap in the literature, I designed an experiment involving a video intervention that aimed to increase awareness and salience of the negative impacts. The purpose of this experiment was to investigate whether increased salience and subsequent formation of the nexus between drug use and the negative impacts encourages behaviour changes among PWUD in the UK. The existing literature on formation of a similar nexus and factors encouraging behaviour change, as well as findings from the previous chapters of this thesis, were used to guide this study. In the current chapter, I present the results of this study, beginning with a review of the literature that helped to inform the methods and hypotheses that were tested.

7.2 Changing drug related behaviours

This study seeks to address research question 2: *"Does increased salience of the negative societal impacts of the illicit drug trade and formation of the nexus increase willingness to change recreational drug related behaviours?".* To do so, it is necessary to review the literature discussed in chapter 2 and identify 1) the factors that are important in establishing a nexus between knowledge and behaviour, and 2) how prosocial behaviours can be encouraged. I begin this section with an overview of drug related decision-making, followed by important factors in encouraging nexus formation and behaviour change.

7.2.1 Drug related decision-making

Classic psychological decision-making theories posit that human beings make rational choices, considering the consequences and rewards associated with potential behaviours (Ajzen, 1996; Hechter & Kanazawa, 1997). These theories suggest that people are more likely to engage in behaviours if they expect a desirable outcome of that behaviour. This is relevant to recreational drug use, i.e., people use drugs because of the benefits induced by drugs (Aldridge et al., 1998). Drug use is encouraged by the rewarding physiological effects, such as increased dopamine which is involved in the brain's reward system (Ernst & Luciana, 2015; Koob, 1992). Therefore, illicit drugs make people feel good. Reported reasons for drug use include to help relax, enhance an activity, or alleviate low moods (Boys et al., 2001). Recreational drug use may be a planned activity which involves considering the desired effect followed by which drugs are likely to fulfil this (Forsyth, 1996), although it may also be spontaneous (Smith & Fitchett, 2002). Additionally, research has suggested that features such as individual characteristics (Bevins & Bardo, 2004; Parker et al., 2002), social environment (Mennis & Mason, 2011; Morera et al., 2015), and societal attitudes towards drugs (Järvinen & Demant, 2011; Measham & Shiner, 2009) also influence a person's decision to use drugs. Evidently, multiple variables combine to influence decision-making regarding recreational drug use, which may interact differently depending on which factors are salient to the PWUD.

7.2.2 Establishing a nexus to encourage behaviour change

Chapter 6 revealed the enabling effect of drug purchasing and use on the negative societal impacts associated with the illicit drug trade. However, there is currently a lack of research examining the nexus between recreational drug use and these negative impacts. That is, it remains unclear whether PWUD identify their personal contribution to the negative impacts and view the issue as important. This nexus is arguably established through increased salience of the negative impacts, i.e., connecting PWUD's personal drug use to the negative impacts and changing behaviours as a result. This notion is based upon existing literature suggesting that increased awareness and salience of a problem among a target audience increases willingness to help (Kok & Siero, 1985). Therefore, desired behaviour changes may be encouraged through informative campaigns, which has been explored in relation to pro-environmental behaviours. Research suggests that behavioural intention (active efforts to engage in pro-environmental behaviours) results from accurate knowledge and understanding of the problem, accepting responsibility for contributing to the problem, awareness of how to help relieve the problem, and a willingness to help (Abrahamse, 2019). Applied to the current study, this suggests that PWUD must receive accurate details about the negative impacts of the illicit drug trade, particularly how recreational drug use indirectly enables and contributes to these. In addition, PWUD must be presented with solutions to the problem and ways in which they may help through personal behaviour changes.

The final requirement specified in the existing literature is a willingness to help or favourable attitude towards the problem (Norman & Conner, 2006). The unique and rewarding effects induced by drug use suggest that attempts to change drug related behaviours will not be easy, as chapters 4 and 5 have shown. However, research on prosocial behaviour suggests that willingness to help may be encouraged in several ways. Firstly, people who are more empathetic may be more willing to engage in prosocial behaviours (Brown & Leary, 2016; Paciello et al., 2013). Secondly, response-evoking campaigns, such as those triggering emotions among the target audience, may increase willingness to help (Lindsey, 2005; Torstveit et al., 2016). Lastly, willingness to help may be encouraged if the target audience shares a similar identity with the person in need, for example, being of the same cultural background (Levine & Thompson, 2004).

7.2.3 Research hypotheses

Considering the existing literature and previous studies in this thesis, the current study examines whether increased awareness and salience of the negative impacts of the drug trade influences willingness to change drug related behaviours. To do so, I presented an informative and response-evoking campaign video to PWUD, detailing violence within the illicit drug trade and highlighting the associated victims. Furthermore, the video pointed out ways in which the negative impacts may be alleviated, which include drug related behaviours of PWUD. The present study addresses RQ2 by testing the following hypotheses. Firstly, participants reporting higher frequencies of drug use are expected to be less aware of the negative impacts of the drug trade (**H2**), assuming that increased awareness would encourage behaviour changes such as reduced drug use. Secondly, I hypothesise that participants who have begun to form a nexus between drug use and the negative impacts (i.e., participants in the experiment conditions where salience was increased) are more willing to change their drug related behaviours than participants in the control condition (**H3**). Furthermore, participants reporting higher empathy levels are hypothesised to be more willing to change their drug related behaviours (**H4**). Finally, participants of the same personal identity as victims of the drug trade (i.e., the experiment condition shown a video with victims from the same country as participants) will be more willing to change their drug related behaviours (**H5**).

7.3 Data and methods

Ethical approval for primary data collection through this experiment was granted by the University College London Research Ethics Committee. To address the current research question and hypotheses, a between-subjects, independent groups experiment design was used involving three conditions. The following section details the materials, sample, experimental design and procedure, and analysis strategy.

7.3.1 Materials

Materials for this study, including participant information sheet and consent form, intervention videos, full list of experiment questions, and empathy questionnaire, are available on the Open Science Framework: https://osf.io/mfyp5/

In this section, I outline the experimental stimuli and intervention video design. The experiment was programmed using Qualtrics Survey Software. Firstly, the experiment involved three conditions: two experimental and one control, which participants were randomly assigned to. The experimental stimuli included a video unique to each of these conditions, with the aim of raising salience of the negative impacts on three different levels. A summary of the experiment group conditions is presented in Table 46. Experiment group 1 (EG1) was presented a video highlighting the violence caused by illicit drug trafficking, increasing salience of the impact on people living in the UK. Experiment group 2 (EG2) was presented a video highlighting the violence caused by illicit drug trafficking, increasing salience of the impact on people living in Latin America. Finally, the control group (CG) was presented a video highlighting the problems caused by global warming and humanities contribution to this. I included broad impacts of climate change such as rising global sea levels, as well as specific examples impacting poorer communities.[48]

Table 46. *Summary of experiment group conditions*

	Experiment group		
	Experiment group 1 (EG1)	*Experiment group 2 (EG2)*	*Control group (CG)*
Conditions	Shown video designed to increase salience of drug trade violence British victims made salient	Shown video designed to increase salience of drug trade violence Latin American victims made salient	Shown video designed to increase salience of climate change Drug trade violence was non-salient

All videos presented a single issue caused by society which in turn negatively and disproportionately affects members of society. The videos outlined solutions to these problems in terms of government policy and individual behaviours. I aimed to create three videos of similar format and length which had an equal effect on participants. The videos were intended to be shocking and evoke an emotional response such as guilt. Participants responses to the videos were identified by asking participants which emotions they felt, if any, following the video. I tested the effectiveness of the videos and experiment questions in a pilot study with members of a UCL Psychology research lab, identifying how informative, engaging, emotionally triggering, and negative they

[48] Flooding in Bangladesh caused by heavy monsoon rainfall was presented as a case study emphasising the disproportionate societal impacts of climate change.

perceived the videos to be. Following comments from the pilot study, I adjusted some wording of statements and font size to improve clarity. No issues were raised regarding the video content, pilot study participants deemed the length to be appropriate and content informative but not overly emotionally triggering. Some emotions associated with the videos in the pilot study were: "frustration", "hope", "guilt", and "surprise". Most pilot study participants stated that the video informed them of information that they previously were unaware of, which was the objective of the videos.

The videos shown to both EG1 and EG2 were expected to increase the salience of a negative impact caused by illicit drug production and trafficking. The videos focused on violence, which appears to be the most prevalent negative impact and is covered widely within the media and literature. The purpose of the CG was to have one group where the negative impacts of the illicit drug trade were not made salient. The control video instead focused on a societal issue unrelated to drug trafficking but similar in impact and possible solutions. This ensured that differences in responses between groups were caused by increased salience of drug trade violence and no other variable. Climate change is an issue that society contributes to and the negative impacts of which affect members of society disproportionately. It is a topic that has seen many successful campaigns over recent years designed to inform and encourage behaviour changes. For these reasons, I used climate change as the focus of the CG intervention video.

To construct the three intervention videos, I firstly drafted a transcript for each using a single template structure. The template contained a brief introduction to the issue, a summary of some of the most notable impacts and victims, statistical figures, and information on how the impacts could be reduced through both systemic policy changes and individual behaviour changes. Material for the EG1 and EG2 videos was obtained from Google and YouTube searches on drug production, drug trafficking, local dealing in the UK, existing drug policy, and possible solutions to help reduce these impacts. The only difference between the EG1 and EG2 videos was the victims shown. The EG1 video presented a short summary of violence occurring in Brazil connected to the drug trade, followed by a detailed summary of "county lines" trafficking in the UK and some of the young victims of associated violence in London. The EG2 video focused on Brazil and Colombia as examples of countries where drug production and trafficking has contributed to violence. Victims presented in this video included young Brazilian and Colombian people who were either missing or murdered. The CG video followed the same structure, however the Google/YouTube searches for material included global warming, greenhouse gases, human consumption, recycling, deforestation, vulnerable communities, and ways to help reduce these impacts.

All videos were made using iMovie, included a series of relevant images and video clips, and lasted for approximately 5 minutes. The videos included details which were expected to be shocking to participants, such as the scale of violence and the homicide rate associated with drug trade activities. This technique was used to increase salience of the

violence by evoking responses such as surprise, guilt, and concern among participants. To further increase salience, I presented images that were memorable and noticeable, such as an image of a young teenager holding a gun, implying his involvement in the drug trade and associated violence. I narrated all three videos[49] and added melancholic, classical music in the background at a low volume, again to increase salience through evoking an emotional response. Closed captioning subtitles were available on all videos, these were optional and therefore not embedded in the video. The videos were uploaded to YouTube and embedded within the Qualtrics survey. I made the videos private and visible via link only so that if participants followed the YouTube link to the owner account, they would not be able to see the other experiment videos.

7.3.2 Measures

This section outlines the variables used in subsequent analyses. I detail the specific statistical tests conducted to address the hypotheses in section 7.3.6. Participants provided demographic information at the end of the experiment, which included age, gender, and city of residence. These were used as control variables for hypothesis testing. Some questions in the experiment included responses "Neither agree nor disagree" or "I don't know", which were excluded from analyses to allow for ordinal measures.

The first variable was determined by the **experiment group** participants were randomly assigned to. Participants in EG1 and EG2 were believed to have formed the nexus through increased salience of the negative impacts of the drug trade. This was achieved through the intervention video presented to them, highlighting the link between drug production and trafficking, drug use, and violence. These participants had also answered the experiment questions immediately after watching the video, so the negative impacts were likely to have been salient at the time of participation. Contrastingly, participants in the CG were not informed of the drugs nexus, so the negative impacts were not salient at the time of experiment participation and formation of the nexus was unlikely.

Furthermore, participants' **awareness of the negative impacts** was measured by asking if the video informed them of any information that they were previously unaware of *(1 = yes, 2 = no)*. If participants responded "yes", then they could provide an open-ended response to briefly explain what new information they had learned. The rationale for this question was to determine existing awareness of the negative impacts among participants, prior to intervention exposure. Participants responding "yes" were considered to display low awareness of the negative impacts, and participants responding "no" displayed high awareness. I analysed open-ended responses to assess whether participants reported relevant information from the video, and thus if it was appropriate to group them in "low awareness". All text responses were valid with no inaccurate or irrelevant statements, therefore, all participants responding yes were

[49] Narration was a female voice with a London accent.

considered to have low awareness. Many participants reported the extent of violence and youth involvement in the drug trade to be surprising. Some extracts are presented below.

Please state the information you were unaware of before watching the video:

"How cocaine gets into the UK and the level of violence" ***(EG1)***

"The death rates in countries such as Colombia and Brazil …. Also, that the majority of victims in such cases are innocent people or those at the bottom of the chain" ***(EG2)***

"The amount of homicide in production and trafficking countries related to drug trade" ***(EG2)***

"Where drugs are imported from, the effects of drugs on young people and wider communities, county lines" ***(EG1)***

Next, participants' reported **frequency of drug use** was measured ("How frequently do you use recreational drugs?" *1 = never, 2 = several times a year, 3 = several times a month, 4 = several times a week, 5 = daily).* This variable was used to determine whether participants ordinarily used drugs, and therefore filter the data that would be excluded from analyses focusing only on PWUD. For some analyses, I grouped participants into either "frequent" or "infrequent" drug use. Frequent users reported using drugs several times a week or more, and infrequent users reported using drugs several times a month or less. Participants who reported never using recreational drugs were grouped with infrequent users for H2 testing. This was because a lack of drug use may indicate awareness of the negative impacts and therefore the opinions of these individuals were relevant.

To measure willingness to change drug related behaviours, participants were presented with a list of statements referring to the likelihood that they would engage in certain behaviours in the next month, compared with the previous month. They were asked to state how strongly they agree with each statement *(1 = completely disagree, 2 = somewhat disagree, 3 = somewhat agree, 4 = completely agree)*. Some of the listed behaviours were random and supported the cover story of the research to avoid revealing the study's true purpose (more detail on the use of deception is presented in section 7.3.3). However, the behaviours included as variables were: "I will reduce my use of recreational drugs" (**reduce drug use**), "I am more likely to use locally grown over imported cannabis" (**source local cannabis**), and "I am more likely to actively campaign for causes that I support" (**campaign**). These behaviours were based on the information presented in the intervention video which were suggested to help alleviate the violence associated with the drug trade.

The final variable used for analysis was **empathy**. The Toronto Empathy Questionnaire presented 16 statements to which participants responded on a Likert scale from *0 = never* to *4 = always* (Spreng et al., 2009). Participants stated how frequently they feel or act in the manner described in the statements. Examples of statements include: "When someone else is feeling excited, I tend to get excited too" and "I find it silly for people to cry out of happiness". Responses were assigned a value which was totalled to reveal an

empathy score for each participant. Data collected for the empathy measure was tested for reliability through a Cronbach's Alpha in SPSS. This test revealed a value of α = .855, which was deemed reliable for analysis.[50]

7.3.3 Target population and data collection

The sampling procedure for the experiment was different than previous stages of data collection in this thesis because of the use of a classic experiment involving deception. Deception allowed for more valid assessment of the intervention's effect by introducing several experiment conditions and control variables. Participants were not told that they were invited to participate because of their recreational drug use, nor was it made obvious that they were contacted through any source that associated them with drug use.[51] Instead, the experiment was promoted among a wide population where it was not certain, but likely, that individuals had used recreational drugs in the last 12 months. However, because of the focus on behaviour change, parts of the analysis include only the responses of participants who reported using drugs. This required a large sample size as some responses, i.e., non-drug users, would be excluded. G*Power was used to run an a-priori power analysis and calculate the required survey sample size (Faul et al., 2007). To detect a medium effect of 0.3 (f) with 80.0% power in a between-subjects analysis of variance (ANOVA), G*Power suggested a total sample size of 102 (n = 34 for each group). As with the analyses conducted in chapter 5, a medium effect size was selected as this research was exploratory with no prior studies to inform effect size. However, the power calculation did not incorporate the exclusion of ineligible participants, so I aimed for at least triple the suggested sample size to account for this.

The experiment was advertised as a psychology study assessing the effectiveness of public interest campaigns. I aimed to obtain as many responses as possible to increase the chance of reaching the required sample size of PWUD. I applied volunteer, snowball, and convenience sampling in the first instance, through friend-of-friend networks and on the UCL Psychology Research Pool. I contacted several UCL society groups including the Student Union who helped in promoting the experiment. I targeted students because this demographic was more likely to have used recreational drugs. I promoted the experiment via E-mail, on the UCL student and staff newsletters, and on social media platforms (Facebook, Twitter, Instagram, and WhatsApp). Despite these attempts, I had not reached the target sample size after two months of continuous promotion, so I sought financial help from my department to recruit participants on Prolific Academic.[52]

[50] α = .855 is considered "good" according to George & Mallery (2003).
[51] For example, through the UCL Application of Psychedelics Society, as was previously used for the focus groups and surveys.
[52] Prolific Academic is an online platform used to promote survey research. The platform filters potential participants based on eligibility criteria, and participants are paid a small amount to complete surveys.

Participants were aged 18 years or above and resided in the UK at the time of data collection. Funding and time restraints meant that it was not feasible to run the experiment in Mexico and Uruguay, which would have required translating and editing the intervention videos and experiment questions. My experience conducting surveys in Mexico City and Montevideo suggested that an experiment run in these cities would bring similar difficulties and restraints, particularly during the COVID-19 pandemic. Consequently, my efforts were better spent running a large experiment in one country rather than distributing efforts between three and consequently obtaining fewer responses. The current research question and hypotheses could be addressed using data from UK participants alone and it was therefore not essential to include Latin American participants at this stage. The experiment was opened to the whole of the UK which widened the population sample and increased generalisability of the results. It was not necessary to focus on the capital city as I was not comparing the data to any other cities.

7.3.4 Sample

The number of participants obtained through Prolific Academic was 450, making the overall sample size 615. First, data cleaning involved removing responses less than 50.0% complete, however, the lowest completion rate was 88.0% so I kept all responses in the dataset. Participant gender and age distribution are presented in Table 47. Gender was relatively evenly distributed, with slightly more female than male participants. Just over half of all participants were aged between 18 and 29 (53.5%, *n* = 329), the most common single age range was between 30 and 39 (28.0%, *n* = 172).

Table 47. *Gender and age distribution of experiment participants*

Age	**Gender**						***Total***
	Female		**Male**		**Did not disclose**		
	N	*%*	*N*	*%*	*N*	*%*	***%***
18-24	84	13.7	75	12.2	0	0.0	25.9
25-29	94	15.3	76	12.4	0	0.0	27.6
30-39	96	15.6	76	12.4	0	0.0	28.0
40-49	33	5.4	33	5.4	1	0.2	10.9
50+	20	3.3	27	4.4	0	0.0	7.6
Total	327	53.2	287	46.7	1	0.2	100.0

Of all participants, 319 (51.9%) had used a recreational drug at least once in the last year. Table 48 shows the distribution of participants from each age group into corresponding frequencies of use. Participants aged between 25 and 29 reported the highest frequency of use in the last year, with 64.7% having used a recreational drug at least once. Unlike the survey data in chapter 5, I did not exclude participants based on frequency of drug use. The experiment addressed frequency of recreational drug use, without specifying drug types or contexts of use. For this reason, I could not infer whether participants were likely to have engaged in problem drug use. There were only 12 participants who

reported using recreational drugs daily, and these responses were kept in the dataset and included in the analyses to increase the sample size of PWUD.

Table 48. *Frequency of participant drug use in the last year*

Frequency of drug use	Age										*Total*
	18-24		**25-29**		**30-39**		**40-49**		**50+**		
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	***%***
Never	60	9.8	60	9.8	106	17.2	40	6.5	30	4.9	48.1
Several times/year	56	9.1	66	10.7	47	7.6	18	2.9	10	1.6	32.0
Several times/month	24	3.9	29	4.7	12	2.0	5	0.8	4	0.7	12.0
Several times/week	12	2.0	12	2.0	5	0.8	4	0.7	3	0.5	5.9
Daily	7	1.1	3	0.5	2	0.3	0	0.0	0	0.0	2.0
Total	159	25.9	170	27.6	172	28.0	67	10.9	47	7.6	100.0

There were 209 participants in EG1, 204 in EG2, and 202 in the CG. As expected from random assignment, reported levels of drug use were similar across each of the three groups. A one-way ANOVA, presented in Table 49, shows little variance in reported frequencies of drug use between groups ($F(2,611) = 0.191$, $p = .826$).

Table 49. *ANOVA test for experiment group and frequency of drug use*

	Sum of squares	**Df**	**Mean square**	**F**	**Sig.**
Between groups	0.061	2	0.030	0.191	0.826
Within groups	97.094	611	0.159		
Total	97.155	613			

7.3.5 Experiment design and procedure

The experiment was designed and run on Qualtrics Survey Software and participation took approximately 15 minutes including watching the video. The use of deception was necessary so that participants' responses to the videos were not biased. If participants were told the true purpose of the video and the focus of the study, then they may have provided socially desirable responses rather than being truthful, which is difficult to control for. Participants were told that the study was evaluating the effectiveness of public interest campaigns focusing on eight different topics (diet, exercise, tobacco smoking, alcohol consumption, recreational drug use, shopping behaviours, environmental sustainability, and charity donations). Upon reading the information sheet and consent form, participants were shown a 5-minute intervention video specific to the experiment group to which they were randomly assigned. They were then immediately presented with the questions (a full list of experiment questions is provided in the Open Science Framework, linked in section 7.3.1). I emphasised in the information sheet that participants were shown one of these videos completely at random. The survey included questions that supported the cover story, such as those relating to exercise and recycling behaviours. All drug related questions were concealed among similar questions

on other topics, for example, when participants were asked how frequently they used recreational drugs, they were also asked how frequently they smoked tobacco and donated to charity. At the end of the survey, participants were asked what they understood to be the purpose of the study. This identified whether they suspected the true focus of the experiment and gave participants the opportunity to express their understanding of the study. Although some participants believed that the study focused on behaviour change following an intervention, none suspected the focus on drug use. Therefore, no participants were excluded based on their response to this question. Some extracts are presented below.

What do you believe to be the purpose of this study?

"I honestly don't know the last section seems strangely different in its format and line of questioning compared to the rest, probably something to do with the effect of the wording and language used" ***(EG1)***
"Whether people's emotions towards others are affected by drugs" ***(EG1)***
"To assess people's perspectives on issues that are widely known to be bad for society and individuals, and if their likelihood of engaging in them changes after they have watched an informational video" ***(EG2)***
"I'm not sure, maybe to see how effective the video was" ***(EG2)***
"Researching the link between how empathetic people are and their behaviour" ***(CG)***
"To bring awareness of climate changes and its causes" ***(CG)***

Following this, a debriefing page was presented to participants where they were told the true purpose of the research and why deception was necessary. They were asked whether they were happy for their responses to be included in the research and were offered the opportunity to contact the researcher with questions or complaints.

7.3.6 Analysis strategy

I analysed the survey data using SPSS (version 27) and R (version 4.1.1). In the following section, I outline the statistical analyses conducted to test the experiment hypotheses.

H2*: Participants reporting higher frequencies of drug use are less aware of the negative societal impacts of the illicit drug trade*

The dependent variable for H2 was *awareness*, measured on a dichotomous scale. The independent variable for H2 was *frequency of drug use*, and participants were grouped into either "frequent" or "infrequent" use. The control group was excluded from H2 analysis because these participants were not shown a video about the drug trade. Therefore, awareness levels of the negative impacts associated with the drug trade were only measured among EG1 and EG2 participants and only data from these were included.

Analysis for H2 involved a Pearson Chi-square test, measuring the correlation between two categorical variables. This test assessed the likelihood of observed distributions

occurring by chance, and thus whether frequency of drug use predicted levels of awareness among participants.

> ***H3****: Participants who have begun to form a nexus between recreational drug use and the negative societal impacts are more willing to change their drug related behaviours*

Participants who reported never using drugs were excluded from the analyses for H3, H4, and H5. This is because the dependent variable for these hypotheses was likelihood of drug related behaviour changes, which was only relevant to PWUD.

The independent variable for H3 was *experiment group (EG1, EG2, or CG)*. The negative impacts of the drug trade were likely to be salient among participants in EG1 and EG2 at the time of participation, indicating likely formation of the nexus. Participants in the CG were believed to have not formed the nexus as the negative impacts were not made salient at the time of experiment participation. The dependent variables for H3 were participants' likelihood of behaviour change *(reducing drug use, sourcing local cannabis, and campaigning).*

I planned to combine the analysis for H3, H4, and H5 in a single model, as these hypotheses measured the same dependent variable. I applied a path model using the 'lavaan' package in R (Rosseel, 2012). This path model tested simultaneously several predictor variables of a single outcome variable, whilst accounting for control variables. This method of analysis is frequently and effectively applied in survey research containing many variables, such as the present study. The variables included in the path model are presented in Table 50. I describe the analysis below, after outlining the variables used to test H4 and H5.

Table 50. *Path model variables used to test H3, H4, and H5*

Predictor (independent) variables	Control variables	Outcome (dependent) variable
Formation of nexus/salience of negative impacts	Age	Willingness to change behaviour
Empathy score	Gender	
Identification with victims	Frequency of drug use	

> ***H4****: Participants reporting higher empathy levels are more willing to change their drug related behaviours*

The independent variable for H4 was *empathy*. The dependent variable for H4 was the same as H3 and H5, so I combined the analysis for these hypotheses in a single model. I describe this process further below.

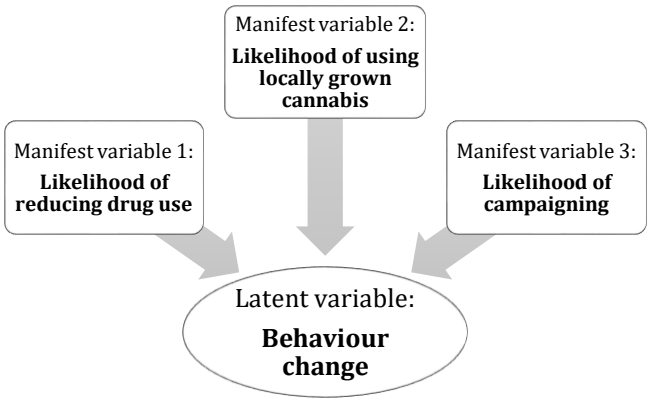
***H5**: Participants of the same personal identity as victims will be more willing to change their drug related behaviours*

H5 testing compared willingness to change drug related behaviours between participants in EG1 and EG2. The independent variable was therefore the same as H3: *experiment group*. However, H5 assessed whether showing participants victims of a similar identity salience to their own (EG1: British victims), as opposed to a different identity salience (EG2: Latin American victims), predicted reported willingness to change drug related behaviours. The dependent variable for H5 was the same as H3 and H4. Although H5 was included in the path analysis, I ran a separate ANOVA test to address H5 alone.

Path model for H3, H4, and H5 testing

Prior to conducting analyses, I had planned to run a Structural Equation Model (SEM) which conducts multiple regression analyses, depicting the relationship between predictor (independent), control, and outcome (dependent) variables. When using SEM, it is possible to combine several dependent variables into a single latent variable for analysis. Therefore, to test H3, H4, and H5, I wanted to combine the variables referring to each drug related behaviour change into a single latent variable in the model. These variables are presented in Figure 5.

Figure 5. *Measurement model of manifest variables and latent variable*



The measurement model for the variables in Figure 5, however, indicated a poor fit. Further investigation revealed weak correlations between the three manifest variables, shown in Table 51, explaining the poor measurement model fit. This meant that SEM analysis was not appropriate for this study. Instead, I ran three separate path models, each with a single dependent variable. Thus, SEM was not applied within the analysis, although the lavaan function was still used to conduct the path analyses.

Table 51. *Spearman's rho correlation coefficients for manifest variables*

		Reduce use	*Source locally*	*Campaign*
Correlation coefficient	*Reduce use*	-	.183	.249
	Source locally	.183	-	.169
	Campaign	.249	.169	-

7.4 Results

Having described the experiment variables and planned statistical analyses in the previous section, I now outline the results of hypothesis testing.

7.4.1 Descriptive findings

I checked the relationships of the predictor and control variables using a Spearman's rho correlation. This determined whether the variables were closely related, which would cause issues with the validity of the model used to test H3, H4, and H5. Correlation coefficients are presented in Table 52, which were low and thus considered suitable for the path analysis.

Table 52. *Spearman's rho correlation coefficients for predictor and control variables*

		Video shown	*Frequency of use*	*Empathy*	*Age*	*Gender*
Correlation coefficient	*Video shown*	-	.006	-.015	-.009	.043
	Frequency of use	.006	-	.025	-.225	.025
	Empathy	-.015	.025	-	-.055	-.323
	Age	-.009	-.225	-.055	-	.033
	Gender	.043	.025	-.323	.033	-

7.4.2 Hypothesis testing

In the following section, I outline the results obtained from the statistical tests which addressed the four research hypotheses.

> ***H2****: Participants reporting higher frequencies of drug use are less aware of the negative societal impacts of the illicit drug trade*

A Pearson's Chi-Square test was computed. Table 53 presents preliminary descriptive statistics for the dependent (awareness level) and independent (frequency of drug use) variables. The data suggests that most participants who reported using drugs in EG1 and EG2 did so infrequently (79.9%), although a proportionately larger number of frequent users had higher awareness of the negative impacts.

Table 53. *Crosstabulation for frequency of use and awareness of negative impacts*

	Infrequent		Frequent	
	N	*%*	*N*	*%*
Low awareness	180	54.5	39	47.0
High awareness	150	45.5	44	53.0
Total	330	100.0	83	100.0

The results of the Chi-Square test are presented in Table 54, which indicate no statistically significant relationship between frequency of use and awareness of the negative impacts. This finding does not support H2.

Table 54. *Chi-Square analysis for frequency of use and awareness of negative impacts*

	Value	df	Asymptotic sig.
Pearson's Chi-Square	1.521	1	.218

H3*: Participants who have begun to form a nexus between recreational drug use and the negative societal impacts are more willing to change their drug related behaviours*
H4*: Participants reporting higher empathy levels are more willing to change their drug related behaviours*
H5*: Participants of the same personal identity as victims will be more willing to change their drug related behaviours*

Descriptive statistics for the dependent variables included in the model to test H3, H4, and H5 are presented in Tables 55 to 57. The data shows no obvious differences between experiment groups, apart from EG1 where fewer participants completely disagreed that they were likely to actively support campaigns (i.e., more EG1 participants were likely to engage in this behaviour). The largest majority of participants in all groups completely agreed that they were likely to source locally grown cannabis.

Table 55. *Descriptive statistics for likelihood of reducing drug use among PWUD*

	EG1		EG2		CG	
	N	*%*	*N*	*%*	*N*	*%*
Completely disagree	13	12.0	14	13.2	11	10.5
Somewhat disagree	12	11.1	11	10.4	12	11.4
Neither agree nor disagree	22	20.4	25	23.6	23	21.9
Somewhat agree	28	25.9	26	24.5	27	25.7
Completely agree	33	30.6	30	28.3	32	30.5
Total	108	100.0	106	100.0	105	100.0

Table 56. *Descriptive statistics for likelihood of using locally grown over imported cannabis among PWUD*

	EG1		EG2		CG	
	N	*%*	*N*	*%*	*N*	*%*
Completely disagree	20	18.5	23	21.7	23	21.9
Somewhat disagree	5	4.6	9	8.5	9	8.6

Neither agree nor disagree	12	11.1	14	13.2	10	9.5
Somewhat agree	19	17.6	13	12.3	8	7.6
Completely agree	52	48.1	47	44.3	55	52.4
Total	108	100.0	106	100.0	105	100.0

Table 57. *Descriptive statistics for likelihood of actively campaigning among PWUD*

	EG1		**EG2**		**CG**	
	N	*%*	*N*	*%*	*N*	*%*
Completely disagree	9	8.3	20	18.9	18	17.1
Somewhat disagree	19	17.6	20	18.9	15	14.3
Neither agree nor disagree	26	24.1	18	17.0	25	23.8
Somewhat agree	15	13.9	8	7.5	13	12.4
Completely agree	39	36.1	40	37.7	34	32.4
Total	108	100.0	106	100.0	105	100.0

The path model factored in participants' experiment group, reported frequency of drug use, empathy score, age, gender, and likelihood of behaviour change. The covariance of exogenous variables in the model are presented in Table 58. Significant coefficients were observed between frequency and gender, and empathy and gender. The coefficients indicate that male participants reported significantly higher frequencies of drug use (0.083, $p < .001$), and female participants reported significantly higher empathy (-1.166, $p < .000$). The significant relationship between gender and frequency of use may interact with the regression between experiment group and behaviour change. Therefore, I computed moderation regressions with frequency and gender as separate moderators in the relationship between experiment group and likelihood of behaviour change. These are presented later following the path analysis.

Table 58. *Covariances of exogenous variables in model*

Exogenous variables		**Coefficient**	**Standard error**	**Sig.**[53]
Frequency ~	*Empathy*	-0.552	0.393	0.160
	Age	-0.086	0.052	0.098
	Gender	**0.083**	**0.024**	**0.001**
Empathy ~	*Age*	-0.311	0.509	0.541
	Gender	**-1.166**	**0.246**	**0.000**

The path analysis was run separately for each of the three dependent variables. Model fit measures are presented in Table 59, which show a good fit for the dependent variables. The Chi-Square test results for the path model are: X^2 (5, N = 319) = 2.14, p = .829.

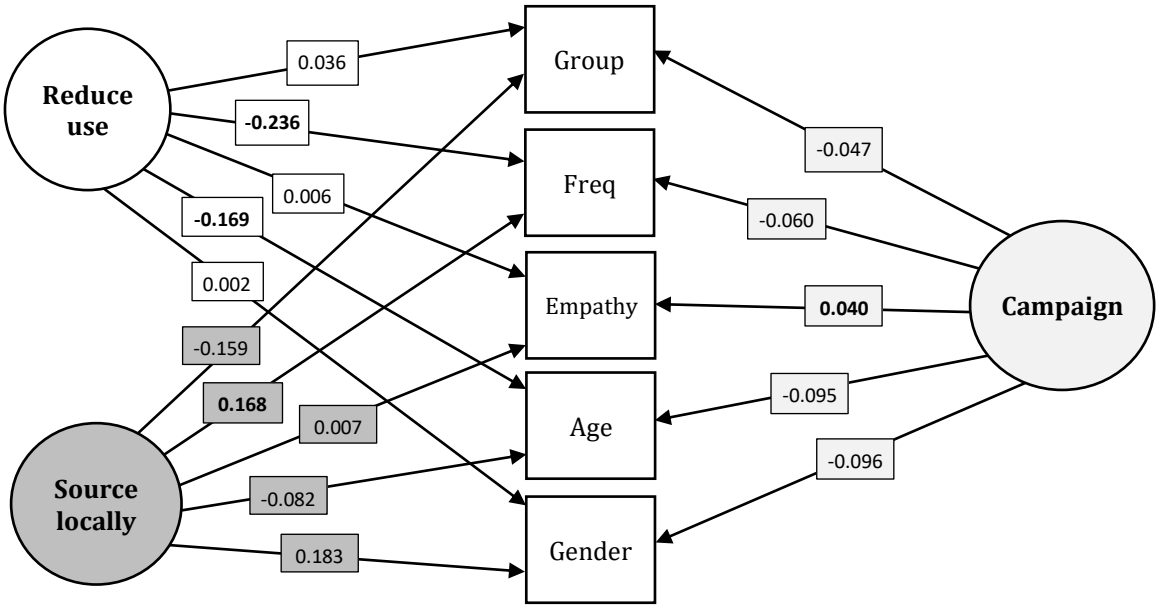
[53] Figures in bold indicate significant relationships.

Table 59. *Path model fit measures*

Model dependent variable	Comparative Fit Index (CFI)	Tucker-Lewis Index (TLI)	RMSEA[54] (90.0% confidence interval)	SRMR[55]
Reduce use	1.000	1.203	0.000 (0.000 – 0.046)	0.020
Source locally	1.000	1.209	0.000 (0.000 – 0.046)	0.020
Campaign	1.000	1.135	0.000 (0.000 – 0.046)	0.020

Figure 6 and Table 60 present the results of the path analysis. Statistically significant regression coefficients were observed between frequency of use and likelihood of reducing use (p = .007), frequency of use and sourcing locally grown cannabis (p = .042), age and likelihood of reducing use (p = .008), and empathy and likelihood of campaigning (p < .000). Therefore, the results suggest that younger participants and those who reported lower levels of drug use were significantly more likely to reduce their drug use. Participants reporting higher levels of drug use were significantly more likely to source locally grown over imported cannabis. Finally, participants with higher empathy were significantly more likely to campaign for causes that they support. The path analysis therefore suggests partial support for H4.

Figure 6. *Path analysis regression coefficients*



[54] Root Mean Square Error of Approximation (RMSEA). A low value indicates good fit.
[55] Standardised Root Mean Square Residual (SRMR). A low value indicates good fit.

Table 60. *Path analysis regressions for the three outcome variables*

Outcome variables	Exogeneous variables	Coefficient	Standard error	Sig.
Reduce use ~	*Group*	0.036	0.087	0.681
	Freq	**-0.236**	**0.088**	**0.007**
	Empathy	0.006	0.009	0.527
	Age	**-0.169**	**0.064**	**0.008**
	Gender	0.002	0.149	0.991
Source locally ~	*Group*	-0.159	0.082	0.053
	Freq	**0.168**	**0.082**	**0.042**
	Empathy	0.007	0.008	0.377
	Age	-0.082	0.060	0.172
	Gender	0.183	0.141	0.193
Campaign ~	*Group*	-0.047	0.078	0.541
	Freq	-0.060	0.078	0.442
	Empathy	**0.040**	**0.008**	**0.000**
	Age	-0.095	0.056	0.092
	Gender	-0.096	0.113	0.468

***H5**: Participants of the same personal identity as victims will be more willing to change their drug related behaviours*

The outputs of the ANOVA conducted in SPSS to test H5 are presented in Tables 61 and 62, including the Tukey post hoc test. The ANOVA revealed a statistically significant difference between groups ($F(2,316) = 3.394$, $p = .035$). The post hoc test revealed that likelihood of campaigning was significantly higher among EG1 participants compared with EG2 ($p = .027$). Therefore, participants in EG1 were significantly more likely than EG2 participants to actively campaign, supporting H5.

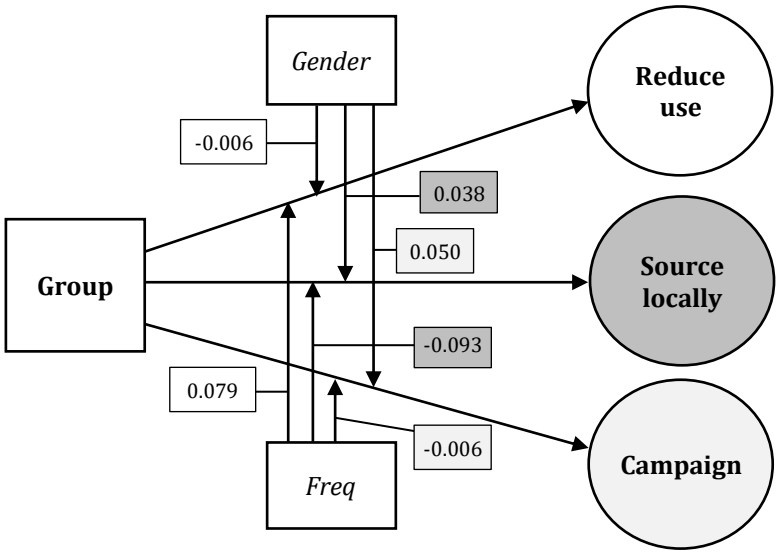
Table 61. *ANOVA results for experiment group and likelihood of behaviour change*

		Sum of Squares	df	Mean Square	F	Sig.
Reduce drug use	*Between groups*	.150	2	.075	.044	.957
	Within groups	534.953	316	1.693		
	Total	535.103	318			
Source local over imported cannabis	*Between groups*	5.596	2	2.798	1.871	.156
	Within groups	472.636	316	1.496		
	Total	478.232	318			
Actively campaign for causes that I support	*Between groups*	9.566	2	4.783	3.394	.035
	Within groups	445.280	316	1.409		
	Total	454.846	318			

Table 62. *Tukey post hoc test results following ANOVA (only significant values presented)*

Dependent variable	Experiment group		Mean difference	Standard error	Sig.	95.0% confidence interval Lower bound	Upper bound
Actively campaign for causes that I support	*EG1*	*EG2*	**.421**	**.162**	**.027**	.04	.80
		CG	.176	.163	.526	-.21	.56
	EG2	*EG1*	**-.421**	**.162**	**.027**	-.80	-.04
		CG	-.245	.163	.292	-.63	.14
	CG	*EG1*	-.176	.163	.526	-.56	.21
		EG2	.245	.163	.292	-.14	.63

Figure 7. *Moderation regression model showing coefficients between variables*



To test the validity of the analyses for hypothesis testing, I measured the specific impact of frequency of drug use and gender as moderators in the relationship between experiment group and likelihood of behaviour change. The output for the moderation regressions computed in SPSS is presented in Figure 7. The results show no significant interactions between the two moderators on the relationship between experiment group and likelihood of behaviour change. These findings suggest that frequency of use and gender did not influence the likelihood of behaviour change given the video participants were shown.

7.5 Discussion

The experiment presented in this chapter addressed RQ2: *"Does increased salience of the negative societal impacts of the illicit drug trade and formation of the nexus increase willingness to change recreational drug related behaviours?".* By testing the research hypotheses, this study revealed that although increased salience and formation of the nexus did not directly encourage willingness to change drug related behaviours, there are specific characteristics which could encourage behaviour change among PWUD. In this

discussion, I summarise the findings whilst reflecting on the existing literature, previous findings in this thesis, and implications for future research.

Firstly, the path model revealed that male participants reported significantly more frequent drug use than females. This observation strengthens the validity of the current research findings, as it concurs with existing literature which has similarly shown gender to influence drug use (Cotto et al., 2010; ONS, 2020; UNODC, 2021). Consequently, it was possible that exogenous variables such as gender interacted with likelihood of behaviour change, irrespective of the intervention. However, moderation regressions revealed no significant interactions between gender and the independent and dependent variables. This means that in the current study, observations relating to the impact of the intervention on behaviour change were not influenced by participant gender.

*7.5.1 **H2**: Participants reporting higher frequencies of drug use are less aware of the negative societal impacts of the illicit drug trade*

Roughly 50.0% of participants displayed low awareness levels of the negative impacts, as these participants reported learning new information from the videos on drug trafficking. This finding affirms the effectiveness of the EG1 and EG2 video interventions in increasing awareness and salience of the negative impacts associated with drug production and trafficking. Participants not only stated that they learnt something new, but also reported accurate details from the video when specifying the new information they had learned. This observation suggests that among people in the UK, awareness of the negative impacts of drug trafficking may be low. Currently, the literature lacks empirical research into public awareness of the negative impacts associated with the drug trade, and the current research provides the first attempt to do so. These experiment findings support the study results observed in chapters 4 and 5 of this thesis, where lower awareness levels were observed among London participants compared with Mexico City and Montevideo. The current research findings provide support for the idea that awareness is higher in areas where the negative impacts are more prevalent, however, further research is required to examine awareness levels in other countries where exposure to the illicit drug trade varies.

The low awareness levels observed among experiment participants was possibly due to their lack of exposure to the drug dealing world, and the ease of obtaining illicit drugs in society today (Bennett & Holloway, 2019; Parker et al., 2001; Taylor & Potter, 2013). Online drug markets have also reduced direct exposure of PWUD to drug dealers (Barratt et al., 2016), further distancing them from the reality of the illicit drug trade. PWUD are therefore less exposed to the negative impacts that the current research examines. This lack of exposure could contribute to the lack of awareness. Hypothesis 2 predicted lower awareness levels among more frequent drug users based on the assumption that increased awareness of the negative impacts would encourage a reduction in use. The current research findings, however, revealed no relationship between frequency of use

and existing awareness levels, which refutes H2. Contrary to predictions, participants showed similar levels of awareness regardless of their reported drug use. It is important to note that the variables of this analysis measured participants' awareness and frequency of use before watching the experiment video. Therefore, this analysis does not assess the impact of the experiment intervention. Nonetheless, this finding confirms the observations in chapters 4 and 5, suggesting that general awareness of the negative impacts does not influence frequency of drug use. The current study built upon these findings to examine the relationship between increased salience and likelihood of behaviour change, which is discussed in the following sections.

7.5.2 ***H3****: Participants who have begun to form a nexus between recreational drug use and the negative societal impacts are more willing to change their drug related behaviours*
H5*: Participants of the same personal identity as victims will be more willing to change their drug related behaviours*

H3 and H5 assessed the influence of similar variables on willingness to change drug related behaviours. H3 predicted that participants in EG1 and EG2, where the intervention video aimed to increase salience of the negative impacts of the drug trade, would be more willing to change their behaviours than participants in the CG. Similarly, H5 predicted that participants in EG1 would be more willing to change their drug related behaviours than EG2 participants because of a shared identity salience with victims presented in the intervention video. Although these two hypotheses focus on the differences between experiment groups, the path analysis revealed that individual characteristics of PWUD were more influential than intervention video in predicting willingness to change behaviours. Firstly, participants reporting less frequent drug use were significantly more willing to reduce their drug use. This observation was unsurprising and supports the idea that people who use drugs recreationally and less frequently should be targeted for potential interventions aimed at reducing drug use. Of the participants who reported using drugs, the majority were infrequent users (85.0% reported using several times a month or less), compared with frequent (15.0% reported using several times a week or more). This is in line with recent drug reports which have also found the large majority of PWUD to be infrequent users (ONS, 2020; UNODC, 2021). In addition, age was also shown to influence willingness to reduce drug use. Younger participants were significantly more willing to reduce their frequency of drug use. Most participants of this study who reported using drugs were aged 29 or below (65.5%), similarly, the majority of PWUD in the world comprise young people of a similar age range (UNODC, 2021). The current findings therefore present promising implications, suggesting that awareness campaigns targeted towards infrequent drug users of a young demographic are likely to be effective in reducing use.

Furthermore, participants who reported using drugs more frequently were significantly more likely to seek locally grown over imported cannabis. This finding is perhaps also

unsurprising and encouraging, as it indicates awareness of ethical sources of cannabis among people who use the drug more frequently. It is sensical that participants who use drugs more frequently are more exposed to a wider range of drug sources, which was also observed in the focus groups in chapter 4. Therefore, it is possible that people who use drugs more frequently could be targeted for behaviour change through interventions aimed at encouraging ethical sourcing of drugs. This type of intervention, however, would be difficult to design and implement whilst drugs are still prohibited in the UK. This reaffirms the findings from the crime script analysis in chapter 6, recommending policy reform as a potential solution to the negative societal impacts of the illicit drug trade. Importantly, this position on drug policy is increasingly being supported within the literature (Dalgarno et al., 2021; Rolles et al., 2016).

Additional testing revealed support for H5, in that EG1 participants were significantly more willing than EG2 participants to actively campaign for causes that they support. The EG1 intervention video presented British victims of drug trade violence, therefore presenting participants with victims of a similar identity salience to their own. As a result, this finding concurs with existing literature suggesting that similar identity salience between the person in need and the person helping, such as a shared cultural identity, may encourage prosocial behaviour (Levine & Thompson, 2004). This observation may be investigated further through future research which objectively measures identity salience among participants prior to testing, for example, assessing the levels to which participants identify as "British".

*7.5.3 **H4**: Participants reporting higher empathy levels are more willing to change their drug related behaviours*

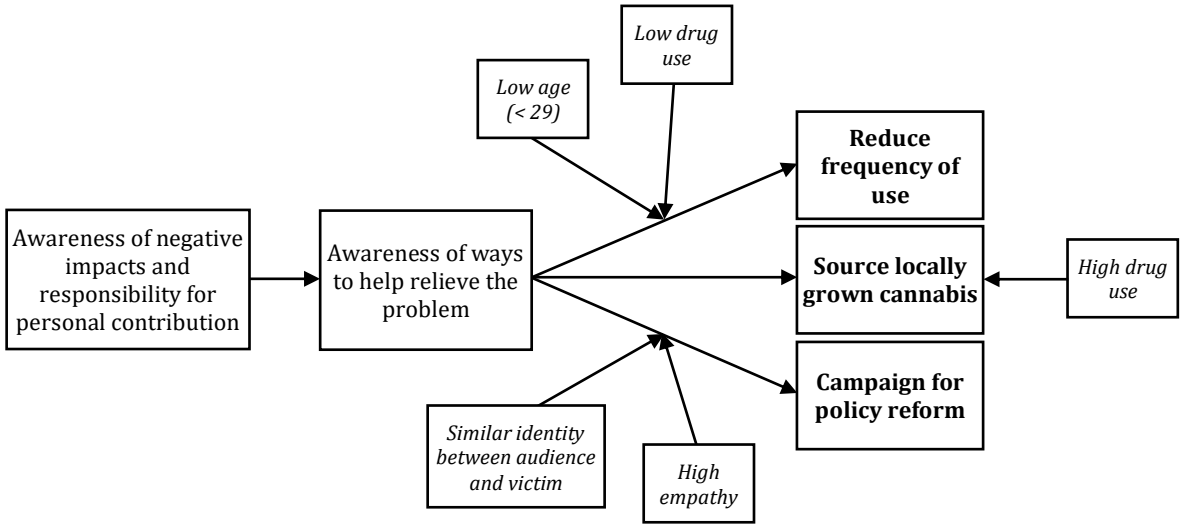
Through H4 testing, the path model revealed that participants displaying higher empathy were significantly more willing to campaign for causes that they support, but not the other two behaviour changes. An explanation for this is the fact that campaigning was relevant to climate change as well as the negative impacts of the drug trade, and so participants in all experiment groups, even the control group, may have had increased salience of the importance of policy reform and systemic change. This could explain why a larger number of participants were willing to campaign for policy reform than the other two specified behaviours. Nonetheless, this finding is surprising considering that active campaigning may be perceived to require more effort than other behaviour changes. Existing literature suggests that pro-environmental behaviour, for example, is more likely to be achieved where the behaviours are clear and convenient for people to carry out (Heckler, 1994; Krendl et al., 1992). Therefore, it would be expected that simpler activities requiring less active participation of the target audience would be better received. These findings may reflect the reluctance of participants to reduce their drug use or inability to source drugs ethically, which leaves the option to campaign for policy reform. Understandably, then, it would be the most convenient behaviour of the three. However, the significant impact of empathy on likelihood of campaigning emphasises the

importance of personal characteristics in behaviour change, such factors which are mostly innate. It may be that people who are naturally more empathetic will be more receptive to targeted interventions with the aim of encouraging behaviour changes.

The lack of a significant relationship between empathy and the other behaviours (frequency of drug use and sourcing locally grown cannabis) is an interesting finding. These results may be because other factors contribute to frequency of drug use and/or sourcing locally grown cannabis more so than their personal empathy level. Those using cannabis for health purposes, for example, are unlikely to reduce their frequency of use regardless of salience of the negative impacts or how empathetic they are. Moreover, members of the public may be unaware of local sources of cannabis or not have access to ethical sources of illicit drugs. This would make them less likely to engage in these behaviours and resort to their known source of drugs, i.e., through the illicit market. Additional factors to consider when interpreting the experiment results are participants' personal values and attitudes towards drugs and drug use. Participants using drugs infrequently may believe that their low levels of use are a meaningless contribution to such a large problem, and so their behaviour change would not have any impact (Pelletier et al., 1999). This attitude was observed in the focus group discussions presented in chapter 4. In this case, interventions should emphasise the fact that most illicit drug use is infrequent and therefore changes to infrequent drug use will be impactful.

Importantly, and against predictions, the video on drug trafficking did not directly predict willingness to change behaviours more so than the video on climate change. In other words, control group participants were just as willing as experiment group participants to change their behaviours. A reason for this could be that the control group received a similar message to the experiment groups, albeit not regarding the illicit drug trade. Control group participants received information about climate change which may have prompted them to consider campaigning, therefore making them just as likely to engage in this behaviour as experiment group participants. However, the current research findings suggest that personal characteristics and campaign design could influence willingness to change specific drug related behaviours more so than salience of the negative impacts. These factors include age, frequency of drug use, empathy level, and identity salience of the PUWD and victims of the drug trade. Essentially, the current research has identified the target audience with which awareness campaigns may be successful in changing drug related behaviours. The overall conclusions drawn from this study are combined in Figure 8. This diagram shows the factors that were identified to influence willingness to change behaviours among PWUD. Future research could investigate the impact of similar interventions on actual and long-term behaviour change.

Figure 8. *Diagram showing the combined results of the experiment analysis*



7.6 Limitations

Although I applied best efforts to conduct an effective experiment given the time and funding restraints of the current research, there are of course limitations that should be considered when interpreting results and guiding future research. Firstly, many of the statistically significant observations were related to non-randomly distributed characteristics of participants (e.g., age), which means that not all observations may be causal. The findings may reflect reverse causation (i.e., the dependent variable measure may have influenced the independent variable measure as much as it did the other way around) or could be confounded by other covariates which were not measured or controlled for in the current study. Therefore, these findings should not be generalised, but used as preliminary and exploratory observations in an under researched domain, used to guide future research. It is important for future research to further test these observations whilst controlling for external variables to either confirm or challenge the findings within the present study.

Moreover, as with most research examining illicit behaviours such as drug use, it is difficult to objectively measure use and ensure participants are being honest when self-reporting. I reduced this effect by reassuring participants of their anonymity and security of the data they provided. Additionally, the experiment involved deception so at the time of participation, participants were not aware that the focus was on their drug related behaviours. This would have ensured that their responses were not biased or influenced in any way. Further, an important limitation of the present study is the lack of ecological validity, whereby participants' actual and long-term behaviour change was not measured. This would have required an in-depth longitudinal study which would have cost more money and time. Longitudinal research requires commitment from participants which would result in fewer participants taking part and involve greater incentives to participate. The current research is exploratory and, as far as I am aware,

provides the first attempt to measure the potential for behaviour change given increased salience of the negative impacts of the illicit drug trade. For this reason, it was deemed appropriate to conduct a shorter experiment which could then be built upon by future research looking to objectively measure long term behaviour change.

There are other methodological limitations which were considered but given the nature of the experiment and availability of time and resources, were not prioritised. For example, future research might consider questioning participants on their reasons for drug use as this is likely to influence willingness to change drug related behaviours. Individuals using cannabis for medical purposes, for example, are less likely to reduce their frequency of use regardless of the experiment intervention. Moreover, experiment validity could be improved with better manipulation checks. For example, salience could have objectively been measured following intervention exposure. However, this would have revealed the true purpose of the experiment and increased participation time which would likely decrease willingness to take part. Therefore, other measures were instead taken in the current research.

Furthermore, there is the issue of incentive for this experiment as a last-minute intake of participants was obtained on Prolific Academic using limited funding. This was considered a necessity for the experiment findings to be valid, significant, and generalisable. Without a large sample, I would not have been able to compare the three experiment groups as the sizes would have been too small for statistical analyses. However, I opted for a reputable platform like Prolific to increase sample size, ensuring that participants were trustworthy despite being paid an incentive. This was controlled for by examining experiment completion time and quality of responses, which revealed whether participants watched the full intervention video and took the time to complete responses.[56] There were no participants who entered inaccurate information regarding the intervention video and only a small number who completed the study in less than 5 minutes. These were excluded from analyses as it was impossible for participants to have watched the video and accurately answered the experiment questions in this time. Thus, the data included in this study was considered valid despite offering an incentive.

Finally, future research should test the effectiveness of different types of intervention videos on a range of target audiences, with detailed reasoning for participant responses. For example, open-ended responses or focus group type discussions assessing the effectiveness of intervention videos. This may assist in clarifying why participants are reluctant to change their behaviours, e.g., a grievance with policy or sense of helplessness, which was not identified in the current research. Similarly, to determine which interventions are most effective, future research might focus more on individual and specific behaviour changes that may be adopted by PWUD, as the current research instead placed an emphasis on policy. With this information, future interventions and

[56] For example, checking the accuracy of open-ended responses about the intervention video.

campaigns may be designed to promote a specific message to a target audience, with an increased likelihood of success.

7.7 Conclusion

The present study aimed to address whether increasing salience of the negative societal impacts of the illicit drug trade and formation of the nexus increases willingness to change drug related behaviours. In doing so, I have revealed significant preliminary insights into awareness and salience raising, formation of the drugs nexus, and subsequent willingness of PWUD to change behaviours. This study has revealed four important implications for future research and practice. First, awareness of the negative impacts is generally low among the British population of PWUD because of a lack of information and exposure to these impacts. Second, salience may be increased through specific, informative, and response-evoking interventions where the target audience shares a similar personal identity with the victims. This concurs with the existing literature on nexus establishment and was evident in the current research through participants reporting accurate new information from the intervention videos. Third, certain characteristics were associated with willingness to change drug related behaviours, specifically being younger, more empathetic, and less frequent PWUD. Importantly, this demographic of young people who use drugs infrequently forms the majority of PWUD not only in the current study, but also in global reports of drug use. Therefore, if these findings are supported by future and in-depth empirical research, then similar interventions targeting this audience may be effective among a large population. Lastly, certain drug related behaviours may be more likely to be adopted than others. For example, younger and less frequent PWUD may be more willing than older and more frequent PWUD to reduce their drug use. Furthermore, more frequent PWUD may be more willing to source cannabis ethically and more empathetic individuals may be more willing to actively campaign for reform.

In conclusion, the findings of this experiment are an essential first step to considering a novel approach to dealing with the illicit drug trade and the associated negative impacts, by investigating the effect of increased awareness and salience on drug related behaviours. These findings may be helpful in informing future research and targeted campaigns with the aim of changing drug related behaviours. Future research should examine the impact of similar interventions on actual behaviour change, targeting the specific demographic of PWUD identified in the present study.

Chapter 8. Discussion and Conclusion

Prior to the current thesis, no research has examined the importance of the negative societal impacts of the illicit drug trade in influencing recreational drug related behaviours. The current research has contributed to addressing this research gap by investigating the nexus between recreational drug use and the negative societal impacts of the drug trade. In particular, by investigating the effect of increased salience and nexus formation on the likelihood of drug related behaviour changes. In this final chapter of this thesis, I discuss the main findings and overall conclusions drawn from the four empirical studies. I consider limitations of this research, contributions to the literature, implications for policy and practice, and recommendations for future research.

8.1 Main findings

There were three aims of the current research. The first was to examine awareness levels among PWUD of the negative societal impacts of the illicit drug trade. The second aim was to investigate the extent to which a nexus has been formed between recreational drug use and the negative societal impacts of the illicit drug trade. These two research aims included a comparison between PWUD residing in the capital cities of the UK, Mexico, and Uruguay. The final aim was to measure the effect of increased salience and resulting formation of the nexus on willingness to change recreational drug related behaviours. I outline the main findings from each empirical chapter below.

8.1.1 Exploring drug related behaviours in London, Mexico City, and Montevideo

The focus groups provided exploratory insights into drug related behaviours, enabling the comparison between behaviours and opinions of PWUD residing in three different countries. Drug sharing amongst friends was common in the three focus groups, as was buying drugs from a known dealer. Participants reported similar frequencies of drug use (namely cannabis and cocaine), however, awareness of drug sources and the negative societal impacts of the illicit drug trade varied. Participants in Mexico City and Montevideo displayed higher awareness and likely formation of the nexus between recreational drug use and the negative impacts. Awareness and subsequent formation of the nexus did not appear to impact rates of drug use, but to some extent influenced other drug related behaviours such as sourcing drugs ethically and campaigning for policy reform. Despite these observations, many participants in the focus groups expressed frustration at drug policy and the responsibility for the negative impacts falling on PWUD. The focus groups highlighted the influence of drug policy and proximity to the negative impacts on awareness levels and subsequent drug related behaviours. In addition, participants inferred that empathy level may influence salience and willingness to change

behaviours. These findings influenced the survey design in chapter 5 and assisted in populating the purchasing and use stages of the crime script in chapter 6.

8.1.2 Assessing drug related behaviours and awareness levels of the negative societal impacts of the illicit drug trade

Chapter 5 presented the results from surveys conducted in London, Mexico City, and Montevideo which addressed participant drug related behaviours and opinions. The survey built upon the chapter 4 findings, increasing the generalisability of observations through quantitative analysis and insights into the general willingness of PWUD to change their behaviours. A key observation from chapter 5 was that participants in Mexico City and Montevideo displayed higher awareness of the negative societal impacts of the illicit drug trade. This was inferred by the fact that Mexico City and Montevideo participants sought ethically sourced drugs and campaigned for policy reform significantly more frequently than participants in London. However, among all groups, willingness to change drug related behaviours did not appear to be influenced by awareness of the negative impacts. The survey data provided little evidence of a relationship between awareness of the negative impacts and frequency of drug use, which concurred with the focus group findings. Evidently, chapters 4 and 5 support the conclusion that awareness of the negative impacts does not influence drug related behaviours, particularly frequency of use. Nonetheless, the study in chapter 5 revealed that those who had already begun to engage in positive behaviour changes were more willing to adopt other behaviour changes. In other words, individuals who have begun to form the drugs nexus may be more likely to change their drug related behaviours. This chapter highlighted the need for future research to investigate these observations further and assess whether drug related behaviour changes can be encouraged by intentional formation of the nexus, i.e., through informative salience-raising interventions. Moreover, data from this chapter were valuable in populating the purchasing and use stages of the crime script in chapter 6.

8.1.3 A crime script of the illicit cocaine drug trade from South America to the UK

The crime script presented details of the activities involved in the illicit cocaine drug trade, from cultivation in production countries to use in the UK. Five key stages were identified: production, transportation/trafficking, distribution, purchasing, and use. Within each of these stages, the script identified associated consequences, or negative societal impacts. The direct negative societal impacts included violence, exploitation, corruption, and increased fear of crime and insecurity. These consequences largely occur because of OCG activity at production, transportation/trafficking, and distribution stages. In addition, several enabling and fuelled consequences were identified, such as recreational drug purchasing and use which enables the negative societal impacts of the illicit drug trade to occur. Several suggestions arose from the crime script analysis which could possibly help to reduce the negative societal impacts of the illicit drug trade. These

include drug policy reform enabling regulated distribution of illicit drugs, and three drug related behaviour changes: reducing frequency of use, sourcing drugs locally, and actively supporting policy reform. Chapter 6 concluded by highlighting the need for further research to examine the impact of policy reform and attempts to change drug related behaviours through specific interventions.

8.1.4 Investigating the likelihood of drug related behaviour changes following awareness campaigns

Investigating the impact of policy reform was beyond the scope of this research and requires policy reform to already be in motion before conducting analyses. Therefore, the study in chapter 7 instead focused on assessing behaviour changes among PWUD. Following from chapters 5 and 6, this study attempted to investigate the impact of an informative, salience-raising intervention on the likelihood of drug related behaviour changes. Three experiment groups were shown different intervention videos. The first two groups were shown videos about violence in the illicit drug trade. One group was shown a video that focused on British victims and the other group was shown a video that focused on Latin American victims. The final group was the control group, who were shown a video unrelated to the illicit drug trade. Results revealed that the videos about violence in the illicit drug trade were effective in raising awareness and salience of the negative impacts, as participants were able to recall key points from the videos immediately after. Willingness to reduce drug use was reported among younger and less frequent PWUD, which is the demographic forming the majority of PWUD both in the current research and general population. Furthermore, higher empathy was associated with increased willingness to campaign for policy reform. Participants who reported more frequent drug use were also more willing to source locally grown over imported cannabis. Therefore, this study revealed that individual characteristics of PWUD may be more influential than salience of the negative impacts in changing drug related behaviours. The experiment revealed important conditions necessary for the success of such interventions, including characteristics of the target audience and features of the intervention design.

I discuss the implications of these findings in the following sections. Firstly, however, I address limitations of this thesis, which should be considered when interpreting results.

8.2 Limitations

At all stages of data collection, reports of drug use and other drug related behaviours were dependent on participant self-report. This raises the question of how to ensure that data included in this thesis were accurate. Although objectively measuring drug use would ensure the validity of data, it is not feasible for drug surveys distributed on a large scale and within the restraints of the current thesis. Objective measures of drug use may involve tests such as wastewater analysis (Bijlsma et al., 2016; Irvine et al., 2011) and

analysis of urine (DeJong & Wish, 2000). Such measures were introduced into drug studies to avoid social desirability bias because of negative societal attitudes towards drugs, and the resulting inaccurate self-reported drug use (Latkin et al., 2017). However, within the scope of a PhD thesis and when gathering data from over 600 participants, conducting urinalysis to validate self-report would be a difficult task. In addition, the current research was focused more on general drug use (e.g., participants were asked how many times they used cannabis in the last year, with responses ranging from "daily" to "once or twice"), contexts of use, and participant opinions. Exact frequencies and quantities of drug use were therefore less important.

To overcome this limitation, I ensured that the methods used in the studies had previously been applied and recommended within the existing literature. For example, large scale drug surveys such as the World Drug Report (UNODC, 2021), European Drug Report (EMCDDA, 2021), and report of Drug Misuse in England and Wales (ONS, 2020) use self-reported drug use data to produce trusted and valid outputs (McLouth et al., 2022). The wording of questions asked and contexts of participation in the studies of this thesis also helped to increase accuracy of participant self-report. Focus groups were utilised rather than individual interviews because the presence of other participants provides a more comfortable environment where people may openly discuss sensitive topics (Guest et al., 2017). Moreover, questions in the survey were direct and referenced specific drug types rather than asking participants to recall what drugs they use. This has been shown to increase accuracy of self-reported drug use (Johnston et al., 2013; Riley et al., 2001). Enabling self-completion of the studies in chapters 5 and 7 also reduced the impact of social desirability bias by removing the presence of a researcher (Harrison & Hughes, 1997; Krumpal, 2013). When conducting data collection, I assured participants of their anonymity, their right to withdraw from the study at any point, and the fact that they were not being judged on any information shared. Participants took part in this research voluntarily with no stake in the research outcomes, indicating a willingness to provide data and suggesting no reason for dishonest or misleading responses.

A second limitation of the current research was the lack of inclusion of documents and data in the Spanish language. This research, although conducted at a university in the UK, had significant relevance to countries in Latin America due to large amounts of drug trade activity and associated negative impacts occurring in this region. I could only conduct data collection and analysis in English because of a language barrier. This meant that recruiting participants in Mexico City and Montevideo relied heavily on contacts and gatekeepers in these cities who spoke Spanish. The focus groups were particularly challenging because they involved in-depth discussions. In addition, documents included in the crime script analysis in chapter 6 were limited to those in English. Unfortunately, this resulted in literature searches only including keywords in English. However, the implications of this limitation were reduced as much as possible. I recruited a translator to assist in real-time translation of the focus group discussion in Montevideo, ensuring that no valuable information provided by participants in Spanish was lost or

misinterpreted. In addition, Spanish-speaking colleagues who were from either Mexico or Uruguay were recruited to help translate survey questions and responses where needed. Lastly, most of the data required for the crime script analysis was available in English, and the current thesis largely focused on the decision-making of PWUD in the UK, making the language barrier less of an issue.

Future research aiming to investigate and develop the findings from this thesis should consider the operationalisation of "dependent" drug use, and therefore how participants are included or excluded from the study. I applied a simple definition of dependent drug use within this thesis, excluding only participants who reported using illicit drugs very frequently (i.e., daily) and alone in most instances. Other studies, particularly those focusing on the impact of dependent drug use, may apply a more objective definition of dependent use, such as drug use which induces any form of harm on the PWUD or those close to them. However, this was not an important consideration for the current research as I focused only on infrequent recreational drug use, which forms the majority of PWUD globally. In addition, any replications of the studies conducted within this thesis should consider the influence of covariates and control for these confounding variables where possible. This would strengthen the findings by confirming causal relationships between interventions and behaviour change, which is important when informing policy and practice.

Furthermore, the generalisability of findings within the current research must be considered. Data was gathered from three countries and was limited to just the UK for the study in chapter 7. There were reasons for the focus of this thesis on the UK, Mexico, and Uruguay. As discussed in the research framework in chapter 2, these countries present variations in drug policy, involvement in the illicit drug trade, and subsequent prevalence of the associated negative impacts, enabling valuable comparisons between PWUD. The UK was selected as the focus of chapter 7 because of the ease of access to a population sample, as well as high rates of recreational drug use in the country. Countries where illicit drug production is more prevalent, such as Colombia, would have been ideal for inclusion in this research. However, I did not have contacts in countries beyond those included in this thesis, which would have made data collection in a country like Colombia not only challenging but also dangerous. Additionally, the current research focused only on two illicit substances: cannabis and cocaine. These illicit drugs are two of the most consumed worldwide (EMCDDA, 2021; UNODC, 2021), meaning that findings could be relevant to the majority of consumers. However, these limitations mean that findings from this thesis cannot be generalised to populations beyond PWUD recreationally in the UK, Mexico, and Uruguay, or beyond cannabis and cocaine trade and use. Moreover, interpretation of the findings from chapters 4 and 5 should consider the relevant legislation in each of the three countries included in this research, which was likely to have influenced drug related behaviours and opinions on the impacts of the drug trade.

This also raises a question regarding cross-national research and how to ensure the valid comparison between different groups of people. Documenting measurement invariance of an instrument indicates that the respective constructs are understood similarly across different groups or sub-samples (van de Schoot et al., 2012). That is, it ensures that participants from different groups interpret and respond to study instruments in the same way (Byrne & Watkins, 2003). Demonstrating full measurement invariance requires that the structure of a baseline model (configural invariance) as well as loadings of manifest on latent variables (metric invariance), and errors (scalar invariance) are the same across groups (Rodríguez et al., 2015). It may be argued that the lack of testing for measurement invariance in the current research reduces the reliability of the results. Whilst I do not deny the importance of ensuring consistency between cross-national groups by measuring invariance, it was not considered a priority within the current research. Measurement invariance is only relevant for multi-item scales and therefore does not apply to all variables included in this research. Moreover, the survey questions were translated by bi-lingual colleagues who understood the purpose of this thesis, and therefore reflected this interpretation in the translation. Any conceptual or terminology misunderstandings in the focus groups were clarified through the interpreter. Nonetheless, measurement invariance would be an important consideration for future research conducted on the present topic.

Despite the factors discussed in this section, the current research makes an important contribution to the understanding of the illicit drug trade, associated negative societal impacts, and drug related behaviours. These are discussed in-depth in the following section.

8.3 Contributions to the literature

The current research provides the first attempt, as far as I am aware, to investigate the influence of awareness and salience of the negative societal impacts of the illicit drug trade on drug related behaviours. This thesis contributes to the literature by providing the preliminary research required to begin considering whether and how we might be able to encourage changes to drug related behaviours as a means of reducing the negative impacts of the drug trade.

8.3.1 Prosocial behaviour

This thesis firstly contributes to the literature on prosocial behaviour. Prior to the current research, the literature had examined the impact of factors such as empathy (Brown & Leary, 2016; Graziano et al., 2007) and personal identity salience (Levine & Thompson, 2004) on prosocial behaviours. These often relate to giving to charity or helping a person in need. However, through comparative research on data from PWUD in three countries, the current research conceptually replicated previous results and identified the impact of empathy and identity salience on prosocial behaviour in the form of drug related

behaviour changes. Empathy and proximity to the victims of the negative impacts, i.e., the level to which PWUD identified with the victims, were shown to increase the willingness of PWUD to campaign for policy reform. However, the fact that participants were not more willing to engage in the other two behaviour changes (reduce their drug use and source drugs locally) is an interesting observation that refutes expectations. The literature suggests that an increase in empathy among participants and similarities in identity salience to victims would encourage all three behaviour changes, even those perceived to be costly (Paciello et al., 2013). Contrastingly, the findings of the current research highlight the reluctance of PWUD to stop using drugs despite raised empathy and identity salience, therefore reaffirming the need for the literature to focus on other behaviour changes and ways of combatting the illicit drug trade besides prohibition. In addition, the fact that participants were most willing to engage in campaign behaviour emphasises the support of PWUD for policy reform.

8.3.2 The nexus

This thesis adds to the literature examining the nexus between knowledge and behaviour. In chapter 1, I outlined the literature on encouraging behaviour change through formation of a nexus. Although this had been researched in areas such as pro-environmental behaviour (Kok & Siero, 1985; Latif et al., 2013), alcohol misuse (Barry & Goodson, 2010; Wilkinson & Ritter, 2021), and human trafficking and modern slavery (Dando et al., 2016), there was little research examining the drugs nexus (Wilkinson & Ritter, 2021). These studies did not always identify behaviour change following nexus establishment, and oftentimes contributed to the literature by identifying what doesn't work, rather than what does. Similarly, the current research revealed that establishing the drugs nexus may be possible through targeted informative campaigns, albeit only encouraging specific behaviour changes under certain conditions, discussed below.

First, this thesis identified that participants who were younger in age and reported less frequent drug use were significantly more willing to reduce their drug use. Age was investigated as a mediator variable but was not originally hypothesised to influence willingness to change behaviours, this is therefore a novel and surprising observation of the study. The second observation suggests that less frequent drug users may be more receptive to interventions and subsequently willing to reduce their drug use. These two observations are sensical considering that the majority of PWUD globally are of a younger demographic and engage in recreational, or infrequent, drug use (UNODC, 2021). Additionally, these results may reflect the fact that the participant sample within this study comprised predominantly young and infrequent PWUD. Nonetheless, these are important contributions to the literature on the drugs nexus and drug related behaviours. The results concur with existing literature which suggests that tailored, informative, and response-evoking campaigns may be effective in increasing salience and encouraging behaviour change (Abrahamse, 2019). However, the current research builds on this to

specify moderating variables such as age and frequency of drug use which should be considered more closely.

In addition, the current research found that participants who reported more frequent drug use were significantly more willing to seek locally grown over imported cannabis. This observation indicates a higher awareness among more frequent drug users to different illicit drug sources, which was observed in the focus groups in chapter 4 as well as the experiment in chapter 7. Engaging in frequent drug use would naturally expose PWUD to more of the drug dealing world and hence different drug sources. Furthermore, these results suggest that to encourage positive drug related behaviour changes, more education may be required informing people of local and ethical sources of illicit drugs. Understandably, this has not yet been put into practice due to drug prohibition, again highlighting the need to consider policy reform. Other possible explanations for these observations should be discussed because of the lack of causal observations between the variables. For example, an increased willingness to source ethical drugs may be due to the product quality, price, or other external influences which were not controlled for within the studies of this thesis. Nonetheless, the significant difference between frequent and infrequent PWUD regarding this behaviour is an important observation which should be considered when devising future studies.

8.3.3 Consequences identified through crime script analysis

A novel and important contribution of the current research to the literature is the extension of *consequences* associated with activities identified through crime script analysis. Existing research on CSA focuses on activities involved in the commission of a crime, with more recent research identifying other crimes associated with these activities (Gómez-Quintero et al., 2022). The current research builds upon this literature by identifying specific consequences associated with activities identified in a crime script, with a focus on the negative societal impacts. Importantly, identification of consequences in the form of negative societal impacts assisted in 1) highlighting the significant impacts associated with drug trade activity, 2) identifying where behaviours of PWUD may indirectly contribute to and enable these impacts, and 3) identifying potential points of intervention for behaviour change and subsequent reduction of these impacts. Although the consequences of the drug trade in the current research focused on negative societal impacts, this methodology may be applied to future research examining other consequences associated with different crimes. Therefore, the application of consequences to CSA is not limited to negative societal impacts nor just the illicit drug trade. For example, future research might examine the financial consequences associated with drug trade activity.

8.3.4 Deterrence theory and situational crime prevention

Lastly, this thesis contributes to the literature on several theories within crime science. These theories are linked to the rational choice theory as they assume that prospective offenders think rationally and will behave in ways which produce the most favourable outcome (Wortley & Sidebottom, 2017). Although recent literature has begun to dispute rational choice theory as the sole explanation used in crime prevention models (Wortley & Tilley, 2017), it is relevant to the current research. I explain this further in the remainder of this section. Deterrence theory posits that when targeted groups receive a message that a behaviour or activity is wrong and are informed of the consequences of doing so, they will then engage in rational decision-making based on the information received (e.g., choosing not to commit the specified activity) (Tomlinson, 2016). The current research builds upon this literature, applying deterrence theory to drug related behaviours and identifying the negative societal impacts of the drug trade as the "deterrent" used to influence behaviours. The findings of this study, however, do not concur with deterrence theory, as many participants within the three empirical studies were not willing to reduce their drug use (an illegal and punishable behaviour) when informed of the associated negative impacts. This highlights the significant influence of the rewarding effects induced by drugs on drug related behaviours (Ernst & Luciana, 2015; Iversen, 2003), and the lack of a viable alternative to drugs.

Similarly, this thesis adds to the literature on situational crime prevention (SCP) with respect to behaviours of PWUD. SCP is based on the notion that crime is often opportunistic, and therefore opportunities for crime can be reduced by increasing the associated risks and difficulties whilst removing excuses and reducing rewards (Clarke, 1995). SCP has been applied to areas within crime science such as child sex abuse (Krone et al., 2020) and terrorism (Freilich & Newman, 2009), and provided effective implications for policy and practice (Clarke, 1997). In addition, SCP has been used to model methods of preventing drug dealing and drug use (Feltmann et al., 2021). The current thesis builds upon the SCP literature with a focus on the decision-making of PWUD when purchasing and using illicit drugs. This thesis posited that behaviours can be changed by increasing salience of the negative societal impacts of the illicit drug trade. Whilst existing literature has focused predominantly on preventing drug use (Ross et al., 2011; Warren, 2016) and disrupting the drug trade (Jacques & Wright, 2011), this thesis incorporates several drug related behaviour changes which may help to reduce the impacts of the illicit drug trade. The findings of the current research support the notion that PWUD recreationally engage in rational decision-making regarding their drug use (Aldridge et al., 1998; Johnston et al., 2013). For example, prioritising the most favourable outcome (i.e., continuing illicit drug use) despite an awareness of the negative impacts of the drug trade (Wortley & Sidebottom, 2017). Further, this thesis supports the SCP notion that increasing the difficulty and removing excuses associated with drug use can encourage behaviour change, but only among a certain demographic. These findings again emphasise the importance of focusing informative campaigns on the behaviours

which are most likely to be adopted (e.g., campaigning for policy reform) and targeting these towards the population which is most likely to adopt them (young, infrequent, and empathetic PWUD).

8.3.5 Combination of findings

Together, the studies comprising this thesis present a general reluctance of PWUD to reduce their illicit drug use. The findings suggest a low awareness of PUWD to the negative societal impacts of the illicit drug trade and subsequently, the drugs nexus is currently not established among the population of PWUD in the UK. However, the observations suggest that informative interventions may increase salience of the negative impacts of the drug trade, and this may encourage nexus formation and willingness to change drug related behaviours among certain PWUD. This thesis proposes that the most likely behaviour change among PWUD is actively supporting policy reform. These observations hold important implications for policy and practice, discussed in the following section.

8.4 Implications for policy and practice

In the previous section, I outlined the ways in which this thesis adds to the relevant literature. Drawing upon this literature and the theoretical principles discussed, I now describe the implications of these findings for policy and practice, detailing more practical applications of the current research findings.

8.4.1 Changing drug related behaviours

In section 8.3.4, I discussed situational crime prevention and highlighted its relevance to this thesis. The purpose of SCP approaches is to increase risk, remove excuses, and reduce the rewards of prospective crimes (Clarke, 1995). It is important to note that drug use and drug related behaviours are not considered "crimes" in this thesis per se, but rather opportunities for impactful disruptions to the illicit drug market and associated negative impacts. Additionally, due to the specific physiological effects induced by drug use, it is not possible to reduce the rewards associated with this behaviour. Therefore, in this section, I outline what can be done to change drug related behaviours by increasing risks and removing excuses among PWUD. The first implication involves raising awareness of the negative societal impacts of the illicit drug trade. This thesis revealed that awareness of the negative societal impacts of the illicit drug trade was low among PWUD in the UK, as approximately half of participants reported learning new information from the intervention video. Awareness is a prerequisite to salience of information (Heckler, 1994; Kok & Siero, 1985), and is therefore required in order to encourage behaviour change. The existing literature has shown varying influences of awareness raising campaigns on behaviour change, such as recycling (Thomas & Sharp, 2013) and responsible alcohol consumption (Wakefield et al., 2010; Wilkinson & Ritter, 2021). Similarly, the study

conducted in chapter 7 of this thesis suggests that campaigns aimed at raising awareness and salience of the negative impacts of the drug trade may be effective in encouraging certain drug related behaviour changes among a specific demographic of PWUD.

The focus of this thesis was on three recreational drug related behaviours: reducing drug use, sourcing drugs ethically, and campaigning for policy reform. These behaviours are posited to reduce the contribution of PWUD to the negative impacts of the illicit drug trade. There are several implications that arose from this thesis which identify the conditions required to encourage changes to these behaviours. First, the format and content of such campaigns should evoke some emotional response, or sense of shock, among the audience. The intervention videos designed in the current research were intended to both inform and evoke empathy among participants, but not so much that it becomes distressing to the audience. The element of empathy and shock assisted in increasing salience which ensured that the audience noticed and remembered the message. This was verified in the current thesis by asking participants to recall new information that was presented to them in the video. The content of the video may also influence the effectiveness of similar campaigns. For example, although this observation was not consistent throughout the studies in this thesis, participants presented with victims of the same identity as their own (i.e., British), were reportedly more willing to engage in campaign behaviour.

In addition, awareness campaigns should be targeted towards specific audiences who may be more susceptible to the message and likely to engage in behaviour changes as a result. In this thesis, the population with which the intervention had a more significant effect were younger individuals who used illicit drugs less frequently and reported higher empathy levels. This is a promising implication for future policy and practice, as the large majority of PWUD around the world are recreational, or infrequent, users (UNODC, 2021). Therefore, similar campaigns have the potential to be impactful among a large proportion of PWUD.

8.4.2 Drug policy reform

The existing literature has arguably exhausted the possible options when it comes to drug policy, prevention approaches, and reduction approaches. This thesis has highlighted the existing approaches taken by governments across the world to deal with the issues of drug use and illicit drug trade activity. The results from the empirical studies conducted within this thesis suggest that even when salience of the negative societal impacts is raised among PWUD, there are still barriers to encouraging subsequent behaviour change. If the implications discussed in this section fail, and the nexus is considered too distant to effectively reduce recreational drug use, how else can we reduce the negative societal impacts of the illicit drug trade?

This question brings me back to chapter 1 where I discussed drug policy. An important observation of this thesis which is neither new nor surprising is the failure of the war on drugs to reduce market demand and illicit drug trade activity (Dalgarno et al., 2021; Rolles et al., 2016). In fact, a key outcome of the crime script analysis presented in chapter 6 was the negative societal impacts associated with activities in the illicit drug trade, which are enabled by drug prohibition and drug demand. Consequently, an obvious solution to the negative impacts associated with the illicit drug trade is to introduce a regulated drug market. Doing so through policy reform such as legalisation would enable PWUD to obtain drugs through government-controlled processes. I posit, with support from the findings of this thesis and existing literature, that this would reduce demand for drugs within the illicit market (Dalgarno et al., 2021). Removing the enabling function of drug consumer behaviours is also likely to reduce the negative impacts associated with illicit drug market activity. Of course, there are implications of drug policy reform which must be considered, such as the potential danger of enabling drug misuse. However, progressive drug policy reform has already been applied around the world, including several states in the US, and in Canada, Portugal, and Uruguay. The arguments against drug decriminalisation and legalisation are therefore weakening as more progress is made and positive impacts of these law reforms are observed (Lu et al., 2021). I provide examples from Canada as a case study for drug policy reform below.

Cannabis legalisation was introduced in Canada in 2018 with the purpose of disrupting the illicit drug trade, reducing youth consumption, and protecting public health by providing safe access to legal cannabis (Government of Canada, 2021). Four years since the reform is perhaps too short a period of time to have observed the complete impacts of cannabis legalisation (Hall et al., 2019). However, there is a growing body of research in support of the benefits, such as reductions in opioid use and overdose (Lake et al., 2019). In addition, cost benefit analysis of cannabis legalisation has been shown to share similarities with other regulated goods (Shanahan & Cyrenne, 2021). Examining the approach taken to the reform and some of the short-term results can help to guide the potential for a similar drug policy reform in the UK. For example, access to legal drugs should be considered when discussing legalisation, ensuring equal distribution of legal cannabis stores across the country (Myran et al., 2022).

8.4.3 Limiting access to drugs

Continuing from the discussion on drug policy reform, the implications of this thesis can also be applied to methods of limiting access to cannabis and cocaine, should regulated distribution occur. This approach would enable regulated access to drugs which may reduce the impacts of the illicit drug trade, whilst preventing the potential harm caused by legalised drug use. We can learn from applications to tobacco smoking and alcohol consumption presented in this section, where interventions aimed at restricting access to these commodities have been successful.

Amid increased awareness of the harms caused by tobacco smoking, public health interventions were introduced in the UK with the aim of limiting access and reducing use. These included imposing a smoking ban in most enclosed spaces, adding graphic health warnings to cigarette packets, and the introduction of "less dangerous" alternatives (e.g., vapes) (Berridge, 2003; Elias & Ling, 2018; Health and Safety Executive, n.d.). These interventions have been effective in increasing effort and reducing risk of tobacco smoking (Department of Health, 2019), for example, requiring people to stand outside on a cold day if they want to smoke a cigarette. Consequently, these approaches may introduce positive behaviour changes, such as reducing the frequency of social (non-addictive) smoking. Similar applications have been introduced in the alcohol domain. These include applying age restraints to alcohol purchases, increasing taxes on alcohol products, restricting advertising and promotion, and educating the public about harm minimisation (Hall et al., 2019). The body of literature on tobacco smoking and alcohol consumption is far more advanced than that of illicit drug use. Where methods have proven effective in reducing substance use and misuse in these domains, they may be applied to similar regulation strategies of illicit drugs such as cannabis and cocaine.

8.5 Future research

Considering the implications and limitations raised in this chapter, I recommend that future research should focus on several areas. First, there is a need to replicate similar research recruiting participants who reside in countries that were not included in the current research. Future research questions arising from the present thesis include: *"Has formation of the drugs nexus been established in other countries where 1) drug policy differs, 2) rates of drug use differ, and 3) exposure to the negative impacts of the drug trade differ?"* and subsequently, *"What impact does formation of the drugs nexus have on drug related behaviours in these countries?"*. Although the current research provides comparisons between three countries within which these variables differ, intervention testing was only conducted in the UK. Therefore, it would be beneficial to apply the same methodology and contribute to understanding of the conditions required to encourage behaviour change in other countries. Importantly, future studies may monitor actual behaviour change of PWUD, as opposed to reported willingness to change behaviours. This would involve longitudinal research and perhaps require scientific measures of drug use to validate responses.

Such observations would assist in strengthening or refuting the findings of this thesis, as well as increasing the generalisability of conclusions to PWUD. These future studies should consider the limitations highlighted in the present thesis, such as the difficulties encountered when conducting cross-national research and how to strengthen the reliability of such research. This future research may help to strengthen arguments for policy reform and urgent consideration of alternatives to prohibition policy. Likewise, it would be useful to understand how drug related behaviours differ when the research focus is on different illicit drugs. For example, sourcing different illicit drugs is likely to

involve different processes and decision-making of PWUD. This arose in the current thesis whereby "ethical" sources of cocaine are unavailable in the UK, and the only ethical source of illicit drugs included locally grown cannabis. Perhaps in other countries, PWUD may have access to a variety of locally sourced drugs, and the literature would benefit from examining whether this behaviour could be encouraged.

An important observation from the current thesis was the inconsistency of several findings, which is understandable considering the exploratory nature and wide focus of this research. More valuable insights into the influence of empathy and proximity to victims in influencing drug related behaviours could be obtained from research focusing specifically on a single variable and behaviour. For example, addressing the research question: *"How does increased empathy of PWUD for victims of the illicit drug trade influence willingness to campaign for drug policy reform?"*. In addition, the current research only examined three specific drug related behaviours. Future research should consider the possibility of other drug related behaviours that either contribute to or alleviate the negative impacts of the illicit drug trade. The current research observed that although willingness to reduce drug use was low, it could be increased among certain demographics. Consequently, there may be other drug related behaviours that could also be encouraged among specific PWUD.

I recommend the application of crime script analysis to other illicit drug trades and consumer markets. The methodology applied in chapter 6 is transparent and easily replicable, enabling the development of a comprehensive literature on the processes involved in different drug markets and highlighting the significance of the associated negative impacts. Perhaps the application of CSA to cannabis is the next appropriate step within this literature, followed by other commonly consumed drugs such as ecstasy. The value in developing this research within the literature is twofold. First, it helps to draw out negative impacts associated with different drug markets and identify effective intervention points at stages beyond those relevant to drug related behaviours. This was considered beyond the scope of the current thesis, however, future research may address questions such as: *"Is it possible to reduce drug trade activity by reducing the financial reward of illicit drug trafficking?"*. Where stages of the crime script cannot be completed using the existing literature, researchers can identify where to focus future empirical research. Second, a more extensive drug crime script literature enables the prioritisation and practical application of prevention strategies to the markets where it is most needed, i.e., where the negative impacts are more prevalent and intervention efforts are more likely to be successful.

Lastly, research investigating the long-term impacts of drug policy reform such as decriminalisation and legalisation are required to build a detailed picture of what works when considering policy reform, and where potential negative impacts of drug regulation can be avoided. The current literature examining policy reform is largely focused on public health approaches, and there is little existing research on the effect of legalisation

on the illegal drug market, for example. Understandably, research on this topic will take time as the policy reforms are relatively recent. However, this thesis provides support for the positive influence of policy reform on potentially minimising the negative societal impacts of the illicit drug trade. The current findings also show large support of policy reform among the population of PWUD not only in the UK, but also in Mexico and Uruguay. Therefore, monitoring the progress of such reforms over time will help to inform not only future research, but also practical applications to policy and practice worldwide.

8.6 Conclusion

Establishing the nexus between recreational drug use and the negative societal impacts of the illicit drug trade serves as a promising approach to not only reducing drug use, but also reducing the impacts associated with the drug trade. This thesis provides the first attempt to highlight the negative societal impacts of the drug trade and recognise the influence that salience may have on drug related behaviours. Although some of the hypotheses within this thesis were not fully supported, the studies conducted assisted in addressing the research aims. First, awareness of the negative societal impacts was low among PWUD in the UK, identifying the need to increase awareness of the negative societal impacts of the drug trade in this country. Second, the nexus between recreational drug use and the negative societal impacts was more established among Latin American participants, highlighting the influence of proximity to the negative impacts and associated victims. Finally, increasing salience and formation of the drugs nexus is possible, however, it was only associated with willingness to change behaviours under certain conditions. Optimistically, the types of people who may be encouraged to change behaviours were observed to represent the largest group of PWUD.

This thesis has increased knowledge in the literature of decision-making of PWUD and the possibility of encouraging changes to drug related behaviours. Through drawing upon applications from different research areas such as pro-environmental behaviour and alcohol misuse, this thesis successfully applied the preliminary steps required to identify more effective ways of minimising the negative impacts of the drug trade. In addition, this thesis presents a much-needed shift in the literature from focusing on drug production and trade, to considering market demand with the results leading to recommendations to changes in drug policy and drug related behaviours. The negative impacts associated with the illicit drug trade are significantly affecting members of society and show no signs of reducing with the current approaches taken by governments and law enforcement. The conclusions gathered from this thesis provide recommendations for future research and implications for policy and practice, which will increase our understanding of the illicit drug trade and help to minimise the associated impacts.

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Appendices

Appendix 1

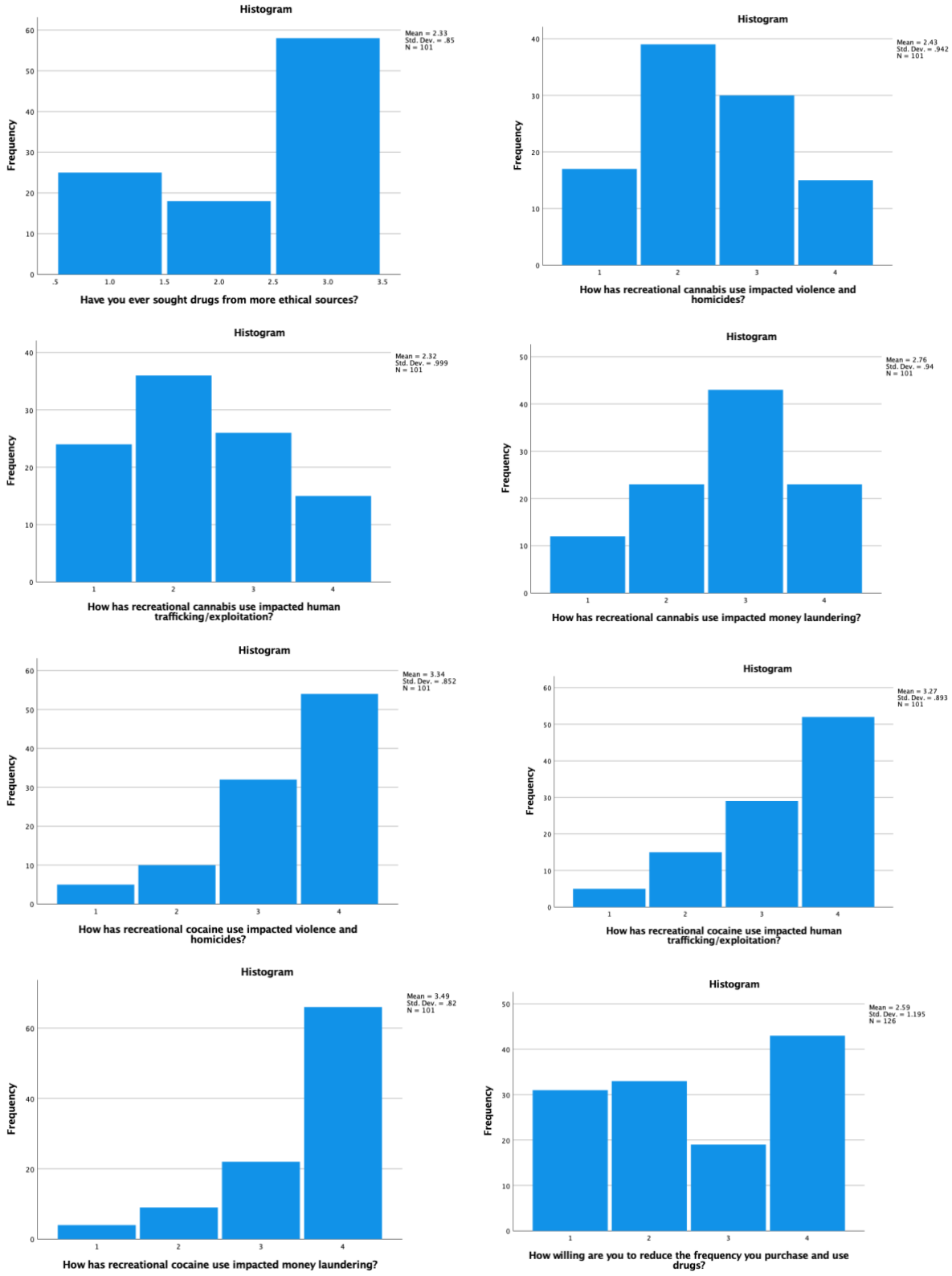
SPSS outputs for MANOVA and linear regression assumption testing are presented in Table 63 and Figure 9.

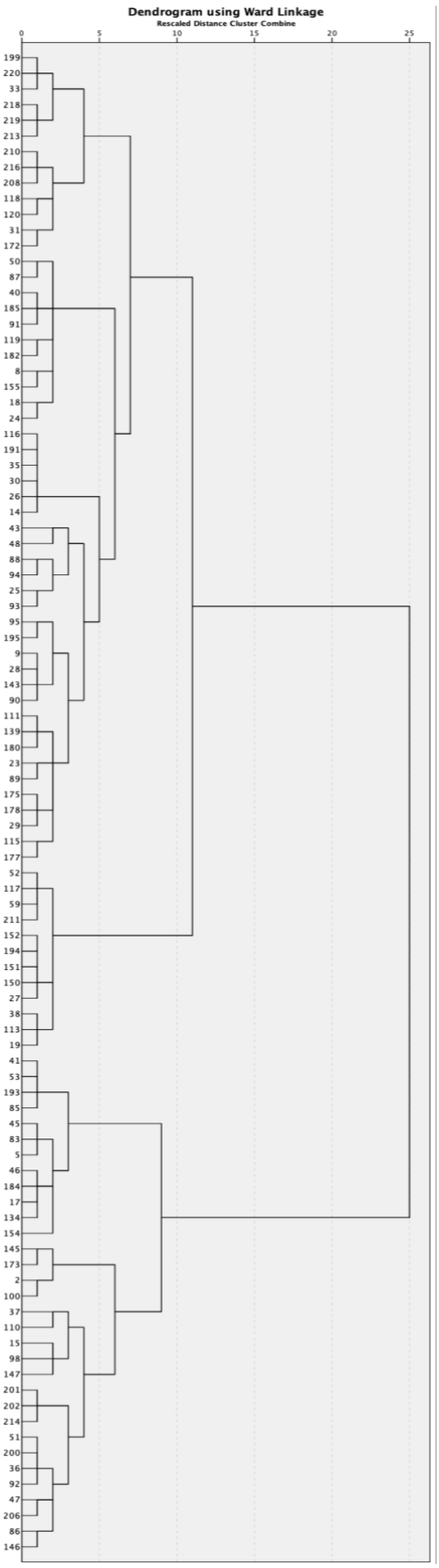
Table 63. *Tests of normality for variables used in chapter 5 analyses*

	Kolmogorov-Smirnov[57]			Shapiro-Wilk		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Have you ever sought drugs from ethical sources?	.360	101	<.001	.701	101	<.001
How has recreational cannabis use impacted violence and homicides?	.229	101	<.001	.878	101	<.001
How has recreational cannabis use impacted human trafficking/exploitation?	.218	101	<.001	.872	101	<.001
How has recreational cannabis use impacted money laundering?	.253	101	<.001	.865	101	<.001
How has recreational cocaine use impacted violence and homicides?	.317	101	<.001	.745	101	<.001
How has recreational cocaine use impacted human trafficking/exploitation?	.309	101	<.001	.769	101	<.001
How has recreational cocaine use impacted money laundering?	.388	101	<.001	.664	101	<.001
How willing are you to reduce the frequency you purchase and use drugs?	.223	126	<.001	.824	126	<.001
How willing are you to obtain drugs from ethical sources?	.439	126	<.001	.558	126	<.001
How willing are you to engage in protests/campaigns supporting drug policy reform?	.260	126	<.001	.797	126	<.001

[57] Lilliefors Significance Correction.

Figure 9. *Histograms of data for variables used in chapter 5 analyses*





Appendix 2

Figure 10. *Dendrogram showing cluster analysis output identifying nexus formation (chapter 5)*

Appendix 3

Table 64. *Key search terms used to identify documents for crime script analysis*

Coca/cocaine producers	Coca/cocaine production	Coca/cocaine production Colombia	Coca/cocaine production South America	Coca plant cultivation
Coca/cocaine cultivation	Cocaine process	Cocaine production crime script	Cocaine trafficking crime script	Cocaine crime script
Cocaine trafficking South America	Cocaine trafficking / transportation	Coca trafficking / transportation	Cocaine trafficking routes	Cocaine trade actors
Cocaine shipping	Cocaine trafficking Europe	Drug trade report UK	Europe cocaine trade	Europe drug trafficking organisations
Drug distribution England / UK	Cocaine distribution England / UK	Cocaine drug gang England / UK	Buying cocaine England / UK	Cocaine purchasing England / UK
Cocaine source England / UK	Illegal cocaine trade	Illegal cocaine trade England / UK	Decision-making drug use	Decision-making cocaine use
Why use cocaine	Cocaine use reasons	Cocaine trade harm	Cocaine trafficking harm	Cocaine trafficking impacts
Cocaine trade impacts	Cocaine trade violence	Cocaine trade exploitation	Illicit drug trade impacts	Cocaine trade consequences