



**Master's thesis**  
**Development Studies**

**Social determinants of narcotics engagement and  
criminality in Bissau, Guinea-Bissau**

A cross-sectional analysis

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**Instructor: Geir Gunnlaugsson**  
**October, 2020**



**UNIVERSITY OF ICELAND**  
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FACULTY OF SOCIOLOGY, ANTHROPOLOGY  
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Final thesis submitted in partial fulfilment of an MA degree in Development Studies

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## Útdráttur

Með tilvísan í Heimsmarkmiðin, nánar tiltekið markmið 3 um heilsu og vellíðan og markmið 16 um frið og réttlæti, þá mælir Skrifstofa Sameinuðu þjóðanna um glæpi og fíkniefni (UNODC) með þverfaglegri samvinnu til að takast á við áhrifaþætti fyrir notkun áfengis og annarra fíkniefna og afbrot. Unglingsárin er mikilvægt tímabil í lífi einstaklinga en þá er lagður grunnur fyrir líkam-, vitsmuna- og félagslegan þroska þeirra og heilsu á fullorðinsárum og tækifærum sem þeim bjóðast til framtíðar. Markmið rannsóknarinnar var að lýsa og greina afbrotahegðun og notkun áfengis og annarra fíkniefna meðal unglunga sem sækja skóla í höfuðborginni Bissá, Gíneu-Bissá. Upplýsingum var safnað með spurningalista sem var byggður á 'Planet Youth' samstarfinu en hann var prufukeyrður og aðlagður að staðháttum. Spurningalistinn var lagður fyrir hóp nemenda í júní 2017 í 16 skólum í Bissá. Þátttakendur voru valdir af handahófi af sérhönnuðum bekkjalista með samtals 4,470 nemendum og tóku samtals 2.039 unglingar þátt í rannsókninni. Leitandi þáttagreining með varimax aðferðinni á 312 upphaflegum breytum var framkvæmd til að greina breytur sem gætu varpað ljósi á áhrifaþætti fyrir notkun áfengis og annarra fíkniefna og reynslu af afbrotum.

Línuleg aðhvarfsgreining leiddi í ljós að neysla áfengis og kynferðislegt og hópofbeldi voru áhrifaþættir fyrir notkun annarra fíkniefna og afbrota. Jafnframt kom í ljós að drengir voru líklegri til að nota áfengi og önnur fíkniefni, og stunda afbrot, á meðan stúlkur sóttust fremur eftir fjárhags- og efnahagslegum ávinningi með afbrotum sínum. Brottrestur úr skóla var sjálfstæður áhrifaþáttur á notkun áfengis og annarra fíkniefna ásamt sambandsslitum. Notkun áfengis og annarra fíkniefna og rangar uppgefnar sakargiftir til lögreglu voru áhrifaþættir fyrir bæði kynferðislegt og hópofbeldi. Lítill áhugi á skólagöngu var jafnframt áhrifaþáttur fyrir ofbeldi. Almenn leiðindi þátttakenda voru tengd afbrotum með fjárhags- og efnalegan ávinning í huga og jafnframt lélegum fjárhag fjölskyldu og notkun tóbaks, en ofbeldi flutningi á milli skóla. Samtvinnun óháðra breyta bendir til þess að sértækar aðgerðir geti komið í veg fyrir andfélagslega hegðun. Breytan 'notkun áfengis, tóbaks og marijuana' bendir til þess að notkun þessarar fíkniefna sé tengd innbyrðis og að forvarnaraðgerðir sem beinast að mörgum fíkniefnum samtímis geti verið árangursríkari borið saman við aðgerðir sem beinast að notkun á einu tilteknu fíkniefni.

## Abstract

Framed by SDGs 3 and 16, addressing wellbeing, and justice for all, the UN Office on Drugs and Crime advocates interdisciplinary interventions addressing underlying social determinants of alcohol and other drug use, and criminality. Adolescence is identified as a crucial developmental period, wherein physical, cognitive, and social capitals amassed underpin later health and life-choices. The study aims to describe and analyse criminal behaviour and drug use among adolescents in secondary schools in the capital Bissau, Guinea-Bissau. Survey data was collected through a locally adapted, pilot-tested *Planet Youth* questionnaire in June 2017 across 16 secondary schools in Bissau. The 2,039-strong sample was selected through multi-stage, random cluster process. Varimax principal component analysis reduced 312 inherited variables into fewer dimensions, capturing data-driven models of drug use and criminality.

Linear regression analysis revealed drinking, sexual and group violence predicted drug use and criminality, though male gender predicted drug use and violence, female gender acquisitive crime. Drug use alone was predicted by dismissal from school, and romantic relationship breakdown. drug use and frequent false police accusation predicted both criminality variants. However, school engagement predicted violence, as boredom did acquisitive criminality. Acquisitive criminality was predicted by negative family finances and smoking habits, violence was predicted by moving schools. Overlap in independent variables suggests singular interventions may pre-empt myriad antisocial behaviours. The association of alcohol, tobacco and marijuana within the singular index variable 'alcohol and other drug use' suggests patterned, multiple drug use, thus interventions addressing multiple drugs, may prove equally effective over single focus interventions.

## Preface

I would like to give thanks to my primary thesis supervisor, Geir Gunnlaugsson. His guidance and infinite wealth of knowledge regarding Guinea-Bissau's cultural, political and historical composition provided great impetus for the conduct of this research. Furthermore, the perspective Geir was able to lend me from a primary health viewpoint undoubtedly shaped this research and its interrogation of underlying social determinants of narcotics use and criminality. I would also like to express my gratitude to Jónína Einarsdóttir, who played a significant role in my thesis topic choice and was likewise able to provide me with great insight into the geographical area of study. I would like to extend thanks to the Statistical Consulting Centre at the School of Health Sciences for their assistance in the early stages of statistical analysis, and furthermore the Social Science Research Institute at the School of Social Sciences, in particular Stefán Þór Gunnarsson, for their continued support in the design of an appropriate method of data analysis.

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## **List of abbreviations**

<b>AOD</b>	Alcohol and other drugs
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CIA</b>	Central Intelligence Agency
<b>CRC</b>	UN Convention on the Rights of Children
<b>DSM</b>	Diagnostic and Statistical Manual of Mental Disorders
<b>FGM</b>	Female Genital Mutilation
<b>GDP</b>	Gross Domestic Product
<b>GNI</b>	Gross National Income
<b>HDI</b>	Human Development Index
<b>HRS</b>	Human Rights Section, United Nations Integrated Peacebuilding Office in Guinea-Bissau
<b>HHS</b>	U.S. Department of Health & Human Services
<b>ICPC</b>	International Centre for the Prevention of Crime
<b>ICTD</b>	International Centre for Tax and Development
<b>IDA</b>	International Development Association
<b>IHDI</b>	Inequality-adjusted Human Development Index
<b>IMF</b>	International Monetary Fund
<b>NCD</b>	Non-Communicable Diseases
<b>NSWG</b>	New South Wales Government
<b>OECD</b>	The Organisation for Economic Co-operation and Development
<b>OOP</b>	Out-of-Pocket Payments
<b>SDG</b>	Sustainable Development Goals
<b>SES</b>	Socioeconomic Status
<b>UNDP</b>	United Nations Development Programme
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organisation
<b>UNGA</b>	United Nations General Assembly
<b>UNICEF</b>	United Nations Children's Fund
<b>UNIOGBIS</b>	United Nations Integrated Peacebuilding Office in Guinea-Bissau
<b>UNODC</b>	United Nations Office on Drugs and Crime

<b>USDS</b>	United States Department of State
<b>WHO</b>	World Health Organisation
<b>YHWB</b>	Youth Health and Welfare in Bissau, Guinea-Bissau

## 1 Introduction

Despite rising levels of drug use in both the global North and South (United Nations Office on Drugs and Crime [UNODC], 2020), narcotics are frequently characterised as looming threats to, rather than partially incorporated elements of, contemporary society. Narcotics are recurrently envisioned as causal agents in the onset of criminality and violence, with a clear moral societal imperative to combat the narcotics trade (Barrett, 2010). Indeed, through popular media such as *Narcos*, *Ozark* and *Breaking Bad*, narcotics are repeatedly utilised as a vehicle for the exploration of wanton immorality and violence. Political discussions regarding alcohol and other drug (AOD) use and criminality appear to be dominated by polarising reversion to two extremes, these being; those self-styled as tough on drugs and crime, and those viewed as flexible, or pragmatist (Armenta *et al.*, 2002).

For those of the latter disposition, AOD use and criminality are viewed as the downstream outcome of upstream social determinants of engagement (U.S. Department of Health & Human Services [HHS], 2016). Yet, public health models are rarely prevalent in media narratives of drug use and criminality. Rather such discussions are ordinarily framed through the narrative of *The War on Drugs*. Thus, as Western states begin to reorient and externalise their security agendas, key drug producing and trafficking regions of the world have come under scrutiny (Gibert, 2009). Within this discourse, the assumed implications of criminality in narcotics production and use are transposed onto wider geopolitical debates regarding narcotics and terrorism, or narcoterrorism (Barrett, 2010). Growing attention towards the West African region is captured within this model of securitisation. Thus, 74.1% of aid received in 2015 by the African continent came from EU and US donors (African Union, 2020), with around €250million of the €1.15billion Regional Indicative Programme budget from 2015-20 targeting specifically peace, security and regional stability in West Africa alone (Commission for the European Union, 2014).

Concerns over West Africa's stability are not entirely unfounded. From an institutional perspective, regional states are vulnerable to the introduction of adverse incentives through the considerable assets of the narcotics elite (Arvanitis and Weigert, 2017). An estimated 27% of Europe's seized cocaine transited through West Africa

(Madeira *et al.*, 2011). Additionally, economic instability incentivises engagement in the drug trade (Odejide, 2006). However the true scale of trafficking is obscured by a lack of data, with figures on seizures more reflective of police activity (Csete and Sánchez, 2013).

The picture of the societal impact of cocaine trafficking in Guinea-Bissau is equally unclear. Regionally, figures offer little clarity, with a lack of longitudinal data restricting the estimation of chronological trends. Despite the limited depth of data from Guinea-Bissau, cautionary tales from what data is gleaned from regional neighbours suggests that trafficking forecasts local community narcotics use (Bybee, 2009). Regardless of an obscure picture, the UN estimates that heroin, cocaine and amphetamine abuse has grown across Africa, as the spillover of drug trafficking takes effect (Wyler, 2010). High levels of endemic, multi-dimensional poverty for street children across the West African region suggest susceptibility to narcotics engagement (Odejide, 2006). Globally, murder is the third highest cause of deaths among males aged 15-44, with 10.9 murders committed per 100,000 across the African continent (World Health Organisation [WHO], 2014). Where the perpetration of violence includes domestic and sexual violence, victimisation is envisioned a precursor to drug abuse and associated long-term health consequences (WHO, 2014).

Beyond West Africa, statistics indicate increasing production and use despite drug prevention measures, with potentially far-reaching implications if West Africa continues to remain a point of transit. Cocaine production was estimated to have risen to 1,976 tons (estimated at 100% pure) in 2017, an increase of 25% over the preceding year (UNODC, 2019b), with correlating consequences for global health. In 2015, drug abuse and addiction were responsible for 17 million years of healthy life lost worldwide (UNODC, 2018b); the WHO estimates this to account for almost 1% of all ill-health in the world, rising to 2.3% in more developed countries (International Narcotics Control Board, 2009). A secondary, catalysing concern is the necessity for the proliferation of systems of incarceration under current discourses. In the US alone, 2,205,300 individuals are incarcerated, 46.9% of which are black or Latino, despite representing just 31.5% of the population (Drug Policy Alliance, 2019), and are five times more likely to be prosecuted for drug convictions than white offenders (Csete *et al.*, 2016). Drug injection and the normalisation of high-risk drug taking behaviours is commonplace in global prisons

(UNODC, 2018b). Further, of the estimated 12 million injecting drug users worldwide, 1.6 million live with HIV, and 6.1 million live with hepatitis C, and stimulant injection is associated with high-risk sexual behaviours (UNODC, 2018b).

Legal sanctions alone clearly deter some from initiating criminal or drug using behaviour, though those with drug use disorders appear desensitised to the threat of incarceration (UNODC, 2018b). Broadly, incarceration is interpreted as having profoundly negative effects on drug abusers and addicts (UNODC, 2018b). Thus, the stigmatisation of vulnerable, marginalised communities undermines access to health services with clear implications for increased disease transmission, discrimination, displacement and exposure to lethal violence. Consequently, the frequent denial of economic support to drug users threatens to deepen existing inequalities and create a permanent underclass (Blumenson and Nilsen, 2002). Regarding West Africa, Csete *et al.* (2016, p. 1428) describe relevant health bodies as 'gravely underfunded', adding that criminalisation, stigmatisation, and the lack of measures to reduce harm, such as needle exchanges, have contributed to rising drug related HIV infections, particularly within prison populations.

Rather, public health-inspired models of social determinism suggest that adolescence serves as a key period of transition, in which normalised behaviours play a significant role in the long-term health and behavioural conduct of an individual (Patton *et al.*, 2016). Data suggests that people who use marijuana before 18 years of age are four to seven times more likely than adults to develop a marijuana use disorder (National Institute on Drug Use, 2018). Additionally, complex models of sequential drug use suggest that legal gateway drugs such as alcohol and tobacco precede more severe drug use, as cocaine plays a significant component in the initiation of criminal behaviours (Yu, 1998). Simultaneously identified as the peak of narcotics experimentation and delinquency, interventions during adolescence offer opportunities to pre-empt the development of problematic behaviours (Pierce *et al.*, 2017). Multi-disciplinary rehabilitation and intervention initiatives, supported by studies into the issue in Guinea-Bissau are required to avoid cycles of incarceration for which Guinea-Bissau's legal and physical infrastructure appears ill-equipped to manage (Madeira *et al.*, 2011; Csete *et al.*, 2016). The potential impact of interventions at this age is bolstered by Bissau-Guinea's demographic, as 44%

of the population is under the age of 14, and 64% is under the age of 24 (Central Intelligence Agency [CIA], 2019).

This study intends to identify latent social determinants of drug use and criminality within a group of adolescents in secondary schools in the capital Bissau, Guinea-Bissau, with a view to provide insight into predictive tools for interventionist measures and rehabilitation. The study utilises data collected as part of the *Youth Health and Welfare in Bissau, Guinea-Bissau* survey, conducted in June 2017 in collaboration with the *Youth in Europe* platform, now *Planet Youth*. The source dataset of 2,039 individuals includes responses to 312 variables exploring various dimensions of adolescent social life. As data on this geographical region is light, a cross-sectional data analysis design is adopted. Thus, principal component analysis is first used to identify emergent models of drug use and criminal behaviour. Thereafter, a linear regression model is applied to produce predictive models of social determination, which may be utilised in recommendations for policy making.

This thesis begins by presenting the theoretical state of the art in Chapter 2, presenting first definitions of drug engagement and criminality, before providing a historical perspective on social determinants of drug use and criminality, and consequent role on policy making. Up-, mid- and downstream factors are theoretically outlined to frame the later presentation of ongoing research. In Chapter 3, the objectives and significance of the thesis are defined, situating this thesis within the theoretical perspectives described. Chapter 4 summarises previous research in the field. Demographic factors are initially described, before the expounding of the social determinants central to this study. This Chapter also addresses literature focussing upon the oft-theorised causal link between drug use and criminality before considering findings from research upon intervention techniques. Structured in accordance with the Sustainable Development Goals 3 and 16, addressing the promotion of health and justice for all, Chapter 5 provides a detailed description of Guinea-Bissau's political and judicial profile, before presenting the state of its health infrastructure. Further societal considerations are presented, as theorised determinants of health within the state. The data analysis techniques employed are presented in Chapter 6, before results are presented in Chapter 7. Key findings are framed with respect to presented literature, with



discussions regarding policy design in Chapter 8, before limitations of the methodology are discussed. Finally, a concluding summary is offered in Chapter 9.

## 2 Theoretical Background

Through the review of relevant literature, this thesis interrogates the historical and contemporary relevance of drug use and criminality prevention initiatives to political debate. Thus, momentarily abstracting drug use and criminality from wider partisan and ethical debates, this work reflects the framework adopted by many researchers examined (UNODC, 2018a; New South Wales Government [NSWG], 2014; UNODC, 2018b). Accordingly, this thesis espouses a primary healthcare perspective to explore the interrelationship between risk and protective factors associated with drug use and criminal behaviour. Such consideration sets the scene for discussions on alternative strategies which may alleviate or remedy the symptoms of the global proliferation of the use of, and war against, drugs.

This theoretical background is divided into four sections. First, drawing upon literature, this thesis defines narcotics *use*, *abuse*, and *addiction*, considering also *criminality* in its diffuse forms. Next, a historical perspective is lent to the academic and legislative engagement in narcotics and criminal prevention strategies, before exploring the theory underpinning risk and protective factors. Finally, the significance of ongoing research to policy is presented.

### 2.1 Definitions of *use*, *abuse*, and *criminality*

Of the literature reviewed, drug *use* remains a contentious, and frequently ill-defined framework for critical examination. Surprisingly, given its centrality to the diagnosis of underlying risk and protective factors, researchers fail to reach a consensus on adequate forms of measurement. Despite various systems of classification attempts to identify drug use patterns, Spooner and Hetherington (2004) contended that no one measure remains sufficiently descriptive of drug use issues. In an earlier study on the correlation between drug use and criminality, Finestone (1957) appears to have drawn chiefly on arrest records pertaining to narcotics law violations to measure drug use. However such a measure fails to describe deeper trends of drug use amongst the detained sample, with a clear failure to indicate critical factors such as age of drug use onset, frequency of use, sheer volume used, or narcotic purity. However, as Borgelt *et al.* (2013) argued, the legal challenges faced by narcotics networks and users consequently challenge quality control, making it difficult to measure narcotic purity. Furthermore, Finestone's study, by drawing

only on the incarcerated demographic, failed to capture the demographic of drug users who had not been arrested for use, or further criminal behaviour. Further, despite identifying marijuana, cocaine, benzadrine and barbiturates as frequently used narcotics, Finestone did not interrogate different patterns of criminality between narcotics, considering them instead a homogenous category. This may reflect the emerging ethical concerns of the time, and yet-developing foundational understandings of the effects of narcotics.

Surprisingly, the shortcomings of Finestone's approach have not been fully rectified in more recent studies examined. Staton-Tindall *et al.* (2004), in examining links between substance use and criminality in women, prefaced the lack of a control (or non-incarcerated) group by focussing exclusively on Kentucky's prison demographic. Drug use severity was interrogated utilising two factors; the age of use onset, and a composite measure of years of regular – defined as three or more uses a week in the Addiction Severity Index (McLellan *et al.*, 1980) – drug and alcohol use, and days of use in the year prior to incarceration. However, whilst Staton-Tindall *et al.* (2004) differentiated between alcohol and narcotics, no further differentiation was offered by narcotic type. Thus, findings presented a somewhat simplified categorisation of substance use by type, and muddled consequent potential findings by narcotic type. Likewise, Gjeruldsen *et al.* (2004) carefully framed drug addiction as the periodic or continuous intravenous use of opiates and/or amphetamines, or other similar drugs, and provide a measure of a control group in their survey. Yet they failed to account for differences between the aforementioned narcotics in their analysis. In an assessment of juvenile narcotics use prior to and during detention, Pritchard and Payne (2005) adopted the far more interpretive measure of the 'current drug user' and 'current regular drug user'. These were any juveniles 'who self reported any drug use (regardless of frequency)', and a juvenile 'who self reported being a regular user of a drug in the six months prior to detention', respectively (2005, pviii). This approach rather stigmatised individuals for whom drug use may have signified a singular experimental moment, and failed to account for quantifiable variation in drug use by frequency, quantity or purity. However, further studies capture a more detailed perspective on drug use and behaviour. Kokkevi *et al.* (1993), exploring the relationship between drug *abuse* and criminality, adopted an interrogative framework for drug abuse, examining lifetime, past year and past month

frequency of drug use across 13 classes of medical and non-medical drugs. They also examined age of onset for each drug, main drug of choice, with further questioning related to alcohol and tobacco included in interviews.

Caution should be taken regarding the terms *use* and *abuse* in relevant literature. Not all drug use is problematic, but can represent behaviours in a societally-functional individual, indicating therefore functional behaviour. Indeed Spooner and Hetherington (2004) argued that drug *use* is frequently equated with *abuse* in territories where it is identified as illegal, or dangerous, whilst other organisations identify drug use experimentation as a normative component of growing up (NSWG, 2014). The UNODC has adopted a similar approach, labelling the primary objective of drug use prevention measures as the avoidance, or delaying of drug use initiation, with the broader aims of prevention strategies being the healthy and safe development of individuals (UNODC, 2018a). Thus, further classification is required in the language of appropriate literature to differentiate between drug use behaviours associated directly or indirectly with harmful behaviours (*abuse*), and those not (*use*). This potential conflation may problematize the correlation of drug use, criminality, and their social determinants when research situates itself as a component of literature focussing on drug *use*, yet draws entirely on incarcerated or institutionalised study samples, or those for whom drug *use* has transitioned to *abuse*. Otherwise, where research on drug abuse and criminality correlation fails to examine a non-incarcerated control group, regardless of its drug use, a deterministic notion of drug use progression is hinted, failing to provide a nuanced perspective on problematic behaviour development as *use* progresses to *abuse*. As the UNODC has argued, most studies are efficacy studies exploring the impact of intervention on controlled settings, with few studies investigating intervention effectiveness in a real-life setting (2018a).

Thus, in attempting to develop a deeper understanding of a regression model of the relationship between drug use and criminality, and indeed with their social determinants, the pervasiveness of studies on drug *abuse* and their determinants and correlation to criminality obscure the full view of the middling dynamic of drug *use* versus criminality. Such perspectives are frequently identified in the literature, focussing entirely upon on the incarcerated (Staton-Tindall *et al.*, 2004), those already engaged in drug

rehabilitation facilities (Gjeruldsen *et al.*, 2004; Aslam, 2015), or a dynamic sampling of both settings (Byqvist and Olsson, 1998; Yu and Williford, 1994) versus a non-drug using control group. Pierce *et al.*, (2017) suggest that the absence of suitable control groups consequently lessens the potential insight of studies on the link between drug use and crime.

Where relevant, studies on *addiction* have shown great continuity in its definition. McLellan *et al.* (1997; Centers for Disease Control and Prevention [CDC], 2019) adopted the framework of the Diagnostic and Statistical Manual of Mental Disorders, 3<sup>rd</sup> edition (DSM-III), defining addiction as the presence of three or more cognitive, behavioural and physiological symptoms indicating continued use of a psychoactive drug despite negative consequences. Writing later, Spooner and Hetherington (2004; also Whitesell *et al.*, 2013) utilised the DSM-IV which additionally incorporated symptoms such as tolerance and withdrawal. Consensus in this definition is maintained by others through their adoption of the DSM-V framework (NSWG, 2014; National Institute on Drug Use, 2018). Whilst the methodological limitations of this thesis do not allow the diagnosis of addiction within the sample, *addiction* remains of significance given recent recalculations regarding the pervasiveness of narcotics addiction in the developing world. In 2015, around 5% of the global population was estimated to have used narcotics, 11% of which experienced drug dependence (UNODC, 2018b). This estimate rose steadily to 5.5% in 2017, with a numerical rise between 2009 and 2017 from 210 million to 271 million drug users, in part due to population growth (UNODC 2019c). However the return of more precise data from India and Nigeria (two of the ten most populous countries in the world) show that more people than originally estimated are using opioids, rising from 30.5 million to 35 million, implying there are more drug users in developing states than previously estimated (UNODC, 2019b). Furthermore, UNODC's drug use synopsis provides great details regarding drug use habits across much of the developed world, but markedly little about South America and Africa (UNODC, 2018b).

The boundaries of the term 'criminality' are little disputed within the selected literature, where criminality is taken to indicate the breadth of violent, sexual or economic illegal activities, minus drug use. Despite the obvious reasoning that AOD use may indicate illegal behaviours, for statistical research purposes, this is not incorporated

when describing criminality within the literature, or within this research. Criminality is, however, variously categorised. The International Centre for the Prevention of Crime ([ICPC], 2015) divided crimes into acquisitive and violent crimes, whereas Gjeruldsen *et al.*'s (2004) model interrogated several criminal variants independently. Likewise, Ólafsdóttir and Bragadóttir (2006) indicated a possible division of violent crime into sexual and non-sexual elements, as per political discourses.

Within this research, the term 'problematic behaviours' is utilised for brevity, as shorthand for criminality and AOD use.

## **2.2 Historical perspectives on social determinants of drug use and criminality**

Critics describe drug legislation as characterised by political cultural values, and minimally so by evidence-based perspectives on drug prevention enacted as a public health concern (Strang *et al.*, 2012). Indeed, modern drug control infrastructure is informed by a lineal legacy dating back to the 1912 International Opium Convention, and the moral and commercial considerations of respective nations (Bewley-Taylor and Jelsma, 2012). Barrett (2010, p. 140) argued that the framing of the narcotics industry as one of 'evil' is reminiscent of the language of terrorism, contending that the rhetoric of a War on Drugs limits the consideration of alternate strategies. Subsequently, by vilifying narcotics, drug control policy risks self-perpetuation. Consequently, early discussion regarding the determinants of drug use, and its causal links to criminality appear to be informed by the early sensationalised coverage of drug use and addictiveness, such as the US 'Crack Epidemic' of the 1980s. Despite the healthcare-inspired moniker afforded the crisis, the provision of an endless supply of unverifiable allegations by media, police and politicians (Johnson *et al.*, 1995) appeared to succeed in obscuring underlying social determinants of drug abuse and criminality. Thus, myths that crack cocaine was instantly addictive, worse than other drugs, and that 'drug innocents' (Johnson *et al.*, 1995, p. 276) were being converted into drug addicts, peddlers, criminals and prostitutes successfully moved accountability onto the narcotic itself, rather than with political and judiciary policy, and consequent societal determinants that drove experimentation and addiction. Thus, Galea *et al.* (2003) contended that throughout much of the 20<sup>th</sup> century, research emphasis was driven by growing interests in disease etiology, shifting potential focus from environmental and social conditions associated with health and wellbeing to individual-

level risk factors and mental health (Dervishi and Ibrahim, 2018), yet insulating domestic policy and silencing calls for societal change.

Following the 1961 and 1971 international drug conventions, the World Health Organisation (WHO) is responsible for the dissemination of advice on classification and control of narcotics. However, Room and Reuter (2012) critically identified the declining role of WHO in influencing the United Nations Office on Drugs and Crime's (UNODC) doctrine towards drug use prevention and treatment. The UNODC serves as the specialist secretariat for the Commissions on Narcotics Drugs, producing global data on narcotics use and advising states on effective strategies to combat narcotics use. However, its meagre core funding of US\$13.1 per annum pales in comparison to governmental donor funding of US\$197.9 million. Thus, Room and Reuter (2012) contended that the political interests of donor states take priority over WHO advice. As the leading donor, the US has unofficially taken the foremost role in narcotics approaches and is fundamentally opposed to the language of 'harm reduction' employed by WHO. Therefore, the elimination of such language in UN documents (notwithstanding reluctant application of such techniques in certain states) despite its criticality to public health, indicates the reduced role that WHO has in the construction of UNODC policy (Room and Reuter, 2012).

However, Western society has undergone a series of dramatic changes over the last 70 years, including parents working longer hours, changes in family composition, and the extension of the period of adolescence. Concerns over the capacity of institutions to cope with said transformation are not limited to educational and health institutions (Spooner and Hetherington, 2004). O'Leary and Clear (1984, in: Yu, 1998, p. 238; also Webster *et al.*, 2006) suggested that a new era of risk management, necessitated by budgetary constraints and swelling of prison populations has resulted in an emerging interest in correctional interventions and creative solutions. Budgetary restrictions contrast poorly against the backdrop of over a century of efforts to combat drug use, wherein the number of global addicts has increased (Sajjadi *et al.*, 2015). Furthermore, rises in non-medical drug use have accompanied steady reductions in prices and increases in drug purity (Room and Reuter, 2012). Juvenile drug use has continued to increase globally (Botvin *et al.*, 2000; Armiya'u, 2015), and age of drug use initiation has decreased as new drug

related issues have emerged (Spooner and Hetherington, 2004). Likewise, recent research on using marijuana to treat chronic to acute pain (Jensen *et al.*, 2015) and muscle spasms (Borgelt *et al.*, 2013), Ketamine to treat resistant depression (Silberner, 2019) and the growing abuse of pharmaceutical opioids across the more developed world (Mohamadi *et al.*, 2018) undercut Cartesian sensibilities of the illegal, immoral narcotic, and the ethical pharmaceutical. Global perspectives on drug use and criminality appear to have been guided by two extreme perspective, where criminality is perceived as the product of social conditions, or the absence of tougher policing (Cerquiera and Lobao, 2004), and financial necessity appears to facilitate the cultural swing towards the deeper examination of social determinants explored below. The efficacy of such an approach is highlighted by the non-uniform geographical distribution of criminal and drug abuse behaviours (Finestone, 1957), hinting that determinants of such behaviours are determined by environment.

### **2.3 Perspectives on social determinants**

With critical examinations of drug use and criminal behaviour shifting from the individual level, towards their social determinants, a primary healthcare perspective which ‘seeks to improve the health and safety of the population by addressing underlying social, environmental, and economic determinants of substance misuse and its consequences, to improve the health, safety, and wellbeing of the entire population’ (HHS, 2016, p. 3) has frequently been touted. Within such discourse, AOD use is neither considered random, nor inevitable, but a consequence of societal factors that influence individual AOD use. These *risk* and *protective* factors encourage, and deter engagement in AOD uptake, respectively (HHS, 2016). Accordingly, the work of Turrell *et al.* (1999) set the scene for the translation of primary health theory onto drug use and criminal behaviour prevention efforts. Within this framework, factors related to health outcomes may be divided into upstream, midstream and downstream factors:

- Upstream factors are the social, physical, and environmental factors that influence health outcomes, including education, employment, work and working conditions, income, housing, and community. Frequently identified as the most significant of deterministic factors, they are themselves influenced by further-upstream factors such as government policy. An interpretation of these



values suggests that values such as education and community play equally significant roles in the health outcomes of individuals through the teaching and normalisation of drug use behaviours.

- Midstream factors, conversely, are the localised conditions within which we live, encompassing health behaviours, accidents, injuries, and violence. Though these factors are thought to play a lesser role than upstream factors in the determining of health outcomes, they remain significant, though curiously inequalities within health systems are described as less influential than health behaviours within this factor set (Turrell *et al.*, 1999). Within theoretical considerations of drug use and criminal behaviour, midstream factors may equally be identified as the expression of said behaviours, affecting not only the outcomes of the agent, but also those around them.
- Downstream factors are identified as the health outcomes, including illness and disease that arise because of the preceding factors. Data suggests that the lower health profile of lower socioeconomic groups is a consequence of poorer psychosocial health and behavioural risks thought to be brought about by upper-stream factors. Within a transitional concept of drug and criminal engagement, downstream actors may be reasonably considered as *use*, *abuse*, *addiction*, mortality, and confinement outcomes.

Despite a recent surge in research and explanatory theories explaining the causes and predictors of drug use and criminal behaviour (McBride *et al.*, 1991), our ability to explain such behaviour remains limited (Galea *et al.*, 2003), and indeed the unidirectional avenue of causality implied by Turrell *et al.*'s (1999) model may be compromised. Confusion arises due to the complex dynamic of interaction between risk and protective factors. Such a dynamic is hinted at by the two popular avenues of enquiry in current research, namely (Yu and Williford, 1994):

1. The order of criminal behaviour and drug use onset, and
2. The causal relationship between them.

In their simplest form, some factors are theorised as mutually exclusive, such that the presence of one indicates the absence of another. For example, a history of violent behaviour likely excludes the individual's impulse control. Conversely, other factors are conceptualised as independent, and may interact with one another (HHS, 2020). For example, Whitesell *et al.* (2013) found that lower socioeconomic upbringing lessens susceptibility to deviant peer influence, whereas higher socioeconomic influence may in turn increase it. Thus, beyond the simple dynamic of downstream outcomes influencing upstream policy, the social factors associated with drug use are not simply consequences of upstream factors that are intimately bound with drug use patterns (Galea and Vlahov, 2002), but rather determinants of both upper- and lower-stream factors. In analysing studies on offending that occurs prior to initiation of drug use against that which occurs after, Pierce *et al.* (2017) contended that despite evidence suggesting that offending rates are markedly higher after opiate use, such studies fail to differentiate between the effects of initiation of drug use, and other factors which may also be determinants of delinquent behaviour. Thus, as the interlinkage between drug use and criminality cannot be observed (Bjerk, 2009), a myriad of risk factors must be considered and interrogated in the drawing of broader conclusions of causality (Stenback and Stattin, 2007).

## **2.4 Role of research on policy making**

The adoption of an intervention-based doctrine of drug prevention is most strongly incentivised by the financial rewards that prevention would offer over the cure (DuPont, 2011). Globally, an estimated 10.3 million individuals were incarcerated in 2015, representing 144/100,000 individuals. The global prison population has grown by 20% since 2000, with considerably higher growth in female incarceration (50%) over male (18%), despite women representing just 6.8% of the overall prison population (UNODC, 2018b). The cost of global incarceration is difficult to calculate but surpasses US\$62.5 billion. Additionally, 115 countries (58%) have a prison rate above 100% capacity, 79 (40%) had a rate above 120% and 51 (26%) had a rate of 150% (UNODC, 2018b). Furthermore, as intimated previously, downstream outcomes such as incarceration influence upper-stream factors. Incarceration has been shown to disproportionately affect the poor and marginalised, with loss of household income and limited future opportunities prefacing a cycle of poverty, marginalisation, criminality, and re-

imprisonment (Blumenson and Nilsen, 2002; Rasmussen, 1996). A common criticism of policing-centred discourses is that such approaches fail to engage 'a "silent," not-yet-identified high-risk population of early drug users in a non-stigmatizing, non-labelling fashion at an age when youth are more easily persuaded' (Chou *et al.*, 1998, p. 947) before they have initiated problematic behaviour (Shore, 1985). Conversely, perhaps the most attractive element of early interventions is the cost effectiveness of such strategies, especially employed in the youth population (FORUT, 2015). The National Council for Behavioural Health (2017) have estimated that the misuse of AOD costs the US economy over US\$700 billion annually, through expenditures related to crime response, lost work productivity, and public health costs. The WHO Regional Office for Africa (2017) mirrored such estimations, calculating the social cost of illicit drug use to be circa 2% of Gross Domestic Product (GDP) of states that have measured it (WHO Regional Office for Africa, 2017). Contradistinctively, the HHS (2020) estimated that for each dollar invested, interventions in the youth demographic could save up to US\$10, whilst the National Council for Behavioural Health (2017) more optimistically estimated that prevention services delivered to public school settings would save US\$18 for every dollar spent, factoring in savings in medical services, reduced property damage, police and criminal justice interventions, insurance administration, lost wages and household work, before considering the benefits to individuals through increased quality of life outcomes. Likewise, the Functional Family Therapy intervention program was estimated to cost Washington state US\$3,134 per student yet offer lifetime savings of US\$36,241 each student (crimesolutions.gov, 2019).

From a human rights perspective, behavioural interventions predicated upon social determinants of drug use also offer programmers attractive alternatives to the current culture of criminalisation. As Room and Reuter (2012, p. 88) have argued:

'Extremely punitive national responses have also flourished under an international system that has given greater priority to control of drug markets than to human rights. Iran, for example, might have executed as many as 10,000 drug traffickers in the 1990s. A Thai crackdown in 2003, known as the Thai war on drugs, resulted in 2,275 extrajudicial killings in 3 months.'

Stevens (2011) presented a more contentious perspective, arguing that the criminalisation of narcotics for non-medical use may breach article 12 of the Universal

Declaration of Human Rights, whereby the criminalisation of narcotics may only be rationalised through the empirical demonstration of causality between narcotics use and criminal damage to another.

### **3 Objectives and significance**

Guinea-Bissau has attracted global interest as a country conceptualised as infiltrated by narcotics interest (Ellis, 2009) demonstrating a critical, emerging exhibition of the resource curse as applied not to raw, but illicit resources (Bybee, 2009). Its post-colonial history is plagued by political upheaval, hampering the nation's development. Rampant government unaccountability, and efforts to shore up political support throughout successive, fragile administrations have led to the formation of a tumultuous narcotic elite (McGuire, 2010) implicated in the trafficking of narcotics from South America to Europe. Locally, drug use, trafficking and violent crime are theorised to have risen due to a lack of occupational prospects, particularly amongst young men (Verité, 2018). Within such theorisations, Guinea-Bissau's institutional fragility is maintained by the continued adverse incentivisation within institutions, through corruption, and corresponding increase in institutional inefficiencies (Arvanitis and Weigert, 2017) as the entrenched elite buttress their position. However, despite Guinea-Bissau's branding as 'Africa's first narco-state' (Van Riper, 2014, pvii), commentators suggest that Guinea-Bissau lacks any governmental coherence, subverting considerations of an orchestrated narcotic elite (McGuire, 2010). Rather this suggests that the state is susceptible to 'state capture', an attitude widely adopted in scholarly literature to interpret political instability across West Africa (Strazzari, 2014).

In the context of Guinea-Bissau, vulnerability of market values of exports such as cashew nuts incentivises engagement in the illicit drug trade (Odejide, 2006). Likewise, youth livelihoods are likely to be influenced by the growing sway of narco-traffickers, whose disproportionate wealth in a largely unregulated environment, allows them to apply violence as a means to address competition (Shaw, 2019; Reno, 2000). Data on drug use and engagement in Guinea-Bissau is sparse, and though it is too early to identify the social impacts of a burgeoning drug trade, proximate examples of knock-on effects in Burkina Faso, Guinea-Conakry, Nigeria, Senegal, Sierra Leone and Togo indicate a consequent rise in cocaine use (Bybee, 2009). Despite accusations of Eurocentrism that exaggerate regional criminality (Gam Nkwi, 2015), the admission that data on drug use in Guinea-Bissau is imprecise, and that seizure statistics are more representative of judicial aggression than the actual market composition, such generalisations continue to influence policy in the region (Csete and Sánchez, 2013). Prior to Nigeria's recent returns

on drug use (UNODC, 2019b), little to no population-based data to allow calculation of data-usage existed in West Africa (Csete and Sánchez, 2013). Furthermore, a dearth of longitudinal data restricts estimation of trends. Despite this, several assertions regarding drug prevalence are made. The US State Department concluded drug use in Ghana increased in 2012 (Csete and Sánchez, 2013). Bissau-Guinean domestic drug use has been argued to be increasing, along with crime, with suggestion that crack addiction was 'rampant' (Madeira *et al.*, 2011, p. 2).

Despite the debated accuracy of such estimates, UN data suggests growing uptake of AOD across West Africa, including heroin, cocaine, cannabis, and amphetamine-type drugs, alongside the continent's growing prominence in the global drug trade (Wyler, 2010). Nigerian data indicates falling ages of initiation for gateway drugs such as alcohol, with initiation occurring between 10 and 14 years old (Odejide, 2006). Evidently, emerging issues in West Africa deserve animated response, though clearly developing issues merit fresh approaches that reflect on what approaches have and have not worked elsewhere. Thus, an inclusive agenda incorporating rehabilitation and intervention initiatives is required, furthered by research into the issue to gain an accurate understanding of the problem (Madeira *et al.*, 2011).

This research from Guinea-Bissau aims to examine the social determinants of AOD use and criminality, with a view to provide insight into predictive tools for interventionist measures and rehabilitation. This methodology intends to contribute towards a fuller understanding of the social determinants of AOD use and criminality generally. Additionally, though the current landscape appears underdeveloped with respect to interventionist policy, this study aims to present findings that may be conducive to future reform and policy making. Focusing on social determinants in a data-poor geographical setting, this study will utilise cross-sectional analysis, providing a snapshot of statistically predictive social variables associated with undesirable behaviours. The themes addressed cover Socioeconomic Status (SES), economic inequality, integration with educational systems and the economic market, peer networks, familial relations, and finally mental health in a bid to outline the suitability of prevention measures designed to improve wellbeing and lifestyle decisions within the youth sample studied.

## **4 Previous Research**

This Chapter provides an overview of the current state of the art, highlighting avenues of emerging theory regarding the predictive conditions of drug use engagement and delinquency. The recent resurgence of interest in risk, drug use and criminality has broadened the knowledgebase regarding the social determinants of drug use and criminality (Webster *et al.*, 2006). However, as highlighted in the theoretical background, risk and protective factors may be at times dynamic, interdependent factors, and wherever isolated in the literature, this Chapter aims to highlight the interconnectivity of said factors.

This Chapter is divided into five sections. Initially, demographic factors are briefly presented. Though they appear not to be of central importance to this thesis focus, they are explored to give foundation to the following discussions of findings. Next, central to this thesis' focus, social determinants of drug use and criminality identified in the literature are presented. The third segment then focuses on the interplay between drug use and criminality to inform discussions regarding the causality of the onset of one upon the other. The fourth segment considers the putting into practice of emerging theory, examining ongoing research into the efficacy of intervention strategies. Finally, the limitations of the body of existing research are presented.

### **4.1 Demographic factors**

Demographic determinants, at first glance, appear to hold little relevance to discussions of social determinants of drug use and criminality, and indeed do not appear the primary focus of much research sampled. Furthermore, the unmodifiable nature of such factors makes them initially less appealing focuses of research, certainly as no policy or intervention can reasonably expect to change the demographic makeup of a sample group. However, demographic values such as age or gender play a significant role in the expression of social determinants and are therefore critical considerations in later discussions of the role of social determinants. Additionally, given that demographic factors do not exist within a societal or cultural vacuum, demographic factors such as ethnicity, culture, and environment, may in turn be influenced by the social (HHS, 2020).

A primary consideration should be that as the vast majority of the incarcerated or institutionalised population (UNODC, 2018b), males represent the dominant aspect of

studies undertaken on drug abuse and criminality. This is not surprising, as literature suggests that male gender alone is a predictor of criminality (Aaltonen *et al.*, 2011; Aslam, 2015; Gjeruldsen *et al.*, 2004). Consequently, women appear underrepresented in the literature (Sinno, 2001; James, *et al.*, 1979). Thus further research focussing explicitly upon the female demographic is necessary to redress the imbalance and explore the interactivity of determinants within the distinguished female community. Differences in social gender dynamics are apparent in the literature, particularly within adolescence. An explanatory analysis of criminality within an incarcerated female sample reveals a modest relationship between social support and criminality (Staton-Tindall *et al.*, 2007). Thus, positive social support denoted positive, non-criminal behaviours, whilst among males, peer influence and adolescent drug use appear to display stronger predictive weight than they do for females (McBride *et al.*, 1991). Curiously, in a review of gender-specific research, Sinno (2001) concluded that female criminality is frequently associated with male criminality within social circles, suggesting that in a mixed-gender social environment, male gender plays a more influential role in the onset of delinquency in both genders than does the female.

Conversely, gendered responses to familial conflict are also apparent, as Whitesell *et al.* (2013) found it is more likely that women's relationships with their parents, and any conflict inherent, will be linked to their choice to initiate substance use than for men. Whitesell *et al.* (2013) suggested that within this dynamic, women's coping responses with emotional stress indicate greater attentiveness to emotional state, including increased depression, whereas the male response typically indicates a confrontational reaction, which may highlight socially defined parameters of gendered expression. Whitesell *et al.* (2013) proposed that the more drastic growth of the limbic system in the male adolescent brain, encompassing the hypothalamus, amygdala, hippocampus, and the nucleus accumbens, may hint at a physiological reasoning for gendered behavioural reactions to narcotics use. Functions of the limbic system include memory and emotional response, and the reinforcement of behaviours, suggesting an increased susceptibility at this critical stage of development to the adoption of patterns of substance use and behavioural change. Furthermore, the nucleus accumbens is highly responsive to changes in dopamine levels enacted by most addictive drugs, suggesting a potential for the long-



term decrease of dopamine production in the adolescent male, inducing addictive behaviours (Whitesell *et al.*, 2013).

Delinquency is evidenced to peak in late adolescence, coinciding with the initiation of drug use (Pierce *et al.*, 2017), with youth under the age of 18 accounting for around 30% of index offence arrests, including 19% and 35% of violent and property offences, respectively in the US (Borduin, 1999). However age acts as more than a mutually-exclusive determinant of behaviour, but acts as a modifier of certain social determinants, with the potential impact of risk factors changing with age, so that familial factors are thought to hold greater sway in childhood, ceding to drug abusive peer impact during adolescence (HHS, 2020). This is reflected in the consistent pattern of drug abuse, with increasing risk rising from ages 10 to 17 (Whitesell, *et al.*, 2013). Where the frequency of life-events are coincidental with increases in high-risk behaviours, such as running away from home, family and peer mortality, greater child abuse and repeated criminal justice interaction, increased age, as proxy for increased time, may operate as a compounding determinant of behaviour (Aslam, 2015). The consequent consideration of childhood as a period of greater impact from interventions is further evidenced by findings suggesting that serious, chronic juvenile offenders account for more than half of youth criminality by volume, consuming a disproportionate amount of public health services (Borduin, 1999; Kokkevi *et al.*, 1993). The tackling of high-risk sexual behaviours in adolescence is given further impetus by findings indicating parental age a significant predictor of problematic behaviour, particularly when the mother is a teenager at birth (Wasserman *et al.*, 2003).

## **4.2 Social determinants**

A myriad of social determinants are identified by the literature, discussed in thematic portions below. These themes cover socioeconomic status, economic inequality, integration with educational systems and the economic market, peer networks, familial relations, and finally mental health.

Despite decades of research, the coincidence of lower SES and problematic behaviour remains highly contested within the literature examined (Aaltonen *et al.*, 2011). In an intellectual back-and-forth over *The Myth of Social Class and Criminality*, Tittle *et al.* (1978) reduced 35 studies focussing on this relationship to comparable statistics and

found a historical decline over the preceding 40 years in the association between lower SES and criminality. However, interpretation of said findings is disputed, as Braithwaite (1981) found a considerable body of work indicated predictability, conceding however that further research must focus on the systematic economic failures of lower SES individuals, and their consequent failure to address criminal behaviour, suggesting SES as symptomatic of behavioural cycles. Additionally, Dervishi and Ibrahim (2018) found that lower SES was predictive of drug use. Conversely, McGarvey *et al.*, (1981) argued that the prejudicial treatment of lower SES individuals may obscure the true relationship through differential data recording. Yet, SES is not solely an apolitical, economic dimension, and when SES is measured by occupation, the link to criminal behaviours appears weak or non-existent (Aaltonen *et al.*, 2011). However, when calculation of SES is sensitive to sustained socioeconomic disadvantage, and crime is defined more specifically as serious delinquency, a clearer link is evident. Furthermore, modelling appears to suggest that SES determines power, prestige and access to resources that influence health outcomes (Galea and Vlahov, 2002). Accordingly, living in poorer communities is thought to concentrate the plethora of risk factors associated with problematic behaviours, while protective resources are simultaneously diminished. Thus, escalated mortality rates in lower SES communities serve as both a down- and mid-stream factor in influencing problematic behaviours, compounding associated outcomes (Webster *et al.*, 2006). Though race and ethnicity play insignificant roles in the literature presented, consideration should be given to the ethnic composition of lower SES communities, in instances where limited resources and discrimination conspire to limit opportunities for upwards social mobility (Galea and Vlahov, 2002). Odejide (2006) identified increased cannabis use in lower SES individuals, where the apparent quality of staving off hunger incentivises cannabis use in Mozambique, and likewise remarked that AOD use, illicit or not, is associated with pleasure in Nigeria. In Ibadan, Nigeria, Odejide (2006) indicated that 56% of 1,178 surveyed secondary school pupils reported lifetime usage of alcohol, where engagement was more common among lower SES students, and conversely those whose parents had received secondary educations.

Deconstructing the SES paradigm, Aaltonen *et al.* (2011) suggested that any latent association between lower SES and problematic behaviour may be explained by economic frustration, expressed through a constellation of violent and acquisitive behaviours.

Conversely, higher-SES criminality is conceptualised as a detachment from conventional norms, and a belief that said norms may be violated without repercussion, whilst the differentiation of criminal behaviour may be explained by a better structure for certain criminal acts. Thus, such an approach considers problematic behaviour as the logical consequence of localised comparative inequality (Sachsida *et al.*, 2007). Resultantly, rapid deindustrialisation in Teesside, UK, was identified as having a profound impact on research subjects and their downwards social mobility, compared to their parents (Webster *et al.*, 2006). Frequently, researchers consider criminal behaviour in such settings as the calculated adoption of illegal means of acquisition where cultural expectations cannot be met through legal means alone (Aaltonen *et al.*, 2011; Becker, 1968). Within such an econocentric model of criminal incentivisation, unemployment, schooling, law enforcement, poverty and inequality are all identified as predictive of an engagement with criminal behaviour (Sachsida, *et al.*, 2007). Accordingly, criminality and drug use are identified elsewhere as closely associated with a detachment from the labour market and educational system (Ólafsdóttir and Bragadóttir, 2006). Thus, where engagement with educational institutions is indicative of future educational opportunities in younger survey samples, a succession of associated behaviours have been identified as risk factors for drug use, including lower satisfaction with schooling, lower academic aspirations, poor grades, and frequent absence (McBride *et al.*, 1991). Additionally, the decision to expel a student due to behavioural problems indicates a further breakdown in the individual's bonds to the educational system, and as such represents a risk factor (Dervishi and Ibrahim, 2018).

Wasserman *et al.* (2003) cited a 1931 report evidencing that 80% of juvenile offenders had been arrested with co-offenders. The disassociation with mainstream education and employment structures, and coincidental formation of deviant peer relationships has been credited as a risk factor in the adoption of problematic behaviours since. Specifically, where individuals suspect that peer integration is reliant upon substance use, they are identified as participating more in substance use (Whitesell *et al.*, 2013). Where peer normalisation occurs within an institutionalised setting, the coincidence of drug use appears high, with one in three prisoners admitting to illicit drug use during incarceration (UNODC, 2018b). Most importantly within the youth demographic, escalated cannabis use in adolescence is associated with poorer

educational outcomes, lower later-life income and employment, and a greater dependence upon welfare, with consequent lower levels of life and relationship satisfaction (NSWG, 2014). However, recognising the complex dynamics and interplay of risk and protecting factors, questions remain over whether peer normalisation causes criminal behaviour, or if underlying factors elicit both the formation of problematic behaviours and deviant peer relations. Furthermore, the SES of individuals appears to indicate linkage with peer influence susceptibility, though the direction of this relationship appears unclear. Finestone (1957) indicated that within higher-SES groups, increased ties to familial and institutional behaviours gave more weight to associated expectations, whereas the comparative breakdown of such relations in lower SES individuals commanded bondage to peer relations. Yet, writing much later, Whitesell *et al.* (2013) found those growing up in unstable community environments, defined by lower levels of employment and resource access, were conversely less susceptible to peer influence. They conjectured that as privileged individuals may not be exposed to substance abuse except through peer use, the coincidence of peer influence and drug use may appear higher, whereas the confluence of risk factors that lower SES individuals are exposed to may decrease the comparative impact of peer influence.

Identifying causal links between risk and protective factors and problematic behaviour has posed problems. The coincidence of societal changes over the last half-century, and concurrent rise in concerns over narcotics-linked criminality suggests associations between said changes and emergent health and societal issues, and a need to reconsider how said institutions and structures build resilience (Redmond and Spooner, 2007). Within an adolescent's immediate sphere of influence, changes to family structure, the growth of single-parent households, an increase in parental working hours and the growth of mothers' employment signify substantial shifts in the availability of parental support. Wasserman *et al.* (2003) found inadequate parenting one of the most powerful predictors of problematic behaviours, with families of problematic children shown to be eight times more likely to experience disciplinary conflicts, half as likely to engage in positive interactions, and more likely to unintentionally reinforce negative behaviours. Broader parent-child relations, parental marital status, level of parental education and family SES are likewise found to be predictive of substance use (Wasserman *et al.*, 2003), as is marginalisation through poor family ties (Ólafsdóttir and

Bragadóttir, 2006). In a 20-year follow-up study of 4,124 juvenile offenders, Xiaojia *et al.* (2001, in: Stenbacka and Stattin, 2007, p. 402) concluded poor family environment indicative of chronic criminality. Where parent-child conflict is more extreme, as is relation to problematic behaviours (Wasserman *et al.*, 2003), additionally inter-parental conflict may be a statically significant indicator of negative outcomes for adolescents, as where women are assaulted, so typically are children (Wasserman *et al.*, 2003). Recent studies indicate links between childhood sexual and physical victimisation and subsequent drug and alcohol use, whilst others find subsequent links to delinquency and criminality (McLellan *et al.*, 1997). Interestingly, there exists a gendered dynamic to negative outcomes, where female abuse victims are more likely to turn to alcohol or drugs, and males to violent behaviour. One study has suggested that 20% of abused children develop delinquent behaviour before adulthood (Wasserman *et al.*, 2003). The statistical relationship between parental and adolescent violence is captured through the theory of intergenerational transmission of violence (Minh *et al.*, 2013), where family disorganisation and poor parenting practices result in weakened social bonds for the child. Similarly, the child's perception that their parents approve, or at least do not disapprove of their substance use is predictive of increased drug use (Whitesell *et al.*, 2013).

Beyond the family unit, peer association has been shown to be a significant factor in the normalisation of behaviours and the reassurance of self-esteem and mental health. This is particularly significant in periods of transitions within a young person's life, typified by vulnerability, such as phases in physical development, moving, or parental divorce (HHS, 2020). Thus, gratification given by deviant peers reinforces and reasserts problematic behaviours (McBride *et al.*, 1991). Within adolescence, bullying victimisation has been negatively associated, and perpetration positively associated with alcohol consumption. However, victimisation has been positively associated with marijuana, inhalant and hard drug use (Whitesell *et al.*, 2013). Similarly, evidence suggests that alcohol consumption and positive self-esteem may be coincidental, suggesting that the normalised acceptability of alcohol use is synonymous with the stabilisation of self-image with the group norm (McBride *et al.*, 1991). Continued AOD use has been shown to limit opportunities to establish stable relationships (Webster, *et al.*, 2006). Contrarily, the establishment of stable partnerships, parenthood and long-term employment in the

career criminal cohort and drug dependent have been illustrated to be critical components in sustaining drug use desistance. This association is attributed to intermediary variables such as self-medication to alleviate depression and remedy self-esteem issues. However, self-esteem and peer influence are likewise found to feed into a wider nexus of mental health issues that are predictive of drug use (Dervishi and Ibrahimi, 2018).

Recreational activity has been demonstrated to predict a decline in AOD use and criminality within youth populations (Kristjánsson *et al.*, 2019a; Kristjánsson *et al.*, 2019b). Thus, the increased engagement with responsible role models, and increased engagement in activities that provide lasting entertainment and reward for young people is thought to lessen both the opportunity and incentive to engage in drug taking and criminal behaviours.

#### **4.3 Interplay between crime and drug use**

Drug related violence, alongside other violent crimes, can be detrimental to societal wellbeing, undermining the basic tenets of citizens' rights. Over 1.3 million people died in 2014 from violence worldwide, accounting for 2.5% of global mortality, making it the 4th leading cause of death worldwide for people aged 15 to 44 (WHO, 2014). The coincidence of drug use and criminal behaviour is widely reported, with studies in Nigeria indicating that 60% of inmates 'had used alcohol and illegal drugs before their current offense; 37.3% of them were charged with armed robbery; while 28% were diagnosed with substance use disorder' (Armiya'u, 2015, p. 4). Furthermore, evidence in Senegal indicates that the majority of recorded crimes, spanning murder, rape, assault, verbal violence and disturbance of the peace, are related to drug abuse or trafficking (also ICPC, 2015; Yu, 1998; Kokkevi *et al.*, 1993). The pattern remains largely unchanged in the context of the global-North, as Hernandez-Avila *et al.*, (2000) evidenced that half of recently incarcerated individuals in their survey sample meet the criteria for alcohol and drug use disorders, whilst studies across the US, Australia, Canada, and Europe revealed that 60% of arrestees tested positive for illegal narcotics upon arrest (UNODC, 2018b). Furthermore, drug use is predictive of victimisation, as well as perpetration (ICPC, 2015), whilst Virtanen *et al.* (2007) found smoking behaviour predictive of lower SES and criminality.

The key driver of the association of drug use and delinquency appears to have been the simultaneous rise in the number of arrests drug law violations, and the total number of arrests frequently observed in works such as Finestone's (1957), as well as the geographical overlap of both occurrences within inner-city areas. However, later research has suggested that the onset of drug use is a strong predictor of offences. More than half of intravenous drug users, and 11% of cannabis users aged 18 in Sweden were convicted of both adult and adolescent offences, though cannabis users generally committed fewer offences than other drug types (Stenback and Stattin, 2007). Aside from linkage in initiation, drug use and criminality also show coincidental declines in occurrence, as a reduction in opioid use is shown to be a statistically significant predictor declining property crime (Hernandez-Avila *et al.*, 2000). This suggests that the likelihood of a crime-prone drug user committing crimes 'might be expressed only after they cross the threshold from use to abuse or dependence' (Armiya'u, 2015, p. 6), with clear statistical significance between drug use frequency and volume and criminal behaviour.

Studies focussing on a spectrum of narcotics and criminal behaviours have also begun to consider the linkages between individual narcotics and types of crime. Narcotics and alcohol were broadly identified as coincidental with violent behaviours, and risk factors associated with such criminal acts (Yu and Williford, 1994). Methamphetamine users reported increased difficulties in controlling anger, with an LA-based study sample showing that 35% of users aged 18-25 had committed violent crimes under its influence (ICPC, 2015). Likewise, research across Germany, Spain and the UK documented the tripling of the likelihood of involvement in a brawl when individuals used cocaine on holiday, whilst cannabis use doubled it (ICPC, 2015). Cannabis is broadly theorised as an agent in the development of psychotic disorders and consequent violent behaviours on the African continent (Odejide, 2006). The frequent co-presence of the depressant alcohol is also a significant factor, as Yu (1998) contended relation between its use, murder and fraud. However, the evidence base is not uncontested, with some studies suggesting no, or negative predictive value between drug use and violence (ICPC, 2015). Whilst contending a lack of evidence associating a specific crime with drug use, a sample of 268 female addicts and offenders did suggest that heroin abuse appeared closely associated with acquisitive crimes (James *et al.*, 1979). Opioid users appear disproportionately involved in criminality (Pierce *et al.*, 2017; Yu, 1998), though it is more

commonly associated with non-violent, acquisitional, otherwise property offense for both males and females (ICPC, 2015). Similarly, UK-based studies indicate that between one third and a half of individuals arrested for acquisitive crimes are heroin, cocaine or crack-cocaine users.

Yet despite statistical coincidence, the causal link between drug use and crime is complex. One explanation for this is *forward-causation* (Pierce *et al.*, 2017), where the financial costs of drug use – which strongly implies that criminality is preceded by drug use – or that behavioural changes enabled by the narcotic facilitates criminal behaviour. It is also suggested that drug abuse in adolescence may be detrimental to the communicative capacity of individuals, encouraging further undesirable behaviours later in life (ICPC, 2015). This is in line with studies which have shown that 15% and 40% of a prison population had used drugs prior to their first arrest (Stenbacka and Statin, 2007). Additionally, a study of 1,530 Texan prisoners suggested that only 8% of female inmates, and 12% of male inmates reported no history of illicit drug use prior to incarceration. An examination of the onset chronology of drug use and criminality revealed that female inmates (72.2%) were more likely to have begun experimenting with drugs prior to criminality than men (62.9%) (McLellan *et al.*, 1997). Forward-causation is supported by findings suggesting that despite an individual's age of initial drug use, the coincidence with criminal behaviour is nullified if the individual does not currently drink alcohol or use cocaine, rather these latter drugs appear to increase criminality independently of one another (Yu, 1998).

However, the converse explanation is *confounding* (Pierce *et al.*, 2017), suggesting that drug use and criminal behaviour appear statistically coincidental, rather than causal. Rather drug use and criminality share common onset causes (Kokkevi *et al.*, 1993). Contradicting findings that support a forward-causation model, Stenbacka and Stattin (2007) muddled the waters by forwarding data from 400 opiate users in Sydney, indicating that 77% of the sample had displayed criminal behaviours prior to drug use, whilst only 20% indicated the reverse. Gjeruldsen *et al.* (2004) similarly reported that 62% of surveyed individuals began their careers with types of crime other than drug offenses. The overlapping demographics of incarcerated and drug using individuals may be obfuscated by the high number of individuals imprisoned for drug use, as data from 74



countries showed drug related consumption offences accounted for 18% of the global population of prisoners (UNODC, 2018b). Thus, though the cessation of criminal activity was heavily associated with reductions in illegal narcotics use, the decrease was also coincidental with increasing age (Gjeruldsen *et al.*, 2004), suggesting that both behaviours may be components of the same problematic trajectory, enabled by risk-taking behaviours. Rather, multiple studies suggest that shared risk and protective factors influence behavioural outcome simultaneously, with the concurrent rise and decline of both problematic behaviours a logical consequence of the emergence and maturation of competing factors (Yu and Williford, 1998; Byqvist and Olsson, 1998). Indeed, early child delinquency, and laissez-faire attitudes towards drug use are associated with drug use and chronic offending (McBride *et al.*, 1991; Wasserman *et al.*, 2003). Though further research is required, this viewpoint suggests that the physiological consequences, and reduction of educational and occupational opportunities associated with juvenile criminality may marginalise the individual (Borduin, 1999), introducing them to an environment of normalised criminal behaviour and drug use (Byqvist and Olsson, 1998). Bridging the gap between the competing forward-causation and confounding perspectives, Armiya'u (2015) suggested that where coincidental, drug use is more likely to act chiefly as a catalyst for violent crimes. Rather, violent crimes are themselves motivated by a plethora of factors, including personal characteristics, situational issues, economic wellbeing, mental health, and cultural attitudes to criminal behaviour.

#### **4.4 Research on intervention techniques**

Critical literature indicates that the efficacy of drug prevention initiatives is maximised through the targeting of the adolescent demographic, as this is the period at which most people are exposed to drug use (Stockings *et al.*, 2016), where early initiation is associated with an increase in other health risk behaviours, poor educational outcomes, impaired cognitive functioning, and mental health issues. Within this paradigm, later drug use is understood as deviant behaviour expressed when the socialisation of acceptable behaviours is unsuccessful in adolescence (Murray and Perry, 1985). Thus, drug use prevention is theorised as a possible outcome of the proper socialisation of the child. Furthermore, as adolescence is a period characterised by behavioural and physiological development, prevention initiatives are not limited in scope to prevention, but may reap

rewards solely through the delaying of first-time narcotics use (Patton *et al.*, 2016). However, the coverage of such programs worldwide remains low, with only one in six children having access to drug use prevention initiatives (UNODC, 2018b).

Recognising the sequential initiation of narcotics (Botvin *et al.*, 2000) and their potential simultaneous and independent involvement in the onset of delinquency, the aim of interventions must be more than to simply reduce the use of a single 'gateway' narcotic, if it aims to tackle future criminality and drug use (Yu, 1998). Murray and Perry (1985) obfuscated the identification of a singular 'gateway drug', suggesting juveniles may begin progressing systematically through legal drugs like coffee and tea before wine, beer, tobacco, and spirits before finally initiating the use of marijuana, hallucinogens, stimulants and depressants. Alcohol is elsewhere identified as the gateway drug of choice in Africa, with initiation of drinking beginning between 10 and 14 amongst boys and girls (Odejide, 2006).

Consequently, interventions that do not focus exclusively upon a singular drug, but rather 'aim to develop pro-social behaviour and social skills more generally' (Strang *et al.*, 2016, p. 76) and address the multidimensionality of undesirable behaviours, reap greater results in preventing or delaying drug use (Dervishi and Ibrahimi, 2018; Stockings *et al.*, 2016, Pentz *et al.*, 1989; Durell and Bukoski, 1984; Norberg *et al.*, 2013). Yu contended that despite growing interest, there remained a dearth of studies examining the interdependency of alcohol and drug use in relation to crime involvement (1998). However previous research does suggest that drug use and delinquency may share common risk and protective factors, suggesting greater efficacy of broad interventions that subsequently address a wide range of undesirable behaviours. Comparative initiatives in Iceland have historically focussed upon increasing adolescent engagement in out of school sports programmes, and increasing parental contact (Young, 2017), with great effect. Indeed, individuals who received cognitive behavioural skills training targeting gateway substances 'had lifetime rates of illicit drug use (other than marijuana) that were 25% lower' (Botvin *et al.*, 2000, p. 773) than their control counterparts, and rates of narcotic use that were 56% lower. Where comprehensive behavioural curricula focussing on drug use risk factors (Ross *et al.*, 1991) was utilised, Errecart *et al.* (1991) found that sampled groups showed significant decreases in illicit drug use, smoking,

alcohol consumption, and increased use of seatbelts as risk awareness improved, and attitudes towards drug use were sustained at ages where they are typically projected to deteriorate.

Koutakis *et al.* (2008) contended that where parental engagement in intervention, and parental expectation of child conduct were established, programme schools saw a rise in drinking between ages 13 and 16 half as large as control schools (13% rise against 27%). However, later studies indicated that reductions in drinking and criminal behaviour (Bodin and Strandberg, 2011; Koning *et al.*, 2011) are steepest when parental involvement was combined with student-centred approaches. In an efficacy review of group-based learning workshops, Wodarski's (1987) research indicated that alcohol consumption declined in the sample group more so than for traditional instruction, or the no-instruction control group, though the impact lessened after two years. Such an approach reflected research suggesting that 'social-influence-based' programs (Chou *et al.*, 1998, p. 944) may also prove effective in promoting drug abstinence in existing users. Shore (1985) likewise stated that democratic approaches to youth intervention showed far greater behavioural responses than laissez-faire or authoritarian approaches. The inclusion of juveniles in the process of intervention design is supported by early evidence displaying significantly decreased use (both in volume and frequency) of marijuana at the one-year mark (Durell and Bukoski, 1984). Indeed, individual-level factors such as low self-esteem, academic failure, family problems and poor social skills are coincidental with elevated drug use as well as other behavioural problems, confirming the efficacy of wider social skills training as a method of drug use reduction which focuses on a 'wider perspective of healthy lifestyles, rather than emphasizing what is forbidden or dangerous' (Medina-Mora, 2005, p. 28). Evidence also shows that programs adopting psychosocial skills-based approaches with interactive designs out-perform knowledge-based approaches utilizing non-interactive designs (Norberg *et al.*, 2013). However, whilst interactive approaches that employ interactive techniques for learning about drugs, such as peer discussion and role playing are thought to have the greatest effect (HHS, 2020), they also show distinct patterns of effectiveness by program size, such that as target groups approach the thousands, interactive approach effectiveness declines to match non-interactive approaches of the same size (Tobler and Stratton, 1997; Tobler *et al.*, 2000).

Interventions research suggests that socially-centred learning dynamics may benefit the intake of positive behaviours (Botvin and Griffin, 2007), and that contrarily, intervention strategies levelled at an individual-level may do more harm than good as such approaches focus only on the individual-level factors, undermining support for wider community-based socioeconomic and cultural issues that contribute to drug use (Aguirre-Molina and Gorman, 1996). Aguirre-Molina and Gorman contended that neither awareness nor attitudes towards drug use show considerable change following the utilisation of public service announcements alone (1996). Consequently, Strang *et al.* (2016) have argued that awareness and exposure campaigns such as Drug Abuse Resistance Education (D.A.R.E) have no overall effect on drug use, and targeted campaigns against cannabis use through mass media, at best have no effect, and at worst may even increase cannabis use in the target demographic. Likewise, self-help practices, such as text message motivational messages show mixed outcomes, and high program dropout rates of up to 90%, respectively (Stockings *et al.*, 2016). Environmental factors frequently contribute to the comorbidity of mental health issues and drug use, such as early exposure to violence, continuous exposure to stress and lack of supportive networks. Consequently the pursuit of individual-level strategies must be careful not to displace policy awareness of environmental factors, individual-level factors are significant, and evidence outlines the coincidence of mental health disorders and drug use, emphasising the role of the early treatment of mental disorders as an effective preventive strategy (Medina-Mora, 2005). Crucially, though comprehensive approaches are most effective when delivered as part of a health education syllabus (United Nations Children's Fund's [UNICEF], 2019), within the low-income context of Guinea-Bissau, Botvin *et al.* (2000) posited that comprehensiveness can be realised within a single delivery setting, such as a classroom intervention, offering a reasonable alternative delivery pathway to highly-coordinated community initiatives. Thus, strategies which mobilise a multitude of community actors promote identification of risk factors and build community agency and capacity. Thus, the school, family, and media are concerned primarily with demand reduction, and the wider community is mobilised in the organisation and policing of policy to ensure supply reduction. A limitation of community-level initiatives is that the risk factors contributing towards drug use and criminality are

frequently deterrents to the mobilisation of community action (Aguirre-Molina and Gorman, 1996).

#### **4.5 Limitations and applicability**

Further research into the unobservable links between factors and behavioural outcomes is needed (CDC, 2019). Several researchers (Stockings *et al.*, 2016; also Medina-Mora, 2005; Durell and Bukoski, 1984) have identified substantial gaps in the evidence-base across a spectrum of intervention strategies, citing a lack of reliable research in the field. Existing research is hampered by mismatched sample groups, as the significance of age as a modifier of social determinants and behavioural outcomes suggests difficulty in the seamless translation of investigatory findings and intervention strategies from adult sample groups to the adolescent. Furthermore, prevention studies frequently assess efficacy in terms of early-stage drug use because longer-term prevalence is typically so low for the young individuals that take part in such studies (Botvin *et al.*, 2000), whereas determinacy research demographics are frequently drawn from older prison populations, already engaged in, or with a history of rehabilitation (Byqvist and Olsson, 1998). Research upon the short- to long-term efficacy of drug interventions is often hampered by necessary ethical methodological limitations, such as the reliance upon self-reported drug use (Chou *et al.*, 1998), short program and study periods (Seal, 2006), and the difficulty in establishing causality over coincidence within a social environment (Aguirre-Molina and Gorman, 1996; ICPC, 2005). The CDC (2019) has called for further longitudinal, time-framed studies to assess both the effectiveness of interventions and measure the development of constructs (attitudes towards narcotics, for example) over time. Indeed, the topical concerns of interested parties may have led to the over-estimation of pre-trial drug use in some cases, creating an inflated estimation of intervention effectiveness and a subsequent credibility gap (Durell and Bukoski, 1984). Additionally, the inclusion of only peer-reviewed published articles may have inadvertently biased prevention results, as studies reporting statistically significant findings are more likely to be published (Norberg *et al.*, 2013).

Likewise, whilst the ideal outcome of drug prevention is the absolute abstinence of drug use, programs may equally demonstrate effectiveness through drug use reduction, or delay, which may not be adequately recorded when yearly intervals are used to

measure use (Murray and Perry, 1985). Thus, the clarification of goals for preventative measures is suggested, including the delay, or minimization of use and prevention of abuse. Another limitation is the prevalence of studies focussing exclusively on singular drugs, or as drug use as a singular category (UNODC, 2016). A significant detractor of reliable research is the fact that the community-level risk factors sustaining drug use are multiple and compelling in communities impacted by extreme economic deprivation and social alienation (Murray and Perry, 1985). This has limited the relevance of agent-level risk factors, and subsequently the impact of agent-level interventions. Furthermore, as research typically takes place within the school setting, research often fails to account for the effects upon juveniles who are frequently absent or have left school, and are therefore at a higher risk of drug use (Stockings, *et al.*, 2016).

A crucial limitation in the literature is the socioeconomic context of the research. Whilst studies are conducted across different countries with different cultural settings and methods (Kokkevi *et al.*, 1993), most of the science on prevention initiatives originates in high-income states, where North America, Europe and Oceania are heavily over-represented. These settings differ substantially in cultural and social structures from those in middle- and low-income settings (Stockings *et al.*, 2016; UNODC, 2018a). Both socioeconomic and cultural context have been demonstrated to play a role in behavioural outcomes, suggesting that culturally sensitive modifications must be considered before the eventual advocacy of specific programming (Norberg *et al.*, 2013). However, the UNODC warns that whilst gaps in existing research should make us cautious, prevention approaches based on existing research from dissimilar contexts present more suitable candidates for success than those created locally based on good will (2018a).

## 5 Setting

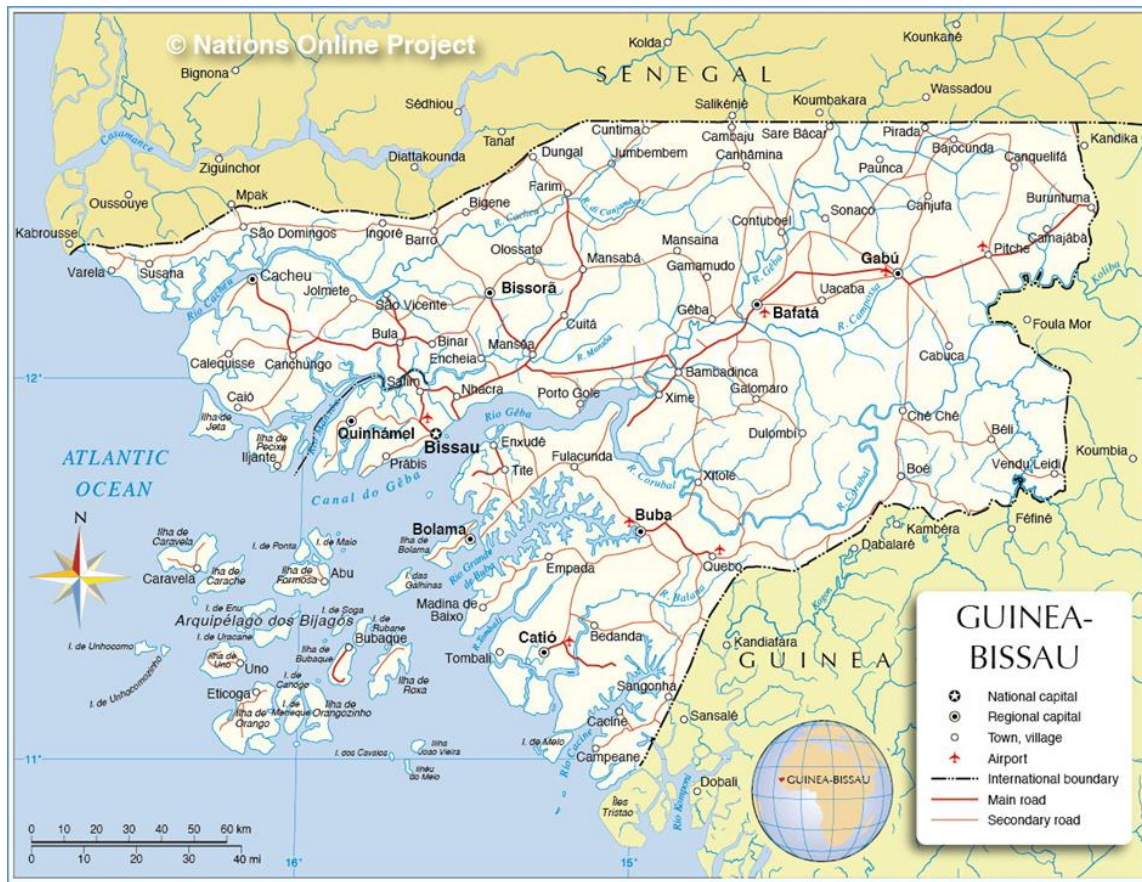
As argued in Chapter 2, the issue of drug use and criminality has increasingly become viewed as both a public health and security concern. Indeed the UNODC (2018b) prefaces its offering on alternatives to the criminal punishment of drug abusers with references to Sustainable Development Goals 3 and 16, ensuring healthy lives and promoting the wellbeing for all at all ages, and to provide access to justice for all, building effective, accountable institutions at all levels, respectively (UN, 2020). The disproportionate drug abuse and victimisation in urban communities suggests that future interventionist approaches will also address the Sustainable Development Goals' (SDGs) second principle to leave no person behind (UNODC, 2019b). Drug use and criminality present complex issues that demand integrated approaches (UNODC, 2019b), the language of which is rife in institutional literature:

'[N]o effective prevention intervention, policy or systems can be developed or implemented on its own, or in isolation. An effective local or national prevention system is embedded and integrated in the context of a larger health-centred and balanced system responding to drugs including law enforcement and supply reduction, treatment of drug use disorders, and reduction of risk associated with drug use.' (UNODC, 2018a).

Currently, the UNODC indicates that the introduction of unspecified intervention strategies are scheduled for introduction in Guinea-Bissau, though little further information is given, and the programme lies under the local purview of the Ministry of Justice, and regionally under the supervision of the Transnational Crime Unit, rather than relevant public health bodies (UNODC, 2019a).

This Chapter is broken into four segments. First, a brief overview is given of Guinea-Bissau, before a presentation of the national political, judiciary landscape. In the third segment, the composition of the health infrastructure and individuals' access to care is presented, before a concise presentation of the thematically relevant determinants of health are provided.

## 5.1 Overview



**Figure 1. Political map of Guinea-Bissau (Nations Online, 2019).**

Guinea-Bissau has a landmass of 36,125 km<sup>2</sup>, divided into eight regions and one autonomous area, Bissau. Guinea-Bissau has an estimated population of 1.8 million, 50% of which is urban dwelling (International Development Association [IDA], 2018). As with many post-colonial African states, Guinea-Bissau's present-day societal, economic, and infrastructural composition is heavily informed by its colonial past. The calamitous era of Luso-Guinean colonialism lasted nominally for over 500 years, beginning in 1446 with the Portuguese claim to sovereignty over *Upper Guinea*, ending with a protracted and bloody war for independence between 1963 and 1974. Luso-Guinean colonialism was defined by the implementation of a series of disastrous economic policies aimed at hampering Bissau-Guinean development, and the total domination of her fledgling economy by Portuguese interests. Opportunities for foreign investment were hampered by the banning of foreign development in territories not already colonised by the Portuguese in 1917, rendering Guinea-Bissau 'a peasant economy' (Mendy, 2003, p. 48). A legacy of undeveloped road networks, inadequate transport infrastructure, a lack of agricultural



credit or research and development, and rudimentary health and education structures revealed Guinea-Bissau's dependence on internationally uncompetitive Portuguese goods and services. Upon independence, Guinea-Bissau had the lowest literacy rate of Portugal's African colonies; a single high-school the sole post-primary academic institution, and only 14 Bissau-Guineans achieved university graduate status prior to 1963 (Mendy, 2003).

Just as Guinea-Bissau's pre- and intra-revolutionary periods, Guinea-Bissau's post-colonial history has been characterised by extraordinary political instability with consequences upon the country's development (IDA, 2018; Gibert, 2009). Between 1973 and 2016, Guinea-Bissau experienced four successful, and 16 planned, unsuccessful, or alleged military coups, and one civil war (IDA, 2016). Between 1999 and 2009 the government changed every year, and in 18 months from 2015 to 2017, Guinea-Bissau had four separate administrations. José Mário Vaz is the only president to survive an entire term in power, between 2014 and 2020. The 2019 presidential elections ended with both candidates in the second round claiming victory. During hand-over from Vaz to the auto-declared winner Sissoco Embaló, the President of the Parliament was sworn in as the interim President of the Republic; he resigned after 24 hours, citing threats to his life (BBC, 2020). Guinea-Bissau scores a 92.9 in the 2020 Fragile States Index, a slender improvement from the 95.5 of 2019, though Guinea-Bissau is still identified in the 'Alert' category (Fragile States Index, 2020). Guinea-Bissau lacks sufficient educational provision, experiences high unemployment and consequent poverty. Drug use, trafficking and violent crime have risen due to a lack of occupational prospects, whilst the military and police are implicated in trafficking narcotics (Verité, 2018).

## **5.2 Politics and governance**

Despite considerable political turmoil, Guinea-Bissau has a constitution, written in 1984. Guinea-Bissau is a multi-party (as of 1991) Presidential Democracy (United States Department of State [USDS], 2018; United Nations Integrated Peacebuilding Office in Guinea-Bissau [UNIOGBIS], 2019). Despite political turmoil, Guinea-Bissau recorded estimated growth of 6% GDP per year from 2015-2018, while having no functioning National People's Assembly for most of this period (International Monetary Fund [IMF], 2018). Poor planning, budget completion and funding have led to an infrastructure

deficit, stunting growth since independence (IDA, 2016). Historically low rates of GDP growth contradict Guinea-Bissau's wealth of natural resources and geographical position.

Rudebeck (1972) forecasted that political mobilisation of revolutionary-era Guinea-Bissau might be difficult to sustain, as the polarising conflict against the colonial aggressor gave way to the nuanced politics of economic and social development. Indeed, the state's inability to stimulate post-colonial economy has been linked with the state's failure to align models of development with the needs of the democratic majority, the building of political bases among the military estate (Reno, 2009) and the consequent establishment of an entrenched bureaucratic elite (Galli, 1990). Contending that societal structure remains inseparable from state economy, Galli (1990) suggests that the disarticulation of national economy betrays the consequent fragmentation of Bissau-Guinean society. Thus, programmers' attempts to reignite Guinea-Bissau's economy through short-term borrowing fail to address underlying long-term issues of historical-political origin that must be addressed through broader structural changes in society. Within a framework of endogenous growth models, fiscal deficits lead to short-term borrowing, hampering long-term growth when not effectively invested in state infrastructure (Carneiro, *et al.*, 2004).

Yet an added complication is the distortion of Guinea-Bissau's economic and political landscape through currency influx from narcotics trafficking (UNODC, 2007). Guinea-Bissau's latest Transparency International Corruption Perception Index, as of 2019 is just 18/100 (where 0 indicates very corrupt and 100 very clean), placing Guinea-Bissau 168th out of 198 states, indicating bureaucratic and widespread corruption (Transparency International, 2020). Kohnert (2010) maintained that the economic incentives of narcotic and weapon trafficking have further polarised the wealthy and poor in Guinea-Bissau, consequently distorting discourses of development, engendered intra-elite competition and thus undermined trust in the political class (Shaw and Gomes, 2020). Thus, cocaine currency further entrenches short-termism and clientelism through the financial incentivisation for voting through patronage, creating a 'narco-cycle' (Shaw and Gomes, 2020, p. 3) reliant upon drug currency for both its continued operation and facilitation. Similarly, though cash remittances have risen dramatically across West Africa – a phenomenon that the UNODC finds difficult to account for (UNODC, 2007; Bybee, 2009) – it remains hard to forecast whether currency associated with narcotics trafficking and

exchange in Guinea-Bissau will be caught in the recorded economy, or sequestered by an elite minority. This is likely to be decided by the composition of foreign and domestic buyers in the trafficking network. Shaw (2015) however, contended that the label 'narco-state' is inaccurate in capturing the dynamic of state operators in Guinea-Bissau, given the state's low capacity to control individual actors, and the absence of systematic exploitation of trafficking networks. Rather, Shaw argues that independent operators in Bissau-Guinean state architecture operate as cutouts in the exchange between actors in the trafficking network, exploiting the commodity of trust in such interactions (Shaw, 2019).

### **5.2.1 International cooperation**

With the digitalisation of 'Fortress Europe' (Van Avermaet, 2009, p. 15) and the externalisation of its security concerns, Europe's policies on the African continent have been transformed (Gibert, 2009). Yet, European states indicate a contradictory approach in political engagement. Thus, whilst simultaneously courting declarations of international solidarity through the ratification of the Cotonou Agreement (specifically 2000 and 2005, articles 11a, 13 and 30), framing terrorism, migration, narcotics and crime as common international concerns (Gibert, 2009), they remain contradictorily reluctant to remain involved in the longer-term institution building required to address such deeply political issues. The reluctance to offer political intervention has been informed by contradictory behaviours within Guinea-Bissau's administration, such as the apparent commitment to fighting narcotics traffickers, bookended by the firing of the chief of the judiciary police in 2007 – widely regarded as the country's most effective office in the fight against drug trafficking – and the continued releasing of suspected drug traffickers, widely interpreted as a lack of political will to tackle narcotics (Gibert, 2009). Thus, European state actors have entered a holding pattern, or a 'wait and see approach' (Einarsdóttir, 2007). Beyond Europe, Guinea-Bissau finds political support from members of the Lusophone community. Whilst likewise reluctant to engage in interventionist approaches, Brazil has shown commitments to enact transformative development through multilateral cooperation (Abdenur and De Souza Neto, 2014), Brazil rather reconceptualises the drug trade as symptomatic, rather than cause of Guinea-Bissau's wider societal issues. Thus, Brazilian programmers have engaged in the stimulation of

institution-building in Guinea-Bissau's security, agriculture, and public health sectors, amongst others, establishing multilateral agreements with non-state actors and NGOs to deepen investment and cooperation.

Guinea-Bissau broadly receives continued support from non-state actors, however. A donor roundtable in 2006 secured US\$267.51 million in pledges (Yabi, 2010). A second roundtable in 2015 drew pledges of US\$1 billion, for the *Terra Ranka* ('Fresh Start') campaign (UNIOGBIS, 2015). However pledges were never met, due to political stalemate in Guinea-Bissau (Odigie, 2019). Additionally, the IMF granted Guinea-Bissau an Emergency Post-Conflict Assistance programme in 2008, and the World Bank is currently re-establishing its physical presence (UNIOGBIS, 2020). The UN Peacebuilding Commission added Guinea-Bissau to its agenda in 2007, the UNODC established a field office in 2008 to assist coordination of drug efforts, and UNIOGBIS was established in 2008 to coordinate the efforts of 10 integrated UN offices (Gibert, 2009). The Economic Community of West African States likewise provides diplomatic aid to Guinea-Bissau (Yabi, 2010). Yet Kovsted and Tarp (1999) contended that the institutionalised language of emergency and development assistance is premised upon simplistic conceptions of a continuum of development, where a transition from pre-, to intra-, to post-conflict stages are uninterrupted. Thus, already vulnerable, and unstable states such as Guinea-Bissau, which have transitioned through stages of intermittent political unrest and unilateral military action, lie beyond the compartmentalised segments of such frameworks, unnerving international actors. Thus, the sudden downturn in aid and cessation of diplomatic presence in the late 1990s, following Guinea-Bissau's civil war, have been identified as worsening desperate conditions in the country (Einarsdóttir, 2007).

### **5.2.2 Border Concerns**

The Judicial Police, under the Ministry of Justice, has primary responsibility for investigating drug trafficking, terrorism, and other transnational crime (USDS, 2018). With 5,100 uniformed military personnel, Guinea-Bissau is one of the most militarised states in West Africa by population, with another 4,500 police officers representing a ratio of 284 law enforcement personnel officers per 100,000 citizens. This ratio is one of the highest in West Africa, and only slightly lower than the European average of 346/100,000 (UNODC, 2007). Within a regional context, Guinea-Bissau faces considerable challenges

to the flow of illegal goods. Infrastructure deficits, compounded by rampant corruption (Bertelsmann Stiftung, 2018) across West Africa challenge capacity to tackle transnational trafficking of peoples and goods. Border policing is complicated by the number of largely unoccupied islands off of Guinea-Bissau's coast, combined with the presence of remote airfields, extensive marshy coastline and involvement of fishing boats in the ferrying of illicit goods (Overseas Security Advisory Council, 2019). Despite its considerable security force, Guinea-Bissau's personnel remain vulnerable to corruption through irregular and low wages. Furthermore, as a critical mass of corruption is reached, remaining 'honest' becomes difficult, potentially dangerous, and citizen cooperation declines with police failure, further worsening the ability of officials to operate (UNODC, 2007). Additionally, police received little to no training, and were insufficiently funded to purchase fuel for their vehicles, necessitating bribe-seeking from drivers. Police actions were hamstrung by a lack of detention facilities to hold prisoners in custody throughout investigations (USDS, 2018). Guinea-Bissau's poor budget execution is coupled with the extraordinary wealth of cartels operating through it. Guinea-Bissau's entire national budget (around US\$125 million) was the equivalent to the sale value of 2.5 tons of cocaine; 33 tons of cocaine were seized across West Africa between 2005-2007 alone (UNODC, 2007).

Whilst South American cartels increasingly seek to shift consumer bases, from the shrinking North American, towards the growing European market (The Organisation for Economic Co-operation and Development [OECD], 2014), geographically speaking, trafficking narcotics through Guinea-Bissau makes little sense. However, Guinea-Bissau's alleged involvement in the trafficking of small arms to the Casamanca rebels in Senegal in the 1990s hints at a well situated entry point for cocaine trafficking (Dechery and Ralston, 2015). Guinea-Bissau also shares linguistic and cultural links with transit countries such as Brazil, Cape Verde and Portugal, each key points in cocaine trafficking to Europe. Institutionally speaking, weak governance and novelty – the impetus to avoid predictive behaviours – also favour Guinea-Bissau, rendering it a low-risk transit point (UNODC, 2007). Guinea-Bissau's low GDP of just US\$1340million (The World Bank, 2020), and an over-reliance on the export of cashew nuts, leaves Guinea-Bissau susceptible to market fluctuation, and thus renders Guinea-Bissau's security services underfunded, with limited financial resources to combat drug movement, or train officers (OECD, 2014; Van der Drift, 1999). It is estimated that 27% of Europe's cocaine transited through West Africa, though a lack of concrete evidence conceals the true scale of trafficking (Madeira *et al.*, 2011).

### **5.2.3 Security and policing**

Despite political uncertainty, the security situation in Guinea-Bissau remains broadly stable (United Nations Security Council, 2016) and Guinea-Bissau enjoys relatively positive relations with neighbouring states, notwithstanding a 'low-grade conflict' with separatist groups along the Senegalese border (CIA, 2019). However, despite constitutional and legal protections of the judicial system, legislative gaps, and a lack of policing capacity hinder state attempts to adequately enforce legal frameworks across the state (United Nations General Assembly [UNGA], 2016). Illiteracy and a lack of legal paperwork dissemination renders much of the population unaware of legal rights. Additionally, the Supreme Court is 'vulnerable to political manipulation and interference, thereby jeopardizing the independence of judges' (UNGA, 2016, p. 8). The courts operate within limited material conditions, severely impacting tribunal resolution times, and rendering members of the court vulnerable to corruption. Defendants enjoy no institutionalised system of legal representation if they cannot afford it themselves. Furthermore, judges' accountability is rarely checked and the security forces have been implicated in the trafficking of narcotics, with political assassinations to extrajudicial killings

to cases of female genital mutilation (FGM) routinely being inadequately investigated, contributing to a culture of '*Matchundade*', or aggressive behaviours (Annan, 2014). The Special Rapporteur's submission to the UNGA describes access to justice in Guinea-Bissau as 'out of reach for most people. The barriers (...) are legion' (2016, p. 14), concluding that 'Justice is distant from the people' (p. 17).

Despite Guinea-Bissau's vocal and legal commitments to the contrary, the country lacks the prison infrastructure to effectively hold all sentenced inmates (Mazzitelli, 2007). The USDS highlights systematic, pervasive challenges to the provision of security and justice in Guinea-Bissau, concluding that human rights violations are numerous, including;

'...life-threatening prison conditions; lack of judicial independence and due process; official corruption exacerbated by government officials' impunity and suspected involvement in drug trafficking; lack of investigation and accountability in cases of violence and discrimination against women, including domestic and female genital mutilation/cutting (FGM/C); trafficking in persons; and child labor' (USDS, 2018, p. 1).

At last estimate, in 2017, 196 offenders were remanded in custody, with an official capacity of 90 individuals across three state prisons (World Prison Brief, 2020). The activity of international actors with regards to justice in Guinea-Bissau is conjectured to further contribute to the disenfranchisement of the public (Reltano and Shaw, 2013).

The Mo Ibrahim Foundation ranks Guinea-Bissau 42<sup>nd</sup> out of 52 African states in 2017 (Ibrahim Index of African Governance, 2020), rising from last in the Overall Governance ratings, and second to last for Law and Corruption, above only Liberia in 2007 (UNODC, 2007). Whilst public officials are obligated to release their personal finances before the Court of Audits, by the end of 2018, no public officials had complied (USDS, 2018). Additionally, irregularities within the judicial system were highlighted by several high-profile events:

- In 2006, Judicial Police seized 674 kilograms of cocaine in Bissau, after a shoot-out. Two men were arrested, with Venezuelan passports, laptops, firearms, and radios. The cocaine, worth around US\$39 million, was stored at the Ministry of Finance, but later disappeared (Shaw, 2015).
- In 2007, two Colombians were arrested on suspicion of trafficking, and later released on bail by the public prosecutor using the €95,000 seized during the arrest.

- In 2008, Judicial Police made three arrests at the international airport, but were prevented from inspecting the aircraft suspected of shipping cocaine as military officials offloaded 500 kilograms of cocaine (Shaw, 2015).

#### **5.2.4 Discriminatory practices**

Guinea-Bissau's population is ethnically, religiously, and linguistically diverse. The largest denominations by membership include Muslims 45.1%, Christians 22.1% (including both Catholics and Protestants) and Animists 14.9% (CIA, 2019). The Constitution of Guinea-Bissau prohibits discrimination and encouragingly, UNIOGBIS reports that there appears no clear pattern of institutionalised discrimination by ethnicity (Human Rights Section UNIOGBIS [HRS], 2017). Women are constitutionally entitled to equal rights. However, women continue to face discriminatory behaviours such as unequal hiring and pay, the inability to inherit property and obstacles to taking loans, due to customary laws. Of the 102-member People's National Assembly, just 14 are women (Inter-Parliamentary Union, 2020; Verité, 2018). In 2015, 34% of girls in Guinea-Bissau were forced into marriages. FGM remains a key concern. At policy-level, UNICEF efforts focussed on increasing the legal age of marriage from 16 to 18. However, efforts within the Islamic community, which constitute approximately 45% of the population, are yet to yield comparable results (HRS, 2017). Rape, including spousal rape, is illegal, but not adequately enforced. Domestic violence was criminalized in 2013, but the first case was only brought to court in June 2015 and gender-based violence remains widespread in the country. Sexual harassment is not prohibited by law and is reportedly widespread (Verité, 2018).

### **5.3 Health**

#### **5.3.1 Rights to health**

Universal healthcare in Guinea-Bissau is enshrined through several ratified international and regional treaties, such as Article 12 of the International Covenant on Economic, Social and Cultural Rights in addition to right-to-health protections contained in a multitude of international treaties:

1. Reduction of the stillbirth-rate and of infant mortality and for the healthy development of the child.



2. Improvement of environmental and industrial hygiene.
3. Prevention, treatment and control of diseases.
4. Assurance of medical service and attention in sickness.

Additional right-to-health protections for marginalized groups are contained in international treaties:

- The International Convention on the Elimination of All Forms of Racial Discrimination.
- The Convention on the Elimination of All Forms of Discrimination against Women.
- The Convention on the Rights of the Child (CRC).
- The Convention on the Rights of Persons with Disabilities.

Guinea-Bissau has signed, but not ratified:

- Optional protocols to the ICESCR.
- The Convention on the Rights of Persons with Disabilities.
- The International Convention on the Rights of Migrant Workers and Their Families.

Guinea-Bissau's principled ratification of treaties promising health coverage have been bolstered by the creation of the *Instituto Nacional de Saúde Pública* (The National Institute of Public Health) in 2011. The Institute's relative independence from government has facilitated ongoing coordination of healthcare services in Guinea-Bissau during periods of considerable political turmoil. Additionally, UNICEF has begun writing a comprehensive national child protection act, and successfully begun incorporating human rights legislation into healthcare provision by increasing public engagement through the creation of a community committee in 2017 in one region, the first of its kind in Guinea-Bissau (UNICEF, 2017). However, despite enhancement of coordination capacity through the foundation of the Health Services Strengthening Group (Okamura, 2017), significant challenges remain to the *provision* of universal healthcare.

### **5.3.2 Funding**

Scarcity of funds, difficulties attracting donor support and privatisation from within are key factors shaping health in Guinea-Bissau. Guinea-Bissau meets several criteria defining health systems in fragile states and was only first able to comprehensively document health expenditure following the implementation of National Health Accounts in 2017, prior to which no record existed (Okamura, 2017). Incomplete data on external assistance and Out-of-Pocket Payments (OOP) obscure true financing levels though public spending is estimated to account for just 20% of total spend, with 80% coming from donors (IDA, 2018). Additionally, political instability resulted in two consecutive years without an established health budget between 2015 and 2017 (UNICEF, 2017). Health spending in Guinea-Bissau is around 5.6% of its GDP, comparable to regional (5.8%) and economic (5.7%) peers, though the health sector is substantially more reliant upon OOP, estimated the highest in West Africa. On average, healthcare accounts for 15% of non-food household expenditure, causing catastrophic health expenditures for 12% of households, a number higher in rural (16%) than in urban areas (11.3%), exacerbating poverty and driving 15,000 people into extreme poverty annually (IDA, 2018). Unsurprisingly OOP costs are the largest barrier to healthcare. In one survey, 44% of respondents were reluctant to seek help due to expense, this number was curiously highest for higher-income groups (39%) than lower income groups (35%) (IDA, 2018). OOP account for 49.5% of national healthcare expenditure (Bandim Health Project, 2018). The consequences of underfinancing healthcare systems are compounded by lack of capacity within the Ministry of Health to execute its budget. The Ministry of Health successfully executed just 50% of its budget in 2014, falling to 42% in 2015, indicating limited capacity to plan and implement healthcare policy. Financial accountability is limited, with no Public Financial Management System in place.

### **5.3.3 Institutional capacity**

Community participation in healthcare policy making is limited. People are not accustomed to questioning care quality, making complaints regarding administration, goods, or services (HRS, 2017). There is no formal mechanism for individuals to take part in decision-making and existing monitoring activities do not appear to incorporate human rights standards (HRS, 2017).

With regards to quality of care, Guinea-Bissau lacks radiological capacity, despite donated CT scanners from the Kingdom of Morocco, due to gaps in technical expertise. Similarly, one dialysis machine is available, but not yet in use. Furthermore, stakeholders have reported the use of multiple antibiotics when fewer would suffice; prescription of branded drugs where generics would be equally effective; and unnecessary diagnostic blood testing, indicative of a lack of confidence or knowledge gaps (HRS, 2017). Most primary health care practitioners received no service training in mental health within the last five years, and relevant mental health literature is not available in the majority of primary health care clinics (WHO, 2017). The country's entire population is serviced by just one mental health care institution (representing 0.06 facilities per 100,000 population), with no facilities reserved for children and adolescents (WHO, 2011; WHO, 2017). No data regarding mental health expenditure is reported in either the WHO's 2011 or 2017 Mental Health Atlases. WHO (2011) indicates that whilst mental health is explicitly mentioned in the general health policy, no specific mental health policy exists.

#### **5.3.4 Burden of disease**

Lower respiratory infections (n=24,941) and ischaemic heart disease (n=4588) were the highest-ranking causes of Years of Life Lost in Guinea-Bissau at last estimate in 2016 (WHO, 2020). Of the 25 most significant burdens, measured via Disability Adjusted Life Years, syphilis showed the largest decrease, falling by 45% between 1990 and 2010. The largest risk factor in Guinea-Bissau is identified as childhood malnutrition. Guinea-Bissau echoes global trends of declines in infectious diseases and simultaneous rises in Non-Communicable Diseases (NCDs), with HIV/AIDS accounting for the sharpest increase in DALYs between 1990-2010, whilst other infectious diseases show considerably smaller increases, or net declines. Injuries and NCDs accounted for 38% of all deaths in 2018 (WHO, 2018). However, as Guinea-Bissau's youth-heavy population dynamic, combined with rising healthcare coverage will increase the share of premature deaths caused by NCDs in the coming decades, particularly if initiatives to address diarrheal diseases, malnutrition and HIV/AIDS succeed.

#### **5.3.5 Substance use**

Data on substance abuse in Guinea-Bissau is relatively meagre. The average Bissau-Guinean drank 4.2 litres of pure alcohol per year in 2010, rising gradually to 4.8 litres in 2016, with males (8.3 litres) drinking significantly more than females (1.3 litres) (WHO, 2016).

Additionally, Guinea-Bissau lacks any forms of regulation over alcohol sale, including alcohol advertising, sponsorship, warning labels, national legal minimum age for off- or on-premise sales of alcohol, or time restrictions for alcohol sales (WHO 2016). Incidence of alcoholism in Guinea-Bissau is lower (1.0%) than the average for the WHO African Region (3.7%) (WHO, 2016).

It is estimated that 0.9% of boys (against 0.18% of girls) aged under 14 years smoke, higher than the average for low HDI (Human Development Index) countries (The Tobacco Atlas, 2019), whilst 900 die per year from tobacco related illnesses (International Centre for Tax and Development [ICTD], 2020). This results in a countrywide loss of US\$4million each year in PPP\$, through healthcare costs and lost productivity (ICTD, 2020). The government has been ineffective in curbing smoking; from 2008-2018, tobacco affordability remained unchanged, when in order to achieve a positive impact, tobacco products should have become less affordable (ICTD, 2020). Guinea-Bissau has no mandated smoke-free public areas, and its excise tax of just 3.51% falls far short of the 70% WHO benchmark (The Tobacco Atlas, 2019).

No large-scale surveys of narcotics use have ever been conducted in Guinea-Bissau, with difficulties in extrapolating wider use from limited surveys, however a typical societal impact of local narcotics trafficking is overspill within the population (UNODC, 2007). Perversely, the presence of highly organised trafficking networks will limit the societal costs of trafficking, as narcotics are directed towards considerably more profitable European markets.

#### **5.4 Social determinants of health**

Situated against regional and economic peers, Guinea-Bissau's growth in HDI indices is slow, though not inconsiderable. However, life expectancy remains lower than average for regional and economic peers (IDA, 2018), with challenges to the health sector including a high burden of infectious diseases and high childhood mortality rates.

The 12<sup>th</sup> poorest country in the world, Guinea-Bissau's HDI ranking of 177<sup>th</sup>, out of 189 states measured (United Nations Development Programme [UNDP], 2018) underlines Guinea-Bissau's faltering development, although each index shows some measure of growth.

**Table 1. Guinea Bissau's HDI trends 1990-2017 (UNDP, 2018, p. 2).**

<b>Year</b>	<b>Life expectancy at birth</b>	<b>Expected years of schooling</b>	<b>Mean years of schooling</b>	<b>Gross National Income (GNI) per capita (2011 PPP\$)</b>	<b>HDI value</b>
<b>1990</b>	49.1	3.7		1,335	
<b>1995</b>	51.0	5.2		1,343	
<b>2000</b>	52.3	6.7		1,320	
<b>2005</b>	53.4	8.5	2.3	1,312	0.396
<b>2010</b>	55.1	9.9	2.6	1,394	0.426
<b>2015</b>	57.0	10.5	2.9	1,485	0.449
<b>2016</b>	57.4	10.5	3.0	1,540	0.453
<b>2017</b>	57.8	10.5	3.0	1,552	0.455

A legacy of poor infrastructure development, donor investment and policy creation has created deep inequalities with regards to quality-of-life improvements. Thus, the Inequality-adjusted HDI (IHDI) highlights a drastic drop in HDI, indicating substantial obstacles to the provision of universal healthcare coverage.

**Table 2. Guinea-Bissau's 2017 IHDI against selected states and groups (UNDP, 2018, p. 3).**

<b>Country</b>	<b>IHDI value</b>	<b>Overall loss (%)</b>	<b>Human inequality coefficient (%)</b>	<b>Inequality in life expectancy at birth (%)</b>	<b>Inequality in education (%)</b>	<b>Inequality in income (%)</b>
<b>Guinea-Bissau</b>	0.276	39.4	39.4	38.4	41.9	37.9
<b>Benin</b>	0.326	36.6	36.3	35.0	43.7	30.3
<b>Liberia</b>	0.298	31.6	31.0	27.5	42.9	22.7

<b>Sub-Saharan Africa</b>	0.372	30.8	30.7	30.8	33.7	27.7
<b>Low HDI countries</b>	0.347	31.1	30.9	31.2	37.0	24.6

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#### **5.4.1 Education**

In 2014, primary school completion was just 75.7% (HRS, 2017). Only 31% of children enter first grade at the correct age of six, meaning most are adolescent by grade four, resulting in high dropout rates. However, dropout rates are higher for girls due to the prevalence of child marriage and early pregnancy (UNICEF, 2017), resulting in 25.7% of girls of the 10-11 age group being out-of-school, against 17.5% for boys, a situation worsened in rural communities. Fewer than 1% of poor rural females complete secondary school in Guinea-Bissau (United Nations Educational, Scientific and Cultural Organisation [UNESCO], 2020b). Early marriage remains common with 37% of women aged 20-49 being married before the age of 18. Subsequently, 40.1% of the adult population is illiterate and comprehensive sexual and reproductive health education is virtually non-existent (HRS, 2017). An estimated 22% of young people have an understanding of HIV/AIDS, and sexuality (UNESCO, 2020b). To address girls' education and tackle child marriage, a nationwide campaign was launched to promote enrolment of children in school at the correct age and keep them at school for six years, completing the primary school cycle (UNICEF, 2017). Only 16% of women ages 15-49 who are married or in stable union use a contraceptive method, and adolescent pregnancy is estimated to be 28% (IDA, 2018). In 2017, budgetary freezes resulted in prolonged teachers' strikes – a frequent feature of Bissau-Guinean school-life – affecting learning outcomes. At year's end the 2018-19 school year in public institutions had not started due to a teachers' strike (USDS, 2018).

#### **5.4.2 Children's protections**

Guinea-Bissau has a young population, 44% of the population is under the age of 14, 64% under the age of 24 years (CIA, 2019). Thus, there is roughly an 80% dependency rate, placing great stress upon the working population. The efficacy of public health initiatives that target young people is not only indicated by the demographic's sheer size, but through the identification of childhood and adolescence as a crucial period of health capital accrual,

whereby the ‘physical, cognitive, emotional, social, and economic resources’ (Patton *et al.*, 2016, p. 2423) amassed serve as the foundations of health and healthy life-choices in later life.

Guinea-Bissau experiences negative net migration (Verité, 2018), yet remains a destination for many *talibés* – Quranic schoolboys – following alleged religious leaders (*marabouts*), many are forced into labour or begging. The law prohibits forced labour; however child labour laws are not effectively enforced, due to inadequate resources and inspection efforts (International Organisation for Migration, 2018). No arrests for child labour were made during 2016. There were an estimated 9,295 persons of concern in Guinea-Bissau at the end of 2016 according to the UNODC. Estimates regarding the number of children trafficked are however difficult to establish, partially due to differing interpretations of what defines trafficking (Einarsdóttir *et al.*, 2010).

In addition to the potential for exploitation of trafficked children, cases of violence and sexual abuse against children are widespread (USDS, 2018), though cases are frequently settled within the household, and victims are reluctant to seek state justice, for fear of being blamed themselves. There is a statutory rape law prohibiting sex with a person younger than 16. The rape law carries a penalty for conviction of two to 12 years in prison. The law also prohibits child pornography, with the sexual exploitation of children threatening imprisonment and the confiscation of proceeds from the crime. Data on, and attitudes towards violence to children may be obscured by pervasive cultural attitudes towards the acceptability of corporal punishment (Einarsdóttir *et al.*, 2010). There are also reports that child sex tourism occurs in the isolated Bijagos Islands. (USDS, 2018).

**Table 3. Percentage of children in labour and education, Guinea-Bissau (United States Department of Labor, 2018).**

Children	Age	Percent
Working (%)	5 to 14	57.4
Attending school (%)	5 to 14	68.1
Combining work with school (%)	7 to 14	48.4
Primary completion rate (%)		64.3

Guinea-Bissau is not party to the 1980 Hague Convention on the Civil Aspects of International Child Abduction, but is party to the following agreements (United States Department of Labor, 2018):

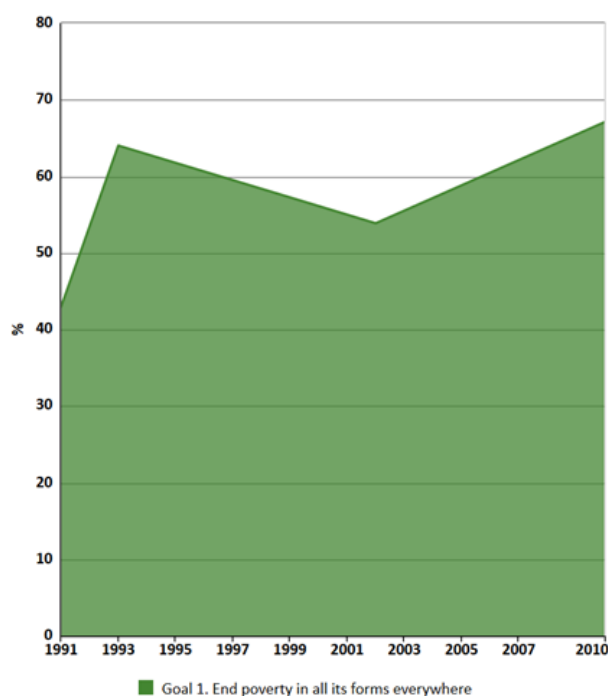
- ILO C. 138, Minimum Age
- ILO C. 182, Worst Forms of Child Labour
- UN CRC
- UN CRC Optional Protocol on Armed Conflict
- UN CRC Optional Protocol on the Sale of Children, Child Prostitution and Child pornography.
- Palermo Protocol on Trafficking in Persons.

The emphasis on CRC, through the work of UNICEF has been diagnosed as having diverted funds from programmes targeting child survival, to those promoting the right of children, mirroring a levelling off, and even reversal in childhood mortality rates in areas of the world with the highest rates (Einarsdóttir, 2006), identifying that a:

“(A) preoccupation with rights ignores the fact that children will have no opportunity for development at all unless they survive. ... The most fundamental right of all is the right to survive” (Horton 2004, p. 2072, in Einarsdóttir, 2006).



### 5.4.3 Economic inequality



**Figure 2. Stack chart indicating percentage of people living below US\$1.90 per day, 1991-2010 (Open Data for Africa, 2019).**

It is estimated that 80.4% of the population lives in multidimensional poverty (Verité, 2018), 58.4% in severe multidimensional poverty (HRS, 2017), with widespread poverty affecting children (UNICEF, 2017). Poverty rates are higher in rural areas (76%) than in the capital, Bissau (51%) (IDA, 2018). Poverty levels have increased, despite rising GDP, and in 2010, 69.3% of the population lived on or below the national poverty line, rising from 64.7% in 2000. Likewise, 43% of people lived on US\$1.90 per day in 1990, rising to 53.9% in 2000 and 67.1% in 2010. This reflects evidence suggesting that capital wealth is increasingly disproportionately accrued, with 4.5% of the income share held by the poorest 20% of the population in 2010, down from 7.3% in 1990. Rising poverty and dependency on monthly salaries decreases the likelihood of workers removing themselves from hazardous working conditions for fear of dismissal (Verité, 2018).

### 5.4.4 Barriers to institutional access

Health service delivery in Guinea-Bissau is structured around 11 sanitary regions, and organized in local, regional and central levels (IDA, 2018).

**Table 4. Organisation of Guinea-Bissau's Healthcare System (IDA, 2018, p. 14).**

Regions	Population (2017)	Health Centres						
		Regional Hospital	MCH Centre	Type A	Type B	Type C	Total Health Facilities	ASCs (estimate)
Bafata	217,045	1	1	-	1	12	13	574
Gabu	359,570	1	1	-	1	17	18	587
Cacheu	229,204	1	2	1	1	17	19	529
Bolama	11,510	-	-	1	-	4	5	29
Bijagos	24,007	-	-	1	-	10	11	68
Olo	180,428	1	-	-	1	8	9	615
SAB	513,846	-	1	-	3	6	9	1,043
Farim	58,060	-	-	1	1	4	6	141
Quinara	77,465	-	-	1	3	10	14	174
Tombali	116,994	1	-	-	2	19	21	260
Biombo	54,507	-	-	-	1	6	7	267
Total	1,742,636	5	5	5	12	113	132	4,287

Distance to health centres was the second largest obstacle, off-putting 10.5% of respondents. 40% of Bissau-Guineans live farther than 5km away from the nearest primary healthcare facility and 52% travel more than an hour to reach a medical facility, typically a type C facility, offering only basic medical support. Geographical spacing of medical facilities, indicated in table 4, is aggravated by ambulance availability and poor road repair (IDA, 2018). The most severe challenges are faced in the Bijagos islands, where a lack of maritime transport means patients often wait days for evacuation (HRS, 2017).

Beyond the geographical spacing of infrastructure, Guinea-Bissau faces challenges in health worker distribution. About 40% of Guinea-Bissau's 1,027 nurses are based in Bissau, home to just 25% of the population (HRS, 2017). Likewise, the country experiences severe shortages in specialist capacity, with only three paediatricians, four obstetricians, 34 skilled midwives and one anaesthetist nationwide. Only two institutions teach doctors, improving the ratio of doctors to 1.7 per 10,000 in 2014, up from 0.7 in 2004, though loss of medical

staff to higher-income states persists. Guinea-Bissau is among the 28% of states reporting less than one midwife per 1,000. Shortages were exacerbated by cessation of midwife training between 2005 and 2013, creating an unmet need for midwives of 79%.

Only 28% of the road network is paved, and much is impassable during flooding seasons (Arvanitis, 2014b), preventing effective transport or evacuation of patients. Telephony is inconsistently available, inhibiting communication between health facilities. Seaports are dilapidated, impeding access to healthcare goods. Electricity is in scarce supply throughout the country, compromising the ability of healthcare facilities to utilize key equipment or perform basic procedures. Many facilities pay for fuel for backup generators. Trained staff and drugs are frequently unavailable, and most Type B and C facilities lack electricity or water supplies (HRS, 2017). Health care workers in several Type C centres described delivering babies by candlelight, without access to sterile water.

## 6 Methods

This research methodology aims to interrogate the coincidence and influence of social determinants of criminality and narcotics use on observed narcotics engagement and criminal behaviour within the youth demographic in Bissau, Guinea-Bissau. This thesis draws on a singular data set collected as part of the *Saúde e Bem-estar da Juventude em Bissau, Guiné-Bissau* (Youth Health and Welfare in Bissau, Guinea-Bissau [YHWB]). The survey was conducted in June, 2017, and applied a questionnaire elaborated by *Youth in Europe - a Drug Prevention Program*, now *Planet Youth*. Specifically, furthering the contention of *Planet Youth's* own doctrine, this report seeks to explore the efficacy of using statistical models of coincidence as predictive tools for the diagnosis and preventative treatment of societal factors modelled as upstream factors in youth engagement with narcotics and criminal activity. The dearth of data on youth narcotics use and criminal behaviour in Guinea-Bissau confines this methodology to a quantitative methodology, utilising a cross-sectional study of the singular data at hand, examining the effects of parental oversight and engagement, extracurricular activity, peer influence, perceptions of the dangers of narcotics use, expected parental and societal attitudes towards narcotics use and criminality and personal exposure to (violent) crime upon self-reported engagement with narcotics and criminality. Furthermore, exposure to alcohol and tobacco is considered a predictive variable in the onset of narcotics use and criminality, the latter two factors frequently theorized as gateway behaviours in the engagement of one another.

In the following section I describe the composition and methodology of the YHWB. This is followed by a description of the randomised samples, itself followed by an examination of the ethical factors considered in the data collection. In the fourth section, I elaborate on the dependent and independent variables identified in the data, providing evidence of the veracity of such approaches. The final segment of this Chapter outlines the data analysis methods employed to produce descriptive statistics, and effectively mine the data in a cross-sectional analysis.

### 6.1 Data

As described, this study utilises data collected as part of the YHWB, as part of the *Planet Youth* collaboration. The questionnaire was initially designed by researchers at Reykjavík University, and European Cities Against Drugs. Ongoing research is supported by a host of collaborative

agents, including the aforementioned partners, University of Iceland, and the Icelandic Centre for Research and Social Analysis (ICRSA). The questionnaire format builds upon the primary prevention work that began in Iceland in 1998, its efficacy evidenced by Iceland's steep decline in the rate of narcotics use, faster than any Western country. First implementation was in 2005, though currently there are 111 participating communities in more than thirty precincts across fifteen 32 countries (Planet Youth, 2020). Research is conducted with further collaboration from local actors, with collaboration between policymakers and local researchers, and community engagement a cornerstone of *Planet Youth's* evidence-based methodology.

The questionnaire format that was employed in Bissau covers the same topics as previous sites, interrogating teenagers' use of psychoactive substances both recently and across their lifetimes, frequently examining volume or frequency of narcotics engagement. The questionnaire explores a wide array of social factors to map the relevant risk and protective factors in narcotics engagement in Bissau. Previous research indicates that peer-group affiliation, parental involvement, and recreational opportunities act as the strongest predictors of substance abuse, with positive association between peer narcotics use and self-reported engagement in narcotics evident in young people (Kristjánsson *et al.*, 2013; Kristjánsson *et al.*, 2019a). Contradistinctively, supervised extracurricular activities indicate a negative association with narcotics use, whereby professional adult supervision is theorised as a protective component in youth narcotics engagement, facilitating the development of self-esteem, personal coping mechanisms and life goals. Specifically, youth work and sports engagement were surveyed, where previous research indicates that such activities provide further opportunities for community outreach and engagement (Kristjánsson *et al.*, 2019b). Previous questionnaire implementations also indicate parental or familial supervision as a strong component of teenage life that decreases probability of narcotics engagement. Furthermore, adult support lessens the likelihood of association with peers engaged in narcotics use. Earlier research also indicates that long-term substance abuse can be predicted by use in varying stages of adolescence. Thus, early drug use initiation is modelled as hindering the neurological and social development of adolescents, consequently impacting later substance use, academic achievement, sexual behaviours and mental health issues, indicating the efficacy of a youth-based approach to narcotics use prevention (Kristjánsson *et*

*al.*, 2019b). The school was chosen as the chief research site, given its role in children's day-to-day lives, and its capacity for the engagement of young people, parents, and community actors, given its centrality to the construction of community capital.

The questionnaire was translated into Portuguese, Guinea-Bissau's official language, and the terminology in the questionnaire was further modified, as appropriate to the linguistic context of Bissau, such as the inclusion of 'street' terminology for drugs and alcohol, such as 'yamba' (marijuana) and 'water pipe' (drug paraphernalia frequently used for the smoking of tobacco, marijuana and other substances). Due to Guinea-Bissau's linguistic and demographic profile, Creole is frequently spoken before Portuguese. Consequently, the questionnaire was tested for comprehension, and cultural appropriateness in 2011, after which amendments were made to the questionnaire, and some questions eliminated to adapt to the anticipated time for completion of 90 minutes, or two class sessions, a contingency to ensure all students would successfully complete the questionnaire. The final questionnaire consisted of 312 questions, accounting for the 77 questions and their sub-question components.

The study utilises a multi-stage, random cluster process for survey roll-out. Given the study's focus on youth, and necessity for a large survey sample, secondary schools from across the country's most populous city, Bissau, were approached to generate the highest possible number of student participants within the 15 to 16-year-old target group. A longlist of 116 classes, containing 4,470 students from the 7<sup>th</sup> to the 10<sup>th</sup> grade was collated, which provided the largest survey sample. Classes were randomly assigned numbers, and once again randomly drawn, providing a sample of 2,110 students from 16 secondary schools in Bissau, representing 47.2% of the initial longlist student total. Two teachers were designated to each survey school to support implementation of the surveys and provided training and instruction on the survey methodology and rationale in June 2016, and once again in June 2017.

Schools' large potential survey pool, and the convenience in organising research they offer unfortunately limits the scope of this research to those students simultaneously attending school, whilst living in Bissau. As indicated in Chapter 5, this designates a minority of young people in Guinea-Bissau.

Given the sensitive nature of studying criminality and narcotics usage of such a youth sample, and ethical concerns inherent, the utilisation of self-reported questionnaires provides the most feasible manner to collect data on a large survey sample remotely. Though the

reliability of self-report research has been questioned, specifically with regards to errors in recall, and a desire in the respondent to elicit positive reactions from the researcher, research suggests that concerns may over-emphasise concerns over reliability (Lance and Vandenberg, 2009). Rather, research supports the general validity of self-report research formats (Crockett *et al.*, 1987), suggesting self-reporting may provide a functional substitute for some types of objective data.

Of the 2,110 student responses, 2,039, or 96.6% of questionnaires were successfully digitised by the Icelandic Centre for Social Research and Analysis at Reykjavík University, representing the entirety of the survey sample for this research. Due to the concerns over time and comprehension, not all questions were answered by all respondents, with total responses by student and question varying.

## **6.2 Ethical considerations**

To protect the anonymity of students, no respondent was asked to indicate their name on the questionnaire, and each questionnaire was deposited into an individual, unmarked envelope by the student prior to collection. A key component of the YHWP questionnaire rollout was local-level collaboration and the consequent provision of data to enable intervention within the community, necessitating the geographical localisation of each questionnaire's origin. Consequently, enveloped questionnaires were assigned unique, anonymous ID and Batch variables, for later construction of individual school profiles. Language and comprehension concerns were mitigated with the collaboration of one teacher per class, to support students, in addition to members of the research team.

Participation in the study relied upon the opt-in and collaboration of each individual school, with one school withdrawing due to examination schedule clashes. Additionally, the study was approved on June 6, 2017 by the then Minister of Education Dr Sandji Fati, in a correspondence (No / Ref 250 / MEES / GM / 2017), allowing the Jean Piaget Guinea-Bissau University and the University of Iceland to start conducting research on the health and wellbeing of adolescents in Guinea-Bissau.

## 6.3 Constructs

### 6.3.1 Dependent variables

Initially two dependent variables were identified in the literature review for analysis, these are; drug use and criminal behaviour. Despite their frequent conflation in media, this research eschewed assumptions regarding the coincidence and causality of these dependent variables at the onset of research. However, the degree to which an individual engages in narcotics use or criminal behaviour cannot be adequately examined through one variable, nor does the data set attempt to do so. Rather, this study attempts to utilise the full array of variables used to probe such behaviour, utilising questions that interrogate the recent and historic engagement in the aforementioned behaviours, as well as the frequency or (where applicable) volume or quantity of use, through the production of data-driven indices. Consequently a data-centred approach was adopted, utilising principal component (or otherwise, 'factor') analysis to identify underlying, explanatory indices. The results of the factor analysis across the 16 components identified utilising the scree are presented in appendix A. Following the performance of the factor analysis, these two dependents were divided into three, broadly identified as AOD use, violent crime, and acquisitive crime. For clarity, the reduced rotated component matrix is presented in table 5, with the dependent indices AOD use, acquisitive and violent crime signified by the as-yet-unnamed components 1, 2 and 3, respectively. Each index was calculated through the computation of their respective variable indicators. Though component variables were scored using differing indicators, the utilisation of Likert scales throughout the questionnaire enables the computation scores for the production of indices. Given the calculation of three separate dependent indices, each is individually applied as a dependent factor in separate factor analyses, where the remaining two indices are applied as independents within the same model.

Component 1 examines tobacco and alcohol use, cannabis initiation age, incidence of brawls or fights, and peer behaviours. Consequently, this index was interpreted broadly as AOD use, where the single violence variable was conceptualised, according to the literature review, as a likely coinciding factor in AOD engagement. Given that component variables may be computed, and that regression analysis is likely to inform the latter stages of data analysis, these variables were not collapsed at any stage of the data preparation. As the factor loadings



for variables 72e and 72f load more heavily upon component 1, these are included in the AOD use index variable.

The second component is informed by several variables focussing on acquisitive criminality. The severity of the crimes is open to variance, from the theft of an item worth more than three movie tickets, to the committing of more serious property offences, to the use of physical violence to steal. Hence, this factor was theorised as a catch-all index of acquisitive criminality, where the method of criminal execution was conceptualised as less significant than the objective; the attainment of capital, or goods of value.

The third component explores several variants on the same theme, i.e. violent behaviour towards another. Though the breadth of the offences is not large, two elements remain significant in an analysis of the factors themselves, those being the peer use of violence, and the lack of statistically significant predictive power with acts of group violence. This suggests that though violent behaviours show socialised components, the act itself remains statistically insignificant within this sample. However, their statistically weaker loadings for component 3 demands that these variables are included only in the index variable for AOD use.

**Table 5. Rotated Component Matrix – Dependent Variables**

	Component		
	1	2	3
Q72a How many of your friends do the following? Smoke cigarettes	.857		
Q72b How many of your friends do the following? Drink alcohol	.836		
Q72c How many of your friends do the following? Become drunk at least once a month	.801		
Q72d How many of your friends do the following? Smoke hash or marijuana	.731		
Q72e How many of your friends do the following? Fight with somebody	.532		.321
Q72f How many of your friends do the following? Pick fights or search out fights	.502		.395
Q64b At what age (if ever) did you do the following for the first time? Got drunk	.482		
Q55 How often have you smoked cigarettes in your lifetime?	.450		
Q66f How often have you done the following in the last 12 months? Committed another offence	.402		
Q67b Please answer the following questions as they apply to you? Have you exerted physical violence during the last 12 months	.346		
Q66d How often have you done the following in the last 12 months? Broken into a building or a car to steal		.953	
Q66b How often have you done the following in the last 12 months? Stolen something worth more than 3 movie tickets		.937	
Q66c How often have you done the following in the last 12 months? Used physical violence in order to rob/steal		.906	

Q66e How often have you done the following in the last 12 months? Damaged or vandalised things that did not belong to you	.884	
Q71c How many of your friends do you think have done the following during the last 12 months? Damaged or vandalised things that did not belong to them	.361	
Q70b How often have you done the following during the last 12 months? Knocked someone over		.846
Q70e How often have you done the following during the last 12 months? Helped to beat somebody		.825
Q70a How often have you done the following during the last 12 months? Punched somebody		.797
Q70c How often have you done the following during the last 12 months? Kicked somebody		.748
Q70d How often have you done the following during the last 12 months? Hit/slapped somebody		.686
Q64e At what age (if ever) did you do the following for the first time? Used cannabis (hash/marijuana)	.317	
Q61a How often have you had an alcoholic drink of any kind? In your lifetime	.448	
Q71b How many of your friends do you think have done the following during the last 12 months? Broken into a building or car in order to steal something	.324	
Q64c At what age (if ever) did you do the following for the first time? Smoked a cigarette	.309	
Q62a How often have you gotten drunk? In your lifetime	.327	

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*Extraction Method: Principal Component Analysis.*

*Rotation Method: Varimax with Kaiser Normalization.*

*a. Rotation converged in 50 iterations.*

### 6.3.2 Independent variables

Drawing upon the literature presented in Chapter 4, the independent variables identified are SES, economic inequality, peer influence, familial influence, self-esteem, recreational behaviour. However, given the complex dynamic of social determinants that inform these categories, a number of supporting variables were identified within the available database. These were informed both by the language of the questionnaire and culturally, geographically-specific factors identified in Chapter 5, that may appear less significant in the developed settings of much research (CDC, 2019), and thus remain neglected within the body of literature sampled.

Previous research has contested the relationship between SES and problematic behaviour (Tittle *et al.*, 1978, Dervishi and Ibrahim, 2018). Yet deconstruction of SES as a monolithic factor has revealed the potential for institutional bias against lower SES individuals (McGarvey *et al.*, 1981) and the increased incidence of life-altering events such as peer or familial mortality as potential components in the influencing of problematic behaviours (Braithwaite, 1981; Webster *et al.*, 2006). Additionally, given the disparity in life outcomes between the rural and urban setting in Guinea-Bissau, and the sheltering of the economic elite through the continued utilisation of Portuguese as an official language, the questions ‘If you were born in Guinea-Bissau, choose the region where you were born’, and ‘Is the official language, Portuguese, spoken in your home?’ are included. The first question, originally indicating nine regions, has been collapsed into two, where Bissau, by far the largest urban development in Guinea-Bissau, is considered an urban setting, whilst other regions are collapsed into a singular rural proxy. The latter question has likewise been collapsed into two values; ‘Yes’ and ‘No’.

Economic inequality and consequent frustration have been theorised as onset factors in problematic behaviour (Aaltonen *et al.*, 2011; Sachsida *et al.*, 2007). Consequently, mid-stream factors such as academic interest and aspiration, consequent factors such as attainment, absence and expulsion from school (Dervishi and Ibrahim, 2018) have been studied, and found to be predictors of negative behavioural outcomes (Ólafsdóttir and Bragadóttir, 2006; McBride *et al.*, 1991). These independents are consequently included as independent variables within this research.

Negative, and positive peer associations are widely identified in the sampled literature as risk and protective factors in problematic behaviour, respectively (Wasserman *et al.*, 2003). Yet, an individual's increased susceptibility to peer influence is elsewhere attributed to several factors including relationship breakdowns, peer pressure (Whitesell *et al.*, 2013) and peer support. Subsequent behavioural outcomes are then closely linked to the peer behaviours demonstrated. These elements are all explored within the data set and are considered here.

Likewise, negative and positive familial interactions are similarly shown in the literature to be indicative of negative and positive behavioural outcomes. The amount of attention a child may receive has been demonstrated to rely upon familial structure, the availability of parental support, and parental role modelling through the oversight of adolescents' behaviours and projected attitude towards AOD use and criminality (Whitesell *et al.*, 2013). A parent's educational level has also been argued a predictor of AOD use. Negative parental interactions, not limited solely to physical abuse (McLellan *et al.*, 1997), but also poor parenting and consequent weakening of familial bonds have been demonstrated to forecast problematic behaviours (Wasserman *et al.*, 2003; Ólafsdóttir and Bragadóttir, 2006; Stenbacka and Stattin, 2007). The four questions 'What is the highest level of schooling your [mother/father] completed?', and 'Does your [mother/father] work outside the home?', originally 11, and 9-point answers respectively, were first collapsed into two points, then combined in order to provide a 3-point indicator of parental education and work type. Schooling was thus defined as at least the initiation, not necessarily the completion, of junior college or trade school. Work outside the home was defined as part- or full-time work and/or study outside of the home.

Where peer influence beyond the home can loosely be captured by the term "self-esteem", research suggests that transitions within an adolescent's life, including puberty and moving home (HHS, 2020), may leave an individual open to negative peer influence. Likewise, both the perpetration of, and victimisation by bullying have been positively and negatively associated with alcohol consumption. However victimisation has likewise been associated with increased onset of drug use behaviours (Whitesell *et al.*, 2013).

Increased engagement with extracurricular, recreational behaviours has also been positively associated with decreased drug use, suggesting that it serves as a protective factor in drug use engagement. This independent variable is measured using a computed index

variable, incorporating 13 sub-questions probing the frequency of social interaction in the presence of adults, and the frequency of recreational behaviours, incorporating both sport- and socially-based activities.

Furthermore, where AOD use, acquisitive and violent criminality are individually explored as dependent variables within regression models, conversely the remaining computed indices are explored as independent factors. Alcohol use is explored through the utilisation of an index variable, composed of the questions ‘How often have you had a drink of alcohol of any kind? [In your lifetime/During the last 30 days]’, ‘How often have you got drunk? [In your lifetime/During the last 30 days]’, and ‘At what age (if ever) did you do any of the following for the first time? [Had a drink of alcohol/Smoked a cigarette]’.

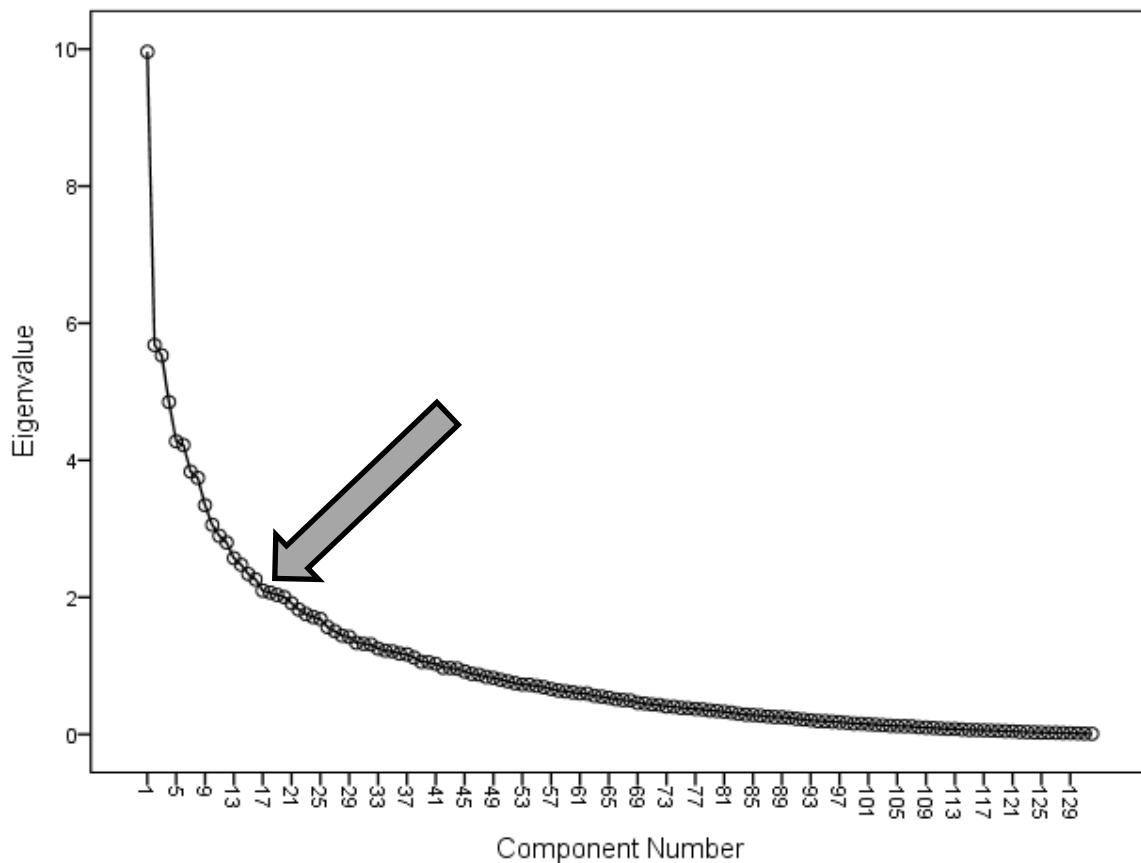
The demographic factors, age and gender have been identified as potential confounding factors. Gender has been demonstrated as a predictor in itself (Aaltonen *et al.*, 2011; Aslam, 2015; Gjeruldsen *et al.*, 2004), and as a confounding factor, particularly with regards to peer and familial-centred risk and protective factors (Staton-Tindall *et al.*, 2007); McBride *et al.*, 1991). Likewise, age has been shown to influence social determinants, as determinants adjust with age (HHS, 2020); Whitesell, *et al.*, 2013; Aslam, 2015). Age was indicated in the data as a continuous variable. Conversely gender is presented as a binary variable; male or female.

## **6.4 Analysis**

The source data is privately held and was retrieved with consent from a member of the team that conducted the research in Bissau, in .xlsx format. The data set was cleaned and prepared for analysis utilising SPSS, adding variable and value labels. Variable levels were adjusted, accordingly, in preparation for the later creation of singular indices. Value labels indicating ‘unknown’ responses (88, 99) were recoded to ‘missing values’. Additionally, to facilitate the utilisation of the Cronbach’s Alpha/Tau-equivalent reliability test, values from questions 47 and 30 were recoded to conform direction with other Likert variables (where 1=positive outcome, and 5=negative outcome).

Additionally, questions 5 and 7 (‘What is the highest level of schooling your [mother/father] completed?’), and questions 9 and 10 (‘Does your [mother/father] work outside the home?’), originally 11 and 9-point answers respectively, were first collapsed into

two points, such that interrogation of parents' schooling, originally categorised by the answers 'I don't know/Doesn't apply', 'Graduated from a college/university', 'Started college/university but has not finished', 'Graduated from junior college or trade school', 'started junior college or trade school but has not finished' and 'High school (10-12 grade)' were re-categorised into two outcomes indicating at least the initiation though not necessarily completion of junior college or trade school, or not. Work outside the home, previously divided into 'Works at home with domestic tasks', 'works part-time outside the home', 'Works full-time outside the home', 'is unemployed', 'is disabled', 'has retired', 'is studying', 'is studying and working outside the home' and 'Don't know/Doesn't apply' were collapsed into part- or full-time work and study outside of the home, or full-time occupation at home. The collapsed questions 5 and 7, and separately 9 and 10, were then amalgamated, such that a 3-point scale of parental education and work outside the home were created to indicate that 'neither', 'one' or 'both' parents had begun at least junior schooling/vocational or technical training, or worked at least part-time outside of the home. Question 2 ('Year of birth') provided data in years, rather than age, and was thus recalculated from the perspective of the data collection date in 2017 to provide an age identifier.



**Figure 3. Scree Plot - Principal Component Analysis.**

As alluded to, narcotics usage and criminality may be measured in a plethora of manners, including frequency of engagement, volume and/or historical use. However, to provide a comprehensive overview of narcotics engagement and criminal behaviour, this study intends to utilise the full extent of survey questions related to drug use and criminality through the generation of indices of narcotics engagement and criminality. Conveniently, for the sake of the production of singular indices, the questionnaire employs Likert scale questions extensively. A varimax principal component analysis of a longlist of 35 of the 77 questions available, pertaining to the dependent and independent variables identified was performed across 75 iterations to reveal underlying factors. To further reduce and focus this study upon the most compelling underlying factors, a scree plot was used to identify 16 factors above the inflection points at the plot's 'elbow' (Cattell, 1966), identified in figure 3.

These factors were then labelled by the researcher in accordance with their component variables, such that for instance, a computed index comprising three variables; Q54a, Q54b and Q54c, otherwise 'Does someone of the following persons you know smoke tobacco on a daily basis? [a) Father b) Mother and c) Sibling]', was identified as an index denoting family



smoking habits. A Cronbach's Alpha/Tau-equivalent reliability test was then conducted upon each of the 16 factors identified to confirm internal consistency, with factors recording a Cronbach's Alpha score of less than 0.7 being discarded. Of the first 16 factors identified, 11 were considered for further analysis. These factors were then computed in SPSS to create singular indices.

A strength and weakness of the listwise deletion of responses through the regression model is that assuming that a missing value does not depend upon the dependent variable, the conclusions drawn may be less biased than alternative approaches (Allison, 2001), though at the expense of a limited selection of the total sample group (Olinsky *et al.*, 2003; Roth, 1994). Thus, as each index was composed of multiple variables, the listwise deletion of responses limited the viable data set significantly. Consequently, to address this limitation, multiple imputation was utilised to provide unbiased, confidence valid estimates of missing values (Rubin, 1996). Thus, multiple imputation was run with a maximum of 20 iterations, to produce five imputed data sets for further analysis. The pooled results, representing n=2039 responses were used in regression analyses. A multiple regression analysis for each dependent variable identified was then once again run on the resultant dependent variable indices.

Descriptive statistics were produced to explore the characteristics of the sample group by variable. The descriptive data was stratified by dependent variables, indicating the means, range and standard deviation for continuous variables, and percentages for categorical values.

The Statistical Consulting Centre at the School of Health Sciences was initially consulted for assistance with statistical analysis, before continued collaboration with The Social Sciences Research Institute for data analysis. SPSS version 24.0.0.0 for Windows, with Python package version 3.4.3, was used for all analysis.

## 7 Results

This Chapter is divided into two sections. In section one, the descriptive statistics for the dataset are represented, divided into the scale and ordinal variables sampled, covering the demographic and societal factors discussed in the methodology, in addition to key outcome indices. Where relevant, variables have been combined for presentation, as trends within the data are explored. In section two, the results of the cross-sectional multiple regression analysis are presented, outlining the regressional value between societal factors and outcome variables.

### 7.1 Descriptive statistics

Table 6 summarises the results of the descriptive statistics for scale variables.

The mean age of the sample is 16.31, when the minimum and maximum values are 14 and 18, with a standard deviation of 1.166, indicating a mixed sample survey sample by age. Most significantly, students' average grade/year is just 8.79, with standard deviation of .822, and minimum and maximum values of '8' and '11'. However the range of values for both age and grade are not the same, and a picture of healthy academic achievement and attendance suggests that the grade/year score should be almost two points higher, given that children in Guinea-Bissau are expected to begin school aged six. Given that educational underachievement remains chronic, enrolment rates between six and 11 remain just 66%, as of 2014/15, and that the academic year is interrupted regularly (UNICEF, 2020), late enrolment and repeating of the academic year appear commonplace.

**Table 6. Descriptive Statistics – Scale Variables.**

	N		Mean	Std. Dev.	Range	Min	Max
	Valid	Missing					
Q2b How old are you?	1824	215	16.31	1.166	4	14	18
Q3 Grade/Class in school.	1982	57	8.79	.822	3	8	11
Q17 How well-off financially do you think your family is in comparison to others?	1929	110	2.59	1.299	6	1	7
Index 1. Tobacco, alcohol and cannabis use.	1976	63	1.4162	.67365	6.0	1	7

Index 2. Acquisitive crimes.	1798	241	1.1504	.51298	5.2	1	6.2
Index 3. Recreational behaviour.	1920	119	1.9359	.73199	5.0	1	6
Index 4. Cannabis risk perception.	1878	161	4.0586	1.59998	6.0	1	7
Index 5. Violent crime.	1887	152	1.4350	.85929	6.0	1	7
Index 6. Peer influence.	1687	352	3.8140	1.01239	4.0	1	5
Index 7. Parental oversight	1711	328	2.0426	.78766	3.0	1	4
Index 8. Family smoking.	1908	131	1.4414	.68052	2.0	1	3
Index 9. Parental reaction to AOD use.	1851	188	2.4516	.98320	4.0	1	5
Index 10. Drinking behaviour.	1959	80	1.4970	.84324	5.67	1	6.67
Index 11. Domestic violence.	1711	328	3.5729	.73849	3.0	1	4

Table 7 summarises the descriptive statistics for ordinal variables in the study.

With the minimum value of ‘1’ signifying ‘never’ in component variables, tobacco, alcohol and cannabis use appears uncommon with a mean value of just 1.4162. Likewise, a standard deviation of .67365 indicates that little to no AOD use remains the norm. Other index variables interrogating AOD use, such as family smoking (mean of 1.4414, standard deviation of .68052) and drinking behaviours (mean of 1.4970, standard deviation of .84324) suggest that narcotics engagement remain broadly limited, though drinking behaviours appear to vary more by student than do narcotics behaviours. Conversely, a mean of 2.4516 with regard to parental reaction to AOD use, where ‘1’ indicates strong aversion to drug use, and ‘5’ reticence, suggests that either actual parental attitudes towards drug use, or the perception of parental aversion remain relatively low.

In answer to Q17, students indicated general agreement that they feel their parents to be significantly, or slightly financially better off than others. This may indicate social bias in a sample group that captured the true breadth of the youth demographic in Guinea-Bissau. However, as up to 25.7% and 17.5 of girls and boys aged 10-11 have already dropped out of school in Guinea-Bissau, with numbers likely to grow due to teenage pregnancy and incorporation into the workforce (UNICEF, 2020), this sample does not capture the entire demographic, and as such students may be accurately comparing their financial wellbeing to uneducated peers beyond this sample group.

The mean score for cannabis risk perception is 4.0586, with a standard deviation of 1.59998, where the component variables of the index variable have a minimum and maximum values of '1' and '7', indicating strong agreement that cannabis use is dangerous, to strong disagreement, respectively. Broadly, this suggests that the sample does not perceive combined marijuana, hash and cannabis use as dangerous, though the standard deviation indicates wider differing opinions on the issue.

Acquisitive criminality (mean=1.1504, standard deviation=.51298) appears lower than violent crime (mean=1.4350, standard deviation=.85929), with varying degrees of deviation suggesting greater diversity in the frequency of violent criminality within the sample group than with acquisitive criminality.

Self-reported incidence of domestic violence appears low, with a mean of 3.5729, where scores of '3' and '4' within the component variables indicate 'Yes, more than 12 months ago', and 'no', to the question of whether individuals had witnessed or been involved in domestic violence. Apparently, this suggests that domestic abuse is low within the sample's domestic spheres, though the lack of concise definition of domestic violence in the question's wording may equally conceal the scale of the issue beneath culturally accepted norms of corporal punishment and domestic violence (USDS, 2018; Einarsdóttir *et al.*, 2010).

The gender ratio of the sample appears to closely mirror Bissau-Guinean society at the 15-24 year age bracket. Just less than half, or 48.2% of the sample was male, against 51.8% female, whilst wider estimates project 0.96 male/female (CIA, 2019), falling from 1.01 male/female. Almost half (48.8%) of the sample lives with both parents, whilst 77.9% of the sample live with their mother, regardless of the overall composition of the family.

**Table 7. Descriptive Statistics – Ordinal Variables.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Q1 Are you a boy or a girl?				
Boy	954	46.8	48.2	48.2
Girl	1024	50.2	51.8	100.0
Total	1978	97.0	100.0	
System missing	61	3.0		

Q4a Which of the following persons live in your home?

Both parents	877	43.0	48.8	48.8
Mother, but not with father	471	23.1	26.2	75.1
Father, but not with mother	141	6.9	7.9	82.9
Mother and her partner	51	2.5	2.8	85.7
Father and his partner	49	2.4	2.7	88.5
I live with friends	9	0.4	0.5	89.0
I live with my grandparents	162	7.9	9.0	98.0
I live in different arrangements	36	1.8	2.0	100.0
Total	1796	88.1	100.0	
System missing	243	11.9		

Q5Q7 Both parents educated.

Neither parent	615	30.2	35.3	35.3
One	552	27.1	31.7	67.0
Both	575	28.2	33.0	100.0
Total	1742	85.4	100.0	
System Missing	297	14.6		

Q9Q10 Both parents work outside of the home.

Neither parent	290	14.2	15.0	15.0
One	871	42.7	45.1	60.2
Both	769	37.7	39.8	100.0
Total	1930	94.7	100.0	
System missing	109	5.3		

Q11 In what country were you born?

In Guinea-Bissau	1903	93.3	97.7	97.7
In another country	44	2.2	2.3	100
Total	1947	95.5	100.0	
System missing	92	4.5		

Q12 If you were born in Guinea Bissau  
choose the region where you were born.

Bissau – Urban proxy	1300	63.8	68.4	68.4
Other – Rural proxy	601	29.5	31.6	100.0
Total	1901	93.2	100.0	
System missing	138	6.8		

Q18 Which religious sect or community do  
you belong to?

Christian	1102	54.0	54.8	54.8
Lutheran/Evangelist	262	12.8	13.0	67.8
Muslim	595	29.2	29.6	97.4
Orthodox	2	0.1	0.1	97.5
Independent or Autonomous Church	3	0.1	0.1	97.6
Animist	3	0.1	0.1	97.8
Other	17	0.8	0.8	98.6
I don't identify with any religious groups	28	1.4	1.4	100.0
Total	2012	98.7	100.0	
System missing	27	1.3		

Q19 To what ethnic group do you belong?

Balanta	362	17.8	18.9	18.9
Beafada	74	3.6	3.9	22.8
Bijagós	50	2.5	2.6	25.4
Crioulo	47	2.3	2.5	27.9
Felupe	37	1.8	1.9	29.8
Fula	252	12.4	13.2	43.0
Mancanha	237	11.6	12.4	55.4
Mandinga	215	10.5	11.2	66.6
Manjaco	280	13.7	14.6	81.3
Nalu	9	0.4	0.5	81.7
Papel	271	13.3	14.2	95.9
Portugués	35	1.7	1.8	97.8

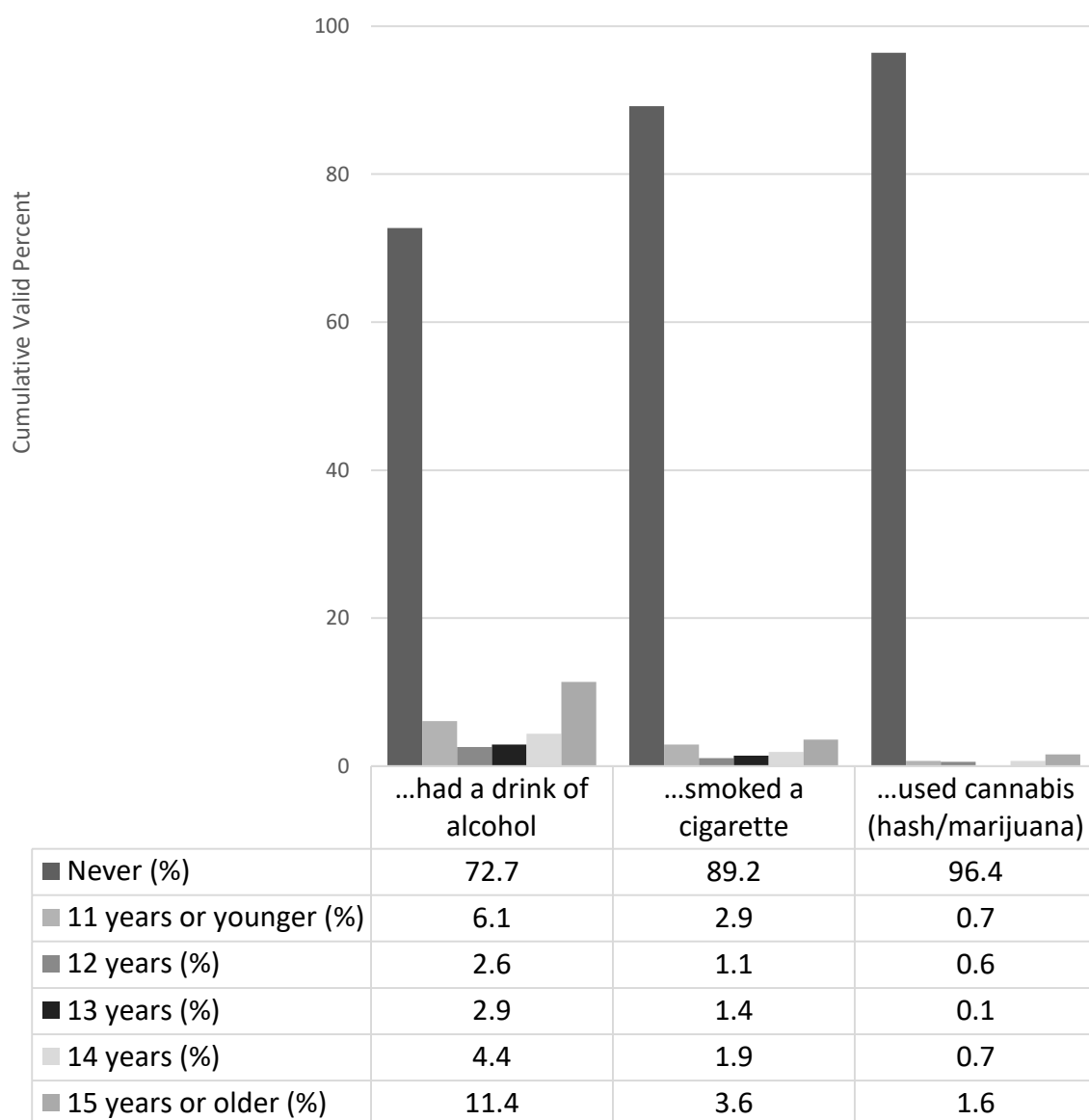
Sussu	11	0.5	0.6	98.3
Other	32	1.5	1.7	100.0
Total	1912	93.8	100.0	
System missing	127	6.2		

---

Combined variables examining parental education and work outside the home reveal that 64.7% of respondents have at least one parent who has begun trade school or university. Given the low literacy rate of 45.58% (UNESCO, 2020a), this suggests a disproportionately high rate of educational attainment within the sample group. Descriptive statistics indicated that 60.1% of students have at least one parent at home full time, suggesting that most respondents have a high amount of parental time available for support.

The vast majority of students were born in Guinea-Bissau (97.7%). Internally, 68.4% of the sample group was born in Bissau, reduced in this variable to signify an urban origin. The remaining 31.6% of the sample are from other regions, serving as proxies for rural backgrounds.

At what age (if ever) did you do any of the following for the first time?



**Figure 4. Bar chart indicating age of AOD initiation.**

Figure 4 indicates that 27.3% of respondents indicated lifetime drinking, with the 15 and above age category capturing the largest single group of initiators (11.4%). Lifetime smoking incidence was just 10.8%, though initiation at 11 years or younger was almost as large a group (2.9%) as the oldest category (3.6%). Cannabis engagement was relatively low, with only 3.6% of students indicating lifetime use, almost half of which (1.6%) began smoking aged 15 or above.



## 7.2 Cross-sectional statistics

Model summaries for the three dependent variables, those being; AOD use, acquisitive crime and violent crime, are presented in figures 8, 9 and 10, respectively. Unfortunately, the calculation of  $R^2$ , adjusted  $R^2$  values, or ANOVA components for imputed datasets is currently not available through SPSS modules (IBM, 2020). Consequently, the appropriate ANOVA tables for AOD use, acquisitive and violent criminality are presented in indices B, C and D, respectively. In lieu of said pooled data, the complete model summaries for each dependent variable across each imputed dataset is presented. Given the propensity for an inflation in the  $R^2$  value with the addition of independent variables (Bhandari, 2020), and the number considered throughout this study, the adjusted  $R^2$  value, which provides a less biased estimate by accounting for each additional independent variable, is discussed as a more reliable indicator of the models' true fit.

The model summary for AOD use is the strongest of all three dependent variables. The model shows  $R^2$  for the model was between 61.1% and 63.9%, whilst adjusted  $R^2$  suggests 60.2% and 63.1% of variance in the data can be explained by the predictor variables. An  $r$  score ranging from .781 to .799 across all five imputations is identified as a large effect by Cohen in all imputed datasets (1988, in Mangiafico, 2016; also McLeod, 2019).

The regression model for acquisitive criminality shows  $R^2$  explains 52.0% and 57.6% of variance through predictor variables, whilst adjusted  $R^2$  shows 50.9% and 56.7% to be explained. An  $r$  value of .721 to .759 is likewise identified as a large effect by Cohen in all imputations (1988, in Mangiafico, 2016; also McLeod, 2019).

With regards to violent crime, the model is less predictive than the previous dependents models.  $R^2$  indicates 39.4% to 44.9%, whilst adjusted  $R^2$  indicates that between 38.1% to 43.7% of data variance may be explained by predictor variables. An  $r$  value ranging from .628 to .670 is still identified as a large effect by Cohen in all imputations (1988, in Mangiafico, 2016; also McLeod, 2019).

**Table 8. Model Summary – AOD use.**

Imputation Number	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Original data	1	.772 <sup>a</sup>	.596	.535	.38431	.596	9.771	44	291	.000
1	1	.781 <sup>b</sup>	.611	.602	.42849	.611	71.077	44	1994	.000
2	1	.790 <sup>c</sup>	.625	.617	.42210	.625	75.483	44	1994	.000
3	1	.799 <sup>d</sup>	.639	.631	.41368	.639	80.121	44	1994	.000
4	1	.787 <sup>e</sup>	.620	.611	.42211	.620	73.813	44	1994	.000
5	1	.790 <sup>f</sup>	.624	.616	.42658	.624	75.354	44	1994	.000

**Table 9. Model Summary – Acquisitive Crime.**

Imputation Number	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Original data	1	.577 <sup>a</sup>	.332	.231	.33315	.332	3.292	44	291	.000
1	1	.759 <sup>b</sup>	.576	.567	.42510	.576	61.646	44	1994	.000
2	1	.744 <sup>c</sup>	.554	.544	.40705	.554	56.193	44	1994	.000
3	1	.721 <sup>d</sup>	.520	.509	.42867	.520	49.072	44	1994	.000
4	1	.743 <sup>e</sup>	.552	.542	.42141	.552	55.863	44	1994	.000
5	1	.724 <sup>f</sup>	.524	.514	.41425	.524	49.973	44	1994	.000

**Table 10. Model Summary – Violent Crime.**

Imputation Number	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Original data	1	.623 <sup>a</sup>	.388	.295	.51138	.388	4.186	44	291	.000
1	1	.670 <sup>b</sup>	.449	.437	.68067	.449	36.973	44	1994	.000
2	1	.643 <sup>c</sup>	.414	.401	.68020	.414	31.965	44	1994	.000
3	1	.628 <sup>d</sup>	.394	.381	.70127	.394	29.514	44	1994	.000
4	1	.667 <sup>e</sup>	.445	.432	.66974	.445	36.284	44	1994	.000
5	1	.637 <sup>f</sup>	.406	.393	.69905	.406	30.975	44	1994	.000

Cross-sectional, multiple regression analysis was performed to examine the statistical significance of the dependent index variables, that is; AOD use, acquisitive and violent crime, and the independent variables, identified thematically as the following; SES, economic inequality, peer influence, familial influence, self-esteem, recreational engagement, in addition to the identified index variables tobacco use, alcohol use and cannabis awareness. The full results for AOD use, acquisitive crime and violence across both the original and pooled datasets are included in appendices E, F and G, respectively.

Regression analysis indicates that age was not a statistically significant predictor of AOD use, acquisitive or violent crime. However, gender was predictive of AOD use,  $p=.007$ ,  $B=-.059$  (95% CI=-.101, -.016) and engagement in acquisitive crime,  $p=.027$ ,  $B=.053$  (95% CI=.006, .100) and violence,  $p=.001$ ,  $B=-.114$  (95% CI=-.180, -.049). Where gender is a binary value, and 0=Male, 1=Female, regression analysis suggests that male gender is more predictive of AOD use and violent criminality, though female gender is predictive of acquisitive criminality.

SES, measured through response to the question 'Please state to what extent the following applies to your situation? My parents are poorly off financially' was neither a statistically significant predictor of AOD use or violence, though it was significantly predictive of acquisitive criminality,  $p=.014$ ,  $B=.023$  (95% CI=.005, .042), where increased self-reporting of parental financial hardship is indicative of economic criminality.

Q73f, interrogating accusations of criminality where the respondent was innocent, was used as a proxy for institutional prejudice, given the variables available. Whilst this variable was not significantly predictive of AOD use, it was a statistically significant predictor of both variants of criminality, where engagement with violent,  $p<.005$ ,  $B=.173$  (95% CI=.116, .231), and acquisitive criminality,  $p=.002$ ,  $B=.99$  (95% CI=.46, .153) are demonstrated to rise with increased false accusation. Other variables theorised as upstream determinants of SES, such as rural or urban upbringing, or language spoken, and downstream factors, such as peer mortality, showed no statistically significant link with any dependent variable.

Curiously, both acquisitive and violent crime was significantly predictive of boredom with studies, where the significant link with acquisitive crime is expressed as  $p=.049$ ,  $B=-.026$  (95% CI=-.052, -.042E-5), and the link with violent crime is signified by  $p=.041$ ,

$B=.034$  (95% CI=.002, .066). Interestingly, as a response of '1' indicates frequent boredom, and '5' rare boredom, this link indicates that within the sample, decreased boredom was predictive of decreased economic criminality, yet increased violent behaviour.

Dismissal from the classroom was predictive of AOD use,  $p=.015$ ,  $B=-.041$  (95% CI=-.71, -.008). As this question was phrased with a positive direction, against the negative for AOD use, this indicates that frequent dismissal is predictive of rising AOD usage. However, other variables interrogating economic inequality, incorporating education attainment, aspiration or absence were not statistically significant variables for either AOD use, violent or acquisitive criminality.

The breakdown of a romantic relationship was a statistically significant predictor of AOD use,  $p=.001$ ,  $B=-.031$  (95% CI=-.50, -.013), though not with criminality. Where relationship breakdown is negatively scaled, the negative coefficient gradient indicates that AOD use rises, if relationship breakdown occurs at all, and furthermore as relationship breakdown occurs more recently.

Other variables interrogating peer influence, including the availability of 'caring and warmth', and the ability to have personal discussions were not statistically significant predictors of AOD use, violence or economic criminality. However, both violent,  $p=.018$ ,  $B=.142$  (95% CI=.028, 0.257) and acquisitive criminal behaviours,  $p=.010$ ,  $B=.196$  (95% CI=.068, .323) were significantly predictive of AOD use, indicating increased engagement in AOD use is predictive of increased criminality. As an index variable, AOD use incorporates variables exploring peer engagement with alcohol, cigarette, marijuana and tendency to pick fights, suggesting overall that negative peer behaviours are statistically significant predictors of problematic behaviours in all three dependent variables.

Variables outlining parental education levels, household composition with regards to parental occupation, and marriage status of parents were not statistically significant predictors of either AOD use or criminality, though victimisation through sexual violence was statistically significant with both acquisitive and violent crime. Experiencing sexual violence in the past 12 months was statistically predictive of both violent,  $p=.044$ ,  $B=.112$  (95% CI=.004, .221) and acquisitive crimes,  $p=.003$ ,  $B=.241$  (95% CI=.122, .360) though not AOD use, with increased victimisation predicting increased criminality. The coefficient

gradient for sexual assault victimisation was the strongest predictor of acquisitive crime, stronger even than the relationship between criminality types.

Other parental and familial variables, such as the index variable exploring parental oversight indicated no significant statistical relation to AOD use, or criminality. Familial smoking habits are positively linked with acquisitive criminality,  $p=.042$ ,  $B=.033$  (95% CI=.001, .064), suggesting that the fewer members of the family that smoke, the more likely a respondent is to engage in acquisitive criminality. Other familial variables, such as domestic abuse, anticipated parental reactions to AOD use, and parental support, were not identified as statistically significant predictors of AOD use, or any form of criminal index variable.

Changing schools during the last five years was identified as a statistically significant predictor of violent crime,  $p=.019$ ,  $B=.042$  (95% CI=.007, .076), though not AOD use or acquisitive crimes, though the causal direction of this relationship is not intimated by this finding.

Group violence was a statistically significant predictor of AOD use, violent and acquisitive criminality, though through differing variables. Consequently, being a member of a group that started a fight with another group in the past 12 months was predictive of violent crime,  $p=.005$ ,  $B=.192$  (95% CI= .076, .308), whilst being a member of a group that teased another in the same timeframe was predictive of acquisitive crime,  $p=.005$ ,  $B=.071$  (95% CI=.024, .117) and AOD use,  $p=.028$ ,  $B=.069$  (95% CI=.009, .128). Conversely, being a member of a group attacked by another was a statistically significant predictor of AOD use,  $p<.005$ ,  $B=.082$  (95% CI=.044, .119), as was being assaulted within the previous 12 months regardless of group affiliation,  $p<.005$ ,  $B=.086$  (95% CI=.055, .117). This suggests that the more frequent the experience of either perpetration or victimisation through physical violence, the higher the respondent's engagement with all three dependent index variables.

Several index variables were also included in the regression model for each dependent variable. Recreational behaviour was not a significant predictor of any dependent variable, nor was the perception of cannabis use risks. However, alcohol behaviours were significant predictors of AOD use,  $p<.005$ ,  $B=.351$  (95% CI=.324, .377), violent behaviours,  $p=.002$ ,  $B=.096$  (95% CI=.038, .154), and acquisitive criminality,

$p=.009$ ,  $B=-.056$  (95% CI $=-.097$ ,  $-.016$ ), though their coefficient gradients are reversed, with increased drinking predictive of increased AOD use and lesser acquisitive criminality. Drinking behaviours were the strongest predictors of AOD use of any independent variable applied to the dependent, AOD use.

In addition to being both significantly predictive of AOD use, and vice-versa, acquisitive and violent criminality were closely associated, such that when acquisitive criminality was calculated as the dependent variable, violent criminality presented results of  $p<.005$ ,  $B=.085$  (95% CI $=.046$ ,  $.124$ ), whereas where violent criminality was phrased as the dependent, acquisitive criminality showed the following relationship;  $p<.005$ ,  $B=.227$  (95% CI $=.141$ ,  $.313$ ). Indeed, the coefficient gradient of any independent variable is greatest for economic crime, when violence is the dependent, suggesting that for each rise by a value of one across the x-axis, violent behaviours rise by an estimated .227 units.

### **7.3 Limitations**

A key limitation with the questionnaire and consequent source dataset is the omission of questions relating to cocaine use explicitly. Thus, despite growing fears over the possible spill over effects (UNODC, 2007) of the local cocaine trade, this study is unable to explore the breadth of cocaine use within the sample group. Thus, at most this study can surmise that given the declining use of alcohol then tobacco and finally marijuana evidenced in figure 4, if Yu's (1998) assertion regarding the sequential use of licit or illicit narcotics holds true, then this study can only speculate that cocaine usage in the sample remains less than the 3.6% of people respondents that report lifetime use of marijuana.

However, a crucial limitation in the utilisation of questionnaire data collected in schools is the unavoidable occlusion of those children who are not at school. Schools provide an ideal site of the dissemination of questionnaires, however they do not manage to engage those children who have had to leave school for reasons related to pregnancy, marriage, work or poverty. Furthermore, Odejide (2006) indicated that street children across the continent have a higher likelihood of engagement with psychoactive substances with loner life on the street. Hence, a central concern is that AOD use and criminality rates will be higher among street children than the sample group. Where 44% of the population is aged 14 or under and 64% is aged 24 or younger (CIA, 2019) the sheer

size of the youth demographic in Guinea-Bissau means that a significant proportion of the nation's demographic is not represented within this survey.

Though this research is chiefly interested in interrogating the social determinants of AOD and criminal initiation, future research into the causal direction of criminality and AOD use may be limited by the non-inclusion of a variable exploring the age of onset of criminal behaviours, as was explored with regards to AOD use, separately. A differing research methodology would be needed to trace the coincidence of data related to initiation in order to explore this relationship, which lies beyond the remit of this research.



## 8 Discussion

In this section, the results from the regression analyses are discussed. Results of this study are initially presented, before being framed in terms of the wider theoretical literature sampled in Chapter 2, and previous research explored in Chapter 4. Finally, the strengths and limitations of this study are explored, in the identification of avenues for further research and possible policy implications.

Previous studies have demonstrated age to be a predictive variable in rising levels of delinquency, with problematic behaviours peaking in late adolescence (Pierce *et al.*, 2017). Similar patterns are mirrored in AOD use as risk factors are compounded by increased age, rising between the ages 10 and 17 (Whitesell *et al.*, 2013; Aslam, 2015). This regression analysis does not reflect these findings with regards to AOD use, acquisitive or violent criminality. Thus, it cannot be stated that within this sample, increased age predicted either the increased potential for lifetime perpetration of violence via a longer timeframe, or that it served as a compounding factor with regards to violence (Aslam, 2015), wherein the incidence of violent behaviours increases with age. However, as antisocial behaviours are theorised to peak in late adolescence, a *linear* regression model that incorporates a sample range almost approaching individuals in their twenties may not provide an adequate model for prediction. An unfortunate, necessary limitation in the methodology is the lack of scope for longitudinal analysis, due to the possible compromise of respondent anonymity. Longitudinal studies would allow for the measurement of shifting perpetration of violence over time, or indeed the tracking of this study group above the age of 18 or 19, in order to state whether the incidence of problematic behaviour or attitudes towards it peak within adolescence. A key consideration in this sample is the highly mixed age dynamic of classes. Students are likely to establish peer relationships with those they share classes with, yet the possible socialisation of behaviours and attitudes across age groups may confound findings within this sample.

Male gender has been identified in previous studies as predictive of criminality (Aaltonen *et al.*, 2011; Aslam, 2015; Gjeruldsen *et al.*, 2004). Male gender was likewise identified as a significantly predictive independent variable for violent crime and AOD use within this sample, whilst female gender was contrarily predictive of acquisitive

criminality. Previous studies have suggested that culturally defined gendered responses to environmental and familial stresses lead males to react violently, whilst females react through greater reversion to an emotional state (Whitesell *et al.*, 2013). This hypothesis may, in part, be supported through this research. As emotional stressors have previously been shown in Chapter 4 to be signifiers of increased problematic behaviour, additionally, violent behaviours have been statistically associated with AOD use, where AOD use also briefly interrogates the tendency to become involved in brawls. However, qualitative, interrogative research would need to be conducted to assert whether or not the confluence of these variables confirms a gendered response to stressors, as per Whitesell *et al.*'s (2013) assertion, as acquisitive criminality within this sample does not necessarily conform to an archetype of female depression in response to stressors. Furthermore, the male gendered prediction of AOD usage suggests that conventionally imagined means of coping (poorly) with stress through AOD use is actually more closely predicted in this sample by male, rather than female gender. The gender split with regards to both variants of criminality in this sample broadly reflects previous findings, where male gender is more heavily associated with violent crime than female (Rennison, 2009; Lauritsen *et al.*, 2009).

SES remains a contentiously debated independent predictor of delinquency and drug use (Aaltonen *et al.*, 2011; Tittle *et al.*, 1978; Braithwaite, 1981; Dervishi and Ibrahim, 2018). However, as SES was measured through the qualitative measure of parental wealth; 'Please state to what extent the following applies to your situation? My parents are poorly off financially', this research showed no statistically significant relation to AOD use or violence, standing in contrast to Dervishi and Ibrahim's (2018) findings linking SES to drug use. However, SES was a statistically significant predictor of acquisitive criminality, though the coefficient gradient remains slight, which rather supports considerations of acquisitive criminality as either a calculated means of acquisition where legal means cannot suffice (Aaltonen *et al.*, 2011; Becker, 1968), or as a consequence of economic frustration. Curiously, the independent variable Q17, examining family wealth in comparison to neighbouring families was not similarly predictive of acquisitive criminality, though the language of the questionnaire – interrogating intra-neighbourhood inequality – may account for the disparity in statistical significance if poor financial wellbeing is widespread, and similarly experienced by all in a community.

Background data presented in Chapter 5 on Bissau-Guinean financial and personal health wellbeing suggests that this may be the case, though this disparity may equally be explained by the rejection of a theory of economic frustration. Future surveys would likely need to access extensive, as-yet not compiled data on community financial wellbeing to examine relationships between localised inequality and acquisitive criminality, to conclusively establish an explanatory model.

Previous research has posited that the systematic, prejudicial treatment of lower SES individuals obscures the true picture of delinquency and AOD use in lower SES individuals (McGarvey *et al.*, 1981). Within the survey, false accusation by the police was identified as a proxy for this discourse. Whilst false accusation was not associated with AOD use, it was proven a statistically significant predictor of both acquisitive and violent criminal behaviours. The higher coefficient gradient for violent over acquisitive crimes initially suggests that violence may signify outbursts of frustration in response to institutional prejudice. Indeed, when violent crime is the dependent variable, the standardised coefficient gradients indicate that false accusation was the single strongest predictor of violence. However, the survey questionnaire does not interrogate the direction of this relationship, such that it is difficult to ascertain whether criminality arose from repeated false accusation, or false accusations are made through increased contact with law enforcement as a result of criminal behaviour. Future surveys would need to examine the onset of criminal behaviours and false accusation to pursue a model of causation.

Living within poorer communities has been identified as a risk factor in previous research (Webster *et al.*, 2006), however this research did not find statistically significant relation between rural or urban upbringing – used in this instance in lieu of interrogative data on community SES – and any dependent variable. Pierce *et al.*'s (2017) explanatory model of *forward causation* suggests that narcotics-linked criminality is nullified when an individual is currently not engaged in AOD use (Yu, 1998). Similarly, engagement with problematic behaviour may be annulled within the sample when the individual is currently able to access the greater relative emotional and institutional resources of the urban Bissau against the rural. Thus current resource access may redress the comparative absence of these resources during their earlier childhood in the rural sphere. This reasoning may explain the lack of statistical significance of peer deaths within the sample

with regards to AOD use, violent or acquisitive criminality, as the sample group's composition generally tends towards the more privileged segment of society, and thus are likely to have access to the emotional resources necessary to adequately respond to peer deaths (Webster *et al.*, 2006). The inclusion of the respondent's first language was included as a result of the geopolitical peculiarities of Guinea-Bissau, yet this proved to have no statistical significance to any of the dependent variables.

Classroom boredom was a statistically significant predictor of both economic and violent behaviours, though their relationships were inverted, suggesting that rising engagement in study was predictive of falling economic criminality, yet rising violent behaviours. This statistical significance with violent crime is not identified in any literature sampled, and appears at best estimate to be a *confounding* variable (Pierce *et al.*, 2017), suggesting that the values are predictive, though not causal. However the falling rates of economic criminality with rising levels of engagement mirrors findings of previous research (McBride *et al.*, 1991; Sachsida, *et al.*, 2007). This supports assumptions of a conscious association between educational opportunities and engagement with future economic integration and opportunity, thus lessening the incentivisation of economic criminality. Where dissociation with employment structures has been highlighted as risk factor in problematic behaviours in prior research (Sachsida *et al.*, 2007; Ólafsdóttir and Bragadóttir, 2006), greater educational engagement and aspiration have been conversely identified as predictors of declining problematic activity (McBride *et al.*, 1991). Contradistinctively, expulsion and regular absences from school are identified as risk factors in the increased onset of problematic behaviours (McBride *et al.*, 1991; Dervishi and Ibrahim, 2018). Within the sample for this thesis, frequent dismissal was identified as predictive of increased AOD engagement, yet not criminality more broadly. However, the potential significance of absenteeism to criminal behaviours may be affected by the political landscape of Guinea-Bissau. Though a pooled estimate of 556.8 of the 2,039-strong sample 'skipped' or 'cut' one day of school or more on the 30 days prior to the survey, interruptions to schooling are commonplace in Guinea-Bissau. Budgetary incompleteness resulted in multiple interruptions to the academic schoolyear in 2017; the same year that the survey was performed (USDS, 2018). Likewise, 25.7% of girls and 17.5% of boys aged 10-11 years had already dropped out of school (UNICEF, 2017),

suggesting that absence may be commonplace, and thus less indicative of criminal behaviours. This may likely be the case in instances where absenteeism is indicative of youth employment beyond school, as described in Chapter 5, a possibility not covered within the questionnaire format.

Changing schools over the previous five years was identified as a statistically significant predictor of violent crime, though not AOD use or acquisitive crimes. Moving schools is broadly considered a transitional period in a young person's life typified by vulnerability, amongst examples such as adolescence, moving home, or parental divorce (HHS, 2020). However, where expulsion is otherwise related to AOD use, an individual's reasoning for moving schools is not interrogated here. Thus, this model and the limitations of the questionnaire do not allow for a causal direction to be analysed, for whilst violent behaviour may be indicative of struggling to acclimatise, or a necessity to protect oneself from bullying, initial reasoning for moving schools (and not necessarily homes, which is not significantly predictive of violent behaviour) may also be linked to disciplinary issues in previous schools.

The incapability of maintaining romantic relationships is identified as a consequence of escalated AOD use in adolescence (NSWG, 2014). Within this research, the experience of a breakup with a boyfriend or girlfriend was found to be a statistically significant predictor of AOD use, though neither form of criminality. Thus, more recent breakups were indicative of increased AOD use, initially suggesting that consequent emotional upheaval precludes AOD engagement. However, as the index variable, AOD use, indicates a plethora of drug taking behaviours, and also variables associated with brawls and scuffles, it is equally plausible to suggest that the breakdown of relationships may be a consequence of AOD engagement and associated antisocial, violent behaviours, as it is to suggest that AOD use is a result of emotional stresses. Unfortunately, the survey language only inquiries into the chronology of a singular breakup experience. Consequently it does not provide further context as to the frequency and chronological spread of relationship breakups, which might provide explanatory potential when exploring the causal role and direction of AOD use and relationship breakdowns before or after AOD use initiation.

Despite peer bonds being identified as predictors of problematic behaviours in the literature (Finestone, 1957; Whitesell *et al.*, 2013), this research did not find statistically

significant links between rather the possibility of receiving 'caring and warmth' from peers, or the possibility of having personal discussions with peers as statistically significant predictors of AOD use, violence or acquisitive crime. However, both violent and acquisitive criminality were strongly predictive of AOD use, with a positive coefficient gradient signifying that increased AOD use predicts increased criminal behaviour of both violent and acquisitive nature. Deviant peer relationships and their statistical links to individuals' problematic behaviours is widely recognised in the literature (Wasserman *et al.*, 2003; Whitesell *et al.*, 2013; UNODC, 2018b). The strength of this predictor with regards to all dependents suggests the normalisation of behaviours through peer role modelling, and subsequent reinforcement. As AOD use is an index variable constructed of several variables, consideration should be given to those constituent elements, several of which interrogate peer behaviours, including peer drinking, tobacco and marijuana use, and tendency to engage in physical fights. The statistical significance of problematic peer variables, and the statistical insignificance of positive peer interactions suggests that the demonstration and normalisation of negative behaviours is a stronger determinant in problematic behaviours than the emotionally reassuring or compromising nature of peer relations.

Perceptions of cannabis use were likewise not predictive of AOD use, or criminality. However, despite linkage of awareness with lowered AOD use in the literature (Errecart *et al.*, 1991; Aguirre-Molina and Gorman, 1996; HHS, 2020), Strang *et al.* (2016) rather contended that narcotics awareness campaigns alone confer no positive effect, and may even increase initiation of cannabis use. A mean of 4.0586 (SD=1.59998), where a value of '4' on a 7-point scale indicates the response 'I do not have a clue' regarding the dangers of cannabis use, suggests that the sample group remains largely unaware of narcotics risks, and thus this study cannot assume that their (un)awareness is causally linked with their decision to initiate narcotics use. This partially supports Strang *et al.*'s (2016) conclusions regarding the impact of sheer awareness over the addressing of further risk factors.

Parental occupation, marriage status and education (Aaltonen *et al.*, 2011; Wasserman *et al.*, 2003) are identified as risk factors in the onset of AOD use and delinquency. Yet this among secondary school adolescents found no statistical

significance between said variables and the target dependent variables. However sexual abuse victimisation over the past 12 months was statistically significant as a predictor of violent and acquisitive crimes, though not AOD use, mirroring findings from previous research (McLellan *et al.*, 1997). This relationship signified increased criminal behaviour with more frequent recent victimisation. The standardised coefficient gradient between sexual victimisation and acquisitive crime was the highest of all predictors for economic criminality, though the implicit link between sexual violence and acquisitive crime is not identified in the literature. The statistical insignificance within this regression model between parental occupation, marriage status and education and the dependent variables contrasts with previous research (Wasserman *et al.*, 2003). Yet concurrent significance of sexual abuse suggests that the prior identified variables are not exclusive determinants of the quality of care children may receive, regardless of their parents' education and work commitments. Furthermore, the statistical insignificance of parental oversight to AOD use or criminality counters previous findings (Koutakis *et al.*, 2008; Bodin and Strandberg, 2011; Koning *et al.*, 2011), though the degree of ambiguity shown by students with regards to the dangers of AOD suggests that parental attitudes are widely not impressed upon the sample group, and that parental attitudes, wherever known, are not informed by drug risk awareness.

Likewise, familial smoking habits, though not statistically significant predictors of violence or AOD use, were linked with acquisitive criminality. Thus, the fewer members of the family that smoke, the lesser the likelihood of respondents' initiation of acquisitive criminality. This link reflects Virtanen *et al.*'s (2007) conclusion correlating smoking, lower SES and higher levels of criminality. As acquisitive criminality has previously been associated with lower self-reported economic wellbeing, conclusions from Virtanen *et al.*'s (2007) study further supports the incentivisation of economic criminality by lower SES. Within this model smoking behaviour serves as a *confounding* (Pierce *et al.*, 2017) factor, indicating coincidence, and perhaps the sharing of overlapping determinants.

Group violence was statistically significant as a predictor of AOD use, violence and economic criminality, though his relationship was expressed through differing variables exploring the same theme. Thus, membership in a group that started a fight in the last 12 months was predictive of violent crime, membership in a group that teased another

within 12 months predicted acquisitive crime and AOD use. Membership in a group attacked by another, or victimisation regardless of group membership predicted AOD use. In each instance, the increased exposure to violence predicted increased engagement in problematic behaviours and AOD use. This supports Patel *et al.*'s (2013) assertion that violent criminality shares traits with viral infection. Thus, as problematic behaviours are observed, they are normalised and emulated. Moreover, though little predictive significance was found with domestic violence, previous research does posit that domestic violence predicts problematic behaviour (Wasserman *et al.*, 2003; McLellan *et al.*, 1997; Whitesell *et al.*, 2013), further supporting a conclusion that the experience of violence in either familial or outside setting is predictive of the adoption of problematic behaviours, mirroring Prichard and Payne's research outcomes (2005).

Several of the previously identified index variables were included in the regression model for each dependent variable. Despite findings in previous research suggesting that a lack of recreational engagement in sports and hobby groups heightens uptake of AOD and criminal behaviours (Kristjánsson *et al.*, 2019a; Kristjánsson *et al.*, 2019b), this regression found no such link to any dependent variable within this sample group. However, the poor execution of budget with regards to educational systems broadly across Guinea-Bissau suggests a wide lack of recreational engagement in organised activities for young people within the survey sample. Indeed, as per table 6, a mean=1.9359, (standard deviation=0.73199) on a 6-point scale, the average respondents indicated that they engage in recreation activities somewhere between 'almost never' and 'less than once a week', suggesting that responses are homogenously low, impacting the statistical significance of this variable.

Alcohol behaviours were statistically significant predictors of AOD use, violent and acquisitive criminality, though alcohol's relationship with these dependents was contrasting, an increased value for drinking was predictive of increased AOD use and violence, but had an inverse-relationship with acquisitive criminality. The statistical significance of AOD use's relation to alcohol use is not surprising, as the component variables that contribute to both indices cover similar thematic areas, yet the concurrent negative coefficient gradient with acquisitive crime was unexpected. Alcohol use has previously been identified as tightly associated with bullying (Whitesell *et al.*, 2013) and



criminality (Armiya'u, 2015; Hernandez-Avila *et al.*, 2000), and the results of this analysis confirm similar regression values within the survey group. However, Yu (1998) did identify the co-presence of alcohol as a significant factor in criminal engagement, and that the interdependency of alcohol and drug use in relation to criminal behaviour remains understudied. Both criminal behaviours also show statistically significant association with AOD use. Yu identified alcohol as a gateway drug, suggesting that the concurrent use of alcohol and other drugs, rather than alcohol alone may be more predictive of criminal engagement than alcohol alone, supporting both findings within this regression model. Alcohol behaviours were the single largest predictor of AOD use within this group, suggesting the concurrent use of multiple drugs, illicit or not, among those that have already initiated AOD use within the sample.

Mirroring previous research (Armiya'u, 2015; ICPC, 2015; Yu, 1998; Kokkevi *et al.*, 1993), both variants of criminality were predictive of AOD use. In addition to being both significantly predictive of AOD use, and vice-versa, acquisitive and violent criminality were closely associated. When acquisitive criminality was calculated as the dependent variable, violent criminality presented results of  $p < .005$ ,  $B = .085$  (95% CI = .046, .124), whereas where violent criminality was phrased as the dependent, acquisitive criminality showed the following relationship;  $p < .005$ ,  $B = .227$  (95% CI = .141, .313). Thus, whilst the principal component analysis indicates differing components or threads defining these behaviours within the dataset, the engagement in one is indicative of engagement in the other. A limitation within the questionnaire format is the inability to explore the initiation of violence, unlike AOD use. Consequently, it is not possible in this research to indicate which behaviours begin first, that is; violence, economic crime, or AOD use.

The appropriateness of this methodology has been demonstrated through the identification of multiple statistically significant independent predictors of AOD use and criminality. The coincidence of statistically significant single independent predictors for multiple dependent factors suggests that singular intervention methodologies may address multiple problematic outcome behaviours through the targeting of shared predictive independent determinants, mirroring earlier findings (HHS, 2016). Contrarily, occasional divergence in predictive variables signifies that any intervention methodologies must embody a broad focus upon multiple determinants. Furthermore,

the identification of non-stigmatizing determinants, such as relationship breakdown, dismissal from class and engagement in studies, to name a few, present the possibility for non-disparaging interventions. Additionally, though Yu's (1998) model of progressive drug use initially suggested interventions targeting singular drug types may interrupt drug type progression, the identification of the statistical association of alcohol, tobacco and marijuana within the singular index variable, AOD use, through principal component analysis hints at patterned, multiple drug type use. Consequently, approaches that address multiple drug types may prove equally beneficial to those approaches focussing upon individual narcotics types.

## 9 Conclusion

Adopting a public health perspective, wherein AOD use and criminality are considered as health and lifestyle outcomes; downstream consequences of deterministic factors, this study has sought to identify and describe those social determinants predictive of problematic behaviours. Given the dearth of data on AOD use and criminality, or their social determinants in Guinea-Bissau, a cross-sectional analysis of a singular dataset was necessitated. Dependent variables were generated through principal component analysis, whilst individual factors identified through literature review included SES, economic inequality, peer influence, familial influence, self-esteem, recreational behaviour, in addition to statistically significant underlying indices also extracted through principal component analysis.

Within this sample, this study indicates broadly overlapping social predictors of both criminality and AOD use. Drinking was a statistically significant predictor of all antisocial behaviours, as were sexual and group violence, peer demonstration of negative behaviours, and gender, though AOD use shared male gender as a predictor only with violent criminality. Uniquely, AOD use alone was predicted by either dismissal from school, or the breakdown of romantic relationships, suggesting an emotional component of AOD engagement.

AOD use was highly predictive of initiation of criminality in both instances, as was frequent false accusation by the police. Similarly, both criminality types were statistically significant predictors in the initiation of the other. However, certain determinants displayed divergent relations with both criminal behaviours. Though both could be predicted by gender, female gender was a statistically significant factor in acquisitive criminality, as male gender was for violent crimes. Additionally, engagement in studies showed divergent coefficient slopes, such that within this sample group, engagement predicted violent behaviours, whilst boredom predicted acquisitive criminality. Likewise, both criminal behaviours had unique independent predictors, as acquisitive criminality was predicted by family smoking habits, and poor family finance, as violence was predicted by moving schools in the past five years.

The efficacy of the utilisation of a multiple regression model in this instance is outlined through the identification of statistically significant social predictors of

problematic behaviours. The overlapping significance of independent variables across all dependents variables identified suggests the efficacy of intervention strategies which may limit engagement in problematic behaviours of several types, through singular programs. Similarly, the detection of differing determinants signals that interventions with a broad focus on highlighted social determinants addressing, in some cases non-stigmatising topics may reap greater effects. Though a differing research methodology may focus on the progressive initiation of different drug types and their individual significance with regards to different antisocial behaviours, the association of alcohol, tobacco and marijuana within the singular index variable 'AOD use' suggests patterned, multiple drug type use within the AOD engaged component of the survey sample. Subsequently, approaches addressing multiple drugs simultaneously, rather than upon a singular focus, may prove equally effective.

A cross-sectional linear regression model was not adequate for interrogating certain variables, such as the significance of age in predicting problematic behaviours, age is hinted not to follow a linear progression in the literature, nor in interrogating the significance of time-specified social determinants and AOD in their chronological forecasting of other behaviours. A longitudinal study, or the interrogation of further ages of initiation of certain behaviours in the source survey would need to be conducted to accurately model the expression of such behaviours over time, attitudes towards them, and their consequent theorised causal links.

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## Appendix A

**Rotated Component Matrix<sup>a</sup>**

	Component															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Q72a How many of your friends do the following? Smoke cigarettes	.857															
Q72b How many of your friends do the following? Drink alcohol	.836															
Q72c How many of your friends do the following? Become drunk at least once a month	.801															
Q72d How many of your friends do the following? Smoke hash or marijuana	.731															
Q72e How many of your friends do the following? Fight with somebody	.532				.321											
Q72f How many of your friends do the following? Pick fights or search out fights	.502				.395											

Q64b At what age (if ever) did you do the following for the first time? Got drunk	.482			
Q55 How often have you smoked cigarettes in your lifetime?	.450	.321	.351	.354
Q66f How often have you done the following in the last 12 months? Committed another offence	.402			
Q67b Please answer the following questions as they apply to you? Have you exerted physical violence during the last 12 months	.346			
Q77l How often do you go to concerts?	.777			
Q77m How often do you go to places with live music?	.755			
Q77j How often do you go to a theatre?	.684			
Q77k How often do you go to a library?	.641			
Q77e How often do you spend time by night in the city centre or during the weekends?	.558			
Q77g How often do you go to a fast food restaurant?	.551			



Q77i How often do you go to a swimming pool outside school hours?	.519
Q77f How often do you go to a party/discotheque?	.459
Q77d How often do you stroll around?	.375
Q77h How often do you go to sporting events?	.347
Q76 Do you take part in any organized recreational or extracurricular activities?	.309
Q66d How often have you done the following in the last 12 months? Broken into a building or a car to steal	.953
Q66b How often have you done the following in the last 12 months? Stolen something worth more than 3 movie tickets	.937
Q66c How often have you done the following in the last 12 months? Used physical violence in order to rob/steal	.906

Q66e How often have you done the following in the last 12 months? Damaged or vandalised things that did not belong to you	.884
Q71c How many of your friends do you think have done the following during the last 12 months? Damaged or vandalised things that did not belong to them	.361
Q65b To what extent do you agree with the following statements? It is dangerous to smoke cannabis/hashish even if it only once	.909
Q65c To what extent do you agree with the following statements? Hashish/cannabis is more dangerous than marijuana	.906
Q65a To what extent do you agree with the following statements? It is dangerous to smoke marijuana even if it is only once	.859

Q65e To what extent do you agree with the following statements? Hashish/cannabis and marijuana are equally dangerous	.857
Q65d To what extent do you agree with the following statements? Marijuana/yamba is more dangerous than hashish/cannabis	.852
Q70b How often have you done the following during the last 12 months? Knocked someone over	.846
Q70e How often have you done the following during the last 12 months? Helped to beat somebody	.825
Q70a How often have you done the following during the last 12 months? Punched somebody	.797
Q70c How often have you done the following during the last 12 months? Kicked somebody	.748
Q70d How often have you done the following during the last 12 months? Hit/slapped somebody	.686

Q41d What do you consider important to do to gain respect from your friends? To smoke cigarettes	.932
Q41e What do you consider important to do to gain respect from your friends? To smoke cannabis	.920
Q41c What do you consider important to do to gain respect from your friends? To drink alcohol	.889
Q41h What do you consider important to do to gain respect from your friends? To steal from shops or other sites	.879
Q41f What do you consider important to do to gain respect from your friends? To look good	.468
Q36h How well do the following statements apply to you? My parents know the parents of my friends	.822
Q36i How well do the following statements apply to you? My parents often talk to the parents of my friends	.770

Q36j How well do the following statements apply to you? My parents and the parents of my friends often meet to talk to one another	.716		
Q36g How well do the following statements apply to you? My parents know my friends	.701		
Q59b How often have you used a water pipe? In the last 30 days	.895		
Q59a How often have you used a water pipe? In your lifetime	.849		
Q64d At what age (if ever) did you do the following for the first time? Smoked cigarettes daily	.587	.363	
Q64e At what age (if ever) did you do the following for the first time? Used cannabis (hash/marijuana)	.317	.474	-.309
Q54b Does one of the following persons you know smoke tobacco on a daily basis? Mother		.929	
Q54c Does one of the following persons you know smoke tobacco on a daily basis? Sibling		.914	

Q54a Does one of the following persons you know smoke tobacco on a daily basis? Father		.864
Q61b How often have you had an alcoholic drink of any kind? During the last 30 days		.812
Q61a How often have you had an alcoholic drink of any kind? In your lifetime	.448	.648
Q62b How often have you gotten drunk? During the last 30 days		.477
Q64a At what age (if ever) did you do the following for the first time? Had a drink of alcohol		.418
Q70g How often have you done the following during the last 12 months? Force someone to have sex		.860
Q70h How often have you done the following during the last 12 months? Force someone to take part in group-sex		.825
Q56 How much have you smoked in the last 30 days?		.805

Q68c How do you think your parents would react if you would smoke cannabis?	.908
Q68a How do you think your parents would react if you would smoke cigarettes?	.898
Q68b How do you think your parents would react if you would get drunk?	.881
Q47g Have you experienced any of the following? Witnessed psychological violence in your home where an adult was involved	.795
Q47h Have you experienced any of the following? Been involved in physical violence in your home where and adult was involved	.702
Q47f Have you experienced any of the following? Witnessed physical violence in your home where an adult was involved	.449
Q38b Please state if and to what extent the following applies to your situation? My parents can afford to buy a car	.716

Q38d Please state if and to what extent the following applies to your situation? My parents do have enough money to pay for the extracurricular activities that would most like to participate in	.660
Q38a Please state if and to what extent the following applies to your situation? My parents are poorly-off financially	-.558
Q47d Have you experienced any of the following? A serious argument with your parents	.786
Q47e Have you experienced any of the following? Witnessed a serious argument by your parents	.721
Q47c Have you experienced any of the following? A separation or divorce of your parents	.585
Q47n Have you experienced any of the following? Received an exceptionally low grade	.306
Q36k How well do the following statements apply to you? My parents follow what I do in my recreational time	.678



Q36d How well do the following statements apply to you? My parents set definite rules on when I should be at home at night			.665
Q36c How well do the following statements apply to you? My parents set definite rules about what I should do outside my home			.566
Q36b How well do the following statements apply to you? My parents set definite rules about what I can do at home	.305		.528
Q47m Have you experienced any of the following? A separation from a friend			
Q47l Have you experienced any of the following? Been rejected by your friends			
Q47p Have you experienced any of the following? Been dismissed from class, or sent to the disciplinary board			
Q39a How much do you approve of the following statements? There are situations that justify that there is a fight among people			

Q47q Have you experienced any of the following? Been expelled from school

Q47r Have you experienced any of the following? Been a victim of sexual abuse

Q47s Have you experienced any of the following? Experienced sexual abuse where an adult from within the family was involved

Q67c Please answer the following questions as they apply to you? Have you been a victim of sexual violence during the last 12 months

Q67d Please answer the following questions as they apply to you? Have you exerted sexual violence during the last 12 months

Q25b How many whole days have you been absent from school during the last 30 days because you skipped or cut classes?

Q71a How many of your friends do you think have done the following during the last 12 months? Stolen something worth more than 3 movie tickets

Q71b How many of your friends do you think have done the following during the last 12 months? Broken into a building or car in order to steal something

.324

Q71d How many of your friends do you think have done the following during the last 12 months? Damaged or vandalised things that did not belong to them

Q47i Have you experienced any of the following? The death of a parent or sibling

Q47j Have you experienced any of the following? The death of a friend

Q64f At what age (if ever) did you do the following for the first time? Had a sexual relation

Q64c At what age (if ever) did you do  
the following for the first time? Smoked .309  
a cigarette

.357

Q41i What do you consider important to  
do to gain respect from your friends? To  
know a great deal about music

Q67a Please answer the following  
questions as they apply to you? Have  
you been a victim of physical violence  
during the last 12 months

Q70f How often have you done the  
following during the last 12 months?  
Treat somebody with violence

Q5 What is the highest level of  
schooling your mother completed?

Q7 What is the highest level of  
schooling your father completed?

Q36e How well do the following  
statements apply to you? My parents  
know who I am with in the evenings

Q36f How well do the following  
statements apply to you? My parents  
know where I am in the evenings

Q36a How well do the following  
statements apply to you? My parents  
find it important that I do well in my  
studies

Q41a What do you consider important  
to do to gain respect from your friends?  
To do well in school

Q62a How often have you gotten  
drunk? In your lifetime .327

.425

Q41b What do you consider important  
to do to gain respect from your friends?  
To do well in sports

Q39c How much do you approve of the  
following statements? At times, it is  
important that you kick a person or fight  
back to protect your honour

Q31b During the last 7 days how often  
did you do any of the following? Was  
outside my home after ten o'clock in the  
evening

Q31c During the last 7 days how often  
did you do any of the following? Went  
outside and returned after midnight

Q77b How often do you go to the  
cinema/movies?

Q77a How often do you hang out with  
friends without the presence of adults?

Q47o Have you experienced any of the  
following? Father or mother lost their  
job

Q47a Have you experienced any of the  
following? A serious accident

Q77c How often do you go to a café? .409

Q9 Does your mother work outside the  
home?

Q10 Does your father work outside the  
home?

Q47t Have you experienced any of the  
following? Experienced sexual abuse  
where an adult from outside the family  
was involved

Q17 How well-off financially do you  
think your family is in comparison to  
others?

Q47k Have you experienced any of the following? A breakup with a boyfriend/girlfriend

Q31a During the last 7 days how often did you do any of the following? Stayed at home for a whole evening

Q34a How well does the following apply to you: I spend time with my parents outside school hours on working days?

Q47b Have you experienced any of the following? A severe illness

Q38c Please state if and to what extent the following applies to your situation? My parents hardly have enough money to pay for necessities

Q25a How many whole days have you been absent from school during the last 30 days because of illness?

Q39d How much do you approve of the following statements? The one who does not respond to an attack or fight is considered to be a cowards among my friends

Q41g What do you consider important  
to do to gain respect from your friends?  
To be against the rules of adults

Q30b What kind of information  
technology do you use? Mobile phone  
with internet connection

Q66a How often have you done the  
following in the last 12 months? Stolen  
something worth less than 3 normal  
movie tickets

Q30c What kind of information  
technology do you use? Table computer

Q27 What do you think you will do after  
graduating from this school?

Q30a What kind of information  
technology do you use?  
Computer/laptop

Q34b How well does the following apply  
to you: I spend time with my parents  
during the weekends?

Q25c How many whole days have you  
been absent from school during the last  
30 days for other reasons?



Q39b How much do you approve of the following statements? When someone treats me badly, I find it good that I slap or kick that person

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Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 50 iterations.

## Appendix B

### ANOVA – AOD use

Imputation Number	Model		Sum of Squares	df	Mean Square	F	Sig.
Original data	1	Regression	63.498	44	1.443	9.771	.000 <sup>b</sup>
		Residual	42.978	291	.148		
		Total	106.476	335			
1	1	Regression	574.196	44	13.050	71.077	.000 <sup>c</sup>
		Residual	366.102	1994	.184		
		Total	940.298	2038			
2	1	Regression	591.748	44	13.449	75.483	.000 <sup>d</sup>
		Residual	355.271	1994	.178		
		Total	947.019	2038			
3	1	Regression	603.306	44	13.711	80.121	.000 <sup>e</sup>
		Residual	341.244	1994	.171		
		Total	944.549	2038			
4	1	Regression	578.675	44	13.152	73.813	.000 <sup>f</sup>
		Residual	355.284	1994	.178		
		Total	933.958	2038			
5	1	Regression	603.343	44	13.712	75.354	.000 <sup>g</sup>
		Residual	362.851	1994	.182		
		Total	966.194	2038			

## Appendix C

### ANOVA – Acquisitive Crime

Imputation Number	Model		Sum of Squares	df	Mean Square	F	Sig.
Original data	1	Regression	16.078	44	.365	3.292	.000 <sup>b</sup>
		Residual	32.298	291	.111		
		Total	48.376	335			
1	1	Regression	490.163	44	11.140	61.646	.000 <sup>c</sup>
		Residual	360.335	1994	.181		
		Total	850.498	2038			
2	1	Regression	409.662	44	9.310	56.193	.000 <sup>d</sup>
		Residual	330.382	1994	.166		
		Total	740.044	2038			
3	1	Regression	396.764	44	9.017	49.072	.000 <sup>e</sup>
		Residual	366.416	1994	.184		
		Total	763.179	2038			
4	1	Regression	436.514	44	9.921	55.863	.000 <sup>f</sup>
		Residual	354.114	1994	.178		
		Total	790.629	2038			
5	1	Regression	377.319	44	8.575	49.973	.000 <sup>g</sup>
		Residual	342.170	1994	.172		
		Total	719.489	2038			

## Appendix D

### ANOVA – Violent Crime

Imputation Number	Model		Sum Squares	of df	Mean Square	F	Sig.
Original data	1	Regression	48.163	44	1.095	4.186	.000 <sup>b</sup>
		Residual	76.099	291	.262		
		Total	124.262	335			
1	1	Regression	753.713	44	17.130	36.973	.000 <sup>c</sup>
		Residual	923.841	1994	.463		
		Total	1677.554	2038			
2	1	Regression	650.720	44	14.789	31.965	.000 <sup>d</sup>
		Residual	922.558	1994	.463		
		Total	1573.278	2038			
3	1	Regression	638.633	44	14.514	29.514	.000 <sup>e</sup>
		Residual	980.607	1994	.492		
		Total	1619.240	2038			
4	1	Regression	716.111	44	16.275	36.284	.000 <sup>f</sup>
		Residual	894.418	1994	.449		
		Total	1610.529	2038			
5	1	Regression	666.018	44	15.137	30.975	.000 <sup>g</sup>
		Residual	974.417	1994	.489		
		Total	1640.435	2038			

## Appendix E

### Coefficients –AOD use

		Unstandardized		Standardized		95.0% Confidence					
Imputation_		Coefficients		Coefficients		Sig.	Interval for B		Fraction	Relative	Relative
Imputation		B	Std. Error	Beta	t		Lower	Upper	Missing	Increase	
Number	Model					Bound	Bound	Info.	Variance	Efficiency	
Original data	1	(Constant)	.344	.564		.609	.543	-.766	1.454		
		economiccrime	.315	.065	.212	4.840	.000	.187	.443		
		recreationalbehaviour	.048	.042	.049	1.140	.255	-.035	.130		
		canabisriskperception	.005	.016	.014	.331	.741	-.026	.037		
		violentcrime	.039	.044	.042	.890	.374	-.047	.126		
		peerinfluence	-.024	.026	-.039	-.942	.347	-.075	.027		
		parentaloversight	.025	.029	.034	.861	.390	-.033	.083		
		familysmoking	-.034	.033	-.042	-1.038	.300	-.098	.030		
		parreactalcholdrugs	-.003	.026	-.006	-.133	.894	-.054	.047		

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drinking	.382	.033	.502	11.443	.000	.316	.448
domviolence	-.018	.044	-.018	-.408	.684	-.104	.069
Q2b How old are you?	-6.005E-5	.021	.000	-.003	.998	-.042	.042
gender	-.063	.046	-.056	-1.367	.173	-.154	.028
Q38a Please state if and to what extent the following applies to your situation? My parents are poorly-off financially	-.013	.020	-.028	-.651	.516	-.052	.026
Q73f How often, have you been involved in the following situations? Accused of a crime by the police that you never committed	.002	.046	.002	.049	.961	-.088	.092
Q47j Have you experienced any of the following? The death of a friend	.057	.024	.102	2.369	.018	.010	.104

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Q12 If you were born in Guinea Bissau choose the- region where you were born	.001	.052	-.001	-.025	.980	-.103	.101
Q14 Is the official language Portuguese spoken in your- home?	.018	.036	-.021	-.505	.614	-.090	.053
Q17 How well-off financially do you think your family is in- comparison to others?	.012	.021	-.025	-.578	.564	-.052	.029
Q26b How do the following statements apply to you? I. am bored with studies	.003	.021	.006	.157	.876	-.038	.044
Q28 How likely do you think it is that you will attend- university?	.027	.033	-.033	-.808	.420	-.091	.038
Q24a What have your grades been in Mathematics?	-.014	.009	-.064	-1.490	.137	-.033	.005
Q24b What have your grades been in Portuguese?	.009	.011	.031	.750	.454	-.014	.031

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Q25b How many whole days have you been absent from school during the last 30 days because you skipped or cut classes?	30.067	.038	.079	1.744	.082	-.009	.142
Q25c How many whole days have you been absent from school during the last 30 days for other reasons?	-.042	.024	-.072	-1.739	.083	-.089	.005
Q47p Have you experienced any of the following? Been dismissed from class, or sent to the disciplinary board	-.046	.029	-.070	-1.595	.112	-.103	.011
Q47k Have you experienced any of the following? A breakup with a boyfriend/girlfriend	-.027	.023	-.053	-1.213	.226	-.072	.017

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Q33a How easy or hard would it be for you to receive the following from your friends? Caring and warmth	-.036	.018	-.088	-2.023	.044	-.070	-.001
Q33b How easy or hard would it be for you to receive the following from your friends? Discussions about personal affairs	.002	.018	.005	.122	.903	-.033	.037
Q4b Households with one biological parent	-.009	.048	-.008	-.199	.843	-.104	.085
Q47c Have you experienced any of the following? A separation or divorce of your parents	.005	.031	.007	.177	.860	-.055	.066
Q9Q10 Both parents work outside of the home	-.018	.035	-.022	-.522	.602	-.088	.051
Q5Q7 Both parents educated	.051	.031	.072	1.622	.106	-.011	.112

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Q67c Please answer the following questions as they apply to you? Have you been a victim of sexual violence during the last 12 months	158	.069	.106	2.304	.022	.023	.293
Q47r Have you experienced any of the following? Been a victim of sexual abuse	.023	.049	.020	.467	.641	-.073	.118
Q47t Have you experienced any of the following? Experienced sexual abuse where an adult from outside the family was involved	-.020	.034	-.026	-.598	.551	-.086	.046
Q32e How easy or hard would it be for you to receive the following from your parents? Assistance with things	.032	.017	.077	1.823	.069	-.003	.066

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Q51a Have you, during the last 12 months...? Moved to a different neighbourhood/community?	-.039	.063	-.029	-.615	.539	-.163	.086
Q51b Have you, during the last 12 months...? Changed schools	.027	.057	.021	.463	.644	-.086	.140
Q52a Have you, during the last 5 years...? Moved to a different neighbourhood/community	-.008	.025	-.015	-.331	.741	-.057	.041
Q52b Have you, during the last 5 years...? Changed schools	.024	.022	.050	1.094	.275	-.019	.067
Q67a Please answer the following questions as they apply to you? Have you been a victim of physical violence during the last 12 months	.085	.038	.104	2.237	.026	.010	.160

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		Q69c How often, during the last 12 months have you behaved in the following way? Been part of a group starting a fight with another group	.030	.045	.034	.678	.498	-.057	.118			
		Q69d How often, during the last 12 months have you behaved in the following way? Been part of a group that teased another	-.015	.040	-.019	-.375	.708	-.093	.063			
		Q69f How often, during the last 12 months have you behaved in the following way? Been in a group that was attacked by another group	.070	.032	.097	2.160	.032	.006	.134			
Pooled	1	(Constant)	.394	.209		1.888	.059	-.016	.804	.077	.081	.985
		economiccrime	.198	.050		3.978	.007	.077	.319	.846	4.072	.855

recreationalbehaviour	-.009	.015	-.577	.565	-.039	.022	.202	.232	.961
canabisriskperception	.000	.006	.027	.979	-.012	.013	.100	.106	.980
violentcrime	.054	.019	2.796	.013	.013	.094	.540	.954	.903
peerinfluence	-.017	.013	-1.224	.234	-.045	.012	.478	.758	.913
parentaloversight	.034	.019	1.765	.105	-.008	.077	.659	1.512	.884
familysmoking	.017	.015	1.123	.263	-.013	.048	.179	.201	.965
parreactalcholdrugs	-.017	.010	-1.660	.097	-.038	.003	.087	.091	.983
drinking	.351	.014	25.850	.000	.324	.377	.125	.135	.976
domviolence	-.004	.023	-.167	.870	-.055	.047	.619	1.291	.890
Q2b How old are you?	.000	.010	.021	.983	-.019	.019	.171	.191	.967
gender	-.059	.021	-2.742	.007	-.101	-.016	.170	.190	.967
Q38a Please state if and to what extent the following applies to your situation? My- parents are poorly-off financially	.010	.008	-1.142	.256	-.026	.007	.213	.246	.959

Q73f How often, have you been involved in the following situations? Accused of a crime by the police that you never committed	.021	.025	.814	.435	-.036	.077	.698	1.794	.877
Q47j Have you experienced any of the following? The death of a friend	.018	.015	1.214	.248	-.014	.050	.633	1.361	.888
Q12 If you were born in Guinea Bissau choose the region where you were born	-.017	.025	-.670	.507	-.068	.034	.328	.425	.938
Q14 Is the official language Portuguese spoken in your home?	.005	.016	.291	.771	-.027	.036	.086	.091	.983
Q17 How well-off financially do you think your family is in comparison to others?	.006	.008	.714	.477	-.011	.022	.176	.197	.966

Q26b How do the following statements apply to you? I- am bored with studies	-.006	.015	-.379	.715	-.040	.029	.765	2.478	.867
Q28 How likely do you think it is that you will attend- university?	-.002	.014	-.113	.910	-.029	.026	.197	.225	.962
Q24a What have your grades been in Mathematics?	-.003	.005	-.600	.553	-.014	.007	.407	.582	.925
Q24b What have your grades been in Portuguese?	-.005	.005	-1.008	.314	-.014	.004	.086	.091	.983
Q25b How many whole days have you been absent from school during the last 30- days because you skipped or cut classes?	-.014	.022	-.644	.539	-.066	.037	.779	2.667	.865
Q25c How many whole days have you been absent from school during the last 30- days for other reasons?	-.011	.017	-.619	.557	-.052	.031	.826	3.551	.858

Q47p Have you experienced any of the following? Been dismissed from class, or sent to the disciplinary board	-.040	.015	-2.620	.015	-.071	-.008	.458	.705	.916
Q47k Have you experienced any of the following? A breakup with a boyfriend/girlfriend	-.031	.009	-3.334	.001	-.050	-.013	.113	.121	.978
Q33a How easy or hard would it be for you to receive the following from your friends? Caring and warmth	-.003	.009	-.323	.749	-.021	.015	.368	.500	.932
Q33b How easy or hard would it be for you to receive the following from your friends? Discussions about personal affairs	-.005	.008	-.661	.509	-.021	.011	.124	.134	.976
Q4b Households with one biological parent	-.004	.022	-.160	.873	-.048	.041	.190	.216	.963



Q47c Have you experienced any of the following? A separation or divorce of your parents	.005	.012	.426	.670	-.019	.029	.080	.084	.984
Q9Q10 Both parents work outside of the home	.002	.017	.105	.917	-.033	.036	.307	.390	.942
Q5Q7 Both parents educated	.032	.016	1.943	.061	-.001	.065	.386	.538	.928
Q67c Please answer the following questions as they apply to you? Have you been a victim of sexual violence during the last 12 months	.039	.028	1.362	.201	-.024	.101	.662	1.532	.883
Q47r Have you experienced any of the following? Been a victim of sexual abuse	.037	.022	1.691	.101	-.008	.082	.397	.561	.926

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Q47t Have you experienced any of the following?								
Experienced sexual abuse-030	.021	-1.390	.199	-.078	.019	.730	2.073	.873
where an adult from outside the family was involved								
Q32e How easy or hard would it be for you to receive the following from your.015	.011	1.366	.198	-.009	.040	.641	1.408	.886
parents? Assistance with things								
Q51a Have you, during the last 12 months...? Moved to a different neighbourhood/community? .016	.026	.639	.523	-.034	.067	.099	.105	.981
Q51b Have you, during the last 12 months...? Changed.021	.025	.839	.403	-.028	.069	.175	.196	.966
schools								

Q52a Have you, during the last 5 years...? Moved to a different neighbourhood/community	.013	.011	1.155	.252	-.010	.036	.265	.322	.950
Q52b Have you, during the last 5 years...? Changed schools	.001	.009	.125	.900	-.017	.019	.179	.202	.965
Q67a Please answer the following questions as they apply to you? Have you been a victim of physical violence during the last 12 months	.086	.016	5.521	.000	.055	.117	.244	.290	.954
Q69c How often, during the last 12 months have you behaved in the following way? Been part of a group starting a fight with another group	.047	.025	1.909	.075	-.005	.100	.566	1.053	.898

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Q69d How often, during the last 12 months have you behaved in the following way? Been part of a group that teased another	.069	.027	2.537	.028	.009	.128	.669	1.579	.882
Q69f How often, during the last 12 months have you behaved in the following way? Been in a group that was attacked by another group	.082	.018	4.434	.000	.044	.119	.346	.458	.935

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a. Dependent Variable: tobalccanabisuse

## Appendix F

### Coefficients – Acquisitive Crime

		Unstandardized		Standardized		Sig.	95.0% Confidence		Fraction	Relative	Relative			
		Coefficients		Coefficients			Interval for B					Missing	Increase	Efficiency
Imputation_		B	Std. Error	Beta	t		Lower	Upper						
Number	Model					Bound	Bound	Info.	Variance					
Original data	1	(Constant)	.840	.487		1.725	.086	-.118	1.798					
		peerinfluence	-.005	.022	-.013	-.239	.811	-.050	.039					
		tobalccanabisuse	.237	.049	.351	4.840	.000	.140	.333					
		recreationalbehaviour	-.035	.036	-.054	-.980	.328	-.107	.036					
		canabisriskperception	.004	.014	.017	.320	.749	-.023	.032					
		violentcrime	.080	.038	.129	2.123	.035	.006	.155					
		parentaloversight	-.015	.025	-.031	-.601	.548	-.065	.035					
		familysmoking	.039	.028	.072	1.387	.167	-.016	.095					
		parreactalcholdrugs	.037	.022	.089	1.659	.098	-.007	.080					
		drinking	-.086	.034	-.168	-2.496	.013	-.154	-.018					
		domviolence	-.038	.038	-.058	-.997	.320	-.113	.037					

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Q2b How old are you?	-.003	.018	-.008	-.145	.885	-.039	.034
gender	.045	.040	.059	1.121	.263	-.034	.123
Q38a Please state if and to what extent the following applies to your situation? My	.034	.017	.109	1.962	.051	.000	.068
parents are poorly-off financially							
Q73f How often, have you been involved in the following situations?	.044	.040	.064	1.123	.262	-.033	.122
Accused of a crime by the police that you never committed							
Q47j Have you experienced any of the following? The	-.009	.021	-.023	-.418	.676	-.050	.032
death of a friend							
Q12 If you were born in Guinea Bissau choose the	-.017	.045	-.020	-.380	.704	-.105	.071
region where you were born							

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Q14 Is the official language Portuguese spoken in your home?	.015	.032	.026	.478	.633	-.047	.077
Q17 How well-off financially do you think your family is in comparison to others?	-.011	.018	-.035	-.635	.526	-.046	.024
Q26b How do the following statements apply to you? I am bored with studies	-.013	.018	-.036	-.695	.488	-.048	.023
Q28 How likely do you think it is that you will attend university?	-.037	.028	-.069	-1.309	.191	-.093	.019
Q24a What have your grades been in Mathematics?	.004	.008	.028	.511	.609	-.012	.020
Q24b What have your grades been in Portuguese?	-.002	.010	-.012	-.233	.816	-.022	.017

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Q25b How many whole days have you been absent from school during the last 30 days because you skipped or cut classes?	30.005	.033	.009	.158	.874	-.060	.071
Q25c How many whole days have you been absent from school during the last 30 days for other reasons?	.025	.021	.063	1.178	.240	-.016	.065
Q47p Have you experienced any of the following? Been dismissed from class, or sent to the disciplinary board	-.006	.025	-.014	-.247	.805	-.056	.043
Q47k Have you experienced any of the following? A breakup with a boyfriend/girlfriend	.034	.019	.097	1.727	.085	-.005	.072

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Q33a How easy or hard would it be for you to receive the following from your friends? Caring and warmth	.005	.015	.018	.313	.754	-.025	.035
Q33b How easy or hard would it be for you to receive the following from your- friends? Discussions about personal affairs	-.010	.015	-.035	-.669	.504	-.040	.020
Q4b Households with one biological parent	.047	.041	.060	1.148	.252	-.034	.129
Q47c Have you experienced any of the following? A separation or divorce of your parents	.024	.026	.048	.919	.359	-.028	.076
Q9Q10 Both parents work outside of the home	.065	.030	.116	2.146	.033	.005	.125
Q5Q7 Both parents educated	.008	.027	.017	.306	.760	-.045	.062

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Q67c Please answer the following questions as they apply to you? Have you been a victim of sexual violence during the last 12 months	.182	.059	.182	3.086	.002	.066	.298
Q47r Have you experienced any of the following? Been a victim of sexual abuse	-.010	.042	-.013	-.233	.816	-.093	.073
Q47t Have you experienced any of the following? Experienced sexual abuse where an adult from outside the family was involved	-.045	.029	-.087	-1.537	.125	-.102	.012
Q32e How easy or hard would it be for you to receive the following from your parents? Assistance with things	-.011	.015	-.041	-.746	.456	-.041	.018

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Q51a Have you, during the last 12 months...? Moved to a different neighbourhood/community?	.034	.055	.037	.616	.538	-.074	.142
Q51b Have you, during the last 12 months...? Changed schools	-.116	.049	-.136	-2.357	.019	-.213	-.019
Q52a Have you, during the last 5 years...? Moved to a different neighbourhood/community	.003	.022	.009	.146	.884	-.039	.046
Q52b Have you, during the last 5 years...? Changed schools	-.021	.019	-.065	-1.097	.273	-.058	.016
Q67a Please answer the following questions as they apply to you? Have you been a victim of physical violence during the last 12 months	-.078	.033	-.142	-2.376	.018	-.143	-.013

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Q69c How often, during the last 12 months have you behaved in the following way? Been part of a group starting a fight with another group	.070	.038	.118	1.827	.069	-.005	.146
Q69d How often, during the last 12 months have you behaved in the following way? Been part of a group that teased another	-.014	.034	-.027	-.422	.673	-.082	.053
Q69f How often, during the last 12 months have you behaved in the following way? Been in a group that was attacked by another group	-.017	.028	-.035	-.598	.550	-.073	.039

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Q69c How often, during the last 12 months have you behaved in the following way? Been part of a group starting a fight with another group

.041 .017 .054 2.485 .013 .009 .074

Q69d How often, during the last 12 months have you behaved in the following way? Been part of a group that teased another

.068 .016 .089 4.171 .000 .036 .100

Q69f How often, during the last 12 months have you behaved in the following way? Been in a group that was attacked by another group

.023 .015 .032 1.532 .126 -.006 .052

Pooled	1	(Constant)	.567	.277	2.050	.056	-.016	1.151	.535	.936	.903
		peerinfluence	.013	.013	.992	.331	-.014	.040	.455	.696	.917

tobalccanabisuse	.196	.052	3.767	.010	.068	.323	.864	4.682	.853
recreationalbehaviour	-.023	.020	-1.165	.263	-.066	.020	.584	1.124	.895
canabisriskperception	.003	.006	.525	.600	-.009	.016	.108	.115	.979
violentcrime	.085	.018	4.613	.000	.046	.124	.509	.850	.908
parentaloversight	-.007	.022	-.309	.765	-.056	.043	.739	2.163	.871
familysmoking	.033	.016	2.068	.042	.001	.064	.237	.280	.955
parreactalcholdrugs	.012	.013	.905	.377	-.016	.040	.511	.856	.907
drinking	-.056	.019	-2.881	.009	-.097	-.016	.470	.737	.914
domviolence	.007	.024	.296	.773	-.046	.060	.657	1.501	.884
Q2b How old are you?	.001	.012	.096	.925	-.025	.027	.543	.963	.902
gender	.053	.023	2.288	.027	.006	.100	.327	.425	.939
Q38a Please state if and to what extent the following applies to your situation? My parents are poorly-off financially	.023	.009	2.577	.014	.005	.042	.349	.464	.935

Q73f How often, have you been involved in the following situations? Accused of a crime by the police that you never committed	.099	.024	4.119	.002	.046	.153	.675	1.620	.881
Q47j Have you experienced any of the following? The- death of a friend	.007	.016	-.431	.676	-.041	.028	.676	1.624	.881
Q12 If you were born in Guinea Bissau choose the- region where you were born	.024	.026	.905	.373	-.030	.078	.408	.585	.925
Q14 Is the official language Portuguese spoken in your- home?	.018	.020	-.929	.362	-.059	.022	.440	.660	.919
Q17 How well-off financially do you think your family is in- comparison to others?	.016	.010	-1.564	.134	-.037	.005	.504	.836	.908

Q26b How do the following statements apply to you? I- am bored with studies	-.026	.012	-2.177	.049	-.052	-9.042E-5	.622	1.304	.889
Q28 How likely do you think it is that you will attend- university?	-.010	.014	-.737	.463	-.038	.017	.199	.228	.962
Q24a What have your grades been in Mathematics?	-.001	.005	-.218	.829	-.012	.010	.434	.645	.920
Q24b What have your grades been in Portuguese?	.002	.005	.484	.629	-.007	.012	.225	.263	.957
Q25b How many whole days have you been absent from school during the last 30- days because you skipped or cut classes?	.019	.039	.476	.655	-.083	.121	.937	10.754	.842
Q25c How many whole days have you been absent from school during the last 30- days for other reasons?	.011	.022	.497	.639	-.045	.068	.901	6.664	.847



Q47p Have you experienced any of the following? Been dismissed from class, or sent to the disciplinary board	.014	.023	.579	.581	-.042	.069	.806	3.117	.861
Q47k Have you experienced any of the following? A breakup with a boyfriend/girlfriend	.004	.010	.362	.718	-.016	.023	.229	.269	.956
Q33a How easy or hard would it be for you to receive the following from your friends? Caring and warmth	-.005	.008	-.620	.537	-.021	.011	.239	.283	.954
Q33b How easy or hard would it be for you to receive the following from your friends? Discussions about personal affairs	-.012	.008	-1.492	.137	-.028	.004	.144	.158	.972
Q4b Households with one biological parent	-.002	.025	-.071	.944	-.053	.049	.392	.550	.927



Q47t Have you experienced any of the following?								
Experienced sexual abuse-	.023							
where an adult from outside the family was involved								
Q32e How easy or hard would it be for you to receive the following from your.	.014							
parents? Assistance with things								
Q51a Have you, during the last 12 months...? Moved to a different neighbourhood/community?	-.027							
Q51b Have you, during the last 12 months...? Changed schools	-.050							

Q52a Have you, during the last 5 years...? Moved to a different neighbourhood/community	-.012	.013	-.910	.372	-.038	.015	.453	.693	.917
Q52b Have you, during the last 5 years...? Changed schools	.002	.012	.199	.845	-.022	.027	.541	.958	.902
Q67a Please answer the following questions as they apply to you? Have you been a victim of physical violence during the last 12 months	.023	.018	1.268	.219	-.015	.061	.489	.791	.911
Q69c How often, during the last 12 months have you behaved in the following way? Been part of a group starting a fight with another group	.067	.032	2.116	.067	-.006	.140	.758	2.389	.868

Q69d How often, during the last 12 months have you behaved in the following way? Been part of a group that teased another	.071	.022	3.171	.005	.024	.117	.486	.781	.911
Q69f How often, during the last 12 months have you behaved in the following way? Been in a group that was attacked by another group	.041	.021	1.911	.073	-.004	.085	.539	.951	.903

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a. Dependent Variable: economiccrime

## Appendix G

### Coefficients – Violent Crime

		Unstandardized		Standardized		Sig.	95.0% Confidence		Fraction Missing Info.	Relative Increase Variance	Relative Efficiency
		Coefficients		Coefficients			Interval for B				
Imputation_ Number	Model	B	Std. Error	Beta	t		Lower Bound	Upper Bound			
Original data	1	(Constant)	.373	.751		.497	.619	-1.104	1.851		
		economiccrime	.190	.089	.118	2.123	.035	.014	.365		
		tobalccanabisuse	.069	.078	.064	.890	.374	-.084	.223		
		parentaloversight	.009	.039	.011	.223	.823	-.068	.086		
		recreationalbehaviour	.100	.055	.095	1.800	.073	-.009	.209		
		canabisriskperception	-.010	.021	-.025	-.487	.626	-.053	.032		
		peerinfluence	-.021	.034	-.032	-.617	.538	-.089	.047		
		familysmoking	-.053	.043	-.060	-1.220	.224	-.138	.032		
		parreactalcholdrugs	.051	.034	.078	1.503	.134	-.016	.118		
		drinking	.038	.053	.047	.719	.473	-.067	.144		
		domviolence	.064	.058	.061	1.100	.272	-.051	.179		

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Q2b How old are you?	-.016	.028	-.028	-.551	.582	-.071	.040
gender	-.148	.061	-.121	-2.427	.016	-.267	-.028
Q38a Please state if and to what extent the following applies to your situation? My parents are poorly-off financially	-.015	.027	-.029	-.544	.587	-.067	.038
Q73f How often, have you been involved in the following situations? Accused of a crime by the police that you never committed	-.020	.061	-.018	-.329	.742	-.140	.100
Q47j Have you experienced any of the following? The death of a friend	-.012	.032	-.020	-.367	.714	-.075	.051
Q12 If you were born in Guinea Bissau choose the region where you were born	-.099	.069	-.072	-1.450	.148	-.235	.036

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Q14 Is the official language Portuguese spoken in your home?	-.092	.048	-.098	-1.910	.057	-.187	.003
Q17 How well-off financially do you think your family is in comparison to others?	.041	.027	.078	1.503	.134	-.013	.095
Q26b How do the following statements apply to you? I am bored with studies	.020	.028	.036	.727	.468	-.034	.075
Q28 How likely do you think it is that you will attend university?	.086	.044	.099	1.971	.050	.000	.172
Q24a What have your grades been in Mathematics?	-.001	.013	-.002	-.047	.963	-.025	.024
Q24b What have your grades been in Portuguese?	-.011	.015	-.037	-.726	.468	-.041	.019

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Q25b How many whole days have you been absent from school during the last 30- days because you skipped or cut classes?	-.021	.051	-.022	-.401	.688	-.121	.080
Q25c How many whole days have you been absent from school during the last 30 days for other reasons?	-.001	.032	-.002	-.041	.967	-.064	.062
Q47p Have you experienced any of the following? Been dismissed from class, or sent to the disciplinary board	-.062	.039	-.086	-1.598	.111	-.137	.014
Q47k Have you experienced any of the following? A breakup with a boyfriend/girlfriend	-.021	.030	-.039	-.714	.476	-.080	.038

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Q33a How easy or hard would it be for you to receive the following from your friends? Caring and warmth	.047	.023	.108	2.010	.045	.001	.093
Q33b How easy or hard would it be for you to receive the following from your friends? Discussions about personal affairs	-.007	.024	-.015	-.305	.760	-.053	.039
Q4b Households with one biological parent	-.054	.064	-.043	-.854	.394	-.179	.071
Q47c Have you experienced any of the following? A separation or divorce of your parents	.025	.041	.030	.606	.545	-.055	.105
Q9Q10 Both parents work outside of the home	-.031	.047	-.034	-.664	.507	-.124	.061
Q5Q7 Both parents educated	.023	.042	.030	.546	.586	-.060	.105

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Q67c Please answer the following questions as they apply to you? Have you been a victim of sexual violence during the last 12 months	127	.092	.079	1.387	.166	-.053	.308
Q47r Have you experienced any of the following? Been a victim of sexual abuse	.021	.065	.018	.330	.742	-.106	.149
Q47t Have you experienced any of the following? Experienced sexual abuse where an adult from outside the family was involved	-.001	.045	-.002	-.031	.975	-.089	.087
Q32e How easy or hard would it be for you to receive the following from your parents? Assistance with things	-.026	.023	-.058	-1.110	.268	-.071	.020

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Q51a Have you, during the last 12 months...? Moved to a different neighbourhood/community?	-.034	.084	-.023	-.403	.687	-.200	.132
Q51b Have you, during the last 12 months...? Changed schools	.172	.076	.126	2.269	.024	.023	.321
Q52a Have you, during the last 5 years...? Moved to a different neighbourhood/community	-.018	.033	-.030	-.537	.592	-.083	.047
Q52b Have you, during the last 5 years...? Changed schools	.103	.029	.199	3.596	.000	.046	.159
Q67a Please answer the following questions as they apply to you? Have you been a victim of physical violence during the last 12 months	.119	.051	.134	2.346	.020	.019	.219

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		Q69c How often, during the last 12 months have you behaved in the following way? Been part of a group starting a fight with another group	-.010	.059	-.011	-.172	.864	-.127	.107			
		Q69d How often, during the last 12 months have you behaved in the following way? Been part of a group that teased another	.193	.051	.226	3.753	.000	.092	.294			
		Q69f How often, during the last 12 months have you behaved in the following way? Been in a group that was attacked by another group	.086	.043	.111	1.996	.047	.001	.171			
Pooled	1	(Constant)	.105	.537		.196	.849	-1.089	1.300	.687	1.705	.879
		economiccrime	.227	.043		5.300	.000	.141	.313	.307	.390	.942

tobalccanabisuse	.142	.053	2.671	.018	.028	.257	.592	1.161	.894
parentaloversight	.008	.025	.316	.754	-.043	.059	.401	.570	.926
recreationalbehaviour	.040	.026	1.524	.133	-.012	.092	.282	.348	.947
canabisriskperception	.006	.010	.602	.547	-.014	.026	.071	.074	.986
peerinfluence	-.038	.024	-1.567	.139	-.090	.014	.589	1.148	.895
familysmoking	-.035	.025	-1.379	.171	-.085	.015	.203	.233	.961
parreactalcholdrugs	.018	.017	1.062	.289	-.016	.053	.142	.155	.972
drinking	.096	.029	3.342	.002	.038	.154	.320	.411	.940
domviolence	.001	.038	.025	.981	-.081	.083	.621	1.299	.890
Q2b How old are you?	-.020	.018	-1.164	.253	-.056	.015	.385	.536	.928
gender	-.114	.033	-3.434	.001	-.180	-.049	.080	.084	.984
Q38a Please state if and to what extent the following applies to your situation? My parents are poorly-off financially	.019	.013	1.430	.155	-.007	.046	.176	.197	.966

Q73f How often, have you been involved in the following situations? Accused of a crime by the police that you never committed	.173	.029	6.031	.000	.116	.231	.314	.401	.941
Q47j Have you experienced any of the following? The death of a friend	.000	.031	.010	.993	-.074	.074	.799	2.999	.862
Q12 If you were born in Guinea Bissau choose the region where you were born	-.007	.035	-.198	.843	-.076	.062	.059	.061	.988
Q14 Is the official language Portuguese spoken in your home?	.022	.027	.798	.426	-.032	.076	.186	.210	.964
Q17 How well-off financially do you think your family is in comparison to others?	.012	.015	.795	.432	-.019	.043	.361	.487	.933

Q26b How do the following statements apply to you? I.034	.016	2.121	.041	.002	.066	.360	.484	.933
am bored with studies								
Q28 How likely do you think it is that you will attend.048	.025	1.898	.067	-.004	.100	.398	.563	.926
university?								
Q24a What have your grades been in Mathematics? .010	.008	1.223	.227	-.006	.025	.315	.403	.941
Q24b What have your grades been in Portuguese? -.018	.010	-1.838	.080	-.038	.002	.485	.779	.912
Q25b How many whole days have you been absent from school during the last 30-.002	.030	-.074	.942	-.069	.065	.671	1.595	.882
days because you skipped or cut classes?								
Q25c How many whole days have you been absent from school during the last 30.006	.016	.403	.689	-.025	.038	.324	.418	.939
days for other reasons?								



Q47p Have you experienced any of the following? Been dismissed from class, or sent to the disciplinary board	-.008	.024	-.347	.732	-.058	.041	.434	.646	.920
Q47k Have you experienced any of the following? A breakup with a boyfriend/girlfriend	-.002	.019	-.087	.931	-.040	.036	.429	.632	.921
Q33a How easy or hard would it be for you to receive the following from your friends? Caring and warmth	.025	.017	1.457	.168	-.012	.062	.600	1.197	.893
Q33b How easy or hard would it be for you to receive the following from your friends? Discussions about personal affairs	-.004	.015	-.307	.760	-.034	.025	.295	.370	.944
Q4b Households with one biological parent	-.008	.039	-.216	.830	-.087	.071	.325	.420	.939

Q47c Have you experienced any of the following? A separation or divorce of your parents	.011	.021	.518	.605	-.030	.052	.172	.192	.967
Q9Q10 Both parents work outside of the home	.024	.025	.960	.337	-.025	.073	.094	.099	.982
Q5Q7 Both parents educated	.017	.024	.706	.482	-.030	.064	.220	.256	.958
Q67c Please answer the following questions as they apply to you? Have you been a victim of sexual violence during the last 12 months	.112	.049	2.316	.044	.004	.221	.702	1.824	.877
Q47r Have you experienced any of the following? Been a victim of sexual abuse	-.038	.034	-1.127	.265	-.105	.030	.302	.381	.943

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Q47t Have you experienced any of the following?									
Experienced sexual abuse.002	.032	.071	.944	-.068	.073	.674	1.615	.881	
where an adult from outside the family was involved									
Q32e How easy or hard would it be for you to receive the following from your-001	.021	-.031	.976	-.048	.047	.736	2.134	.872	
parents? Assistance with things									
Q51a Have you, during the last 12 months...? Moved to a different neighbourhood/community? .056	.056	1.007	.328	-.061	.173	.542	.960	.902	
Q51b Have you, during the last 12 months...? Changed schools.057	.043	1.326	.190	-.029	.143	.299	.375	.944	

Q52a Have you, during the last 5 years...? Moved to a different neighbourhood/community	-.004	.022	-.185	.855	-.051	.043	.524	.898	.905
Q52b Have you, during the last 5 years...? Changed schools	.042	.017	2.482	.019	.007	.076	.405	.578	.925
Q67a Please answer the following questions as they apply to you? Have you been a victim of physical violence during the last 12 months	.020	.032	.620	.545	-.049	.089	.577	1.095	.897
Q69c How often, during the last 12 months have you behaved in the following way? Been part of a group starting a fight with another group	.192	.051	3.803	.005	.076	.308	.750	2.288	.870

Q69d How often, during the last 12 months have you behaved in the following way? Been part of a group that teased another	.016	.048	.327	.751	-.092	.123	.722	1.997	.874
Q69f How often, during the last 12 months have you behaved in the following way? Been in a group that was attacked by another group	.078	.037	2.092	.057	-.003	.159	.612	1.253	.891

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a. Dependent Variable: violentcrime