

A taxonomy of gambling-related crime

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This document is the Accepted Version [AM]

Citation:

BANKS, James and WAUGH, Dan (2018). A taxonomy of gambling-related crime. International gambling studies, 1-19. [Article]

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Gambling and crime represent two common behaviours that occur, to varying degrees and in myriad forms, across most societies. Keeping gambling free from crime has also emerged to become an important policy objective in many jurisdictions, particularly where commercial gambling has proliferated. Yet research exploring the interconnections between gambling and crime is sporadic, stymied, in part, by the need for a comprehensive, detailed and systematic approach to categorizing the variety of offences that may be linked to wagering activities. In response, this article reviews the extant literature exploring gambling and crime and the ways in which it has been sorted and classified, before outlining a taxonomy through which to examine and better comprehend different types of gambling-related crime. The proposed taxonomy represents a policy oriented framework through which gambling-related crime research and knowledge may be organised in order to aid risk analysis, regulatory review and crime prevention strategies.

Keywords: crime; criminology; gambling; offending; taxonomy; victimisation

Introduction

Keeping gambling free from crime and criminal influence represents an important regulatory objective across most international jurisdictions that permit wagering activities of one form or another. This article outlines a taxonomy to classify gambling-related crime, with a view to enabling regulatory agencies to better prioritise areas for exploration and enforcement. The

proposed classification system also provides some level of comparability between jurisdictions and consistency with existing research.

International evidence indicates that gambling and problem gambling are prevalent in forensic populations, whilst problem gambling has been identified as a significant criminogenic variable (Williams, Royston and Hagen, 2005; Riley and Oakes, 2015; Riley et al., 2018). Yet with the partial exception of money laundering (Levi, 2009), gambling-related crime has not, historically, been an area of extensive research inquiry nor has it featured heavily in public policy discourse, despite the deregulation and liberalisation of gambling pursued by many countries increasing the potential for gambling-related crime and victimisation. However, there have, more recently, been signs of growing societal concern in a number of jurisdictions that certain forms of gambling result in increases in crime and anti-social behaviour (Banks, 2017). Opinions polls in the UK, US and Canada also indicate that a significant number of citizens associate gambling with criminal activity (Azmi, 2000; Gambling Commission, 2016). Such a perception may well be shaped, in part, by gambling's historical links with organised crime which are firmly established in the cultural imagery of much of the Western world (Ferentzy and Turner, 2009). In particular, organised crime's ownership and operation of Las Vegas casinos in the 1940s has been immortalised in cinematic representations, whilst crime groups' ongoing involvement in the provision of legal and illegal gambling is also hinted at in a host of movies (Turner, Fritz and Zangeneh, 2007). Crimes committed against casinos or criminals running legitimate or illegitimate gambling operations feature frequently in such films and are likely to inform public perceptions (Zabielskis, 2015). But whilst concerns regarding the criminogenic nature of gambling may well, in part, be a legacy of gambling's illegality and association with organised crime, it has, nevertheless, featured in contemporary debates regarding the costs and benefits of the expansion of gambling products and services.

This paper is based upon a comprehensive review of the gambling and crime literature that has developed over the past three decades. We utilised both manual and computer literature searches to identify empirical studies and review articles that examine various facets of the interrelationships between gambling and crime. A combination of search terms relating to gambling and crime were employed to generate literature through a number of databases, including MEDLINE, ProQuest, PsycINFO, PubMed, Science Direct and Scopus.

By way of introduction, the paper reviews the state of knowledge regarding gambling-related crime and the ways in which it has been sorted and classified. Discussion develops to illustrate how this critical review of the literature informs our recommended approach to categorising gambling-related crime. Employing the UK as a case study, we illustrate how the proposed taxonomy can be used to identify enforcement responsibilities and the legislative basis for intervention, as well as the crime's sectoral relevance and relationship to licensing objectives, victims and perpetrators, associate harms, and means of measurement.

In the proposed taxonomy we adopt a wide scope when considering gambling-related crime, in order to ensure that regulators are able to identify emerging issues at an early stage and enable contingent relationships of crimes directly and indirectly associated with gambling to be properly understood. Such an approach also enables regulators to prioritise areas for exploration, identify the enforcement agencies with which they may need to collaborate and the legislation that is available for enforcement. Moreover, given that the committal of crime is a characteristic of most severe cases of problem gambling (Turner et al., 2016), the taxonomy will be of utility to public health agencies, treatment providers and responsible gambling operators, as it can be employed to inform understanding of the crimes problem gamblers commit and the socio-demographic profiles of these offenders. In presenting this taxonomy as a starting point for discussion and elaboration we encourage

further refinement by researchers with a view to informing future gambling-related crime prevention and public health strategies.

Understanding gambling-related crime

A broad range of criminal activities might be considered to have direct or indirect associations with gambling. However, the way that gambling and crime are considered tends to vary considerably from jurisdiction to jurisdiction in relation to social attitudes and state priorities. For example, discussion of gambling-related crime in the USA has, in the past, focused on the consequences of casino development, where the presence of gambling may attract crime to an area. Most notably, the late 1980s and early 1990s saw the proliferation of casinos, as state legislators and community leaders in economically depressed regions sought to generate new revenue streams and boost ailing economies (Eadington, 1999). Throughout this period, opposition journalists, political commentators, state legislators and communities all raised concerns that gambling establishments would bring with them a number of social problems including problem gambling, underage gambling, and crime and victimisation. In response, a host of North American studies (see, for example, Miller and Schwartz, 1998; Grinols and Mustard, 2006; Barthe and Stitt 2007; Johnson and Ratcliffe, 2014) sought to assess the extent to which the legal expansion of casinos is associated with an increase in street crime, drawing on city or county level crime data. Although there is much variation across such studies, evidence indicates that casinos can increase the total volume of crime within a locality. This increase in crime is, however, likely to be a consequence of increased levels of tourism and traffic within the area and not a result of the introduction of the casino itself.

In Great Britain, it is the area of money laundering and terrorist financing that has commanded the highest level of political and research scrutiny (Levi, 2009; Gambling Commission, 2017). By contrast, the media and, in turn, the general public have paid significant attention to gambling-related disorder, criminogenic problem gambling and betting shop robberies. Notably, in 2015, police statistics obtained through a Freedom of Information request identified a 20 per cent rise in incidents at licensed betting offices (LBO) that required police attendance. This increase from 7,436 incidents in 2013 to 9,083 in January to September 2014 was widely reported across UK media, with news articles attributing violent crime, money laundering, robbery and vandalism to the proliferation and clustering of LBOs housing fixed odds betting terminals (Banks, 2017). This reporting reinforces a message adopted by some local councillors, anti-gambling campaigners and local communities that the proliferation and clustering of betting shops results in crime and disorder. Nevertheless, empirical evidence supporting the perception that LBOs cause crime and anti-social behaviour within their vicinity remains scant (Griffiths, 2011; Astbury and Wardle, 2015; Kumar and Yoshimoto, 2016). As Gilmore's (2012: 21), observational study of crime, disorder and nuisance related to LBOs concludes, 'most incidents of nuisance or misbehaviour fell short of what could be described as crime and disorder.' Instead, it is suggested that the presence and clustering of betting shops may be interpreted by some in the community as generating a 'critical mass' from which violence, criminal damage, anti-social behaviour and the harassment of passers-by results.

Organised crime's infiltration of the legal casino industry dominates concerns in Asia. In particular, crime and corruption in the casinos of Macau has been the subject of a number of recent criminological studies (Pontell et al., 2014; Wang and Antonopolous, 2015; Zabielski, 2015; Lo and Kwok, 2016). Collectively, this research has demonstrates how organised crime plays a prominent role in the daily operations of the casino industry, with

bribery and kickbacks, illegal gambling, money laundering, casino scams featuring in operations that rarely employ violence and extortion, but instead operate in manner more akin to a 'bank-like business enterprise' (Lo and Kwok, 2016: 9).

In states where all or notable parts of the gambling spectrum are illegal or subject to severe restrictions, it is illegal gambling that tends to dominate public policy discourse. This is particularly evident in relation to the online environment where states have adopted a range of regulatory approaches to govern Internet gambling. For example, in Germany the outlawing of online gaming under the German Interstate Treaty on Gambling remains a politically contentious issue, as states continue to lose out on a sizeable tax income from a gross win of in excess of €2 billion annually (Hofmann, Spit and Maier, 2014). Such concerns are also in evidence in a number of other European states that have adopted protectionist prohibitive systems for governing the market entry and operational activities of internet betting and gaming sites (Casabona, 2014). By only allowing internet gambling operators who are licensed domestically to solicit citizens' custom, the long-term sustainability of such markets is dependent, in part, on the ability of states to constrain illegal provision. Yet stopping citizens migrating to grey and black market operators remains a challenge even in those jurisdictions that have developed multiple measures through which to prevent illegal Internet gambling. This is certainly the case in France, where Internet Protocol blocking, prison sentences and fines underpin a regime designed to discourage in excess of 550 non-licensed operators from offering sports betting and casino games to French citizens (Bettson Group, 2014). Despite such measures, the leakage to unlicensed and illegal gambling sites continues, as citizens migrate to online companies that offer better value for money or unknowingly gamble at such sites.

Moreover, criminological studies (McMullan and Rege 2007, 2010, 2012; McMullan, 2012; Banks, 2013, 2014) have highlighted the multiplicity of ways in which gambling and

crime intersect in online environments. Online gambling can operate as source of criminal activity, as a vehicle for crime or support for other criminal enterprise, with incidents of match fixing, distributed denial of service (DDoS) and cyberextortion, illegal and underage gambling, fraud, theft and money laundering having been identified by researchers.

At its broadest, the scope of gambling-related crime encompasses acts which are indirectly related to gambling, as well as those that are associated with it directly. The existing body of research has focused on two principal relationships between gambling and offending behaviour. First, that gambling behaviour is a feature of a criminal lifestyle, and may be linked to impulsivity and anti-social behaviour (Blaszczynski and Nower, 2002; Mestre-Bach et al., 2018; Widinghoff et al., 2018). Alternatively, criminal offending is precipitated by a gambling problem, most notably when legal avenues for funding and individual's gambling habit are blocked (Lesieur, 1984; Binde, 2016a). Yet gambling-related crime has, traditionally, been subject to a rather narrow interpretation by academics who have focused on crimes of fidelity or acquisitive crime committed by 'problem gamblers'. Such a connection is buttressed by research evidence (Crofts, 2002; Sakurai and Smith, 2003; Binde, 2016a, 2016b) which illustrates that embezzlement, fraud, theft, robbery, larceny and the passing of counterfeit currency may serve to fund either an individual's gambling activities or their gambling-related shortfalls in finance. For example, Blaszczynski and McConaghy's (1994) study of crimes committed by a group of Gamblers Anonymous attendees and hospital treated pathological gamblers identified that larceny and embezzlement were the most common offences committed. Respondents also reported offences of misappropriation, shoplifting, burglary, robbery and drug trafficking. Internationally, a host of research studies have recorded high rates of theft and deception-related offences among problem gamblers. Crofts' (2002) examination of 63 court files covering gambling-related crimes in New South Wales, Australia, reported that 76 per cent involved fraud, whilst Meyer and Stadler (1999)

found that 37.7 per cent of a sample pathological gambling accessing in- and outpatient treatment centres in Germany had engaged in fraud. Elsewhere, Derevensky and Gupta's (2000) study of problem and pathological gamblers in Canada discovered that 42.4 per cent admitted to 'borrowing' or stealing to meet gambling-related shortfalls in their finances. High rates of fraud have also been identified in a number of other research studies, with Smith, Wynne and Hartnagel's (2003) examination of police records in Edmonton, Canada, identifying that 85 per cent of gambling-related crimes were fraudulent in nature, and Warfield's (2008) comprehensive review of Australian court records over a 10-year period uncovering 528 cases of gambling-related fraud. This included forgery, fraudulent misappropriation, falsification of accounts, use of false documentation, defrauding the government and stealing as a servant. Most recently, Binde's (2016b) examination of employee embezzlement in Sweden indicated that 1 in 10 help-seeking problem gamblers had embezzled or stolen money from their place of work.

Yet whilst gambling-related crime has typically, been understood to be non-violent in nature, there is emerging evidence to suggest that gambling may precipitate violence. The preconception that gamblers only commit crimes of fidelity or acquisitive crimes may well be reinforced by research studies which have excluded violent offences from their categorization of gambling-related crime. As Marshall and Marshall (2003) note, researchers may not expect a relationship between gambling and violent crime and, in turn, may not ask about it, offenders may not choose to mention it, and victims may be less inclined to report it. Moreover, criminal justice agencies may not identify violent offending as being gambling-related. So although offences that are acquisitive in nature are most often associated with gambling-related crime, there is a growing body of research evidence (McCorkle, 2002; Smith, Wynne and Hartnagel, 2003; Suomi et al., 2013; Dowling et al., 2016; Roberts et al., 2016) to suggest that gambling can be linked to violence, crimes against the person, and child

neglect. Notably, Roberts et al.'s (2016) survey of a nationally representative sample of UK men identified that problem gambling and probable pathological gambling were linked to an increased likelihood of the perpetration of violence, the perpetration of intimate partner violence, and the use of a weapon. Yet the extent of gambling-related violence could well be understated, as evidence from Adolphe et al.'s (2018) systematic review indicates that problem gamblers may engage in violent offending at a higher than expected rate, yet such crimes may be concealed by intentional or unintentional underreporting.

Research evidence highlights how the relationship between gambling and crime is far from straightforward (Banks, 2014). Rather, the gambling-crime connection 'is complex and dynamic. There are likely to be different types of crime associated with gambling and variations among jurisdictions, across cultures and over time. Therefore, to refer simply to a single relationship between gambling and crime ignores complexities.' (Campbell and Marshall, 2007: 544). Moreover, in the case of criminogenic problem gambling, factors such as substance addiction and depression often mediate the relationship between problem gambling and offending behaviour (Lind, Kääriäinen and Kuoppamäki, 2015). Such findings draw attention to the need for researchers, policy makers and industry to be aware of the multiplicity of ways in which gambling and crime may be interrelated.

Typology review

As the above discussion illustrates, researchers, policy-makers, politicians, the media and the public have drawn associations between gambling and a wide assortment of crimes. Through our review of the literature, we have identified several ways in which gambling-related crime might be sorted and classified. For example, a number of authors have employed an extremely narrow classification system that focuses on crimes committed by problem

gamblers (Lahn and Grabosky, 2003; Marshall and Marshall, 2003). Under this classification problem gamblers' crimes may be: (a) co-incidental, with no causal link between an individual's gambling and their offending behaviour; (b) co-symptomatic, whereby both the gambling and offending behaviour are symptoms of other underlying factors. For example, poor impulse controls may result in individuals engaging in a range of risky behaviours related to gambling, sexual practices and crime; and, (c) instrumental, whereby there is a causal link between gambling and offending behaviours. Instrumental crimes may be either directly or indirectly related to gambling behaviour. Directly related crimes include those offences that are committed in order to finance an individual's gambling activities, whilst indirectly related crimes are those offences that are committed in order to repay debts or fund shortfalls in living expenses due to gambling. Such an approach does, however, have limited practical application for policy makers, regulators and law enforcements agencies. As Perrone, Jansons and Morrison (2013: 21) recognise:

While the classification schema seemingly comprises discrete or mutually exclusive categories, patterns of criminal activity some problem gamblers engage in appear to qualify them for assignment to more than one category. For example, a problem gambler may engage in a variety of criminal activities simultaneously, some instrumental to their problem gambling, others co-incidental.

More problematically, the narrow focus on crimes committed by problem gamblers excludes a wide variety of offences that may be undertaken by non-problematic gamblers, organised crime groups, gambling operators and/ or their employees, and corrupt public officials.

By contrast, a criminological approach to gambling-related crime can help us to consider a range of policy-valid questions 'about the nature of the crime and gambling nexus', such as: 'Does gambling cause crime, contribute to crime or is it inconsequential to

crime?’ and: ‘To what extent does criminological theory improve our power to predict gambling-related crime?’ (Smith, Wynne and Hartnagel, 2003: 32). A criminological approach identifies three categories for the consideration of the underlying causes of gambling-related crime: individual, interactionist and social structural. Individual level explanations highlight how a persons’ characteristics may contribute to their gambling-related offending. For example, both Potenza et al., (2001) and Mishra (2011) have suggested that a certain proportion of gamblers may engage in both problem gambling and crime as a result of specific personality traits that are linked to risk acceptance. By contrast interactional theories posit that gambling-related crime is a consequence of social bonds and social relationships which shape an individual’s engagement in or desistance from offending. Finally, social structural theories point toward gambling-related offending being contingent on various societal forces, such as unemployment and relative deprivation, which impact on the level and distribution of crime and victimisation. It is also important to recognise that such ‘theoretical approaches are not necessarily distinct, they may, in fact, be complementary and amenable to integration.’ (Smith, Wynne and Hartnagel, 2003: 32). As such, while a criminological approach may offer insights into dealing with the causes of gambling-related crime – rather than simply addressing the outward manifestations – we consider that the ‘individual-interactional-social structural’ categorisation to be of limited practical value to regulatory and enforcement agencies seeking to identify areas for intervention and resource allocation, as it only gives consideration to the aetiology of gambling-related offending.

Classification systems that categorise gambling-related crime by crime type (Smith, Wynne and Hartnagel, 2003; Campbell, Hartnagel and Smith, 2005, Campbell and Marshall, 2007; Spapens, 2008) represent the most inclusive approach to organising the multitude of crimes that may be associated with gambling. There is not, however, any approach that might be considered to be the recognised standard. The earliest crime type classification was

proposed by Smith, Wynne and Hartnagel (2003) in their examination of police records and gambling-related crime in Edmonton, Canada. Encompassing criminal activity that is either directly or indirectly gambling related, offences are divided into four principal categories: illegal gambling; criminogenic problem gambling; gambling venue crime, and; family abuse.

More recent iterations (Campbell, Hartnagel and Smith, 2005; Campbell and Marshall, 2007) have expanded and elaborated on Smith, Wynne and Hartnagel's (2003) classification. Responding to the limitations of criminogenic categories, Campbell, Hartnagel and Smith (2005) outline a typology that combines offences related to problem gambling with a range of other crime types linked to gambling operations. The seven categories of gambling-related crime include: illegal gambling; crimes committed to finance gambling activities; crimes associated with legal gambling expansion; crimes that are spatially or situationally co-incidental or co-symptomatic with gambling expansion or particular gambling venues; crimes that occur in the course of legal gambling operations; crimes that are behaviourally co-incidental or co-symptomatic with an individual's gambling involvement, and; graft and corruption designed to expedite permits and licences, relax the enforcement of gaming laws/regulations, inappropriate use of gaming funds, and influence peddling. Similarly, Campbell and Marshall (2007) have suggested six links between gambling and crime: illegal gambling; criminogenic problem gambling; increases in crime specific to the expansion of the casino; crime committed in the venue, such as money laundering; crime committed against the casino or other players, such as cheating, and; corruption. The first two categories mirror the work of Smith Wynne and Hartnagel (2003), but gambling venue crime is divided into four further categories, whilst family abuse is notably absent from the typology. Collectively, this body of work is extremely useful in shaping the parameters of this study and informs the proposed taxonomy of gambling-related crime.

Proposed taxonomy

To devise our taxonomy, we applied a four-stage methodological approach. First, we developed a comprehensive understanding of both the interrelationships between gambling and crime and the ways in which gambling-related crime has been sorted and classified. Second, we generated a list of sub-types of gambling-related crime. Third, having identified the multitude of ways in which gambling and crime intersect, we then asked ourselves a series of five questions designed to identify the nature of gambling's relationship with sub-types of crime: (1) Is the gambling sanctioned by law?; (2) Is the provider of the gambling licensed to do so?; (3) Is the licensee compliant with the law?; (4) Does the provision of gambling attract crime?; (5) Does the activity of gambling cause crime? This, in effect, creates a triage system for considering gambling-related crime, as illustrated in Figure 1. Importantly, it does not create mutually exclusive categories. For example, the offering of gambling without a licence may well result in the act of gambling causing individuals to commit other crimes. Such an approach is necessary as the aims of licensing should, in our view, be to prevent the harms to the individual that might lead them to commit crime.

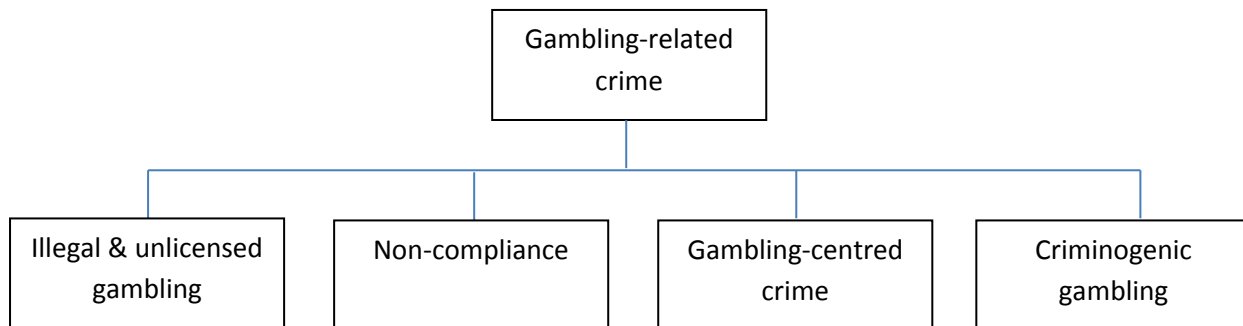
Figure 1. Classifying the relationship between gambling and crime: Filtering process



This process, combined with our reading led us to generate our basic taxonomy for gambling-related crime; a modified version of the taxonomy set out in Smith, Wynne and Hartnagel (2003). This taxonomy is outlined in Figure 2 and identifies four principal forms of gambling related crime:

1. Illegal and unlicensed gambling – where either the type of gambling is prohibited by law or where the party is not licensed within the jurisdiction to offer the relevant gambling services.
2. Non-compliance – where the provider of gambling is licensed by the relevant authority but – either by design or negligence – transgresses the law. We are aware that this brings into scope a very broad definition of gambling-related crime, but also note that it is consistent with recent discussions on the linkages between consumer law and gambling regulations. In the UK, for example, the Gambling Commission has engaged in a joint programme of work with the Competitions and Markets Authority following the latter's investigation of online gambling terms and conditions. We would also observe that this scope is necessary when considering issues of reputation and market dysfunction.
3. Gambling-centred crime – where the provision of gambling attracts crime. This includes, but is not limited to, betting shop robberies, theft from patrons, money-laundering, and bribery of officials to obtain licensing consents.
4. Criminogenic gambling – where the act of gambling causes individuals or organisations to commit crime. This includes, but is not limited to, theft in order to fund a gambling addiction, abuse arising from disordered gambling, violence against family members and in order to collect gambling debts.

Figure 2. Basic taxonomy for gambling-related crime



Fourth, we developed this basic taxonomy by identifying enforcement responsibilities and legislative basis for sub-types of crime, as well their relationship to the licensing objectives, sectoral relevance, and dimensions of crime consisting of perpetrators, victims, harms and means of measurement. Employing the UK as an exemplar, the expanded version of the taxonomy is shown in Table 1.

[INSERT TABLE 1 HERE]

Identifying the enforcement responsibilities and legislative basis for the prevention, investigation and prosecution of offences is essential in the securement of efficient and effective activities to combat gambling-related crimes. As Table 1 illustrates, relevant legislation can be wide-ranging, encompassing criminal law, consumer law, data protection and health and safety legislation, for example, whilst a myriad of agencies may be involved in its enforcement including gambling regulators, such as the Gambling Commission, police forces and specialist crime agencies, advertising authorities, and trading standards groups. The proposed taxonomy can thus be employed by regulators to identify relevant laws and organisations that are responsible for the governance of specific sub-types of gambling-related crime. The identification of those agencies with enforcement responsibilities enables regulators to direct or request necessary resources toward specific crime problems and encourage or facilitate the development of multi-agency partnerships when and where a crime threat is discovered. Identifying the crime's sectoral relevance also enables regulators to enlist

other non-state actors, such as trade bodies, gambling operators, consumers and sporting organisations, in the prevention and/or reporting of incidences of crime.

Resource allocation is likely to be contingent on the extent and nature of the crime. The expanded version of our taxonomy detailed in Table 1 incorporates a qualitative assessment of the harm presented and/ or caused by gambling-related offending, and a quantitative measure of the number of crimes. Although a number of academic studies (e.g. Williams, Rehm and Stevens, 2011) have sought to assess the extent of (specific forms of) gambling-related crime, there is little evidence to suggest that regulatory organisations have sought to quantify the occurrence of specific crime types. We identify a number of approaches to measuring sub-types of crime. The magnitude of different crime problems may be recorded through data derived from regulators, enforcements agencies, industry bodies, gambling operators and consumers. Individual sub-types of crime are likely to benefit from distinct approaches to measurement, which may include reports of crime, rates of prosecution and/ or conviction, self-report survey data derived from operators or consumers, incidents of suspicious betting activity, complaints and enforcement actions. Measuring the extent of individual gambling-related crimes is essential in order to provide regulatory agencies with a general idea of crime patterns – whether crime is increasing, decreasing or stable; whether certain types of crime are becoming problems in specific gambling sectors, jurisdictions or communities, and; the degree to which specific individuals, groups or organisations are prone to being victims or perpetrators – and enable them to respond accordingly.

Quantitative measures can be supplemented by qualitative assessments of the (potential) harms that result from crime sub-types, enhancing regulators' capability to identify priorities for exploration and enforcement. The recommended taxonomy tentatively outlines the nature of the harms that can result from gambling-related crime and which impact individuals, operators and wider society. For example, we identify the financial, physical and

psychological harms that may occur at an individual level, as a consequence of offending behaviour, but suggest that harms that result from gambling-related crime merit further examination. In our view, the priority areas – based on volume and severity – are likely to include unlicensed gambling, match-fixing, criminogenic problem gambling (theft and fraud), money-laundering/proceeds of crime/terrorist financing, anti-social behaviour, cyber-crime, robbery, and domestic abuse.

Finally, the expanded taxonomy outlined in Table 1 presents opportunity for regulators to consider where crime threats are likely to originate from and who may be at risk of becoming a victim of specific gambling-related offences. To date, information on the characteristics of offenders and victims is limited, hindering our understanding of when, where and why criminal opportunities are most likely to arise. Identifying groups, organisations and individuals who may be predisposed to gambling-related offending or vulnerable to victimisation facilitates targeted interventions. The identification of victims and perpetrators is, therefore, essential if regulators are to develop focused crime prevention strategies that maximise resources and limit the harm posed to and by specific populations.

The taxonomy advances previous categorisations of gambling-related crime, by outlining a model that enables regulators to explore and identify the extent, nature and organisational dynamics of sub-types of gambling-related offending, whilst identifying the actors and legislation that can be exercised in the prevention, investigation and prosecution of such crimes. We present a framework through which regulators can develop an understanding of gambling-related crime, drawing upon both their own investigations and existing research. As our review of the literature illustrates, gambling and crime are international activities that, in one form or another, take place across most jurisdictions. Gambling-related crimes, such as match fixing and money laundering, and frauds, thefts and extortion relating to virtual environments, for example, may be transnational in nature requiring the cooperation and

coordination of a number of different countries. Although we have focused on the UK as a case study, the framework outlined in this paper may be employed internationally, as its taxonomic dimensions are of universal applicability. In turn, utilisation of a shared taxonomy presents opportunity for jurisdictional comparability and information sharing between regulators in different locations with a view to addressing locally based offending and enhancing collaborative responses to international crime problems such as match fixing. By refocusing attention on the crime problems that can and do relate to gambling, the proposed taxonomy offers a framework through which to organise and better understand gambling-related crime.

Conclusion

Enhancing our understanding of gambling-related crime is necessary due to the potential consequences of such offending for consumers, operators and wider society. As our review of the literature pertaining to gambling and crime illustrates, academic research is key to generating knowledge concerning gambling-related offences through a multitude of types of data and populations, such as prisoners, help-seeking problem gamblers, police reports and court records. Yet as Campbell, Hartnagel and Smith (2005) recognised over a decade ago, research examining gambling-related crime has been stymied, in part, by the lack of an accepted definition of gambling-related crime and the need to develop an adequate taxonomy for categorizing various offences. Accordingly, further studies examining, for example, gambling-related crime in the domestic sphere, the socio-demographic profiles of criminogenic problem gamblers, and cybercrimes linked to online gambling may be considered research priorities.

In turn, the proposed taxonomy presents a framework through which gambling-related crime may be examined by academics, policy makers, regulatory bodies, industry and others. This taxonomy adopts a wide scope when considering gambling-related crime, outlining four principal categories of gambling-related crime – Illegal and unlicensed gambling, non-compliance, gambling-centred crime, criminogenic gambling – and numerous sub-types. Such an approach lends itself to a regulatory review of gambling-related crime, by demonstrating an awareness of the field's broad scope before enabling regulatory bodies to focus on those areas of greatest importance. The proposed taxonomy represents a comprehensive and detailed attempt to develop a framework through which to examine and better understand different types of gambling-related crime that can potentially be useful in informing crime prevention and public health strategies. We encourage further refinement with a view to enhancing its utility to researchers, regulators, industry and public health agencies.

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Table 1: Taxonomy for gambling-related crime

Category of crime	Sub-type	Licensing objective			Legislation	Enforcement agency	Sector		Perpetrator	Victim	Harms	Measure
		Keep crime out	Protect young and vulnerable	Fairness			Land-based	Remote				
Illegal or unlicensed gambling	Illegal gambling machines		Yes	Yes	Gambling Act 2005	Crown Prosecution Service / Gambling Commission	Yes		Organised crime	The State; Individuals	Economic; Societal	Enforcement; Conviction
	Unlicensed gambling (Black market)	Yes		Yes	Gambling Act 2005 (s27 & s28)	Crown Prosecution Service / Gambling Commission	Yes	Yes	Organised crime; Individuals	Gambler	Problem gambling; Violence and intimidation; Debt	Convictions
	Match-fixing	Yes		Yes	Criminal Law Act 1977; Bribery Act 2010; Proceeds of Crime Act 2002	Crown Prosecution Service / Gambling Commission	Yes - Betting	Yes - Betting	Syndicate; Athlete	Athlete; Gambler		
Non-compliance	Unfair practices	Yes	Yes	Yes	Consumer Protection Act 1987; Gambling Act 2005	Competitions and Markets Authority	Yes	Yes	Organised crime; Individuals	Gambler	Financial loss	Convictions
	Gambling non-compliance	Yes		Yes	Gambling Act 2005	Gambling Commission	Yes	Yes	Licensees	Society	Impact on economy and society	Enforcement actions
	Underage gambling				Gambling Act 2005	Gambling Commission	Yes	Yes	Licensees	Children	Impact on education; Depression; Family cohesion	Enforcement actions
	Cheating			Yes	Gambling Act 2005 (s42)	Gambling Commission	Yes	Yes	Licensees	Gambler	Financial loss; Indebtedness	Convictions; Complaints
	Unfair practices			Yes	Consumer Protection Act 1987	Competitions and Markets Authority	Yes	Yes	Licensees	Gambler	Financial loss	Convictions
	Tax evasion	Yes			Criminal Finances Act 2017	HM Revenue & Customs	Yes	Yes	Licensees	The State; Society		Convictions
	Health & safety				Health & Safety at	Health and Safety	Yes	Yes	Licensees	Employees, Customers	Health service costs	

Gambling centred crime				Work Act 1974	Executive						
	Data protection		Yes	Data Protection Act 1998	Information Commissioners Office	Yes	Yes	Licensees	Gambler	Financial loss; Anxiety	Commission rates; Convictions
	Unfair practices		Yes	Consumer Protection Act 1987	Competitions and Markets Authority	Yes	Yes	Licensees	Gambler	Financial loss; Anxiety; Problem gambling	Convictions
	Unfair advertising		Yes	Advertising Standards	Advertising Standards Authority	Yes	Yes	Licensees	Gambler	Problem gambling	Complaints; Convictions
	Cheating	Yes	Yes	Gambling Act 2005 (s42)	Gambling Commission	Yes	Yes	Organised crime; Licensees	Gambler	Debt	Complaints; Convictions
	Money-laundering	Yes		Terrorism Act 2000; Anti-terrorism, Crime and Security Act 2001; Proceeds of Crime Act 2002; Serious Organised Crime and Police Act 2005; Money Laundering, Terrorist Financing and Transfer of Funds (Information on the Payer) Regulations 2017	National Crime Agency / Gambling Commission	Yes	Yes	Organised crime	Society	Economic; Social	Reports; Prosecutions; Convictions
	Proceeds of crime	Yes		Proceeds of Crime Act 2002; Criminal Finances Act 2017	National Crime Agency / Gambling Commission	Yes	Yes	Organised crime	Society	Terrorism	Reports; Prosecutions; Convictions
	Terrorist financing	Yes		Terrorism Act 2000	National Crime Agency /	Yes	Yes	Terrorist groups; Organised	Society	Terrorism	Reports, prosecutions; Convictions

Illegal money lending (loan-sharking)			Consumer Credit Act 2006	Gambling Commission National Trading Standards / Financial Conduct Authority	Yes	Yes	crime	Organised crime	Problem gamblers	Financial harm; Depression; Anxiety; Family problems	Debt advice surveys
			Fraud Act 2006	Crown Prosecution Service / Serious Fraud Office	Yes		Organised crime; Individuals			Financial loss; Trauma; Bankruptcy	Reports; Prosecutions; Convictions
			Theft Act 1968	Crown Prosecution Service	Yes		Organised crime; Individuals			Financial loss; Trauma	Reports; Prosecutions; Convictions
			Theft Act 1968	Crown Prosecution Service	Yes		Individuals			Financial loss; Trauma	Reports; Prosecutions; Convictions
			Criminal Justice Act 1988; Anti-social behaviour, Crime and Policing Act 2014	Crown Prosecution Service	Yes		Individuals			Physical harm; Trauma	Reports; Prosecutions; Convictions
			Sexual Offences Act 2003	Crown Prosecution Service	Yes		Organised crime				Reports; Prosecutions; Convictions
			Criminal Damage Act 1971	Crown Prosecution Service	Yes		Individuals				Reports; Prosecutions; Convictions
			Anti-social behaviour, Crime and Policing Act 2014	Crown Prosecution Service	Yes		Individuals				Reports, prosecutions; Convictions
			Forgery & Counterfeiting Act 1981	Crown Prosecution Service	Yes		Organised crime				Prosecutions; Convictions; Percentage of counterfeit monies found in gambling system
			Misuse of Drugs Act 1971	National Crime Agency	Yes		Organised crime				Reports; Prosecutions; Convictions

Criminogenic gambling	Match-fixing / spot fixing		Yes	Criminal Law Act 1977; Bribery Act 2010; Proceeds of Crime Act 2002	Crown Prosecution Service / Gambling Commission / Interpol	Yes - Betting	Yes - Betting	Organised crime			Suspicious betting incidents; Prosecutions; Convictions
	Cybercrime - extortion	Yes		Computer Misuse Act	National Crime Agency		Yes	Organised crime; Individuals	Licensees		DDOS incidents; DDOS threats; Prosecutions; Convictions; Funds spent on prevention; Funds spent on paying blackmail
	Cybercrime - identity theft	Yes		Data Protection Act 1998	National Crime Agency		Yes	Organised crime; Individuals	Individuals	Financial loss; Trauma	Reports; Prosecutions; Convictions
	Bribery	Yes	Yes	Bribery Act 2010	Serious Fraud Office	Yes	Yes	Business; Officials	Officials; Society		Prosecutions; Convictions
	Blackmail			Theft Act 1968	Crown Prosecution Service	Yes	Yes	Organised crime; Individuals	Problem gambler		Reports; Prosecutions; Convictions
	Theft			Theft Act 1968	Crown Prosecution Service	Yes	Yes	Problem gambler	Family and friends; Vulnerable people	Bankruptcy; Debt	Prosecutions; Convictions
	Embezzlement			Fraud Act 2006	Crown Prosecution Service / Serious Fraud Office	Yes	Yes	Problem gambler	Employers; Fellow employees		Prosecutions; Convictions
	Forgery		Yes	Forgery & Counterfeiting Act 1981	Crown Prosecution Service	Yes	Yes	Problem gambler	Society	Financial harms	Prosecutions; Convictions
	Vandalism	Yes		Criminal Damage Act 1971	Crown Prosecution Service	Yes		Problem gambler	Licensee		Reports; Prosecutions; Convictions
	Assault	Yes		Anti-social behaviour, Crime and Policing Act 2014	Crown Prosecution Service	Yes		Problem gambler	Gambling employees; Other gamblers		Reports; Prosecutions; Convictions
	Anti-social	Yes		Anti-social	Crown	Yes		Problem	Gambling		Reports;

behaviour			behaviour, Crime and Policing Act 2014	Prosecution Service			gambler	employees; Other gamblers; Neighbourin g businesses; Community Family members	Prosecutions; Convictions
Spousal abuse	Yes		Serious Crime Act 2015	Crown Prosecution Service	Yes	Yes	Problem gambler; Organised crime		Prosecutions; Convictions
Child abuse	Yes		Serious Crime Act 2015	Crown Prosecution Service	Yes	Yes	Problem gambler; Organised crime	Children	Prosecutions; Convictions
Kidnapping	Yes		Offences Against the Person Act 1881; Child Abduction Act 1984	Crown Prosecution Service	Yes	Yes	Organised crime	Family members	Prosecutions; Convictions
Burglary / home invasion	Yes		Theft Act	Crown Prosecution Service	Yes	Yes	Organised crime	Family members	Prosecutions; Convictions
Intimidation & violence	Yes		Protection from Harassment Act 1997	Crown Prosecution Service	Yes	Yes	Organised crime	Family members	Prosecutions; Convictions
Match fixing	Yes	Yes	Criminal Law Act 1977, Bribery Act 2010, Proceeds of Crime Act 2002	Crown Prosecution Service / Gambling Commission / Interpol	Yes	Yes	Syndicate; Athlete	Athlete; Gambler	Reports; Prosecutions; Convictions
