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Female gambling behaviour: a case study of realist description

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Abstract

Gambling is a complex social behaviour. How behaviour is shaped can vary within different historical and cultural contexts: to date, it is rare for the impact of these different contexts to be examined. The study of gambling has been (largely) entrenched within a bio-medical paradigm, where problematic gambling is viewed as an innate characteristic of the individual. This focus limits understanding about the ways in which gambling behaviour is shaped and also limits the range of policy responses to intervention with 'problematic' individuals. Specific examination of the way different contexts and mechanisms, both proximate and distal, shape behaviour has not been undertaken. The term 'prisoners of the proximate' (Hanlon et al, 2012) is an apt description of much contemporary gambling research.

This thesis seeks to explore alternative ways to frame the study of gambling behaviour and argues that a focus on contexts and how behaviour varies for whom and under what circumstances is appropriate. This builds on Pawson and Tilley's (1997) principles of realist evaluation and Pawson's (2006) work on realist review to consider what realist description might look like as a form of empirical investigation. This includes recognition of the inherent subjectivity of all research and advocates an expansive analytical approach whereby many different types of evidence are brought together to examine a particular issue. To do this, this thesis draws on secondary analysis of existing data, historical evidence and theoretical review.

This approach is applied to the study of female gambling behaviour. By drawing together data generated from the 1940s to the present day, it demonstrates how patterns of gambling behaviour are gendered and how gambling preferences vary based on prevailing social and political norms and legislation. This thesis argues that a process of 're-feminisation' of gambling is evident in Britain today. In addition, the diversity of female gambling behaviour among different groups of women is explored, as is variation based on individual, social and spatial characteristics. This is achieved by using many different sources of data (mainly large-scale government surveys such as the Health Survey for England, the British Gambling Prevalence Survey series, the Taking Part survey) but also by

supplementing these datasets with administrative information about the spatial patterning of gambling venues to broaden the scope of investigation. A number of different analytic techniques are used (factor analysis, latent class analysis, survival analysis and more standard descriptive methods) to explore how behaviour varies for different women in different circumstances. Using an expansive approach to secondary data analysis, whereby information from different studies is used to explore female patterns of behaviour from different viewpoints, creates a more nuanced understanding of female gambling behaviour.

This is the purpose of realist description. It is an approach which recognises that not everything is the same for all people in all circumstances. Recognising this diversity at the outset of investigation provides a platform to explore this in depth. This thesis argues that this recognition should underpin the design and analysis of primary survey research to provide a more solid basis upon which to consider why behaviour varies. Doing so creates a solid foundation for a more considered examination of what type of policy interventions are most appropriate, for whom, and under what circumstances.

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Heather Wardle

Sept 2014

Author's declaration

I declare that, except where explicit reference is made to the contribution of others, this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

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Chapter 1: Introduction

Overview

Great Britain has one of the most diverse and accessible gambling environments in the world. On every high street in every local community, opportunities to gamble exist. Until relatively recently, gambling was an activity that was confined to certain spaces and venues; however, this is no longer the case. Scratchcards can be purchased alongside the weekly shopping; the internet offers boundless opportunities to gamble at a time that is convenient for those who wish to engage. Gambling has become a commercial commodity, but is also an activity that is conducted privately, either alone or between families and friends. Before 1960, gambling was organised and provided in a much more informal (often illegal) and independent way, and the development of the commercial gambling industry is a relatively recent phenomenon (Clapson, 1992; Dixon, 1991).

Understanding the ways in which gambling provision and policy has changed is important as this has implications for how, why and when people gamble. In this introduction, key historical themes relating to gambling, some of which are relevant to contemporary understanding of behaviour, are examined, and the development of Britain's gambling environment is outlined. These themes are considered with particular reference to women and the impact on female gambling behaviour in later chapters. The importance of considering the social development of gambling (i.e., as a popular leisure and recreational activity) and the social context of gambling (i.e., how and where gambling is conducted, why, and how behaviour and attitudes are shaped) is also emphasised (Reith, 1999). As argued in this thesis, these aspects have been sorely neglected within academic inquiry, which is to the detriment of wider understanding of gambling behaviour. Gambling is bound together with social interaction and social motivations, demonstrates social patterning in behaviour and is conducted within social spaces. This thesis aims to put this context at the heart of inquiry by expanding upon the work of Pawson and Tilley (1997) to develop methodological inquiry using 'realist description'.

Realist description, as developed for this thesis, seeks to explore complex social behaviours by focusing on who does what, why and how and under what circumstances. It recommends use of many different sources of evidence to explore issues from a variety of angles. This thesis proposes that 'realist' approaches can be applied to descriptive investigation and explores the use and limits of 'realist description' through examination of female gambling behaviour. Moreover, this thesis specifically seeks to examine how secondary analysis of pre-existing data can be used in a realist way. In this way, this thesis seeks to develop a 'second strand' of realist review (Pawson, 2006) by examining and reflecting on what secondary analysis can and cannot do for the realist investigator.

The rationale for focusing on female gambling behaviour is that it has been sorely neglected by the academic community. Too often, theory about female gambling behaviour has been extrapolated from evidence from men, or female behaviour simply defined in contrast to that of men (Marks & Lesieur, 1992; Dowling, Smith & Thomas, 2006; Heater & Patton, 2006; Karter, 2013). There is, however, a wealth of information available to explore female patterns of behaviour in more depth, making this both a suitable case study to trial realist description, with a specific focus on secondary analysis, whilst also providing an important substantive focus in a vastly under-researched area.

The chapters that follow set out the case for investigation female gambling from a realist perspective. Chapter 2 first considers the ways in which gambling has currently been conceptualised. Looking specifically at the public health models that dominate gambling research, it suggests that dominant bio-medical views of gambling have sidelined consideration of context, mechanisms and complexity. This chapter considers other ways in which gambling might be framed, drawing on socio-ecological models of public health, themes from implication analysis presented by Lieberman and Horwich (2008a), and ultimately argues that complexity and context can best be viewed through a realist lens. Chapter 3 examines why adopting a realist approach may have significant benefits for the study of gambling and makes the case for realist description as a methodological approach. It examines the underlying precepts of realism, both ontological and methodological, and suggests how these might be applied to investigation of female gambling behaviour. It also draws on some of the themes discussed in this chapter about the relationship between

commercial entities and changing social structures to suggest that realism is a powerful framework through which to view gambling behaviour. Chapter 4 extends this analysis to discuss important issues relating to ontology, epistemology and methods. It argues, contrary to the beliefs of some (Sayer, 1992; Sobh & Perry, 2006), that realism and quantitative methods are not diametrically opposed, and sets out the case as to why this is. In doing so, Chapter 4 also sets out the case for viewing 'realist description' as a second strand of realist review and specifically considers how descriptive secondary analysis can be used in a realist way.

Having set the scene for realism as a potentially useful approach in gambling studies, both as a theory and method, Chapters 5 to 7 seek to explore this with reference to female gambling behaviour. Chapter 5 takes realist description as a principle and applies it to exploration of changing patterns of female gambling behaviour, demonstrating the need to situate modern day conceptions of female gambling behaviour within broader historical contexts. In doing so, processes of "re-feminisation" of gambling are identified and existing theories about how women are engaging in gambling modified and refined. This chapter argues that changing patterns of female gambling behaviour cannot be viewed in a deterministic and linear way (c.f., Holdsworth, Hing & Breen, 2012) but rather are complexly related to a variety of contexts and mechanisms. This means that outcomes are variable for different cohorts and groups of women and that this process of change is dynamic and evolving. Chapter 6 extends the case for realist description by highlighting the broader range of female gambling behaviour. This is situated within the realist mantra of understanding who does what and why under different circumstances. An inherent consequence of this is to explore what different groups of female gamblers exist and how they vary from one another. These findings are then related to theories about how and why behaviour is shaped and formed, to help consider why some women engage in certain patterns of gambling behaviour. Chapter 7 extends the themes emerging from Chapter 5 relating to youth and problem gamblers and traces important patterns in the relationship between how gambling is provided (i.e., privately or publicly) and behaviour. It also examines the relationship between female problem gambling and motivations of escape in more detail.

Finally, Chapter 8 offers some reflections on the realist descriptive approach trialled in this thesis, its success, its limitations and its applicability for future researchers. It brings together findings from Chapters 5 to 7 to discuss what the realist approach has added to knowledge and theories of female gambling behaviour. Crucially, it helps to identify gaps in understanding, thus providing a framework for future research.

However, before this, it is important to explore some key themes relating to the historical and cultural development of gambling in Great Britain. This thesis draws on these themes throughout: it is to this which this chapter now turns.

Historical antecedents: broad discourses and gambling behaviour

Discourses about gambling are broad and varied. Gambling has been considered as an addiction; as an innate part of human behaviour; as socially constructed; as a leisure and recreational activity; as a rational transaction; as a means of propagating social inequality; as a right; as a product of increasing consumerism; and as explicitly dangerous (as outlined by Orford, 2010). Different views of gambling and its impact have dominated discourse, especially in Great Britain, at different points in time. The popularity and predominance of certain viewpoints can, arguably, be seen as a reflection of more broadly held cultural, political and social values (Reith, 2007). From early recognition that gambling could be destructive and potentially have a negative impact upon productivity – as demonstrated by the ban placed by Richard III on dice games (Ashton, 1898), fearing his archers were being distracted – recurring themes can be traced throughout history and are increasingly visible throughout the 19th, 20th and 21st centuries.

The first theme is the relationship between gambling and broader societal and economic change. In the 19th and early 20th century, horse racing and on-course and off-course betting (the latter not always necessarily legal) were growth industries. As Reith describes, technological changes in the latter part of the 19th century, specifically the development of the railway network, opened up the market for racing to the broader populace. This served to democratise racing and altered its status, from being an activity for the elite, to working class entertainment (Reith, 1999). Industrialisation and growth of cities created densely

populated local communities in which street betting proliferated in the early 20th century. Clapson (1992) argued that in the north west of England, bookmakers' runners were present in most factories so that workers could lay their bets. Bookmakers' runners were a by-product of a variety of legislative attempts to prevent both ready money betting houses (the focus of the 1853 Betting Houses Act) and off-course ready money betting in public places (the subject of the Street Betting Act, 1906). In the early part of the 20th century, off-course ready money betting was organised informally and illegally, with a system of runners operating in local communities taking bets from the bettor to the bookmaker, many of whom operated out of pubs or the back rooms of their homes (Clapson, 1992; Dixon, 1991; Chinn, 2004). Further evidence of gambling as a growing urban and working class phenomenon was evident in the 1920s, with the development of greyhound racing on a large scale. The creation of circular stadia and the mechanised 'lure' saw greyhound racing open up as a mass urban activity. The first dog track opened in Manchester in 1926 and recorded 21 million attendances in 1931, rising to 25 million in 1935 (Laybourn, 2008). This offered further gambling opportunities in predominantly working class and urban areas.

These developments in gambling culture paint a picture of gambling provisions changing and adapting to broader social, economic and political circumstances. This pattern extends to this day. Modern gambling companies have exploited opportunities offered by new technology, specifically the internet and more recently through developments in mobile telephony and social networking applications. As early as 1978, the integration of computer technology and gambling was being discussed, with Lord Spens stating:

“With the advent of the computer chip, who knows what new methods of gambling will not be introduced, to interest and attract people who now do not gamble very much in the traditional ways? I am here thinking particularly of women, most of whom gamble only on bingo, but few of whom, apart from bingo, are regular gamblers. They seem to offer a very large target for enterprising gambling operators to shoot at with some new-fangled computer chip gambling idea.” (Hansard, 1978)

Interestingly, as technology changes some forms of gambling are coming full circle. Betfair, an online betting exchange and winner of the Queen's Award for Enterprise in 2008, can count its success on re-translating betting markets back to a more fundamental basis of social interaction – that of competition by pitting or matching one person against another. This is curiously reminiscent of the original 18th century Tattersalls Betting House (originally located at Hyde Park Corner), where patrons paid a fee for membership and bets were matched against other members (Foulkes, 2010). It seems that where there are groups of people, provision of gambling develops and follows, helping to explain the distinctly urban pattern of its distribution (Clapson, 1992). This is evident from the 19th century mobile gambling booths which accompanied race days, to more recent investment by the gambling industry in social networking gambling and gaming applications. Gambling should therefore be viewed as an industry (either formal or informal) that responds and reacts to broader changes. Its form and distribution reflects the underlying social, economic, political and technological circumstances of its time.

In addition to the adaptability of gambling, a major theme dominating discourse relates to moral disdain. The 19th century saw gambling, particularly betting on horses, used to highlight concerns about social inequalities and poverty, but also to reinforce Protestant concepts of work ethic and productivity (Reith, 1999). Concerns about gambling behaviour had a dual rhetoric. Firstly, they served as a platform around which to centre debate about broader pressing social, political and economic concerns – that the proliferation and popularity of gambling itself was symptomatic of broader social ills. Secondly, for some, the activity itself was viewed as inherently dangerous for individuals, as an expression of their immorality, and that individual behaviour should be addressed.

Notably, however, an alternative conception of gambling was also popular, particularly among certain sectors of society: that gambling was an individual right. This view was typically espoused by the elite, some of whom were intimately involved with the business of horse racing and thus betting. Within this discourse, the right to gamble was not necessarily conceptualised as a universal right of man, but rather as a privilege of those with means. Those of the lower orders attempting to capitalise upon the opportunities offered by the growing popularity of betting and other gambling activities were considered, at best,

disdainfully by the elite, or at worst confronted with the full force of the law when they threatened the status quo. The 1844 Select Committee inquiry and the resultant 1845 Gaming Act served to protect the elite by legislating that a wager was unenforceable as a legal contract (Foulkes, 2010). Before this Act was passed, several English aristocrats had fled to Europe to escape paying their gambling debts to the self-made 'men of the turf' (Foulkes, 2010).

The inherent contradictions about who could and should gamble did not go unnoticed. In 1844, a lawyer prosecuting Lord George Bentinck for debts owed to Charles Russell asked, '*why are immoral practices to be condemned in one class and allowed in another?*' (quoted in Foulkes, 2010). This debate clearly divided along broad class lines. Those with financial means felt that the right to gamble was inalienable whilst others argued that gambling was immoral and specifically advocated that those without financial means should not engage in such activity. Laybourn (2008) has traced the growing unease within the Labour Party in the first half of the 20th century about this precise issue. According to him, the party grew increasingly uncomfortable that there was one set of rules for one class and one for another. Despite tensions within the party itself about how to view gambling, the class divide was clear and, according to Laybourn, this inequity was a catalyst for change in the way gambling was to be regulated in subsequent years. Discourses about gambling therefore often serve to highlight deeper issues; they act as a microcosm to explore issues relating to equality, class differences, and debates about the balance of paternalistic protection versus individual right (Reith, 1999). As shown in Chapter 5 of this thesis, these debates are ongoing today.

Gambling also contains inherent tensions. These tensions manifest themselves mainly as differences between attitudes and behaviour. For example, gambling became a crucial issue in debates about the condition of the working classes and was highlighted within social reform movements (Clapson, 1992). Many 19th century philanthropists and social campaigners rallied against gambling: none more so than Seebohm Rowntree, for whom gambling was a 'social evil' which functioned purely to ensure that the working classes remained subjugated, and engaging in gambling served simply to propagate poverty and inequalities (JRF, 2009). As with discourses around alcohol, Rowntree's perspective was not

necessarily shared by the population at large. The growth in popularity of horse races such as the Derby and the widespread betting that accompanied these events; the mobile gaming booths (complete with thimble riggers, hazard and simplified versions of roulette) which transformed areas surrounding these events into temporary gambling dens; the proliferation of betting houses (both legal and illegal) and gaming houses (or 'gambling hells' as they were known) in urban centres demonstrates a clear demand for gambling products among all sectors of society, specifically among those who, according to Rowntree, were least likely to benefit from or be able to afford such risk taking (Clapson, 1992, Dixon, 1991, Foulkes, 2010).

Throughout the early and mid 20th century there was clearly a wide variety of views about gambling. With the opening of dog racing stadia in the 1920s, the legitimisation of the football pools and continued informal betting organised in local communities, gambling increasingly became a feature of many people's lives. If not a universal phenomenon, it was certainly a widespread activity. As one commentator writing in 1933 put it, gambling was a reaction to uncertain times but was also a type of leisure activity that the wider family could engage in. He noted that the vision of the family sitting down together, debating and completing their football pools coupon was one in which it was difficult to see much harm (Martin, 1935). However, in reviewing contemporary opinions expressed by commentators, it is unusual to find this more balanced opinion. The National Anti-Gambling League was emphatic in its condemnation of gambling and politicians, although sensing the turning tide, continued to consider gambling a contemptible activity which should not be encouraged (Clapson, 1992; Laybourn, 2008).

Although the Betting and Gaming Act 1960 sought to address increasingly outdated regulation of gambling, attitudes that gambling should not be encouraged were entrenched within its provisions. The Act legalised bookmakers for the first time and specifically sought to bring them under government control, a move welcomed by the then Archbishop of Canterbury. However, the debate preceding this change was fierce, with opponents arguing that commercial bookmakers would be especially tempting for women and for youth and should be resisted (Clapson, 1992). Whilst it was not politically acceptable to ban women from bookmakers' premises, fears about their impact more broadly translated into strict

rules about where the bookmakers could be placed, what services they could offer and what the interiors of their premises should look like. Youth were a different matter and age limitations were imposed on them in relation to access to betting shops, casinos and most other gambling venues. The Act enshrined the principle of the industry existing to serve unstimulated demand. The gambling industry could serve latent demand for products but could not stimulate demand, particularly through advertising. Nonetheless, from here on, the commercial gambling industry as it is known today was born. It has undergone changes, and government intervened further in 1968 when it became clear that loopholes in the original Act saw the proliferation of casinos, many of which were being used as a front for illegal activity. From the 1960s onwards the gambling industry boomed, but gambling remained and still is a contentious political and social issue (Rothschild Commission, 1978; Orford et al, 2003).

The sensitivity surrounding gambling was evident in various reviews and attempts to establish a National Lottery. In 1977, the Rothschild Commission on Gambling reported on its findings relating to establishing a National Lottery. This included results from a survey of attitudes to lotteries and gaming, conducted by Social and Community Planning Research. Though some of the study findings were included in the final report, the full report of results was deemed so sensitive that it was distributed to commissioners with the preface that the results were to be treated as confidential due to their extremely sensitive content (Rothschild Commission, 1978). Indeed, it is only since the '30 year rule' on the transfer of governmental administrative records has lapsed that this full report is now available via the National Archives. The 303 recommendations made by the Rothschild Commission were never implemented, apart from those which proposed no change, including the proposal to establish a National Lottery (Orford et al, 2003). The Rothschild Commission also toyed with the unstimulated demand principle, but ultimately recognised that whilst it was paternalistic it should remain (Orford et al, 2003). The success of the Conservatives in the 1979 general election meant that many of the Commission's recommendations were simply brushed aside. According to Turnbull (2008), proposals to establish a National Lottery were tabled and were rejected several times by Margaret Thatcher, who is believed to have disapproved of gambling on moral and religious grounds. It required a Private Members' Bill, tabled by

Sir Ivan Lawrence, and a change of political leadership for the National Lottery to come into being.

This episode was not the last time that moral disdain and concern about impact altered the course of gambling policy and development. Gordon Brown's accession to power proved to be the nail in the coffin for the proposed 'Super Casino', despite a lengthy and costly tendering process and the unexpected award of the licence to Manchester. Tabled alongside broader reforms to gambling legislation and regulation (The Gambling Act 2005) the original proposal for eight Super Casinos had already been watered down to one: this revised proposal was still rejected by the House of Lords in 2007 and only narrowly accepted by the House of Commons. After the immediate announcement that the Super Casino licence would be reconsidered, many commentators at the time drew reference to Gordon Brown's status as the son of a Scottish Minister as evidence for his disdain for casinos (Runciman, 2014). The reality is most likely more complex: broader concerns in both houses about the impact of 'Las Vegas' style casinos was creating political deadlock and arguably the Super Casino was sacrificed to allow progress to be made. This incident demonstrates the strength of feeling and ongoing debate about what place gambling should have in our society (Runciman, 2014).

From this brief review of recent British gambling history, what is notable is how little the discourse has changed, despite government attempts to reposition gambling as a valid leisure and recreational activity. These attempts culminated in the Gambling Act 2005, which overhauled the way gambling is regulated and finally removed the more paternalistic elements of Britain's gambling policy. The 'demand' test was removed, and advertising was allowed, although a range of other regulatory mechanisms were introduced to ensure that certain groups (the young, the vulnerable) were protected from harm. However, since then increasing unease has been voiced among a range of stakeholders, including leading politicians, researchers, religious groups and community campaigners, about the growth and clustering of gambling opportunities within deprived communities more vulnerable to harm (Harman, 2012). More recently, a high profile campaign to stop the spread of Fixed Odd Betting Terminals has been launched and has been successful in gaining the attention of politicians, some of whom are wondering if the ideology of market forces and individual

choice enshrined in the Gambling Act 2005 was the right approach (Harman, 2011). Where gambling (and other consumptive behaviours) is concerned, it seems the tension between paternalism and individual freedom is one that is yet to be resolved.

Gambling and social context

It is clear that the modern day commercial gambling industry understands the importance of social and cultural contexts in developing and marketing its products. Culturally appropriate games are offered to certain jurisdictions, products are advertised based on their likely appeal to different population groups – for example, online bingo for women who want to socialise, sports betting for men who want to compete or are challenged to prove themselves. Casino developers in Macau quickly discovered that they ignore cultural contexts at their peril when they realised that what works in Las Vegas is not necessarily what works for a Chinese population; lemons and cherries on gambling machines were quickly replaced with dragons and butterflies as machine manufacturers recognised the need to incorporate images relevant to Chinese culture within these products (Velotta, 2011). Furthermore, it is notable when visiting Macau's casinos that the ratio of machines to tables is substantially lower than observed in Las Vegas; the Venetian casino in Macau has a machines-to-table ratio of 3.6; in Las Vegas, the machines-to-table ratio is 13.6. This is a reflection of the relative preference of Chinese gamblers for table games but is also related to the Chinese population's relative lack of exposure to slot machines prior to the liberalisation of the Macau market (Velotta, 2011). Unsurprisingly then, when motives are driven by commercial gain, the private sector quickly adapts to their market. This highlights the importance of considering historical and cultural determinants of gambling behaviour and, crucially, how themes of social entertainment and interaction can be leveraged for commercial advantage.

By comparison, researchers have given relatively little attention to the social and environmental aspects of gambling and how this may shape behaviour. Gambling research, and specifically that into problem gambling, has tended to focus on the individual gambler and has done so at the expense of study of the broader environment in which that gambler operates. The disproportionate focus of empirical investigation on the individual and/or the

form and characteristics of the gambling they engage in has been explicitly recognised by some researchers (Peller, LaPlante & Shaffer, 2007; Pearce et al, 2008). It remains a significant gap in knowledge, with empirical investigation into understanding gambling behaviour seemingly trailing that of the commercial sector.

Examination of the origins of gambling as a field of academic inquiry sheds some light on why this situation has arisen. Understanding gambling behaviour, and problem gambling specifically, is a relatively new area of research inquiry. A catalyst for increasing interest in understanding gambling behaviour was the inclusion of pathological gambling in the American Psychiatric Association's Diagnostic and Statistics Manual (DSM) III (1980) as an impulse control disorder. Psychologists have typically dominated the field with specific focus on determinants of pathological gambling. Increasingly neuroscientists are joining the area, focused on exploring the brain responses and neural pathways of gamblers and problem gamblers and how they differ from those of non-gamblers or non-problem gamblers. From the late 1990s, a public-health based approach towards the examination of gambling has been advocated (Korn & Shaffer, 1999). This approach recommended adoption of the epidemiologic triad as a model for empirical investigation into gambling behaviour, though as Chapter 2 argues this needs to be approached with caution. Korn and Shaffer (1999) emphasised focus on the individual, the form of gambling undertaken and the environment in which behaviour is conducted (or created) and, crucially, the interactions between these three aspects.

To date, there has been relatively little examination of the role of 'environment' in shaping gambling behaviour (Peller, LaPlante & Shaffer, 2008; Korn, 2005). What research has been conducted has tended to focus on broad questions about the impact of access and availability of gambling upon behaviour and social attitudes to gambling. There have been few attempts to consider the role of the broader 'social environment' in relation to gambling behaviour in a joined-up and coherent manner.

Furthermore, the focus on individuals and their interaction with gambling products means that these contextual and environmental characteristics are often ignored by policy makers as jurisdictions increasingly look to learn from each other. Whilst cross-jurisdictional

comparisons are to be encouraged, there is a real need for the research and policy community to recognise the importance of environmental contexts and their potential impact on behaviour at a broader jurisdictional level. For example, attention has recently turned to Great Britain as an example of how to regulate and integrate online gambling responsibly, with some arguing that Great Britain has struck the right balance between paternalism and permissiveness (Economist, 2010). However, in making comparisons between Great Britain and other western countries, it should be acknowledged that Great Britain has one of the most accessible gambling markets in the world and, as discussed above, a strong cultural heritage relating to gambling. Online gambling therefore represents a complement to a strong pre-existing offline tradition. How online provision is used and integrated by the populace may well vary in Great Britain comparative to a jurisdiction which has a more prohibitive regime for land-based gambling opportunities (Wardle et al, 2011d). Such comparative analysis has not been undertaken and this omission risks these important contextual issues being disregarded, especially as opening up closed jurisdictions becomes increasingly business critical to online operators.

What this highlights is the importance of understanding the cultural, historical and regulatory context of any jurisdiction when aiming to understand gambling behaviour. These contexts represent part of the macro environment which either overtly or covertly will shape the way views and behaviour are formed and expressed (Fast et al, 2010; Cox & Whitaker, 2005). Regulation, legislation and the prevailing political attitudes shape what is deemed appropriate or normal behaviour. This, in turn, can shape attitudes and values. These features also determine how commercial gambling opportunities are offered and how accessibility is governed. Provision of gambling opportunities and access to them are a clear part of the equation about how gambling behaviour is organised and conducted, although this needs to be situated within the broader cultural and political context of the jurisdiction in which they are located.

These are crucial themes that need to be considered more broadly in gambling studies. Recognising their importance, they are crucial themes for this thesis and are drawn on throughout. They are explored in more detail in the next chapter, which considers how

knowledge about gambling has been framed and explores alternatives to existing paradigms.

Summary

The aim of this thesis is to examine how a realist approach to evidence about gambling changes the theorisation and explanation of women's gambling behaviour in Britain in the last decade. To do this, a number of the historical themes underpinning changes in gambling behaviours and narratives around them must be considered (see Chapter 5) as well as tracing changes in female gambling behaviour among women both more recently and over a longer time frame (Chapter 5 also). To explore the boundaries of realism and the application of secondary data analysis to the realist toolkit, it is important to consider the ontological merit of realism as oppose to current paradigms for framing gambling research (see Chapter 2 for an overview of dominant gambling frameworks and Chapter 3 for a discussion of the application of realism). The type of realist investigation proposed by this thesis focuses on exploring and understanding behaviour among many different groups and contexts. Chapters 6 and 7 use different sources of data and different analytical techniques to explore how, why and under what circumstances, gambling behaviour varies among different types of women. Finally, concluding observations about the changes which use of a realist approach to understanding female gambling make to theory and explanation are given in Chapter 8.

Chapter 2: Framing gambling behaviour

Introduction

Gambling is a complex behaviour. The types of activity it represents and the meaning attached to it are culturally, historically and socially situated (McMillan, 1996). But gambling is not a ubiquitous behaviour. Famed examples of dice discovered among ruins of ancient communities, of ancient Greeks rolling bones, of early forms of lotteries, have been used to argue that gambling is everywhere at every time (McMillan, 1996). Yet, more recent reviews of ethnographic and historic sources have found little evidence of gambling within certain indigenous communities, leading authors to conclude that *“gambling is not a universal phenomenon and that there is no specific gambling instinct”* (Binde, 2005: 22). This lends support to the idea that gambling is socially constructed and determined. As McMillan (1996) succinctly states, our framing of gambling as a concept and the meaning attached to it are shaped by the current contexts in which observers are situated. This perspective is not new; E.H. Carr echoed a similar sentiment in his review of the historical method. This noted how historians’ understanding and interpretations of particular events or phenomena need to be contextualised and understood within the dominant idioms in which the historian is embedded (Carr, 1961).

For modern western academics, gambling is framed within a capitalist idiom, whereby the dominant meaning of gambling relates to risk for the potential reward of profit in a tangible sense (McMillan, 1996). Here the object of risk and reward is monetary value, and the expansion of commercial forms of gambling, certainly those now embedded within Great Britain, operate within a broadly free market and capitalist paradigm. The dominance and development of a neoliberal system of capitalism has arguably led to an increasing focus on the individual and on individual action. This meaning is replicated in the dominant frameworks used to explore gambling behaviour (Krieger, 2011). These

frameworks are deeply embedded within a bio-medical view of problem gambling as disease and this chapter will explore these themes further (Krieger, 2011).

However, how gambling is understood and conceptualised goes beyond focus on the individual, as can be seen from the following example. The value of money as the object of risk and reward was enshrined in the recent Gambling Act 2005: this defined gambling as participating in gaming, betting or lotteries. 'Gaming' was qualified with the addition that it had to be gaming for a prize, whereby a prize means money or 'money's worth'. 'Betting' was subject to no such qualification and lottery prizes were less tightly defined (consisting of money, articles and services). However, the concept of 'money's worth' introduces definitional ambiguity, as 'money's worth' is an inherently subjective concept, though a more objective meaning was no doubt intended (i.e., that prizes are worth money and that the value of that worth is known). Even so, this is still subjective: how prizes are valued may mean different things to different people and whether the prize is indeed viewed as being 'money's worth' will vary. This is more than a subjective issue; this potential difference in meaning creates legal ambiguity about what is and what is not gambling.

This ambiguity has led to debate about how to conceptualise and define new and emerging forms of 'gaming', highlighting the significance of context when understanding gambling behaviour. This is particularly evident with reference to social gaming products based on traditional forms of gambling games. These online 'games' are often embedded within social networking sites. Played online with virtual (digital) currency (either freely provided or purchased) for the potential reward of further virtual currency, this raises questions about whether this represents 'money's worth' or not. For example, virtual currency can be purchased, so it has a clear translation into 'money's worth' or rather 'sterling's worth'; therefore prizes in virtual currency could represent a 'money's worth' prize. If so, then arguably these activities could be officially classified as gambling under the terms of the Gambling Act 2005. However, if these

virtual prizes do not represent 'money's worth' then they are simply games which replicate in one medium a popular activity in another. The Gambling Commission has recognised this ambiguity and argued that this represents an untested point of law (Graf, 2013). The central debate of whether these games should be considered gambling or not revolves around these issues.

This is a clear example of how meanings of gambling are culturally, historically and politically situated. In this example, a new product is being assessed against a pre-existing legislative framework, which itself is culturally created, to understand whether this form of activity counts as gambling or not. This legislative framework now forms the backdrop for how both understanding of gambling and knowledge about gambling is produced and reproduced within this narrow framing.

Yet gambling was not always so rigidly defined, nor was it always so focused on monetary risk and reward. Binde (2005) has documented evidence of gambling being used in some communities as a way to redistribute wealth and goods, as a reciprocal activity and a way to safeguard against one person or unit within a community obtaining too much of a commodity. This makes it quite clear that to understand the meaning of gambling, it is necessary to look at the cultural context in which the activity is enacted, shaped and formed.

With the exceptions of the few studies mentioned above and one or two other notable works (e.g., Reith's examination of gambling and chance, 1999), this way of thinking about gambling has been broadly ignored in mainstream gambling literature. The study of gambling itself is also largely absent from broader sociological study. Dominant ways of thinking about gambling have been generated largely from psychological approaches. More recently, there has been a move to situate gambling within a public health framework (Korn & Shaffer, 1999). This latter move has its benefits but, arguably, there has been no critical examination of *what* models of public health and epidemiological

theories should be applied to gambling. In short, a public health model is increasingly recommended with little consideration of the underlying theory that different public health approaches encapsulate. This chapter seeks to fill this gap by critically assessing current (and dominant) frameworks of gambling. As support for the public health model is increasing, attention is also given to other useful public health frameworks which may be suitable for exploring gambling (though this review is by no means comprehensive). Key themes emerging from this brief review are summarised and attention is then given to what this means for the study of gambling behaviour. The importance of considering context and mechanisms and recognition of the dynamic interplay between individuals and society is outlined: this lends support to viewing gambling through a realist lens.

Existing ways of thinking about gambling behaviour

Gambling is not a new behaviour or phenomenon. However, how gambling is conceptualised and the perspectives applied to investigation arguably reflects different underlying views about the broader social world. Some of these differences may be semantic. Economists tend to view gambling as a particular type of commodity, the costs and benefits of which are to be considered and evaluated, with problematic behaviour considered in relation to rational or irrational choices or in the context of short term versus long term utility maximisation (Forrest, 2013). Sociological perspectives emphasise the changing meanings of gambling and its relationship with the social world, especially its commoditisation in relation to, and as an exemplar of, the challenges of modernity (Reith, 1999). From a sociological perspective, online gambling in particular serves as an effective example of the increasing fluidity and speed of modern life and our evolved relationship with technology across time and space. Psychological perspectives most often take a bio-medical view of gambling, emphasising the pathological aspects of problem gambling and hence medicalising excessive consumption (Castellani, 2000). Behaviour is examined through the lens of learned response conditioning, and interaction between person and activity are the focus of much consideration. Neurobiology expands upon this, seeking to examine individual

behaviour in relation to brain responses, neural pathways and reward functions (National Council for Responsible Gambling, 2011). Finally, public health approaches recommended to date offer to take a broader perspective to examine the combination of pathways and factors which may shape or spread disease, in this case problematic gambling, or affect the health of the whole population (Blaszczynski & Nower, 2002; Korn & Shaffer, 1999).

In short, there are myriad perspectives and frameworks through which to investigate and explain modern day gambling behaviour. The summaries presented above are crude, at best, and there are many areas of overlap between different disciplines. Nor does this brief summary adequately reflect all perspectives. However, it is likely that the scientific study of gambling does not fit neatly into a single paradigm. To use a single perspective could potentially miss many nuances and complexities which interact to shape behaviour: if a wide net is not cast then the fuller picture may be missed.

Despite this, a common theme linking these various substantive viewpoints is evident within the existing gambling studies literature. This relates to purpose. The main question being addressed is relatively simple: why do individuals act in the way that they do and what is the impact of this? Of course, at face value, this question may seem straightforward. However, a fully developed and rounded answer to this question needs to draw on a range of theories and academic disciplines. This ranges from understanding the interactions involved in exchange and decision-making processes, to understanding the broader environment in which these exchanges are conducted and how decisions are shaped both at individual and societal levels. The influence of past and present behaviour upon future behaviour, both upon ones own behaviour and upon the behaviour of others, needs to be considered, as does an understanding of what rewards are sought (including intrinsic, extrinsic and material rewards) and how these are valued by the individuals seeking to obtain them. Assessment of impact needs to be broad-ranging to include the individual, their communities and networks right through to

broader economic, political and societal impacts. A single academic discipline or perspective is unlikely to be able to provide satisfactory answers to this complex question. In identifying key themes to inform thinking about how to frame and understanding gambling, this would be key point one: cast a wide net, use a multi-disciplinary approach and explore this using a range of theories and viewpoints.

The public health approach

Although not always explicitly stated, it is perhaps because of the cross-disciplinary nature of gambling studies that public health models have been broadly recommended as a way to frame and understand gambling behaviour. There are of course other reasons that a public health approach is advocated. For example, a parallel with alcohol consumption is often drawn, with both (in Great Britain, at least) being legal activities that many people engage in with few adverse consequences, although for some consumption can become problematic. The inclusion of pathological gambling in the American Psychiatric Association's Diagnostic and Statistics Manual (DSM) III (1980) and subsequently its categorisation in the DSM IV (1993) as an impulse control disorder formalised excessive gambling as a medical issue. This suggested that a response by the medical and health sector would be appropriate. As Korn and Shaffer (1999) stated, the inclusion of pathological gambling in the DSM legitimised gambling as a mainstream entity within the mental health field. This, coupled with parallels to alcohol, suggested that gambling behaviour could and should be considered a public health issue alongside other non-communicable diseases.

As observed with other non-communicable disorders this process of legitimisation, coupled with public concerns about the spread of commercial gambling, led to a period in which the extent and nature of the problem was subject to investigation and quantification (Korn & Shaffer, 1999). This was particularly evident in western countries, with many jurisdictions implementing studies to measure gambling participation and problem gambling prevalence rates. This provided evidence relating to the extent of

issues experienced at a population level and data about the shape of the population distribution of gambling problems (Shaffer, Hall & VanderBilt, 1997; 1999). At the very least, this work created an epidemiological basis for understanding gambling behaviour (Korn & Shaffer, 1999).

However, as Krieger (2011) has noted, epidemiological evidence is not theory free. She argues that how one conceptualises epidemiological phenomena has the power to affect disease prevention, health equity and public health more broadly (Krieger, 2011). This is because these concepts create a dominant framework in which work is produced and refined, and policy created. This resonates with the argument made by Korn and Shaffer which states that how one defines something governs what one does about it (1999). Therefore, whilst this epidemiological basis for the prevalence of gambling problems has been created, there has been little critical examination of the underlying epidemiological theories upon which this base is built.

In her review, Krieger (2011) notes that this is a broader phenomenon of epidemiological research generally. She makes a persuasive call to action for greater critical thinking about epidemiological theory and clearer articulation of the different paradigms in which knowledge is produced. To do this, she traces three core movements in epidemiological thinking, examining their historical antecedents and the implications of this. As this has resonance for how gambling is viewed, these movements are summarised here. They are broadly categorised as the bio-medical and lifestyle model, social epidemiology and ecosocial epidemiology.

The bio-medical model, according to Krieger, encompasses three main tenets:

- that the domain of disease and that of its causes are restricted to biological, chemical and physical phenomena;
- that the dominant mode of examining disease is through randomised control trial or natural experiment;

- that phenomena are best explained by the properties of their parts.

Krieger traces the rise of the bio-medical model and argues that this model views population patterns of health as simply the sum of individual cases. Explanation is determined at the level of the individual. Shifting focus onto the actions of individuals, she argues, is deeply tied to the dominant political and economic context in which this model developed (i.e., against the backdrop of the ideological divides between east and west during the Cold War and in later years, the neoliberal policies and economics supported by the Reagan and Thatcher administrations).

A focus on individuals and individual action is, she argues, evident in the development of theory around lifestyle and risk factors. Throughout the 20th century, theories of lifestyle changed from having collective meaning or being a property of a group to meaning the action of an individual, with a focus on individual choices. She argues this change was coupled with the rise of consumer culture. Now, the dominant idiom is that the individual makes a choice about whether to engage in healthy or unhealthy behaviours and this choice results in an exposure to risk. Here, action and agency is located entirely at the level of individual.

Individual choice and individualism is deeply embedded within current thinking about health, as can be seen from the Labour Government's White Paper 'Choosing Health' (2004). Whilst this outlined how government would enable and support individuals to make healthy choices, the theory of agency rested with the individual, whereby education and knowledge is dominant in terms of enabling such choices. When knowledge is framed in this way, interventions to improve health are targeted at the level of individual (such as education initiatives), a clear example of how defining an issue in a certain way governs responses to it (Korn & Shaffer, 1999). As this chapter goes on to demonstrate, this type of thinking is dominant in models of gambling behaviour.

Krieger's second major school of epidemiological theory provides a counterpoint to these criticisms. Social epidemiology focuses on broader social, political and economic conditions that produce health and health inequalities. The common themes linking this strand of theory, according to Krieger, are:

- that health and disease cannot be understood apart from the social context in which they are created;
- that social processes probabilistically determine health outcomes which are socially patterned;
- that as societies change, so do population levels of disease distribution.

The major change in this approach is rejection of the idea that disease is an intrinsic characteristic of the individual. Rather social, political and economic forces create conditions which determine rates of population health and disease. As Krieger states, this has led to focus on the social determinants of health and health inequalities. In this theory, individuals are embedded within environmental contexts in a dynamic way and these contexts shape health and health behaviour. She argues that this moves away from the bio-medical conception that disease rate distributions are 'natural' phenomena and variations simply reflect 'adaptation' to a changing environment. In the social epidemiological model, agency rests more with the broader social, political and economic superstructures which combine to determine and shape the actions and behaviours of individuals. This is exemplified with metaphors about upstream and downstream causes (i.e., what happens upstream in a river affects what is experienced downstream) and also of proximate and distal (or superficial and fundamental) causes. If the bio-medical model focuses on proximate causes, the social epidemiological model focuses more on distal and fundamental causes; though this should not be to the detriment of consideration of individual action.

The third and final strand of theory presented by Krieger could be viewed as a bridge between social and bio-medical models and their views of agency (crudely summarised

above). She broadly terms this the ecosocial model of epidemiology. This emphasises theories about societal and biological processes in different contexts. These contexts are temporal, spatial and historical. This orientates thinking towards understanding and investigating complex systems, of which individuals and societal processes are a part. The main movement in thinking is away from upstream/downstream effects to focus on nested social hierarchies and embeddedness. According to Krieger:

“the ecosocial metaphor dynamically captures the integral intertwining of societal and biological process at each and every level”

(Krieger, 2011: 227)

As can be seen from the (brief) review above, epidemiology and public health have a number of different theoretical orientations which need to be carefully considered and debated. If thinking about an issue is embedded within a bio-medical perspective, the range of interventions and actions recommended will focus on those which intercede with individuals. If a more social epidemiological perspective is taken, interventions and action will focus more on collective production of social, political and economic circumstances and what can be done about them. An ecosocial model will examine dynamic interaction between the two and seek to consider the role of context when thinking about more targeted interventions.

There is an increasing call for a public health perspective to be applied to both gambling research and policy (Wardle et al, 2011b; Responsible Gambling Strategy Board, 2012). However, careful attention has not been given to the type of public health model that might be most appropriate. This means there has been little critical examination or debate about underlying conceptions of both agency and causal processes within current gambling-based public health models. The sections that follow argue that dominant public-health based gambling models draw heavily on bio-medical and lifestyle framing. Those that pay attention to broader societal and environmental

influences tend to do so in a reductive way. This gives primacy to individual agency and creates conditions whereby policy interventions focus mainly on interceding with individuals.

Public health based models of gambling: what is the underlying theory?

As noted in preceding sections, there has been little examination of the underlying theories of the public health approaches advocated by gambling researchers. It is to this which this thesis now turns, and it is important, as this assessment allows us to trace how knowledge about gambling has been produced and how this has been translated into policy. Crucially, it allows us to identify both common themes and gaps in knowledge, and to critically assess if the dominant frameworks are fit for purpose. It is the contention of this thesis that these dominant frameworks have largely ignored broader social determinants and contexts of gambling behaviour, which has led to a gap in our understanding of how this behaviour is shaped and formed.

Korn and Shaffer (1999) were among the first to advocate that a public health framework be applied to gambling. They cited concerns about the rapid expansion of gambling provision in the late 20th century and increases in problem and pathological gambling as their basis for doing so. While their primary aim was to start a dialogue with the health sector about problem gambling, they also argued that placing problem gambling within a public health framework provided the opportunity to examine behaviour and impact from many different perspectives and to identify multiple points of intervention. They argued that a key appeal of a public health approach was that public health models offer opportunities to be both integrative and expansive in explanations of determinants of health, or in this case, gambling behaviour. They stated that:

“a public health perspective allows for a comprehensive analysis of the biological, behavioural, social and economic determinants of health and illness.”

(Korn & Shaffer, 1999: 306)

In short, a public health approach provides a framework through which all the complexities of gambling behaviour, how it is shaped, enacted and understood, may be examined in a joined-up and integrated way. Since this seminal paper was published, the appeal of applying a public health framework to the study of gambling behaviour has increased (Responsible Gambling Strategy Board, 2012).

However, arguably, the public health framing chosen by Korn and Shaffer (1999) to represent this integrated and complex system did not quite meet these expectations. The model offered by them as a way to explore determinants of problematic gambling behaviour was an adaptation of the epidemiological/public health triad model. This took the epidemiological triad model of communicable diseases as its basis. The model focuses on the interactions between the host, agent and environment, with different mechanisms acting as a vehicle for transmission of a disease.

In the traditional epidemiological model, the agent simply describes the microorganisms, chemicals or physical factors whose presence or absence is essential for disease to occur. The host describes the individual whose range of socio-demographic characteristics, personal behaviour, physiological or biological state may affect their risk of contracting the disease. The environment describes the physical, biological, social and cultural setting in which the both the agent and host exist, which may affect risk of disease transmission. In terms of how a disease is transmitted, there are both direct and indirect methods. Of the latter, airborne, vehicle borne and vector borne methods of disease transmission exist. For example, in the case of malaria, transmission is vector based, the agent of disease being carried by a mosquito. In the case of cholera, transmission is vehicle based, the agent of disease being carried in water. Whether a disease spreads or is contracted by a single individual relies on a complex interaction of these features.

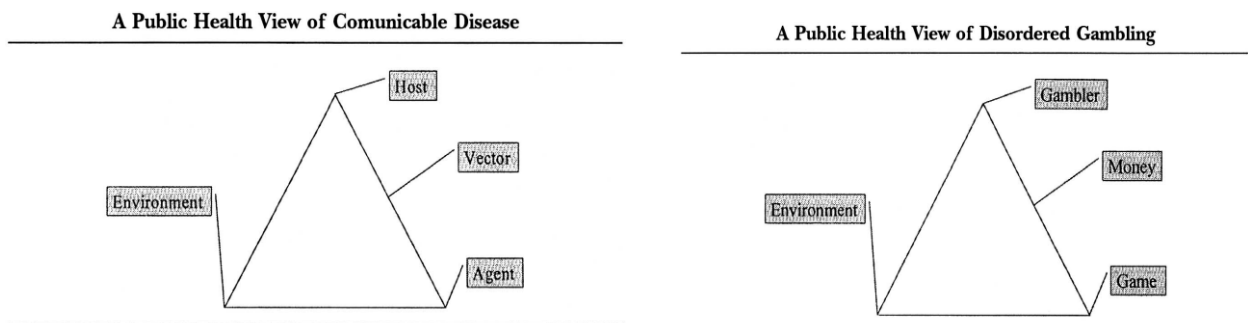
On first viewing, using this model as a basis for framing gambling has intuitive appeal. It emphasises the need for an integrative analytical approach to understand why disease occurs. It is not sufficient to know that bacteria cause some types of disease. Understanding is needed around how certain factors and characteristics combine to place people at more or less risk of experiencing illness. This involves consideration of how the environment in which both the 'agent' and individual exist shapes the risk of disease and the interactions between them. In short, the model illustrates that to obtain a full picture, consideration should be given to who the individual is, what they are doing and in what context. Taken at face value, it is an integrative approach, where no one factor has predominance over the other, but rather emphasises the value of taking a system-level perspective to understanding disease.

However, the original epidemiological triad model for public health has since been critiqued. Hanlon et al (2012), among others (Krieger, 2012) have argued that this model is part of a reductive medicalised vision of public health that tries to understand, control and predict disease. According to Hanlon et al (2012), this model is based on a conception of health being the absence of disease and is out of touch with modern views of health that now have greater focus on mental, physical and social wellbeing. As such, it is argued that the theory underpinning the public health triad is part of the bio-medical tradition. Consideration should be given as to whether a public health model which heralds a highly medicalised view of health and disease is an appropriate framework for understanding a fundamentally social behaviour.

Of course, just because the underlying theory of the original model is bio-medical, this does not mean that the adapted model retains this ontological basis. This requires closer examination of how Korn and Shaffer (1999) suggested the model would work for gambling. In their adapted model, Korn and Shaffer argued that 'agent' is synonymous with the gambling activity. To be a problematic gambler one simply must engage with gambling activities. The 'host' is synonymous with the gambler who, as in the public

health model, has a range of socio-biological and physiological characteristics that may affect their risk of experiencing problems with gambling. The environment remains as the broader physical and socio-cultural landscape in which gambling provision (the agent) is located and which shapes the attitudes and behaviours of the individual (the host). Expanding upon this, environment can be conceptually disaggregated into many different domains, ranging from macro socio-political environments to micro environments of family, peers, communities and venues. Finally, Korn and Shaffer argue that money was synonymous with the vector, or rather the method of 'disease' transmission. They do not expand on how this vector operates but one may postulate that because money is required to pass from 'host' to 'agent' in order for gambling to take place it therefore forms the core mechanism of transmission. Their model is replicated in Figure 2.1 below.

Figure 2.1: Public health view of communicable diseases and of disordered gambling from Korn & Shaffer, 1999



But what does this actually mean in practice? First, let us consider the analogy between gambling activity and agent. In the standard public health triad model, 'agent' refers to a bacteria, a virus or chemical. In the gambling model it refers to a lottery, a scratchcard, a casino game and so on. The major difference here is that in the traditional model, the agent is mobile and via modes of transmission can be moved to the host and the host has little autonomy over whether this occurs or not. Of course, preventative measures can be taken (i.e., mosquito nets can be bought and used) but the process is one of dual mobility. The host can be brought into contact with the agent and the agent can be

brought into contact with the host. However, in the gambling model, the agent is typically static (leaving aside, for the moment, the development of mobile and 3/4G technology and its applications). Forms of gambling are only available in certain locations, at certain times. Therefore, the relationship between host and agent is one of asymmetrical mobility. The host can only go to the agent, not the other way around. Of course, there are nuances here. A host may find that, due to circumstances beyond their control, their local communities have a large number of gambling opportunities: but those opportunities still require the host to make a conscious decision, however shaped or formed, to engage with the agent. In short, in the gambling model, the host has more autonomy and more control over their range of potential interactions with the agent than in the traditional public health triad model. In terms of assessing the underlying theory of the model, greater primacy appears to be afforded to the individual.

Furthermore, the concept of money as vector is also problematic. In the classic public health triad model, the vector of disease would be a mechanical or biological process through which the agent interacts with both environment and host. Whilst money clearly links gambling activities and individual – people cannot gamble if they do not use money – it is not clear that money is the method through which problems are transferred. Furthermore, the relationship between agent and environment when the vector is money is much more difficult to quantify. An argument can be made that political or economic concerns govern how many gambling opportunities are available in a given location and that this is driven by money, in terms of commercial revenue and tax revenue. Likewise, political, social and economic concerns govern the distribution of wealth within communities and therefore impact on how much money is available to be spend by individuals. Individuals may then choose to spend this money on gambling activities. There are obviously some clear connections between host, agent and environment with regard to money and money is an integral part of the picture.

However, in this picture, money is an agent of exchange, something that links together the individual and the activity, but it is not, of itself, a mechanism of transmission of potential harm. This again relates to the one dimensional interaction between the host and agent. Money itself cannot carry gambling to the host, only the individual can choose to spend money on the agent. Indeed, the relationship between money, individuals and gambling is much more complex than simply viewing it as the vector through which problems are transferred. Money is the agent through which gambling is accessed and, for some, but not all, a key motivation for engagement. It is part of the reward mechanisms offered by engagement in gambling and, among some, an outward marker that behaviour has become uncontrolled or excessive. However, not all gambling problems are monetary in nature. Monetary issues dominate the measurement of problems, but some problem gamblers may express preoccupation with gambling, gambling as a coping mechanism or to escape problems. Problem gambling is much more complex and wide-ranging than a mere interaction with money (Responsible Gambling Strategy Board, 2012). Therefore, viewing money as the vector of transmission is reductive and potentially misses a wide range of other mechanisms and processes that may be important in the development of gambling problems. In assessing the underlying theory of this model, it appears to be rather more reductive than expansive in its explanatory power.

Finally, the application of the classic public health triad model to gambling fundamentally changes some of the underlying assumptions of the original framework. Importantly, for a model which emphasises the importance of examining *interactions*, on closer examination, it actually reduces some relationships to one-way flows. With its application to gambling, the model places as much primacy on the form of gambling activity as individual and social determinants, and the three aspects are, at face value, given equal weighting. It is, perhaps, this weighting that has encouraged much focus on questions relating to whether certain forms of gambling are more harmful than others, such as whether slot machines are the “crack cocaine” of gambling as some have

suggested (Dowling et al, 2005). Arguably, this focus has been to the detriment of broader considerations of social determinants of gambling and interactions between social and individual factors.

Indeed, the overwhelming focus of research on individual factors has since been noted (Korn, 2005; Peller et al, 2008). Academic inquiry has tended to focus on individual determinants and/or their relationship with the form of gambling engaged in. Specifically, there has been a great deal of focus on whether certain forms of gambling are riskier than others and how structural characteristics of certain types of activities may produce increased risk of gambling-related problems (Blanco et al, 2013). Such focus on the individual and the activity (or host and agent) has sidelined considerations of environment and certainly not produced the kind of integrated system level analysis originally proposed by Korn and Shaffer. Speaking in 2005, Korn specifically acknowledged this, noting that there had been a dominating focus on individual determinants of problem gambling, and reemphasised his belief that attention should be given to interactions between the social dimensions of gambler and gambling environment. Peller et al (2008) noted in their review of gambling and technology that only a minority of evidence considered environmental features.

There are of course many reasons why focus has been given to individual determinants and the characteristics of certain activities and this is not to suggest that this work has not made an important contribution. This may partially be a product of how funding is provided for gambling research, which field has made the largest contribution to the knowledge base and the personal interests and motivations of those leading research. To date, clinical psychologists have dominated the research agenda. As such, it is perhaps understandable that individual determinants combined with examination of the psychological properties of, and interactions with, certain activities have been at the forefront of the research agenda. However, if as Korn and Shaffer (1999) state, the way

one defines a problem governs what one does about it, it is only right to examine whether the classic public health triad as a model for gambling is fit for purpose.

The brief review presented here has argued that the dominant framework is based on a model of communicable disease, whereby the underlying conception of health is the absence of disease. It is based on a model which reflects the bio-medical tradition. Secondly, critical assessment of the application of this adapted model in practice suggests an emphasis on the individual, with increased primacy placed on the actions of individuals, and their interaction with the host. Thirdly, only one mechanism for the transmission of problems is specifically covered by the adapted model (money as vector) which is reductive and reduces interactions between host, agent and environment to one-way flows. In summary, this adapted model does not seem to fully represent the type of integrated system-level approach envisaged by Korn and Shaffer. Its adoption as a framework for gambling may have (inadvertently) carried this theoretical underpinning forward, though it is very clear from Korn and Shaffer's original paper that was not intended. What they describe as an optimal framework for the consideration of gambling was something closer to the ecosocial models described by Krieger. What was proposed does not appear to have matched that.

This disparity between intentions and reality is concerning as it may shape other academic inquiry into gambling in the bio-medical tradition under the guise of something broader. It perhaps implicitly encourages a bio-medical perspective to be adopted without recognition that this is the underlying paradigm in which knowledge is being produced.

Certainly, there has been an emergence of further medicalised analogies used to explore and explain gambling behaviour. This is evident in the work of Shaffer et al (2004) and LaPlante et al (2007) when investigating the impact of exposure to gambling opportunities. They drew on the concept of environmental exposure (measuring dose,

duration and potency) to a toxin to quantify and measure exposure to gambling opportunities. This was then used to examine the relationship between regional exposure to gambling and gambling behaviour. This study was groundbreaking in terms of highlighting the need for a common understanding of what exposure to gambling opportunities means and suggesting a framework through which it could be consistently measured and quantified.

However, this study drew a parallel between gambling opportunities as a potential 'social toxin' with 'chemical toxins' in the broader environment and argued that the risk of exposure to gambling could be measured using the same domains as the potential health risks associated with exposure to chemical toxins. In essence, it reduces the concept of environment to be solely concerned with gambling access and availability as a potential pollutant, the existence of which in varying doses, durations and potencies may affect behaviour. As Krieger (2011) states, this is consistent with an underlying model of health as a 'natural' phenomenon in which variations in distribution reflect individual 'adaptation' to a changing 'environment'. As a model, it sidelines considerations of broader contexts and various interactions between individuals and their environment which may contribute to the way behaviour is shaped and formed. That said, these authors did draw on some of these explanations when the analysis did not show the expected relationship (that of higher exposure leading to greater problems). The main point, however, is that this model draws on highly medicalised concepts and reflects a particular conception of health. Careful consideration is needed of whether these concepts and understandings are appropriate for examination of a social behaviour.

Other dominant models for gambling

Since Korn and Shaffer's original contribution, a number of other models have gained traction as a frame for exploring gambling behaviour. The first of these is the 'Reno Model' for responsible gambling (Blaszczynski, Ladouceur & Shaffer, 2004). Developed

by leading academics at a meeting in Reno (hence the name), it set out to establish a strategic framework to guide stakeholders about responsible gambling practice. The model itself was intended as a practical framework about what responsible gambling practice means and what features it should include. However, little critical examination of the theoretical underpinnings of the model has been undertaken. Brief examination of what the authors do state about their epistemological position makes it clear that this too is deeply embedded within a bio-medical/lifestyle framework. The authors state that: (1) the ultimate decision to gamble resides with the individual and represents a choice and, (2) to properly make this decision, individuals must have the opportunity to be informed (Blaszczynski, Ladouceur & Shaffer, 2004).

In the Reno Model, the individual is 'king'. It is their choice whether to engage or not and the practices of commercial entities, let alone political, social and economic powers, are secondary to this. This reduces the role of the industry in shaping behaviour to one of information provider as part of their duty of care. There is little within this model which examines how broader social and cultural forces combine to shape 'choices'. (Discussion of how broader political decisions combine to shape and determine female patterns of gambling behaviour is expanded in Chapter 5). From the theoretical position put forward in the Reno model, responsible gambling intervention is predicated almost entirely on the concept of informed choice. The role of a 'stakeholder' (or industry) is to inform individuals. This should be achieved by ensuring that adequate information is provided about the risks of gambling and that information and advertising is not misleading. This vastly narrows the range of possible responsible gambling interventions and policies. It creates a sense in which industry are told that all commercial practice can continue in whichever way they choose, so long as they educate consumers and adhere to some narrow recommendations about what they can and cannot say to consumers.

This does not encourage a social responsibility model that pervades all practice, whereby socially responsible practice is a denominator of all business decisions. Arguably, it encourages responsible gambling to be seen as corollary business practice. In the Reno Model, causal power rests with the individual and not broader societal entities. This limits what one does in terms of responsible practice to intervening with individuals and excludes consideration of broader societal or commercial practices. To draw on some key themes from Krieger's discussion, this narrow focus would seem to be addressing superficial but not fundamental causes.

The Reno Model has become highly influential and is often cited in gambling research (Griffiths, 2014). The launch of a new journal devoted to research about responsible gambling practice in January 2014 demonstrated the widespread uncritical support that this model has garnered. In the opening editorial, the editors announced their rationale for the journal and restated the main premise of the Reno Model. In doing so, the editors reiterated their support for the concept that agency rests with the individual and emphasised individual autonomy. Their summary of responsible gambling measures then followed the Reno Model, focusing on education and informed choice (Wood & Griffiths, 2014). This demonstrates the impressive reach that the Reno Model has achieved; there is now an entire new journal devoted to research which is predicated on its rather narrow ontological basis.

A final model which has gained traction in gambling studies is that of the 'pathways' model of problem and pathological gambling (Blaszczynski & Nower, 2006). The aim of this model, as stated by the authors, was to:

“advance a pathways model that integrates the complex array of biological, personality, developmental, cognitive, learning theory and ecological determinants of problem and pathological gambling”.

(Blaszczynski & Nower, 2006: 487)

A further aim was to recognise that pathways to problems are not a 'one size fits all' situation and that there is considerable heterogeneity in behaviour. To address this, three different pathways were identified for three different problematic gambling types: behaviourally-conditioned problem gamblers; emotionally vulnerable problem gamblers and antisocial impulsivist problem gamblers.

The authors aimed to provide a model which integrated a number of individual and societal influences in determining behaviour, though on close examination the balance is rather more focused on individual components. The problem with the model is in its execution. Ecological determinants are reduced to two domains: access to gambling and availability of gambling. The authors claim that this is the starting point for all pathways, in that it is necessary to have access to gambling to be a problem gambler. This view of ecological determinants is far from the more complex, integrated systems theory approach suggested by Korn and Shaffer (1999) and from Krieger's (2011) theory of embeddedness and embodiment. Ecological factors are treated as somewhat distal and also narrow in focus. The models do not include further consideration of a range of other societal determinants of problem gambling, but rather focus on the path that an individual takes; an individual's progression through problems. Whilst attempts are made to provide a more integrated model for the consideration of problem gambling, this again resembles closely the type of bio-medical/lifestyle model outlined by Krieger (2011).

A brief review of these dominant models of gambling behaviour has argued that they are implicitly underpinned by the bio-medical/lifestyle paradigm. Public health and epidemiological theorists are increasingly recognising that this is reductive and does not adequately represent all possible mechanisms and contexts which can shape the determinants of health (Hanlon et al, 2012; Rayner & Lang, 2012). Recommendations that gambling be viewed through a public health lens are increasing (Responsible Gambling Strategy Board, 2012). To capitalise upon this, consideration is needed of

what other frameworks offer, such as the social epidemiologic and ecosocial models noted by Krieger: it is to this which this chapter now turns.

Social determinants, ecology and public health

Public health as a field is increasingly acknowledging the complexities and interconnectedness of physical, social, cultural, environmental, material and biological worlds (Rayner & Lang, 2012; Hanlon et al, 2012). This framing arguably takes a more holistic perspective of public health, seeking to explore the relationship and interconnections of these domains. Themes of complexity and interconnection demand attention be given to broader determinants of health and wellbeing as well as broader determinants of health inequalities. In the past 30 years, a number of models and frameworks have been devised to enable public health practitioners, policy makers and the broader public to think about how health is shaped and how and where appropriate interventions aimed at improving health may be targeted. These models include, but are not limited to, Dahlgren and Whitehead's determinants of health model, through to the World Health Organisation's (WHO) Commission on Social Determinants of Health (CSDH) model of health and health inequalities (Dahlgren & Whitehead, 1992; CSDH, 2008). As Rayner and Lang (2012) state, these are the main frameworks which focus on how individual experience may be shaped by broader determinants.

Dahlgren and Whitehead's (1992) now classic model has been replicated, modified and applied to many specific public health topics including drug use, HIV transmission, alcohol environments and interpersonal violence (Bell, Carlson & Richard, 1998; CSDH, 2012; Scribner et al, 2010). Whilst the model itself is described as a framework for viewing the determinants of health, it is part of a broader social ecological tradition which depicts layers of influence that may affect health. At a broader level, ecosocial theory focuses on examination of the inter-relatedness of various social factors within a broader environment. Models describing this tend to depict a 'Russian Doll' type effect, with individuals nested within 'micro', 'meso', 'exo' and 'macro' spheres of influences.

The micro sphere tends to refer to individual or interpersonal features that shape how a person thinks about themselves and their specific roles that contribute to this. It also includes socio-demographic and biological characteristics which shape individual experience along with the immediate network of micro groups with whom the individual interacts (i.e., friends and family). The meso level tends to refer to broader communities and organisations in which the individual operates and the factors relating to these organisations which shape how an individual operates. Examples of meso level influences might be workplaces or schools, for example. Influences can include normative values and behaviours and the meso sphere can be both temporal and spatial in its boundaries. Exo factors are broader community-level influences which tend not to require active participation but can still affect values and behaviours. Finally, macro factors pertain to wider social structures, such as policy or regulatory environments, economic systems and cultural context which may influence the individual.

In adapting social ecology for specific substantive areas, and particularly in the advancement of ecological epidemiology, this model has been simplified to look at individual level factors, interpersonal level factors, neighbourhood level factors and societal level factors (DiClemente et al, 2005; Scribner et al, 2012). However, the theory is the same: that individuals operate within complex and multi-layered spheres of influence which combine to shape values and behaviour (Scribner et al, 2012).

This provides a more holistic model around which to frame research questions about how and in what ways these spheres of influence affect certain behaviours. It is also important to recognise that these spheres of influence are dynamic and will shift throughout the life course. Furthermore, they include not only temporal aspects but also spatial domains, and understanding how time and place are interlinked with these spheres of influence is important. As Stokols (1995) describes, the social ecological perspective is not based on a single theory but rather encompasses many different fields of research. This paradigm also takes a multi-dimensional view of both the individual

and the environment. Environment encompasses domains relating to physical, geographic, social and cultural perspectives, whereas individual domains relate to socio-demographic characteristics, biology and physiology. As Stokols (1995) states, the social ecological perspective is about the dynamic interplay between these domains that may shape behaviour or outcomes.

The social ecological approach also includes a number of concepts from systems theory (Stokols, 2005). This includes focus on dynamic interplay between multiple dimensions, feedback loops between domains and levels and the concept of interdependence (so that a change in one area may give rise to a change in another) and responses to change over time including steady state and dynamic balance. Interestingly, Korn and Shaffer (1999) talked about applying a system-level analysis to gambling but fell short of discussing the potential use of a social ecology model.

In fact, viewing social ecology models through a systems lens is particularly useful in helping to describe the tensions, forces and reactions that exist within a system. For some, the analogy of 'ecology' suggests a system which operates in relative harmony (Rayner & Lang, 2012). Hertzke (1998), for example, in his overview of moral ecology, traced ecological ideology as something rooted in harmony which is underpinned by a sense of rights and duties. He specifically references the Navajo Indians as an example of a community which is organised in co-operative ways and underpinned by a broader ecological ethos. Visualisations of social ecology models perhaps do little to dispel this vision. They show individuals nested within communities further nested within broader environments and spaces (Rayner & Lang, 2012). For some, this may imply a more harmonious connection to people and place than is evident in reality.

However, this takes a simplistic view of ecology and ecological processes. The main consideration is that of inter-connectedness which means that a weakening of one part of the system exerts tensions and pressures on other parts. Viewing social ecology

through the lens of system theory acutely highlights this range of pressures and tension. This particularly relates to issues of entropy. Entropy in systems theory describes a tendency for all systems to 'run down' and develop to a stage of reduced coherence (Tamas, 2000). As Tamas aptly describes, this tendency needs to be constantly countered. This includes processes which promote 'negative entropy', a slightly confusingly named process by which systems are enhanced through forces or influences which promote, maintain or increase order. Conversely, this also includes processes which can be destructive to the wellbeing of the system. The recognition of entropy as a process means an implicit recognition of constant effort needed to identify, react and readjust to this potential: in short, to identify potential risks to the system and, where possible, to do something about it.

To consider a practical example, the reaction of mass media to new and expanded gambling opportunities may be viewed as a reaction to an entropic process. In 2001, the Gambling Review Report (known as the 'Budd Report') published its recommendations for gambling policy and regulation in Great Britain. Recommendations centred around the principles of a free-market approach, arguing that "*competition between suppliers of gambling activities offered the most effective way of a fair deal for punters*" (Department for Culture, Media and Sport, 2001: 3). The recommendations also included the abolition of the demand test, arguing that this would help to increase competition. The demand test was a simple principle which had served to limit the density and location of gambling venues since 1968. It stated that in order to be granted a licence to operate, an operator had to prove that there was unmet demand for their products. Operators were also prohibited from stimulating demand for their products, with strict regulations on advertising and marketing. Thus these principles served as a natural restriction on the gambling market. Therefore, the recommendation that gambling legislation be subject to market forces rather than an 'unstimulated demand' principle represented a fundamental change to the way gambling was conceptualised (now as a leisure product) and provided.

Following publication of the report, many of the recommendations were adopted in the then Government's White Paper 'A Safe Bet for Success'. This sparked intense debate about the role, function and need for gambling within British society, and many commentators saw the approaches recommended as a fundamental shock to the existing system, with the potential to generate harm for many (Orford, 2010). In particular, this debate focused on the so-called 'Super Casinos' which were part of the original provision of the Gambling Act 2005. The national media took up the debate and launched campaigns against these 'Vegas' style casinos. This saw headlines such as "Gambling with our Future" and "The shaming of New Labour". The Daily Mail newspaper publicly took the credit for the eventual series of U-turns that saw plans for the Super Casinos reduced from eight to one and eventually to none. However, there was a broader range of stakeholders, including Labour Party backbenchers and members of the House of Lords, who prompted a rethink of how this new policy may be implemented (Runciman, 2014).

This debate, reaction and revision could be viewed through a systems theory lens. There was clearly a process by which a proposed change to the system was viewed by some groups as challenging the entropy of the community and hence promoted a public reaction as a protective mechanism. This also serves to demonstrate how collective individual action 'downstream' had an 'upstream' effect and changed policy. A similar process is evident today with the Campaign for Fairer Gambling's 'Stop the FOBTs'¹ campaign. This is also a popular movement (and a well-backed one, funded by a former gambling game developer) which has had considerable success in attracting political focus to machines in bookmakers. Their success in lobbying on this issue has been realised with Prime Minister David Cameron ordering a review into these machines and Ed Milliband (opposition leader) looking certain to make some kind of intervention a 2015 manifesto promise (Runciman, 2014). The Gambling Commission, which monitors public perceptions of gambling, has recently concluded that a significant decline in

¹ FOBTs stands for Fixed Odds Betting Terminal.

gambling being viewed as fair directly coincided with the time when the 'Stop the FOBTs' campaign gained widespread media support. The gambling industry are reacting to this threat by rolling out new codes of responsible gambling conduct, offering further education to consumers (along the lines of the Reno Model) and imposing some mandatory breaks in play for higher end consumers (Association of British Bookmakers, 2013). The impact of these measures is as yet unknown (new responsible gambling measures were being rolled out from 1st March 2014) but it provides a clear example of how societal influences shape the provision of gambling in some circumstances.

Some of the other key debates in gambling studies can equally be viewed through a systems theory lens. One critical area of concern relates to the impact of an increase in provision of gambling opportunities upon gambling behaviour. Total consumption theory dictates that as gambling opportunities increase, gambling behaviour in the total population also increases and, as a function of this, the number of problem gamblers rises. The pattern is simple: more gambling opportunities, more gamblers, more problems. However, others have proposed that the relationship between exposure and behaviour may not be so straightforward and may not be linear in shape. LaPlante et al (2007) have discussed adaptation theory, arguing that after a period of initial reaction to increased opportunities, a population may adapt to their changed circumstances and gambling behaviour adjusts accordingly. In some cases, they argue that behaviour may revert to levels that existed prior to the increase in opportunities. There are varying levels of evidence to support each theory; some countries have seen increases in gambling provision and increases in gambling, though the pattern is not necessarily linear, whereas other jurisdictions have observed little change (Great Britain is one of the jurisdictions which has seen little change). The debate is often polarised around whether exposure theory or adaptation theory prevails, though the evidence is mixed. Viewing this debate through a systems theory lens may help bridge the gap between these two theories. For example, in some communities (such as those illustrated by LaPlante et al in Nevada (2007)) adaptation to increased gambling provision may be part

of a broader phenomenon by which a community reacts and changes to this provision. Adaptation could be a negative entropic process. In other jurisdictions where adaptive processes are not observed and change is evident, this could be viewed as part of an entropic process, where other parts of the system (i.e., regulatory safeguards) have not been developed, reacted or improved to meet the challenge.

For example, it is likely that varying regulatory provisions within a jurisdiction will impact upon how, at an aggregate level, increased exposure to gambling interacts with individual behaviour. An interesting example of this is given by Boldofini et al (2008) when reviewing the impact of opening new casinos in Switzerland. They report that the opening of the casinos has no discernible impact on overall rates of gambling or problem gambling. However, they also noted that an expansion in one part of the market (casinos) was accompanied by a contraction in another part of the market (slot machines were removed from public houses and bars) and that a variety of stringent regulatory requirements were introduced. Here, the government introduced a range of measures to adjust the whole system to the new circumstances, which led to minimal change in overall behaviour. A jurisdiction not experiencing the same pattern of change (or lack thereof) should be analysed carefully to understand what other actions were taken to prevent negative impact and (potentially) entropic decline. The focus should be on uncovering the specific mechanisms through which impact was observed.

All the examples discussed so far emphasise the need to take a broader perspective when thinking about these debates and to understand what other actions within a system may interact to produce an observable outcome. Reducing the debate to what shape the pattern may be between exposure and behaviour misses the complexity of what else is going on within a community (or system) that might mediate the experience of change. In short, what is the context in which the intervention was introduced and what mechanisms shaped impact?

Krieger (2011) was keen to point out that an ecosocial model of epidemiology included focus on processes in different contexts and that these contexts were temporal, spatial and historical. This brief review shows that applying some of this logic to key gambling debates suggests that this focus has the potential to be incredibly powerful in shaping the way theorists think about gambling behaviour. It explicitly recognises these complexities and seeks to think about interactions and interconnections between different domains, encouraging a broader focus and emphasising the need to situate understanding of gambling, as a social phenomenon, within the broader context of the social world.

It also presents an opportunity to harmonise theories across different jurisdictions based on the understanding that what works and is observed in one area may not be replicated elsewhere because of particular social, cultural and practical differences. This does not mean that a theory (such as adaptation or exposure) is incorrect, but rather that it needs to be assessed and considered within the specific social context of the system in which it is operating. It is to these issues that this chapter now turns.

Social context, mechanisms and theory

The potential benefits of using a broader and more ecological framework through which to examine gambling behaviour have been outlined above. As noted, this is not a novel approach and other scholars have either alluded to this potential in their work (c.f. Korn & Shaffer, 1999) or it has been actively applied in other similar fields (c.f. WHO, 2012; Scribner et al, 2010). However, many practical challenges exist when attempting to frame an issue in this way. Whilst complexity and interconnectedness may better represent social realities, studying them is challenging, requiring complex analysis looking at issues from many angles just to map the forces at work, which may well vary from individual to individual and social context to social context. The result is that analysis of this type is an enormous task, requiring a joined-up approach across many disciplines to tackle the major issues at hand. The task may seem bewilderingly complex

and this complexity may well underlie why such an approach has not been adopted by the gambling research community.

However, as Lieberman and Horwich argue (2008), this challenge can be met by the academic community approaching issues in a joined-up way and breaking down an overarching theory into smaller components that address different parts of the whole picture. They refer to this as 'implication analysis'. Their argument starts from the premise that one should not seek a single solution to a hypothesis but rather search for as many consequences of a theory as possible and seek to evaluate these. They state that if there are a mildly complex set of mechanisms at work, then these should be evaluated in piecemeal fashion and the implications of the theory drawn. This necessitates attention on the specific circumstances under which the implication of a theory works and requires that the limits of the theory need to be explicitly stated. This represents a shift away from thinking about theory as a universal law applicable to all in all contexts but rather seeks to situate a theory within specific contexts and to develop a process by which the full range of mechanisms, and the situations under which they operate, are fully articulated. For Lieberman and Horwich (2008), only when this articulation has been made can the implications of a theory be evaluated.

Implication analysis is not an approach that can be undertaken by a single researcher or addressed through a single study, but needs a joined-up effort of a research community examining and evaluating different aspects of a theory to further understanding. Underpinning all of this is the need for a common framework of understanding, a map of implications, that joins work together in a coherent fashion. This framework would allow disparate groups of researchers to break down complex issues into more manageable component parts whilst still contributing to the larger whole and thereby increase understanding and knowledge.

To consider the potential benefits of implication analysis for gambling studies, let us return to the debate about the relationship between exposure to gambling opportunities and gambling behaviour. Using an implication analysis approach shows that total consumption theory, by which gambling problems increase as gambling exposure increases, has a rather narrow and linear view of this relationship. An implication analysis approach would encourage us to consider broader impacts. This might include broadening the focus of the relationship between increased gambling exposure and behaviour to include impact on normative values among both the population as a whole and upon certain cohorts, and then examining how this may relate to behaviour. It would suggest focus on examining the role of government in permitting or otherwise increasing gambling opportunities and how this relates to the way in which gambling is conceptualised, promoted and regulated. This would lead to consideration of these features and how these may relate to both normative values and behaviour and articulation of the specific forces that may propagate or mitigate impact in certain directions. One would want to consider the pre-existing context in which the increased gambling opportunities are being introduced; is this an addition to an already mature market or a completely new offer? How does this shape the impact observed? If the gambling exposure is a new venue, consideration of how and why it is located in a certain area needs to be explored alongside other issues such as the socio-economic characteristics of the local area, how it integrates with other leisure opportunities and understanding of the commercial practices which give rise to spatial patterning of gambling provisions. This is not an exhaustive list but shows how implication analysis could work in practice. It seeks to map a broad range of mechanisms that need to be evaluated when considering the possible implications of theory.

To date, the gambling research field has not clearly articulated this fuller range of potential mechanisms or implications (Orford, 2010). Whilst adaptation theory was developed based on the consideration that total consumption theory was too narrow in its range of implications, the full implications and mechanisms of adaptation theory

have not been articulated and therefore have not been consistently evaluated by the research community at large (Orford, 2010). This results in a largely unhelpful polemic where the two theories are set up to oppose one another rather than being seen as potentially complementary theories which, under given circumstances and contexts and operating under certain mechanisms, may hold true for different places at different times. This runs counter to 'universal explanations' of behaviour, such as total consumption theory.

Lieberson and Horwich (2008) were particularly explicit on this latter point, stating that theory should be evolved, expanded and iterative, and that just because a theory may not hold true under one set of circumstances, this does not mean it is false. For them, the key is to make explicit the broad bounds under which a theory holds. This then allows for more effective evaluation and synthesis of inconsistent evidence and the broader implications to be drawn. They provide a set of guidelines to aid this process and use the analogy of a jury to illustrate the application of these rules. They describe implication analysis as similar to the process that a jury undertakes, piecing together the evidence from a complex array of information, assessing the quality and quantity of evidence, considering what may be missing, what else one needs to know, and doing so in a rigorous way that then identifies the most plausible and probable solution.

This approach splits a complex task into a more manageable set of processes and has the potential to generate deeper understanding of both theory and practice. It provides an emphasis on theory as an 'engine for discovery' rather than a 'tool for prediction'. This concept clearly links to Lieberson's earlier work (Lieberson & Lynn, 2004) which argued that some aspects of natural sciences form a better analogy for social sciences than physical sciences when it comes to considering the relationship between theory and understanding. Specifically, Lieberson and Lynn (2004) drew on analogies with Darwin's work on evolution, arguing that this can be used as an effective template for how to think about social sciences. They highlighted how Darwin's work used a mass of

different observational data, analysed from many angles to draw together an overall theory. However, his theory lacked prediction, drew on non-experimental sources and clearly articulated where the theory was incomplete or where certain aspects were simply unknown. Darwin's work on the evolution of the species exemplifies the principles of implication analysis, using theory to provide rich, deep understanding of the past without focus on prediction of the future. As Lieberman and Lynn (quoting Scriven) state (2004: 11): *"satisfactory explanation of the past is possible even when prediction of the future is impossible"*.

Although not explicitly stated, there are clear parallels here to the work of Savage and Burrows (2007; 2009) and their exposition of the challenges which 'knowing capitalism' represents to sociological inquiry. Their papers focused on the challenges faced by empirical sociologists in relation to how to access, use and incorporate the vast amounts of administrative data records generated for commercial purposes into the sociologist's repertoire of tools. In outlining the issues, they advocate that in an increasingly knowing world social scientists need to be open to new approaches, think creatively about the opportunities that this new knowledge presents and seek to gain maximum advantage from the wealth of 'new' data available (Savage & Burrows 2007; 2009). They also discuss how the type and nature of the information available encourages social scientists to think critically about the type and nature of knowledge that can be produced. With administrative datasets, often containing minutiae of detail for individuals tracked over a long period of time, it is possible to produce rich and deep descriptive understanding. For Savage and Burrows, this understanding has value over and above traditional focus on prediction and causality and represents an appropriate response to the type of data that could be used in exploring the social world.

What is notable are the common themes running throughout the work of Lieberman and Savage and Burrows. Both are concerned with complexities and interconnectedness and thinking through what this means for both theoretical and empirical investigation. For

Savage and Burrows, the increasing complexity of a knowing world in which many sources of data about human experience exist means social scientists have to be more creative in how they approach empirical analysis, the tools they use and the type of understanding they desire. For Lieberman, complexity is something to be embraced and examined through consideration of the implications and limits of theory and through thoughtful, well-developed frameworks which enable many people to work together. This 'evidence jigsaw' approach is one that has been proposed by public health specialists as an appropriate way to investigate the many complex and multi-faceted public health issues facing the world in the 21st century (Whitehead et al, 2004).

Finally, Rayner and Lang (2012) in their exposition on the need for an ecological approach to public health, recognised that understanding complexity needs to be met with complex thinking. Coming from a public health perspective, they note that focus on cause and effect is ill-suited to deal with illnesses that have multiple causes and arise out of a complex environment. Their approach is one which recognises that behaviours develop within a web of causality, that are multi-layered and interconnected and that contain dynamic feedback loops. However, as Rayner and Lang state, the issue is that complex thinking is not popular. It is subtle in its approach and from a practical perspective it is difficult for politicians, policy makers and other stakeholders, who often want quick action and short term gains, to grasp: complexity is about seeing the bigger picture. As Hanlon et al (2012: 3) describe, social scientists can be 'prisoners of the proximate'. However, Rayner and Lang do not offer any solutions about how to develop complex thinking or promote it among non-academic audiences. Rather, they simply expound that there is much to be gained from this way of thinking.

If complex thinking is to gain traction, a set of systems and methods are needed to develop and support this. It is here where Lieberman and Horwich's work on implication analysis offers a potentially powerful way of orientating theory and research in a practical way. It recognises complexity, but offers a framework in which manageable

and discrete parts of an overarching research question can be investigated and addressed. This framing is vital if complex thinking is to develop and hold any sort of utility for applied policy purposes.

A realist approach?

A number of key themes emerge from this discussion. The first is the overwhelming dominance of bio-medical and lifestyle models which underpin much of the key thinking around gambling research. The second is the primacy these models afford to the individual as an autonomous agent and decision-maker. These two aspects combine to produce a particular ontological framework for the consideration of gambling behaviour, which tends to exclude, or at least sideline, broader social determinants of gambling. This exclusion means there is little focus on the specific context and mechanisms which shape behaviour or how these interact to show what and how behaviour varies for whom and under what circumstances (Pawson & Tilley, 1997). Responsible gambling policy and decisions are dominated by bio-medical and lifestyle processes even though brief review of the impact of recent movements (like that of the Campaign for Fairer Gambling) has shown how policy and practice can be shaped by collective, downstream action. This is distinctly analogous with system-level observations.

Bridging the gap between individual and societal agency seems key and, in this respect, Krieger's view of ecosocial models has much to recommend it. Complexity emerges as a key theme. As does the difficulty of empirically examining such complexity and creating a joined-up evidence base that provides useful information. The need to marry a practical methodological approach with ontological perspectives on complexity seems critical in progressing this agenda. A bio-medical perspective may dominate simply because it provides an easier conceptual framework in which to interpret empirical observations. Lieberman and Horwich's implication analysis also has much to recommend it in terms of an approach to dealing with complexity. However, final

themes emerge relating to the importance of examining contexts, at all different levels and interactions and also of mechanisms that govern how behaviour is shaped and the range of outcomes experienced.

This focus on context and mechanisms, which also underpins Krieger's ecosocial models and is evident in system theory approaches, suggests that a form of 'realist' practice may provide a useful way to bridge the gap between complex thinking and complex investigation. Realism has much in common with ecological thinking in public health. It has a focus both on individuals possessing causal power but also on the emergent properties of broad social institutions which also hold causal power. It views relationships between these entities as dynamic, just as ecosocial models emphasise dynamic interactions. Realism also speaks to Lieberman and Horwich's agenda by suggesting a focus on explanation rather than prediction and understanding the circumstances in which a theory is 'true'.² In this way, realism and its translation into methodological practice by researchers like Pawson and Tilley (1997) arguably provides a unifying ontological basis through which the key themes identified in this chapter can be examined. Its appeal is that it allows for a plurality of theories about gambling behaviour as it seeks to explore the diversity of experience and mechanisms that shape outcomes. The next chapter sets out the basis for this in more detail, whilst Chapter 4 looks at the application of realist principles to descriptive, empirical investigation. The remainder of this thesis then presents a case study, exemplifying what this approach brings to the examination of female gambling behaviour.

² There are many parallels with realism running through Lieberman's work, though he never expressly calls himself a realist.

Chapter 3: Realism and realist description

Introduction

The previous chapter traced how gambling, and specifically problem gambling, is increasingly viewed as a public health issue. However, it also showed how this determination does not offer simple solutions about how to define, analyse and theorise the issues surrounding gambling behaviour. Public health models vary and the theories which are dominant at particular times, as Rayner and Lang (2012) have shown, are often reflective of prevailing political, economic and social circumstances. More generally, the call to rethink how to approach public health is growing louder and typically focuses on the need for more integrative models of how to understand health within a complex, open system, where multiple causal pathways and mechanisms are evident (Rayner & Lang 2012; Hanlon et al, 2012; Krieger, 2012). It is a clarion call for theories, methods and approaches to take into account and reflect the multi-layered, complex nature of society and social relations.

Chapter 2 presented some of these themes and discussed varying models which could be applied to the study of gambling. Specifically, it was argued that the epidemiological triad model, though dominant in gambling studies, is not a suitable model through which to consider broader gambling behaviour and has not encouraged focus on the connections and complexities between different factors that might influence behaviour. Because of this, an ecological model, drawing on systems theory and emphasising the multi-layered nature of social reality, was proposed as a viable alternative. This, it was argued, could be underpinned by a different approach to empirical investigation and processes of uncovering cause and effect – that of implication analysis (Lieberson & Horwich, 2008). However, whilst these models and approaches have a potentially positive application to gambling, to maximise this potential they need to be situated within an overarching ontology; to be viewed within an ontological framework that

recognises and reflects the complex and layered nature of social reality in its approach to social scientific inquiry.

This chapter argues that realism provides such a framework. It draws parallels between ecological models and implication analysis with that of realism's core principles and discusses how these can be used to shape inquiry. Realism is based on a dynamic view of the relationship between structure and agency, reflects and incorporates complexity and multi-layered social reality into its philosophy, focuses on the causal potential of emergent properties (such as commercial gambling) and has an overriding focus on explanation as the engine of understanding. This chapter explores these themes and argues they are particularly well suited to the consideration of gambling behaviour. The remainder of the thesis then seeks to demonstrate this point by investigating female gambling behaviour using a realist framework.

The starting point for this argument is the explicit recognition that gambling, as a topic of investigation, is a behaviour steeped in complexity. The argument for this has been made earlier in this thesis but it is useful to rehearse the key themes here. Gambling is a social activity conducted in the social environment. Factors influencing behaviour range from individual motivations and cognitions, behaviour and values of social networks, overarching regulatory frameworks and socio-political approaches to gambling alongside issues relating to access and availability, to name but some. This range of issues, which operate at the micro level of the person, the meso level of locale and networks and macro level of broader environment, is not dissimilar to those affecting other public health considerations – namely tobacco, alcohol and other substance use. However, the study of gambling and its integration into the public health fold is, arguably, steeped in even more complexity than these parallel topics.

Of these seemingly similar public health issues, gambling is the only one which straddles both physical and digital domains. As traced in Chapter 1, the development of the

internet created a digital reality for gambling in which behaviour can be accessed, shared and conducted in both real and virtual worlds. This digital world (and how people engage with it) is being created and reshaped at breathtaking speed and gambling is at the core of many new developments. Social media gambling games, replicating the form and function of 'for money' gambling, represent some of the digital world's most popular activities. Zynga's 'Texas Hold 'em Poker' game is, after Facebook and YouTube, the most 'liked' product in the world – with over 68 million people worldwide stating that they 'like' this game (PageData, 2013). In Great Britain, it is possible to gamble offline, gamble online, play gambling-style games for virtual currency, play gambling games for fun, link together with friends over games consoles to compete and bet against one another on the outcome of the game. Gambling can be accessed in person, through traditional telephones, through mobile phone apps, through the internet on mobile phones, through desktops, laptops and other devices, through interactive and internet enabled television. There is no other public health area in which (likely) development trajectories and behaviours are so tied to emergent technology. In 2000, Castellani found the lateral complexity of gambling as a subject area bewildering. With the technological advances and digital revolution experienced since then, this complexity has grown at an exponential rate.

Given the increased complexity in the way gambling is accessed and provided, and how gambling behaviour may be shaped at multiple levels of influence, a theoretical approach that embraces this complexity is needed. This should be an approach that recognises and seeks to explore the impact of the multi-layered nature of social reality upon behaviour and outcomes. In the remainder of this chapter, it is argued that realism offers a way forward for framing gambling issues and that, drawing on the works of Pawson and Tilley (1997), focus on 'what works for whom under what circumstances' is a mantra that has broader application to many social science questions, not just those involved in evaluation research. Parallels between critical realism and implication analysis will be drawn. This will emphasise how ecological and systems theory as

abstract overarching models can be deconstructed into more 'middle range' theories to have application to prevailing policy questions. Finally, this chapter will examine how secondary analysis of pre-existing data can be designed drawing on realist principles and specifically examine the role and contribution that quantitative analysis has to offer.

Why a realist approach?

In the section that follows, broad principles of a realist approach are discussed and their potential utility to the study of gambling presented. This centres around four main tenets: a dynamic view of the inter-relationship between structure and agency; a focus on contexts and mechanisms for understanding; the power of emergent properties; and an overall focus on explanation rather than prediction (Carter & New, 2004). Before considering each, brief consideration is given to what realist approaches bring to the study of gambling that other approaches, arguably, have not.

To date, the study of gambling, and specifically of problem gambling, has typically followed an empirical and individual-led perspective. Castellani (2000) provides an account of how pathological gambling was developed and conceptualised as a medical problem from the mid-20th century onwards and how this model gained primacy over all other potential explanatory frameworks. The main issue with this development, he argues, is that it sidelines other perspectives on causal powers and mechanisms, as causal primacy for problems is conceived as resting with the individual (i.e., that there is something wrong with the individual which generates problems). This excludes consideration of social or cultural impacts and largely ignores the context in which behaviour is shaped, formed or constrained. In short, the medical model of pathological gambling is a reductive view whereby main explanatory power resides within a model of the individual as 'deficient' in some way.

This specific critique can be situated within a broader trend evident in approaches to health issues and social epidemiology. Byrne (2004) has argued that in consideration of

collective health, there has been a movement away from concerns about environment as a whole towards a more individualised notion of risk. The reasons for this are varied but one account given includes the analytical approach to epidemiological issues, the underlying method of causal reasoning used and frequentist probabilistic understanding attached to such analysis. Quoting Diex-Roux, Byrne (2004) argues that the approach to analysis in health spheres, which aggregates probabilistic knowledge of long run events across many cases (i.e., which looks at the risk of person x experiencing y based on knowledge aggregated across many cases), moves understanding away from considering the specific circumstances and contexts in which risk is manifest and creates an 'individualisation of risk'. Here risk is conceived as a property of the individual (i.e., in this age and sex bracket, the risk of developing condition y is x) and is not attributable 'to environment or social influences' affecting populations. Diex-Roux (1998), in particular, emphasised the importance of looking at micro and macro levels, here defined as individual and groups, and challenges epidemiologists to develop models of causation that embrace both individual and social determinants and, crucially, the interactions between them.

Social epidemiologists have attempted to address this situation and models tracing the social determinants of health and health inequalities have been generated (c.f. Dalgren & Whitehead, 1991; WHO, 2012). However, arguably, there is still need for a philosophy which deals adequately with the interactions between different domains and focuses specifically on how individuals (micro) and social structures and context (macro) relate to one another. In particular, a philosophy is needed that deals with the tension that arises between a) recognising complexity and mediation of a broad range of factors in outcomes with b) often widely-held views (especially among key stakeholders like policy makers or journalists) of the deterministic nature of causal processes.

It is in this context that realism offers a useful framework for a more holistic understanding of this complexity and the first of our key principles can be introduced.

Realism is often described as navigating a middle ground between positivism and constructivism (Walters & Young, 2001; Wong et al, 2012). The basis for this claim is the realist assertion that there is a social reality which exists beyond our knowledge of it but that our knowledge of social reality is shaped and processed through various social and cultural practices. A simplistic way of viewing this would be the statement that 'my view of the world is constructed but there is a world that exists beyond my constructions of it'. Therefore, unlike positivism, the world consists of more than just what can be (empirically) observed but it is not an entirely social or cultural construct. This means that for realists, there is pre-existing external social reality (or structural forces) that can influence human behaviour (Carter & New, 2004). For example, birth to a parent represents an entry into a pre-existing structure of the family, though individual conceptions of what this means and how relations are enacted with that parent will be shaped through personal experiences and knowledge.

What this perspective provides is a dynamic and interrelated view of the relationship between structure and agency. Here pre-existing structures and relationships can influence behaviour and individual agency can influence and change structures, though this may be influenced by temporal sequence (i.e., I am born into a social reality with structures shaped by those before me and my actions may shape this reality for those to follow). This puts both context and interaction between structure and agency at the heart of this philosophy alongside a key focus on the mechanisms that explain outcomes. As Carter and New (2004: 3) state:

"once we understand the material setting and cultural meaning of a practice, we can hope to understand people's options in relation to it and thus their reasons for acting as they do."

This succinct statement suggests a more holistic way of approaching social scientific inquiry by emphasising the primacy of explanation which may, as argued by Pawson and

Tilley (1997), lead to a progressive body of scientific knowledge. There is also clear resonance with Lieberman and Horwich's (2008) work which also emphasised the importance of explanation and the assemblage of the 'evidence jigsaw'. What is particularly appealing is the dynamic view of the relationship between social relations, reality and individual behaviour implied, whereby behaviours and outcomes are shaped or constrained relative to the context in which they are experienced. This implies an ongoing and dynamic process of feedback and adjustment between agents and structures. This too has resonance to ecological and systems theories models discussed previously.

The dynamic relationship between agent and structure has appeal for study of gambling where the context in which it is provided and accessed and the forms which constitute this behaviour are rapidly changing. For example, different ways in which gambling is organised in the digital world are emerging. Depending on age cohort, this emergence and its impact may vary. For those born since the turn of the 21st century, the emergence of the internet and the ways in which it is accessed represents a pre-existing structure and this may shape the way that this generation interact with and view this provision (anyone with young children can see how proficient they are with modern technological devices). Those who have lived through the emergence of the internet and 3G/4G technology may have materially, culturally and historically different perspectives. It is not difficult to envisage that the older generation witnessing the emergence of the internet, largely driven by innovations from a younger cohort, hold somewhat different perspectives about what the internet is and interact with it in a different way. The point is that what counts as a pre-existing structure depends on who an individual is, where they live and their position in the life course. What is a pre-existing structure for some cohorts was a phenomenon with emergent properties for others, where the development of this structure was a lived-through experience (the concept of emergent properties and how this relates to gambling are discussed later). This draws on Archer's theories of morphogenic sequence whereby changes in context have a temporal

sequence and therefore one can investigate the impact of these changes by isolating the change, in this case technological environments and cultures, and tracing how this impacts on the actions and interactions of individuals. In addition, it is also possible to examine how individuals then transform these technological cultures through examining the temporal sequence (Archer, 1995). Arguably, understanding these variations in historical and lifecourse contexts is vital to better understanding a complex behaviour like gambling, which has proved particularly adept at utilising new emergent technologies and structures. These theories also illustrate how the choice to gamble may not be mediated only through active cognitive decisions, but also by a range of other contexts and processes.

Therefore, the first major recommendation of applying a broadly realist approach to the study of gambling behaviour is its focus on the dynamic relationship between structure and agency and the interplay of this with context.

A second key tenet of the realist approach stems from the focus on context and relates to the realist conception of generative mechanisms and generative causality. For the realist, the world is viewed as layered, as Walters and Young (2001: 485) describe, with *“an actual world of events and a non-actual world of underlying powers, mechanisms and generative structures”*. Olsen (2010: xxi) describes this as ontic depth as realism provides *“a conceptual map of the nature of the world that allows for multiple layers, complexity, interweaving and dynamic interaction of parts of that world”*. This alludes to a key debate which relates to how causal explanations are uncovered and how these processes relate to evidence (Pawson & Tilley, 1997). The main tenets of this debate are whether causal inferences have to be based on what is observed, as empiricists would argue, or whether causal processes can be based on unobserved processes, as realists would state. In the former case, the requirement to base inferences upon observation arguably leads to a variable centric form of analysis whereby different associations are mapped, potential explanatory variables controlled for, and experiments enacted to

identify the most plausible set of causal inferences. This may be viewed as a data or method-led form of investigation of causal processes. As Pawson and Tilley (1997) state, this observation-based approach developed its logic from Millian methods: the method of agreement, the method of difference and the method of concomitant variation. However, the use of Millian logic has been critiqued as not adequately taking into account interaction effects between different explanatory factors, not suitably allowing for multiple causal pathways and taking a more deterministic rather than probabilistic approach to explanation (Lieberson, 1991). Pawson and Tilley (1997) have expanded this critique arguing that quasi-experimental methods (or rather the way quasi-experimental methods have been used), based on Millian logic, suffer from similar problems. Relationships and outcomes are charted but (some) experimentalists have not done a good job of explaining why outcomes have been observed.

Moving away from deterministic thinking, realists argue that causal processes should be uncovered through an explicit, and theory-led, description of the way in which events are generated by structures or actions in a particular context or setting (Wynn & Williams, 2012). In short, there is the belief that there are mechanisms generated in certain contexts which combine to produce particular outcomes. These mechanisms may or may not be observable but can and should be incorporated into theory about why certain outcomes may be evident in certain conditions (Carter & New, 2004; Pawson & Tilley, 1997). This is termed a generative view of causation and has a focus on deep explanation of certain situations rather than on prediction or generation of universal laws. The classic example given by Pawson and Tilley (1997) to explain this logic is that of the relationship between gunpowder and an explosion. A constant conjunction and deterministic view of the relationship would postulate that lighting gunpowder leads to an explosion. However, as Pawson and Tilley (1997) state, this does not always turn out to be the case. There are various mitigating contexts which include whether the gunpowder is damp, the level of oxygen needed to create an explosion, the amount of time the ignition was held to the powder and so on. As Pawson and Tilley

(1997) explain, this example shows how, to understand an outcome, one must also consider the context and mechanisms that generate a particular outcome. In shortened form, this is abstracted to 'Context, Mechanism, Outcome' configurations (CMO) which has become a cornerstone of modern realist practice (Carter & New, 2004).

How then are CMO considerations appropriate for the study of gambling? As argued in earlier chapters, emergence of the medical model of pathological gambling and an increasing individualised focus on risk sidelined broader considerations of the social determinants of behaviour and interplay with context at different levels. A realist assertion of CMO principles would place context centrally within our understanding of gambling behaviour which may be shaped and formed at both a structural and/or individual level. It would seek to understand the mechanics by which behaviour may be shaped under one set of circumstances. In doing so, it offers the potential to generate deeper explanation and understanding than hitherto provided by other approaches, which have tended to be data-driven and based on observation. The approaches used to date, arguably, have not considered the nuances that underpin many statistical associations.

For example, a strong association between parental gambling behaviour and problem gambling among individuals has been observed. This association has been replicated in many studies in many jurisdictions and is now commonly accepted as a key risk factor for the experience of problem gambling (noting the frequentist conception of probability (Williams & Dyer, 2004)). However, there has been little focus on the mechanisms that underpin this association and the contexts in which these mechanisms operate to generate this outcome. Likewise, there is little consideration of how these influences may be mitigated by other factors or 'countervailing mechanisms'. For example, not all problem gamblers have problem gambling parents, not all people with problem gambling parents become problem gamblers, or indeed gamble. This suggests the presence of a more complex set of generative mechanisms operating under certain

contexts to produce the outcome observed within the statistical data. For example, a range of mechanisms could include parents as facilitators (whereby parents help children to gamble), parents as teachers (whereby parents teach children how to gamble), parents as moral barometers (whereby the practices and values of parents influence the normative values of the child) and so on.

This thesis argues that a reorientation of research questions to focus on CMO configurations could potentially provide a richer, deeper, knowledge of gambling phenomena than known to date. This is also a good example of how CMO configurations encourage us to 'drill down' from overarching causal propositions to more specific, manageable and plausible considerations. In this example outcomes are variations in gambling behaviour, and the context and mechanisms that shape these outcomes (i.e., problematic gambling behaviour) are explored. This approach may produce more specific findings upon which effective policy and/or interventions can be built, enabling outcomes to be understood but also (where desirable) change to be attempted.

Therefore, the second recommendation for a realist approach towards the study of gambling is a reorientation of our research agenda to be more theory-led in looking for the specific contexts and mechanisms that produce certain outcomes. This has the potential to move us beyond the rather narrow, empirical base of knowledge that has been accumulated to date and to improve the evidence base when it comes to planning and implementing policy.

A third key concept of critical realism which has application for the study of gambling is that of emergence. As Carter and New (2004: 7) explain:

“emergence refers to the way in which particular combinations of things, processes and practices in social life give rise to new emergent properties”.

The key concept underpinning this is that something with emergent properties is formed by constituent elements, but once formed the emergent properties develop an autonomy of their own – it is described as being able to influence each of the constituent components but is not irreducible to them. Once formed, it is argued that emergent properties possess causal powers and can modify the power of their constituent parts in fundamental ways (Carter & New, 2004). Furthermore, as Carter and New state (2004), this reinforces a view of social reality as both stratified and dynamic, whereby emergent properties and power may combine to form second- and third-order properties and where different strata of social reality are characterised by different properties. At this point, it is worth noting that this is not the only view of emergence put forward in sociological theory (Sawyer, 2001). How an emergent property can be said to possess causal powers and how this is reconciled with the view of individuals as the agents of action and causality, has been questioned. In some ways, this debate may be one of degree; emergent properties may well not possess causal power of and by themselves but possess potential causal powers in terms of their contribution to shaping and/or constraining individual action and how individuals relate to them.

Taking this perspective, it is possible to conceptualise the development of commercial gambling in the 21st century as having emergent properties. The development of commercial gambling in Great Britain, as traced in Chapter 1, has certain constituent parts. One constituent element was the broad popularity of many types of gambling which even when not organised on a commercial (or necessarily legal) basis involved widespread participation. This can be seen most clearly with the development of the back street bookmakers and the developing popularity of games like bingo in the early part of the 20th century (Clapson, 1992). Other constituent parts were changing socio-economic normative values, with a move away from viewing gambling as a vice towards a valid leisure opportunity. Economic constituent elements involved prevailing and strengthening capitalism providing the context through which commercial gambling

could develop alongside economic growth, and broader socio-economic changes which meant that people had more disposable income. In addition, political shifts towards focus on individuals as consumers and arbiters of personal risk, and changing regulatory and legal frameworks supporting this may be seen as further constituents of how commercial gambling emerged into the entity witnessed today (Reith, 2007). In short, various aspects coming together, which include individual action and behaviour and changes in certain structures and values, allowed commercial gambling to emerge as a practice with particular properties. Once emerged, this practice has developed, changed and grown into something which can influence, shape or constrain behaviour and therefore can be said to hold some causal potential.

This can be illustrated by considering the example of commercial advertising of gambling. For some, the way in which commercial gambling is advertised may provide a mechanism through which engagement with gambling is commenced or increased. Per Binde (2007) has provided an excellent assessment of the likely impact of advertising upon behaviour which provides a useful case study for conceptualising commercial gambling as an emergent property with causal powers. In fact, Binde's article can be viewed as taking a realist approach to the issue more generally. His aims were to assess the impact of advertising upon gambling behaviour. In setting this out, he first provided a theoretical overview of the ways in which advertising may work and the mechanisms through which it may affect behaviour. This provides a nuanced framework for examining how advertising may affect different types of people (i.e., inveterate gamblers, problem gamblers, non-gamblers etc). He drew on broader knowledge of advertising and marketing strategies to emphasise the importance of knowing the objectives that underpin the implementation of advertising campaigns before considering how these strategies may interact with behaviour (i.e., are the companies aiming to increase market share, to reinforce market position, to attract new customers etc.). Once this was set out, he then looked at empirical evidence to assess what this told us about underlying mechanisms of how advertising may affect behaviour and for

whom. A realist approach is evident in his evaluation of impact for different types of people (here limited to different types of problem gamblers in treatment). Based on accounts from these groups, he traced the mechanisms which underpinned (any) observed impact, such as creating an impulse or desire to gamble among some but which was limited by a countervailing mechanism (resistance) among others. Based on this evidence, he developed his theory further suggesting that, in aggregate, the overall impact of advertising upon behaviour may be smaller rather than larger but that for certain people in certain circumstances, advertising creates an impulse to gamble that cannot be resisted, and therefore promotes some people to engage in gambling.

Many of the key principles of realism are evident in this article, though Binde (2007) himself does not use this terminology. There is a focus on prior theorising of how mechanisms may work, there is focus on context and understanding that different impacts may be observed for different people and there is an implicit recognition of commercial gambling as an emergent property. In this example, Binde (2007) carefully thinks through the ways that commercial gambling practice, as an entity of itself, enacts certain powers and properties that are, in this case, designed to shape the behaviours of individuals. Here, commercial gambling practice can be seen as being autonomous from individual behaviour but possessing power to (potentially) shape the way that behaviour, for some, is enacted.

Therefore, the third principle recommending a realist approach to the study of gambling is its focus on emergent properties. This enables us to view commercial gambling as an emergent property which has the potential to shape and/or constrain behaviour but has relative independence from the components from which it emerged. Once viewed as an emergent property, the focus on inquiry is therefore on interaction between this and individuals. The way in which new technology is being used and adopted by the commercial gambling industry displays the precursors of another emergent property, the impact of which remains to be traced.

The final principle which has resonance for the study of gambling relates to realist thinking in terms of generating knowledge. Here the focus is on deep explanatory understanding; a prerequisite for a form of investigation which focuses on context, mechanisms and outcomes. Prediction is not a key part of this philosophy; neither is the generation of universal rules or laws, which realists would argue, should be viewed within the specific contexts which enabled mechanisms to work. The focus instead is on retrodution. As Olsen (2010) states, when 'retroducting' researchers ask '*why things appear as they do*'. She states that the key aim for realists is the movement from what is experienced towards what is really there. In short, she argues, it involves asking 'why' and that this pertains to evidence, theories and causes. As historians may comment, this form of logic and inference is not unique to sociology (historians and journalists alike are trained in the five 'w's and 'h' – where, when, what, who and how – approach to questioning, which has some parallels to this reasoning). However, its use in realism is based on a certain world view and retrodution is viewed as the method best suited to uncovering knowledge.

The world is seen as a complex, open system which is unsuited to the type of deterministic thinking and experimentation used to predict or create universal laws. Realists instead argue that within an open system, it is unlikely the same conditions and mechanisms will operate to produce the same outcome in repeated fashion. Instead, realists seek to explain why outcomes have occurred and seek to identify the causes of a particular outcome when situated in a particular context (Wynn & Williams, 2012). Hence the focus is on explanation not prediction. To repeat the words of Lieberson and Lynn, quoting Scriven (2002: 11): "*satisfactory explanation of the past is possible even when prediction of the future is impossible.*"

That, of course, is not to say that realists disregard regularities but rather they view regularities and the knowledge they provide in a different way to positivists. Rather than

viewing regularities as the potential indicator of some underlying universal law, realists view this as evidence of a 'tendency' (Higgs et al, 2004). Realists argue that comparisons of these 'tendencies' can provide better understanding of the ways in which underlying mechanisms operate under certain conditions. Therefore, tendencies can be used to expand theories about mechanisms to include other contexts. Alternatively, contrasting situations where tendencies may have been expected to operate in similar fashion but do not can mean that theory about context and mechanisms is re-specified to include these findings (Pawson, 2004; Olsen, 2004). This illustrates a process of interaction between theory and data, and re-emphasises the point highlighted earlier by Lieberson and Horwich (2008), that just because the terms of a theory do not hold under other circumstances does not mean the theory is wrong. It may be that theory needs to be expanded or modified to reflect the particular circumstances in which the new finding was observed.

A focus on retrodiction and explanation therefore suggests a particular way of approaching research. As Hart, New and Freeman (2004) describe, the simple starting point is thus: one observes a pattern, tries to explain it through the generation of theory and then plans research appropriately. The process of interaction between theory and data evolves as research evidence is accumulated and theories are expanded, revised and tested in an ongoing fashion. These themes of how to approach realist research practice will be discussed later in this chapter.

A focus on explaining 'why things are the way they are' (Olsen, 2010) is, arguably, lacking from the gambling research field to date. For example, questions relating to the observation of different rates of problem gambling evident in different jurisdictions have received scant attention. Moreover, focus has tended to be given to uncovering individual risk factors for problem and pathological behaviour rather than the identification of broader mechanisms and contexts which may lead to varying rates of problem gambling within different jurisdictions.

In the previous chapter, access/adaptation theory was used as an example to illustrate how implication analysis might be a useful approach to inquiry. This can be built upon to see how a lack of focus on mechanisms and contexts and their relationship to gambling behaviour has hindered the development of a more nuanced theory of how and, crucially, why, gambling rates vary. Comparisons have typically taken a meta-analytical approach (Shaffer et al, 1997; Storer et al, 2009) reducing the range of possible mechanisms to a number of key variables which, following realist argument, is a reductive and ill-suited approach when analysing complex behaviours like gambling (Pawson, 2006).

Therefore the final recommendation for taking a realist approach to the study of gambling is that it shifts focus away from trying to predict behaviour, to explaining it. This has clear parallels to implication analysis discussed in Chapter 2. In asking these explanatory questions, a deeper understanding of the determinants and mechanisms of behaviour may be generated and along with more satisfactory and nuanced theories about why things are as they are in certain circumstances. From an applied perspective, this may fundamentally provide better and clearer instruction about what this means for policy and how to use theories and evidence to best effect.

Implementing realist methods

Having discussed the potential utility of applying realist principles to the study of gambling, the next major question is how to weave these principles into research design and methodological approaches. Realism supports empirical data collection and, as already outlined, involves a process of iteration between theory and evidence. Empirical evidence should be collected and interpreted in terms of its contribution to deeper understanding of events. However, some authors have noted that there is lack of guidance about how to carry out this type of research – there is no realist methods handbook (Wynn & Williams, 2012; Walters & Young, 2001; Elder-vass, 2007). Walters

and Young (2001) are most scathing, stating that although realism has a strong ontology it lacks an epistemological base and does not provide a working methodology.

Furthermore, they argue that there are unanswered questions about how to reconcile potentially contrary evidence and theory and how to decide which theory has primacy where there are competing explanations.

Review of the broad literature of realism certainly focuses more on *what it is* rather than how the approach can be executed. In fact, the more one reads, the more the impression is created that Pawson and Tilley's work (1997) on Realist Evaluation and Pawson's work (2006) on Realist Synthesis represent realism's saving grace by outlining coherent frameworks for approaching this type of investigation. Lieberson and Horwich's (2008) implication analysis approach can similarly be viewed in this way.

However, some of the criticisms levelled at realist approaches relating to epistemology and methods may be unfair. As Wong et al (2012) point out, realist research cannot (and should not) be expressed in sequential terms but rather should focus on iterative explanation building which may draw on methods and information from a number of sources. Therefore, creating a prescriptive series of rules to govern realist design when the guiding principles of the philosophy emphasise the need for theory and evidence to be interwoven may be overly formulaic. This may be even more pertinent to a philosophical approach that recognises diversity and dynamic relationships. The attraction of realist approaches for research design therefore resides in its flexibility; it would not be desirable to have a single epistemology. Even Walters and Young (2001) assert that the methods which follow from the realist ontology are relatively straightforward; their main critique is whether these methods are capable of uncovering deep structures of the social world which realists postulate exist.

Pawson and Tilley (1997) concur with Walters and Young, stating that realist design follows the same broad logic of inquiry as many other areas of social science. This

recognition, whilst not veering too far into the formulaic, nonetheless suggests that broad principles about how to approach investigation from a realist perspective can be made. As noted earlier, Pawson and Tilley's work (1997) on Realist Evaluation seems to have added some meat onto the bones of the realist process. Although they focus on evaluation of policy programmes, the broad principles outlined are seemingly applicable beyond this and, arguably, provide a framework for realist research principles. These broad principles are discussed in the sections that follow, illustrated with examples both from realist literature and from gambling studies funded in Great Britain.

The main principle of realist research design is focus on the interaction between observation and theory. The starting point for a realist research approach will vary. For some areas of investigation, the starting point may be that of a retroductive process by which an empirical observation gives rise to theorising about explanation in the form of understanding the mechanisms and contexts that underpin this. This approach was seen in Hart, New and Freeman's work (2004) whereby the basis of their proposed research to investigate the relationships between health visitors and parents came from their own observations as professional practitioners. In evaluation, there is typically a specified issue and (suggested) programme to institute change which becomes the starting point for investigation. The 'problem' or need for intervention is conceptualised and theories should be built relating to how this intervention may work, for whom and under what circumstances (Pawson & Tilley, 1997). With other issues, theoretical considerations may kick start the process. For example, in the autumn of 2012, the Gambling Commission wanted to understand more about the ways in which social media gambling might affect 'real gambling' behaviour and sought to generate a theoretical map relating to the ways in which this broader social change may affect its domain of concern (gambling regulation and specifically the protection of youth and the vulnerable) (Parke et al, 2013).

The common theme running throughout these examples is an interaction between something which is observed (a practice, a problem, a broader social change) and a process of theory development about the ways in which this observation might operate, for whom and under what circumstances. Either the theory or the observation may come first but there is an iterative interaction between them.

Pawson and Tilley (1997) outline this process in detail and state that the generation of theories about the topic under investigation must be framed in a certain way. They are not simply hypotheses to be tested. Theories for realists must be framed in terms of 'propositions about how mechanisms are fired in contexts to produce outcomes' (Pawson & Tilley, 1997). This, clearly, requires a full consideration of the range of potential mechanisms that may affect the outcome alongside detailed consideration of the contexts in which these operate and in-depth investigation of interaction of the two. It is this detailed theorising and specification of the range of mechanisms and contexts that differentiates realist theorising from other approaches. Here, theories are not abstract, high level concepts focusing on explaining more universal laws or regularities but rather are more specific, grounded, practical theories relating to understanding why a certain outcome was generated. When setting up a realist design, one may speculate that the theories developed are mid-level in formation, focusing on the issue at hand. (Pawson and Tilley refer to these as 'middle-range' theories.) It is through abstraction, triangulation and accumulation that these mid-range theories help build a broader understanding at a higher level (Pawson & Tilley, 1997).

Once these mid-range theories have been formed, the next stage is to turn these theories into research questions (or hypotheses) that can be explored and evidence accumulated to test these propositions. In this, Pawson and Tilley (1997) are quite clear, the methods used should match the research question and they, like many other realists, described themselves as methodological pluralists. The final stage is a process of feedback of findings to theory to uncover what worked, what did not, how theory

may be expanded, how theory may be reconciled, and so on. This cycle of feedback and iteration between evidence and theory is a further key principle of a realist research design.

So, in short, drawing on realist principles the research design process incorporates:

- observations;
- theorising about observations;
- detailed proposition of the range of mechanisms and contexts to be considered;
- the generation of research questions;
- research designed appropriately to answer those questions; and
- a process of synthesis of evidence to theory and theory adaption and/or further specification.

So far, so straightforward. Working from this standpoint, the main differences to positivist approaches are in how observations and evidence are viewed, related to theory and what this means for understanding. It represents more of a reorientation in approach than a fundamentally new research practice.

However, given the dominance of empiricism in the policy world at large, there are valid questions about how feasible this reorientation is to implement. Anyone with experience of working in the applied social science world, especially those with government clients, may argue that this process is beyond what they are capable of achieving with pre-defined budgets and time frames, or is beyond what clients might accept. The former concerns are considerable. The latter could be countered with effective education and demonstration (Pawson and Tilley even give an example of how this might be achieved, 1997).

What, then, are the specific concerns in this applied situation? First, following the broad principles outlined above suggests that a great deal of time and resources be spent

planning (potentially) multiple studies to evidence a small area. The resources required may be beyond the scope of budget that is available and clients may be unwilling to sacrifice overarching empirical measurement for more specific focus. Second, it requires making the research questions very specific. Attempting to applying realist principles to social science projects with large overarching research questions suggests a potentially bewildering array of options especially when theorising mechanisms and contexts. Clients may be uncomfortable moving from overarching and abstract towards focus on mid-range theories. This would require a process of prioritisation which they may be unwilling or unable to do, especially given the need to balance various competing policy and political demands. Therefore, one might question whether realist approaches are best suited to areas which are more discrete, easier to deconstruct or more closed in their range of options. This would be ironic given the realist focus on open, complex systems.

Whilst the broad tenets of a realist design may be concerned with the specific, there is much to be gained by applying realist principles to social scientific inquiry. Arguably, these principles even have relevance for some of the largest social scientific surveys conducted in Great Britain to date, which at face value, may not seemingly be suited to realist investigation. To demonstrate this, I will draw on my own experience as Project Director of the British Gambling Prevalence Survey (BGPS). This study was not conceived, designed or analysed drawing on realist principles. However, as I work through some specific examples, I will demonstrate how drawing on these principles may have strengthened this study and provided more useful results. Following on from this example, I also look at how realist principles can be used in analysis of large scale studies to (potentially) provide deeper explanatory understanding.

The BGPS is a series of three surveys of adults (aged 16 and over) living in private households in Great Britain (see Wardle et al, 2007; Wardle et al, 2011 for full details). Conducted in 1999, 2007 and 2010 it has provided good description about how many

people in Great Britain gamble on certain activities and estimates the prevalence of problem gambling among this population in Great Britain. Based on gold standard sampling (random probability) and interviewing (self-completion) techniques, it is widely regarded as an exemplar of this type of project. As with many government-funded studies, the research aims were pre-specified by the client (the Gambling Commission). In the case of the BGPS 2010, the main research objectives were to:

- measure the prevalence of participation in all forms of commercial and private gambling;
- estimate the prevalence of problem gambling;
- investigate the socio-demographic and other factors associated with gambling and problem gambling;
- explore attitudes to gambling;
- where appropriate, provide comparisons pre- and post-implementation of the Gambling Act 2005.

With the exception of the last objective, these aims were largely the same as those posed for the 2007 and 1999 studies. Therefore, in many respects, the BGPS 2010 was a straight repeat of earlier studies. Taken at face value, these research questions are about measurement and description and much less about explanation. However, the research questions aimed ‘to investigate’, ‘to explore’ and ‘to compare’ behaviours. These types of questions are underpinned implicitly with the need to explain. For the researcher wondering how to draw on realist principles to shape their work, this provides a window of opportunity (although, in this case it was not explicitly taken). This points to an important observation – namely, that even tightly described and prescriptive research objectives can often be interpreted in a more realist way. For example, dig a bit deeper and the aim to explore attitudes to gambling is about understanding how attitudes vary and why. The ‘why’ part of this observation is really about understanding what the impact of any variation might be. A study funded by the gambling regulator will be less interested in understanding attitudinal variation as

indices of broader normative values or cultural shifts and much more concerned about its relationship with behaviour.

This is an example of how the outcome under consideration varies based on the circumstances in which the investigator is operating. The working hypothesis underpinning this is that more positive attitudes to gambling are related to increased propensity to gamble, a pattern which has been observed within the BGPS data. However, rather than viewing this in a strictly deterministic fashion, this link can be viewed within a context, mechanism, outputs framework. To apply realist principles, one would wish to look at different groups of people in different circumstances to better understand the way in which the mechanism (of positive attitudes to gambling) may operate and hence may affect outcomes. This, of course, is overly simplistic: one would wish to dig deeper to understand the ways in which this transmission works. For example, one mechanism may be related to how more positive attitudes are generated. If they are the result of normative change among a peer group, then a mechanism of 'social contagion' may be proposed (Christakis & Fowler, 2009). This would incorporate a broader shift towards more positive views of gambling among a group of people which may underpin increased gambling participation for an individual member of that group. However, there may also be a range of countervailing mechanisms, such as continued negative views of gambling within a peer group (social restriction) despite an individual thinking more positively about gambling itself.

To date, this approach has not been taken and our understanding is framed in simplistic and aggregate terms which, arguably, draw on deterministic frames of causality (i.e., that positive attitudes lead to increased gambling behaviour). For example, it is known that on the whole the British population views gambling in a more negative than positive light (Orford et al, 2009). However, the population tends to display some signs of classic liberalism in their views – they tend to think that, on the whole, gambling is not good for people or society but believe that people have the right to do it if they

want to. It is also known that those who gamble have the most positive views of gambling (Wardle et al, 2011). However, the majority of the British population gambles, so there is a paradox here in that people who view gambling negatively still gamble (Wardle et al, 2011). These patterns were known from the BGPS 2007. The 2010 study repeated these questions, largely replicated these results, but did not really help develop further understanding of 'why'. Here descriptive replication over time was a more important priority than further explanation.

This is a prime example of where drawing on realist principles at the outset of the BGPS 2010 study to interrogate exactly what new knowledge was needed could have generated deeper understanding. Though this would have been unlikely to generate the depth of explanation advocated by realists, it would have been a step forward and provided a starting point for this type of investigation. Further, more could have been done by the investigators in analysis to demonstrate how different analytical approaches could be used to unpick attitudinal patterns (by looking at intra-household attitudes, for example).

However, this is not to say that some progress was not made. A key part of the design process was to assess and evaluate the BGPS 2007 study design and look at where improvements could be made. The broad conclusion was that although the questionnaire provided good detail on measurement of behaviours, it was lacking on explanatory measures. Much detail was collected on what types of activities were undertaken and some information collected on the outcomes (albeit narrowly conceived outcomes as measured by problem gambling screening instruments). However, there was very little information about why people engage in gambling behaviours. To the project team, this seemed unbalanced, and after a process of review, theorising about the relationships between gambling motives and behaviours and qualitative interviews conducted with gamblers, a new questionnaire instrument called the 'reasons for gambling' was developed (Wardle et al, 2009; Wardle et al, 2011). Whilst this was also

analysed in a fairly simplistic way, the instrument itself was designed to provide data on 'latent' mechanisms which it was speculated would be related to gambling behaviour in certain ways. These mechanisms were 'enhancement', 'recreation', 'social', 'coping' and 'money'. They represented a range of intrinsic and extrinsic mechanisms to explain why people gamble. What was missing from the analysis in the main BGPS report was more detailed consideration of how these motivations varied for certain people in certain contexts. However, the inclusion of such questions formulated around certain motivating mechanisms highlights the way that realist principles could be incorporated into a large-scale survey research design. If a key starting point for realist research is observation, then the observation that problem gamblers are more likely to gamble for reasons related to 'coping' highlights a starting point for further investigation.

These simple examples show how realist principles could be utilised in a large-scale national study with prescriptive aims and methodology. The key to implementing realist principles, in this case, seems to be decomposition. That is, breaking the overarching objectives down into smaller component parts, questioning what is known, what one hopes to gain and looking more deeply into specific areas to help guide the research agenda more broadly. A key part of this seems also to be about looking forward and thinking about where one's own study might contribute to knowledge more broadly. A large-scale survey might not be able to fully utilise a full realist research design, but careful incorporation of some key principles and clear articulation of these may be useful to other researchers and/or serve as a building blocks for future work: it can make a valid contribution to the 'evidence jigsaw'. Finally, analysts of survey data may also be able to extract further explanation from survey data by varying their analytical techniques and constructing datasets that better reflect realist conceptions of the social world and how it works.

It is to these themes which this thesis now turns. In particular, it expands upon themes of how data not collected for realist purposes may be re-examined from a realist

perspective to shed light on complex interactions. This shifts focus away from realist research design with a reorientation of how realist principles can be used for analysis, and secondary analysis specifically. However, this necessarily involves some consideration of the analytical methods which realists use and, in particular, the use and application of quantitative analysis. As suggested so far, the incorporation of realist principles could have strengthened a study like the BGPS. The next major question is whether pre-existing data from such a study can be reanalysed to provide deeper explanation using realist principles.

Realism and analysis methods

Consideration of the application of realist principles to secondary analysis first requires some consideration of realist methods. Whilst most realists describe themselves as engaging in methodological pluralism (Olsen, 2004; Pawson & Tilley 1997; Wong et al, 2012), there is a lack of clarity in the literature regarding the methods and tools that should be used to investigate issues in a realist way. In particular, quantitative research has come under some scathing attacks. One reviewer of realist methods stated that:

“quantitative results from a positivist method like a survey... should not be a major part of any realism research project.”

(Sobh & Perry, 2005: 1201)

Olsen’s review (2010) of quantitative methods in realist research demonstrated the breadth of thought on this issue, noting Sayer’s exposition that research design of practical adequacy would not use quantitative methods whilst also asserting her own view that statistical analyses do have a place in realist research. The use of qualitative methods, in its many varied forms, is taken as a given. Therefore, debate centres on what use and contribution quantitative methods can make either alone or in addition to more qualitative techniques.

Pawson and Tilley (1997) are clear that quantitative methods do have utility within realist designs, stating that it is quite possible to carry out realist evaluation using a variety of methods including quantitative designs. Of the three 'exemplar' projects cited in their 1997 text, two included quantitative methods. Their underlying point is that the methods should be appropriate to the design and that it is how the evidence is used to evaluate and shape theory that is important. Lieberson and Horwich echo this point in their approach to implication analysis (2008).

Olsen (2010) goes further in her defence of quantitative methods, arguing that quantitative data are useful because they typically contain data about structures. She argues that statistical analyses of society are often implicitly structuralist. Social class, sex, ethnic group are all examples of structures that can be investigated and regularities or tendencies observed. This provides a starting point to explore different patterns of associations with outcomes. Secondly, she argues that quantitative data also contain 'latent' factors that are only implicitly measured. Appropriate analytical techniques (such as latent class analysis, confirmatory or exploratory factor analysis) can tease out these latent factors (as observed with our 'latent' motivating mechanisms for gambling). She argues that these approaches are implicitly realist. Williams and Dyer (2004) have reiterated this point with their exposition on the use of cluster analysis as an appropriate realist technique, arguing that cluster analysis can reveal population groups who may have dispositional properties which interact with probabilities of experiencing certain events. Finally, Olsen (2010) argues that quantitative data can also represent institutions, which she defines as a set of social norms which in a given context can shape and influence human interaction. Examples of this might include schools within youth surveys, households or workplaces. Often data on these 'institution' level influences can be constructed and analysed within the data. For example, within the BGPS data, it is possible to look at individuals, individuals within households, different household types, and so on because of the design of the study (See Chapter 4).

Following Olsen's argument, using a realist perspective when dealing with quantitative data seems to be more about how investigators approach the data and how they analyse it. In short, all good researchers should take a critical approach to data and carefully consider the most appropriate methods for analysis. Simply producing cross tabulations that look at how variables relate to each other is insufficient. Rather, there is a need to investigate the (potential) layers within the data which may approximate the realist perspective of a stratified social reality (Byrne, 2004). Investigators need to consider different groupings or cases evident within the data, which will help explore questions about how and why outcomes vary for these different groupings. And finally, investigators need to consider what else, other than the variables taken at face value, the data can tell us by looking for latent factors. This might represent a move away from a standard 'cross tabulate and regress' method of analysis to which policy makers are now so attuned. These more standard methods are good for providing basic description of relationships but arguably have less to say about mechanisms and contexts. This is not because of the method of analysis per se but rather that they tend to be interpreted in a somewhat reductive way (e.g., x% of men did this; Y was greatest among Z). This is echoed by Lieberman (1984) who noted that many of our analytical techniques are reductive and based on variance explained in terms of identification of key factors. However, as he argues, just because one factor does not 'explain' much of the variance, this does not mean it is of no interest. Perhaps the application of realist principles to quantitative analysis suggests a reorientation in our ways of thinking about analytical approaches. As Pawson (2004) states, when comparing evaluations, it is the inconsistencies that are often of most interest.

Numbers, it seems, do have a place in realist research. However, careful consideration of how they are used, what they are telling us, and the ways they are generated needs to be made. This recognition is important. Too often, statistics and numbers are treated as empirical and objective fact, when actually they are frequently subjective representations or interpretations of a particular organisation or person. To understand

how numbers should be treated, the guidance outlined by Carr (1961: 9) and his view of the relationship between history and fact should be heeded:

“The facts speak only when the historian calls on them; it is he who decides to which facts to give to the floor, in what order and in what context.”

In other words, be wary of knowledge purporting to be ‘fact’, it is only a fact because someone, somewhere, decided that it would be. This recognises the innate subjectivity and reflexive relationship between the ‘fact’ or in our argument, ‘number’ and the person doing the presenting and interpreting.

For various reasons, numbers have a position of primacy in terms of understanding and communicating information about the world. Carter and New (2004) note that numbers, in the form of demography agency, possess causal powers in that magnitudes of numbers can force action without the need for self-conscious individual action. For example, concern about the number of problem gamblers may encourage the state to take action without problem gamblers organising themselves as an entity. This power may be one reason why policy makers and politicians are so attuned to numbers. Governments and other organisations alike make broad use of numbers. Media use numbers to communicate information to the broader populace, especially to illustrate concern about demographic patterns (though it is debatable how well the general population understands this information and how accurately numbers are reported). Much of the data available to us as researchers, whether from surveys or administrative records, is numerical: yet the subjectivity of numbers is rarely reflected in these reports. Therefore, thought should be given to how to make best use of numerical data to give a deeper insight into social reality and processes.

It should also be recognised that numbers and statistics are *“imbued with power relations rather than being mirrors of the world”* (Olsen, 2010: xxxiii). This relates to how

numbers are created, presented and interpreted. As referred to above, numbers can be manipulated to emphasise a particular point. However, it is not just the end user of numbers who imposes certain value judgements upon them; this is also part of the research process (Olsen, 2004). Olsen (2010) argues that manipulation of numbers is just one part of the quantitative method. The other parts are distinctly qualitative in nature. This relates to how one interprets the data, how one builds a model, how one compiles numbers into code frames or theoretical groups. These are qualitative decisions and methods (Olsen, 2009). This relates to a final point about realist research principles, which explicitly recognises that social research is a social activity and therefore analysis of values and power relations underpinning the conduct of research activity should be brought into the research domain. For Olsen (2004), this explicit recognition is preferable to pretended value neutrality and echoes the approach recommended for historians by Carr (1961).

An example of these 'power relations' is the way in which problem gambling statistics are developed, reported and used in Great Britain. Estimates are based on measurement using the DSM-IV clinical criteria. In Great Britain, this has become the dominant paradigm for measuring problem gambling and problem gambling prevalence statistics in Great Britain are based on this instrument. This is arguably one of the most influential statistics in gambling policy. However, the development of the DSM-IV criteria is based on viewing problem gambling within a certain paradigm, that of the medical model of disease. As Castellani (2000) traces, the development of this model was shaped by certain power relations between clinicians, legal scholars, governments and commercial entities so that pathological gambling could be recognised as a 'real' issue. This identification was important as it was related to real world issues such as the ability for treatment to (potentially) be covered by health insurance or the desire for some people to launch legal challenges against the gambling industry. Therefore, this oft-used statistic is not representative of a value neutral reality but is underpinned by, and reflective of, a variety of power relations which shaped its development. Its

continued primacy is further reflective of ongoing power relationships and the vested interests of some stakeholders in maintaining and promoting the medical model paradigm: for example, some industry participants, for whom upholding the notion of gambling problems being symptomatic of deficiencies within the individual is helpful in absolving responsibility.

In short, a statistic is never just a number but rather is underpinned by various power relations that contribute to its conceptualisation, calculation and meaning. These relationships need to be considered when approaching quantitative research and a realist approach to analysis is preferable in this instance as these themes are explicitly recognised. What to do about this is discussed later in this chapter.

The potential of application of realist principles to secondary analysis

Secondary analysis of pre-existing data is gaining traction as a useful, and largely under-utilised, methodology. As reductions in government spending have affected research budgets, policy makers and researchers alike have sought to explore increasingly creative and cost-effective ways to generate knowledge. Secondary analysis has been a key component in this process. The importance of secondary analysis has been further emphasised by the Economic and Social Research Council (ESRC) and the announcement of their secondary data analysis initiative scheme which allocated £10.8 million in funding to 20 projects in 2012 (ESRC, 2012). They emphasised the rich collection of large-scale and complex data that exists in Great Britain and the opportunity that this data infrastructure provides in addressing some of the most pressing challenges of society today. The scheme specifically aimed to generate new users of this data, generate new knowledge through in-depth exploration of this wealth of information and build capacity in the research community of those who are aware of and able to utilise these resources. The scheme, launched in 2012, was the first phase in this funding process with others expected to follow. This cements the importance of secondary analysis in the social scientist's toolkit for the foreseeable future.

Review of realist literature, however, has surprisingly little to say about secondary analysis. This may, in part, be related to the lack of literature about realist methods. However, tracing through how realist principles can be used to elaborate upon the potential of secondary analysis is important, as this has the possibility to further enhance our understanding of complex social issues. There are two main bodies of work which are useful to consider here. The first is Pawson's (2006) realist synthesis and the second is Olsen's exposition on methodological triangulation (2004). Key principles from both can be woven together to suggest how realist principles, moving beyond the way in which analysis is approached, might be incorporated into a secondary analysis research design.

Realist review has been described as the application of realist methods to secondary levels of research (Wong et al, 2012). This has largely followed Pawson's principles of realist synthesis developed from, and in response to, his critique of systematic reviews and meta-analysis (Pawson, 2006). The core principles of realist review are outlined in Pawson's book, "Evidence-based policy: a realist perspective". Although not explicitly stated, the focus on synthesis implies focusing this type of research endeavour on review, evaluation and comparison of pre-existing primary (and published) research studies relating to a particular research issue (Wong et al, 2006). However, the practice of applying realist philosophy to synthesis of findings need not just be focused on pre-existing published data but can also apply to secondary analysis of that pre-existing data. This, arguably, creates a second strand of realist review.

Pawson's (2006) main critique of traditional methods of systematic reviews, and meta-analysis in particular, is that they are reductive, reducing down the range of relevant information to a few key variables. Once reduced, data are aggregated from various studies, weighting schema applied and the aggregated impact of the variable in question considered for the behaviour of interest. For Pawson (2006), this lacks explanatory

power, as understanding why the outcome is observed differently in different contexts is not considered. Variation is treated as a statistical nuisance to be controlled for. For a realist, this fundamentally misses the point of understanding the impact that difference contexts have upon mechanisms. The knowledge created from this meta-analytical process is reflective of this rather narrow and reductive method and is unlikely to lead to explanation.

Realist synthesis was developed as a riposte to this situation. It is a method which embraces diversity and focuses on comparisons between rather than aggregation of evidence. It also does not involve a prescriptive quality hierarchy of different types of data or evidence. Rather it seeks to cast a wide net, drawing in different types of evidence that can contribute to theory testing and accumulation. In doing this, Pawson (2006) refocuses attention on what types of evidence should be used in review and argues that evidence should be reviewed relating to a family of mechanisms, rather than a family of interventions. Here, evidence from other substantive areas can be drawn together to generate theory and evidence relating to a similar underlying mechanism. To repeat an earlier example, when looking at the mechanisms which underpin the relationship between parental gambling and individual problem gambling it may also be useful to look at evidence relating to mechanisms underpinning the relationship between parental smoking and individual smoking behaviour, as similar mechanisms (such as parents as facilitators) may be in operation.

In short, the realist reviewer is going through a process of developing theories to account for findings: it involves collecting, contrasting, and comparing evidence to help them to refine and develop their understanding of the context and mechanisms in which outcomes are observed. As Wong et al (2012) note, the realist reviewer moves iteratively between analysis of particular examples and their contribution to theory and the search for further examples. Here, reviewers should be looking at the weight of the evidence in total. Furthermore, there should be focus on the inconsistencies as these

provide an opportunity to understand why these inconsistencies exist and what that might mean for theory. The main focus here is not on generating empirical generalisations but on mapping options and circumstances and outcomes.

From this brief overview of realist synthesis some useful lessons in applying realist principles to secondary analysis can be drawn. The first is the need for the analysis to be theory-led so that there is prior conceptualisation of the broad mechanisms underpinning a particular observation which then informs the choice of (or search for) appropriate data for secondary analysis. This too should also inform the analytical methods applied. The previous example about the mechanisms between parents' and children's gambling behaviour would require data about households and the household itself may then form the analytical 'case'.

The second lesson is to take an expansive approach to the number and types of data used. For example, increasing the number of datasets used is more likely to provide a broader range of potential analysis through which different contexts and mechanisms can be teased out. This is particularly pertinent to secondary analysis as it is relatively unlikely that using data produced from research designed for another purpose contains all the information that the investigator would ideally like. Casting a wide net and interrogating different sources of information is one way to broaden the scope and explanatory power of secondary analysis.

A third lesson is the focus on comparison, whereby more consequential lessons may be learned by analysing the same phenomena in different contexts (Pawson, 2004). This relates to the second lesson of 'casting a wide net' but also refers to how one approaches the analysis in terms of focusing on diversity and seeking to explore it. In this way, secondary analysis offers an opportunity to look at and compare different material settings and cultural practices (Carter & New, 2004). It can, and should be, an expansive practice.

The final lesson is of flexibility and iteration. This relates to how one iterates between theory and analysis and uses findings to suggest new avenues of investigation which will shape how different sources of data may be brought into the analytical plan. This lesson is drawn more from realist primary research principles with its focus on iterative explanation building (Wong et al, 2012) but it is easy to see how this has application for a research design focusing on broad-ranging analysis of secondary data.

Further, the realist support of methodological triangulation has application for secondary analysis design and application. Olsen (2004) argues that the realist understanding of triangulation is not about searching for validity or replication but rather is about testing different hypotheses and theories. As she says, *“triangulation does not merely validate claims or strengthen datasets but offers ways to enrich data analysis”* (Olsen, 2004: 136). Here, returning to the concept of the ‘evidence jigsaw’ outlined in Chapter 2 is useful, whereby triangulation means a way of reflexively exploring different theories, mechanisms and contexts using the wealth of data available to us, and provides a means of mapping that diversity. As Wynn and Williams (2012) point out, the key principle of methodological triangulation is the concurrent but separate collection and analysis of different but complementary data about a topic or issue. This has clear resonance with the type of expansive secondary analysis strategy described above. The main benefits of such a strategy are that each type of data may contribute something new and different to knowledge, whilst piecing together evidence from various sources enables us to *“capitalise on the strengths of each ... whilst compensating for various weaknesses”* (Wynn & Williams, 2012: 803). As suggested by the title, this means not only triangulation of data but also of methods, where different aspects of a theory are explored via different methods and results triangulated under a broad theoretical umbrella. This means methodological, data and analytical integration.

The key lesson learned from this is that applying realist principles to secondary analysis means casting a wide net not only in the number of datasets considered but also in the type of data used. Therefore both qualitative and quantitative sources should be utilised, where possible. However, horizons should not be limited to standard datasets which are housed in repositories such as the UK data archive. The search for data and information that might shed light on certain aspects of a research question should also be expansive. This includes making use of other sources of information such as administrative, transactional or historical data and thinking creatively about how these other sources of information may be integrated with other sources of knowledge. This may be as a standalone source of information or by combining and merging with other sources of data. For example, questions about the impact of expanded gambling opportunities could draw together evidence on gambling behaviour which might be collected through surveys or qualitative studies, but also may be recorded in government figures of gambling spend and/or duties. These data may be assessed alongside administrative information from licensing records about the location of gambling outlets which, in turn, may be placed in context of local planning priorities and strategies. Analysing all of these sources of data as part of a wide-reaching methodological triangulation process is likely to give greater insight into this phenomenon. In this way, secondary analysis is part of a broader part of the methodological toolkit in which varying sources of information are collated, compared and considered.

An expansive secondary analysis approach means social scientists should be expansive in terms of *number* of sources but also in terms of *types* of sources used. This has clear resonance with Lieberman and Horwich's (2008) implication analysis approach and their analogy of the jury drawing together many types of evidence, and considering the weight of the evidence to identify the most plausible explanation.

Naturally, there are some challenges associated with secondary analysis research designs. At a practical level, investigators are constrained by the choices made by others. It is not always clear that data collected for a different purpose can be utilised in the study of something else. However, a realist perspective is useful in helping to navigate this challenge. Seeing data as product of a social process and “*imbued with different power relations*” (Olsen, 2004; 2010: xxxiii) rather than as a value neutral product helps us to place these considerations first and foremost in the mind of the secondary analyst. This perspective encourages investigators to think about the power relations which shaped the questionnaire or topic guide and hence affected the resulting data to be used in analysis. Understanding these processes helps to draw out the implications of this for research. It may give insight into the alternative perspectives that need to be considered and therefore highlight alternative data to be sought.

For example, the BGPS has always divided ‘betting’ into separate activities by asking separate questions about horse racing, dog racing, other sporting events and other events. This is largely to conform with precedent but also because these give meaningful categories to the gambling regulator and how they approach regulation of these activities. These have been counted in analysis as different forms of gambling activities. However, they are also all activities that are conducted with a bookmaker and there is no clarity as to whether punters themselves conceptualise these as different forms of gambling or whether they see them more holistically as part of a range of products offered by a bookmaker. Using realist principles for secondary analysis recommends that these issues are considered and, where possible, data analysts dig deeper to uncover the original context in which the research was designed and implemented. Any researcher working with clients will recognise that the final study design is the result of a process of negotiation and compromise. A realist secondary analyst should seek to uncover these processes and consider what this means for their analysis and the social reality represented in the data.

These challenges aside, there is much to be gained by applying realist principles to a secondary analysis research design. This includes a wide-ranging focus which brings together (potentially) disparate sources of information under a broad theoretical umbrella to assess various aspects of a topic. Using such a method encourages focus on drawing out the strengths and (potentially) positive contributions of each data source instead of focusing on prescriptive hierarchies of data quality and the negative or weaker aspects of the data. This also provides an impetus for researchers to be more expansive about the types of data used and how they are drawn together. This itself encourages investigators to be more creative about how different sources of information can be analysed and used.

This has particular resonance with the reasoning of Savage and Burrows (2007; 2009) who argued that social scientists need to think about how to integrate big data, administrative data and transactional data into our repertoire of research methods. A final benefit is the provision of a framework, not dissimilar to that of realist synthesis, for guiding a secondary analysis research process which explicitly recognises the iterative nature of analysis and theory. In an increasingly complex world, where many competing sources of information about society exist, applying a realist framework to secondary analysis offers a method through which (potentially) disparate sources of information can be marshalled and understood. It is a way of creating something manageable from what could be a behemoth of information; a way of starting to shape the 'evidence jigsaw'. Yet because of the co-dependent relationship between analysis and mid-range theories, it has practical utility which helps ground research in the investigation of specific objectives and keeps the 'jigsaw' picture tightly focused upon these objectives.

Summary

The preceding chapters have demonstrated how the study of gambling is being increasingly viewed from a public health perspective. However, they have also shown

that different public health models reflect varying underlying conceptions of what gambling is (and what 'health' means). These chapters have also traced recent movements in public health philosophy arguing that greater reflection of the complex, open, multi-layered and multi-causal social reality is needed. Gambling is a complex social behaviour which is growing more complex given its integration with digital reality. Therefore, this thesis has argued that a more holistic or ecological approach is needed to frame the issues under investigation. Works by Pawson (2006), Olsen (2009) and Lieberman and Horwich (2008) provide useful frameworks governing how to approach this complexity through decomposition, focus on CMO configurations and seeing social scientific knowledge as an 'evidence jigsaw' where investigators contribute to its assemblage. This chapter has argued that realist ontology effectively underpins these methods and is an appropriate way of approaching gambling studies. This ontology is based on a dynamic view of the relationship between structure and agency, reflects and incorporates complexity and multi-layered social reality into its philosophy, focuses on the causal potential of emergent properties (such as commercial gambling) and has an overriding focus on explanation as the engine of understanding.

The remainder of this thesis builds upon these themes to demonstrate how they can be applied to specific research questions within the gambling studies field. This will be achieved by exploring female gambling behaviour. The main objective will be to explore, using secondary analysis techniques, how and why female gambling behaviours vary and how they are changing. Realist approaches have not been explicitly applied to gambling studies to date and, as the many examples given in Chapters 2 and 3 illustrate, there is much (potentially) to be gained from doing so.

A further objective of this thesis is to examine how realist principles can be more broadly applied to secondary analysis of pre-existing data. In this way, this thesis seeks to develop a second strand of realist review by examining some broad guiding principles about how best to achieve this and to reflect on what secondary analysis can and

cannot do for realist research approaches. Secondary analysis and the incorporation of 'big data' into the social scientist's toolkit are gaining increasing traction. It is therefore vital to understand the ways in which these methods and data can be interrogated from a realist perspective. These themes will be traced through the second part of this thesis as the proposed method for investigation is focused upon secondary analysis and the incorporation of other sources of evidence with pre-existing data. It is to more practical questions of methods and their application to our case study which this thesis now turns.

Chapter 4: Methods, methodologies and realist description

Introduction

In Chapter 3 the argument was made for applying realist philosophy to the study of gambling. The case was also made for considering an expansive approach to secondary analysis as a 'second strand' of realist review. This highlighted a number of challenges in how to integrate quantitative secondary analysis within the realist's toolkit, ranging from the use and interpretation of descriptive statistics to understanding contexts in which data were produced. This chapter builds upon this and outlines the specific methods to be used and the analytical approach of this thesis. It makes the argument that a pluralistic approach to secondary analysis is preferable when wishing to use descriptive statistics in a realist way. Termed 'realist description', this chapter traces how using many different sources of pre-existing data to analyse certain issues has the power to enhance our understanding of the potential interplay between context, mechanisms and behaviours. Whilst the term 'realist description' is deployed to describe a broad-ranging approach to secondary analysis (meaning use of multiple datasets and different types of data) this does not mean that the term can only be used in this context. Analysis of a single survey or dataset could draw on the themes presented in this chapter to examine descriptive phenomena whilst drawing on the principles of realism. However, this chapter argues that the potential of realist description is greater when multiple sources of data are used as this enables us to expand our empirical horizons and examine behaviour from many different angles.

As a chapter focused on method, it seems only right to first return to some key debates about methods, methodologies and ontology before outlining the specific practices that will be used in the rest of this thesis. Therefore, this chapter first considers issues of methods and methodologies before considering debates about triangulation, pluralism, complexity and comparison. In the second part of this chapter, the specific methods, data sources and analytical techniques to be used in this thesis are outlined.

Methods and methodology: what does this mean for realist description?

Realism has been described as “*a philosophy in search of a method*” (Yeung, 1997: 51). However, as Olsen and Morgan (2005) (along with others) have pointed out, the gulf between philosophy and method is more complex than this and ontology, methodology and methods should be considered in parallel. For Olsen and Morgan (2005), the methods that realism can and should use are the same as other ontological traditions. However, how some methods are perceived by others and the ontological assumptions that others may associate with them can potentially create problems for realists. This is where it is useful to delineate the difference between method and methodology (Rolfe, 2006). Among realist thinkers, there is increasing recognition that what is important is how investigators relate observations back to their ontological frameworks and their logics of inference and not necessarily the specific types of methods that are used (Olsen & Morgan, 2005; Rolfe, 2006). As Olsen and Morgan (2005) describe, methods are the tools or techniques used in analysis. In statistical analysis, cross tabulation, regression, latent class analysis (LCA), factor analysis would be different methods. Methodology, as also described by Olsen and Morgan (2005), is the combination of methods and our interpretation of that data. Methodologies, therefore, tend to reflect the investigator’s assumptions about the nature of reality. In this way, the investigator’s methodology is embedded *within* their ontological position. In short, the method is the technique used to produce the data, the methodology is what one does with that information, how one frames the issue and what it means to the investigator in terms of contribution to knowledge.

The problem for descriptive statistics is that use of a particular method is often implicitly tied (in the minds of some) to particular ontologies. This is a key issue that must be addressed when seeking to explore how secondary analysis of existing quantitative data can be used in realist way. The classic example is that of quantitative survey research and positivism. For some, the use of descriptive statistics is seen as the search for general laws and regularities which either prove or disprove a hypothesis or theory

(Downward & Mearman, 2007). Therefore, survey research and descriptive statistics are viewed as being incompatible with either interpretist or, for some, realist methodologies. However, this brief summary demonstrates that the assumed link between survey research and positivism is founded on broad assumptions about *how* investigators use the evidence to explain events or observations. If the data are being used in a deductive manner to prove or disprove general laws, then the method is probably embedded within a positivist methodology. However, this is not the *only* way this evidence can be used. Descriptive statistics can be used to explore the relationship between individuals and structures, to uncover regularities, to highlight complex patterns and to describe empirical observations. How appropriate this method is to realist methodology very much depends on how this evidence is used and the level of explanatory power attached to it. Again, the relationship between the method and methodology seems to be less about the journey and more about what happens on arrival. Following this logic, when it comes to realist methods, it seems that ‘anything goes’: that is, so long as investigation is situated within a realist methodological framework. This view has increasing traction with some authors (Olsen & Morgan 2005; Downward & Mearman, 2007; Rolfe, 2005).

Questioning the ingrained assumption that survey data and statistics equals positivism is key to bringing these methods into the realist toolkit. As outlined above, part of this rebuttal relates to how resultant data are used and interpreted, but there are also practical considerations to take into account. The image of a ‘band of positivists’ designing, implementing and using survey data and statistics to test hypotheses and search for general laws is often a far cry from what actually happens in applied social science research. For example, focus on government-funded cross sectional surveys shows that the aims of these studies are often fairly modest. They focus on measuring the prevalence of certain behaviours (i.e., cigarette smoking, use of leisure activities, transport choices, crimes, various attitudes) and/or focus on *describing* how these behaviours vary among different types of people living in different areas.

In this approach, there is certainly some evidence of the search for empirical regularities but it is far less obvious that hypotheses are being tested or general laws examined. Furthermore, researchers leading these types of studies are often at pains to express how this type of cross-sectional data provides information about correlations not causality and that it says little about complex causality. In this way, correlations are seen as useful indicators of some event-like regularity but are not viewed as possessing explanatory power. In these studies, regression techniques tend to be used for descriptive inference, not to develop, define and predict a 'true' model of behaviour. Indeed, when descriptive inference is the objective, 'goodness of fit' measures for model development become increasingly irrelevant. Finally, most survey researchers would readily admit that in a world of falling response rates, challenging client budgets and resultant research prioritisation, the representation of reality offered by surveys is more of a 'glimpse' (as described by Olsen & Morgan, 2005) than a 'mirror image'. In short, there is far less about the practice of applied social survey research that is positivist and, arguably, more that is realist.

That said, it is also fair to state that most of the nation's high profile surveys are implemented in an ontologically free fashion. They are developed and designed by specialist survey professionals working in applied settings for whom ontological considerations are not high on day-to-day agendas. Primary outputs from these studies tend to focus on describing the data and patterns therein, but offer less in the way of explanation. Indeed, many government clients prefer this approach, with the data described but not interpreted, as it offers them an opportunity to do their own thinking about what it means. Of course, even with this level of description there is an element of assuming that data are a 'reflection of reality'. As the main author of the BGPS series, when I say that around three-quarters of British adults gamble, there is an implicit assumption that this reflects reality. However, in practice, I would always qualify this by adding that this represents three-quarters of British adults residing in private

households who took part in the study, though this caveat is nearly always overlooked by commentators and other stakeholders.

This is, in fact, a good example of how statistics are imbued with power relations – the gambling industry tends to focus on the 99%/1% debate, arguing that only 1% of people have problems with gambling, the other 99% do not. Their arguments extending from this then focus on resisting prohibitive regulation which would, in their eyes, penalise the many at the expense of the few. More critical commentators argue that gambling harms extend beyond the individual and hence beyond these numbers: they often focus on the fact that for every one person who has problems with gambling, many more are affected. This example shows how numbers and statistics can be interpreted and used in different ways. Analysing these debates also raises some implicit considerations about the underlying conception of reality in which each perspective is framed. The gambling industry undoubtedly takes a more positivist approach, with the statistics representing a finite and objective number within a closed system. However, for others, these statistics represent the tip of the iceberg within a more complex, interrelated and open system reality.

A final consideration concerning the relationship between method and ontology relates exactly to this point; conceptions of the underlying nature of reality. It has been argued that a closed method, such as a survey, cannot provide meaningful knowledge about a complex, open system reality (these arguments are rehearsed in Dow, 2004; Downward, Finch & Ramsay, 2002; Olsen & Morgan, 2005). The two are seen as incompatible. Furthermore, the view that survey research is embedded within a positivist paradigm has also led to an assumption that those who use survey methods view reality as a closed system where general laws can be created and tested. Interestingly, it is economists who have, seemingly, been at most pains to address this issue. As econometrics largely relies on quantitative methods, addressing issues of how closed system methods can provide meaningful data about a complex open world has been of

paramount importance. Part of the econometrician's rebuttal has focused on the following question: how open is open? Arguments have been made that whilst reality is open and complex, it is not chaotic and there is stability in structures which provides quasi-closure, within which closed research methods are more compatible. The argument goes that stability is generated through habits, beliefs and rituals which provide boundaries in which decisions are made (Dow, 2005; Downward, Finch & Ramsay, 2002). In short, it is argued that an open and complex reality does not mean that this reality is unknowable: there are structures and regularities which can govern and influence reality in certain ways and can reduce the range of options open to individuals to a more manageable (and in some cases measurable) subset. This has parallels to realists' views on regularities but also to their views of the relationship between structure and individual agency.

Certainly when looking at gambling, the overarching legislative and regulatory approach to commercial gambling provides a framework in which decisions about participation are made: it provides a structure. For example, decisions about whether to participate in casino gambling in a permissive regime do not require laws to be broken, and decisions about participation are likely to be mediated by a range of other factors. This is a different situation to those living in more prohibitive regimes where decisions to participate first require the decision to engage in an illegal activity. In the case of residents in mainland China or certain states in the USA, there is a different range of considerations: here, to engage in long distance travel to jurisdictions where casino gambling is legal. Hence the legislative and regulatory backdrop against which these decisions are taken is likely to have an influence on behaviours like casino participation as it provides a bounded framework in which decisions are made. Such 'bounded decisions' are used by economists to illustrate the existence of quasi-closure within an open reality. This concept is then used to allow them to reconcile closed methods with an ontology predicated on an open system reality (Dow, 2005; Downward, Finch & Ramsay, 2002).

However, this is not the only riposte to this critique. As outlined previously, it is about how investigators use these methods. Because a researcher uses a closed method does not mean that their underlying ontological basis is that of closed system reality (Olsen & Morgan, 2005). By their very nature, surveys always represent a closed method. There are limits to how many questions can be asked and what types of information can be collected. Survey topics are prioritised by researchers (and clients) for likely relevance and importance, and also on a cost basis as longer questionnaires are more expensive to administer. Therefore, the knowledge collected through a survey represents only a very small sample of knowledge about our broader, more complex reality. However, most survey researchers recognise this and will often talk about explanatory description in terms of what data are available to them. In doing so, they recognise the challenges of using a closed method to represent a more complex reality.

This is where an expansive secondary analysis approach has the potential to be powerful. Data from one survey alone provides a type of knowledge representing a single and thin segment of reality. However, by combining sources of data, the horizons of that reality are expanded as different surveys capturing different pieces of information are added together. Whilst this expansion is unlikely to ever replicate a complex open system entirely, it does offer the potential to broaden our empirical horizons. An expansive secondary analysis approach could prove to be a practical and useful methodology for dealing with complexity and uncertainty of knowledge as it offers an opportunity to examine phenomena from many angles (Olsen & Morgan, 2005). It is also an approach that is increasingly feasible as data transparency and sharing agendas increases and technology allows information and data to be accessed and shared on an unprecedented scale.

From this brief review, a couple of key principles for realist description can be traced. The first is methodological pluralism. This recommendation is not new but it is important. To engage in a realist description means that empirical horizons need to be

broadened to include many sources of information and data from many methods. It is what the investigator does with this evidence that is important. Secondly, quantitative data has often been maligned in terms of its contribution to realist knowledge. Whilst it has to be accepted that it is a closed method, this does not mean information derived from this method cannot be used in a realist way. Extending from this, realist description should attempt to use multiple sources of information, including those from closed methods, to help expand our empirical horizons. Applying realist description to secondary analysis therefore means investigators should seek to use as many different sources of data as possible, as each dataset has the potential to offer something new to investigation.

The idea of using a variety of data sources to examine phenomena from many different angles raises the question about how best to analyse and combine this information. Some authors have argued that triangulation as a methodological technique is appropriate to realist methodologies; others have gone further and argued that triangulation should be a cornerstone of any realist investigation. It is to these issues that this chapter now turns.

Triangulation in realist description

Touching on issues relating to an expansive secondary analysis approach encourages focus on issues relating to triangulation of data and methods in more detail. Yeung (1997), who stated that realism is a philosophy in need of a method, argued that triangulation was one of three methods that had practical adequacy in realist research. In fact, most realist researchers advocate triangulation of some type (though often under the guise of methodological pluralism). Realist description, as a form of expansive secondary analysis, can therefore be situated within the tradition of triangulation in the social sciences. However, there are important questions to consider about the type of triangulation this approach represents, how data are integrated and interrogated and what triangulation means.

Downward and Mearman (2007) have stated that triangulation in social sciences is the technique of combining different insights in an investigation. Bryman (2003) has argued it offers enhanced confidence in research findings and that it underpins the rationale for multi-method research. This latter view of triangulation as a form of validity, a 'sense check', is not uncommon in social science literature (c.f. Guion, Diehl & McDonald, 2002). Triangulation from a realist perspective, however, needs to be considered in terms of its contribution to the comparative method and how these techniques can be used to explore and understand a range of phenomena in a variety of contexts. Authors such as Olsen (2004) have argued that methodological triangulation is a key tool for the realist, arguing that triangulation should not just be about data triangulation in terms of narrowing explanation and looking for validity or repeatability. Rather, it should be used to test different hypotheses and theories, to look at gaps and differences and to explore these based on theory (Olsen, 2004). Here again, there is a (potential) disparity between the method and methodology and a clear link between realist approaches and Lieberson and Horwich's (2008) implication analysis. Arguably, for those with a different ontological perspective, triangulation is a tool to increase confidence, to validate, to offer greater reliability. For positivists, it is a method to test and retest results in the search for general laws. In the hands of the realist, triangulation is a tool to help explore different aspects of theories and mechanisms, an opportunity to interrogate phenomena from a different angle.

This recognition is important as it shifts the focus of triangulation from the need to reconcile (potentially) disparate information towards an approach which values comparison, exploration and expansion. This shift also rather helpfully heads off criticisms about how to integrate findings from studies which use different methods and which should have primacy. This is often a concern when integrating quantitative and qualitative insight. It is not uncommon for mixed method quantitative and qualitative studies to produce rather contrasting findings. For example, this was evident in a Comic Relief/Department of Health funded project. In this study, estimates of the prevalence

of Elder Abuse (that is abuse of older people by relatives and/or carers) produced by a survey were called into question by qualitative researchers conducting in-depth follow up interviews (O’Keeffe et al, 2007; Dixon et al, 2009). Here, the experiences reported in the qualitative phase were different to those reported in the survey. There was much consideration about which knowledge was ‘objectively’ true, consideration of how to report this and, crucially how to explain this to the client.

Approaching this dilemma from a realist perspective would encourage focus on what these differences might tell us. Even examination of the context in which data are collected can be illuminating in terms of providing insight into certain mechanisms. For example, smoking rates among adolescents are always higher when collected through school-based surveys than household surveys. Perceived wisdom holds that youth are, typically, uncomfortable reporting such behaviour in a household setting where parent(s) may be present (even if confidential self-completion methods are used).

Whilst this may seem like a data implementation issue, this actually provides insight into a potential mechanism underpinning teenage smoking, that of parental values and attitudes. This highlights how triangulation need not be focused solely on confirmation but how exploration of differences can help to identify new theories about behaviours. A further example of this is the standard administration of two different instruments to categorise people as ‘problem gamblers’ within the BGPS. These instruments produce different estimates of problem gambling, and whilst it is somewhat reassuring that these estimates are not widely far apart, the real interest comes in exploring why these differences occur. Increasingly, it is obvious that these instruments are not capturing the same people, raising the possibility that problem gambling may have a different range of harms for certain types of people, as one of many potential explanations (Wardle et al, 2011a).

What this highlights is that in realist triangulation, findings do not need to converge. It is the contrast that is of most interest. Questioning ‘why’ differences are observed is of

paramount importance as is exploration of the contextual underpinning of these differences. This provides a further example of how it is not the method but the methodology that is important when it comes to realist investigation. By focusing on comparison – either of similarities or differences – triangulation can be a valuable method for the realist.

This does, however, raise a further point: namely, why call this comparative process triangulation at all? Triangulation as a term has connotations of convergence. This is not surprising given the origins of the term from ancient Greek mathematics and its original use to measure distance and spatial relationships using two other (known) points. However, this is not necessarily the association given to triangulation in social sciences. The most widely cited application of triangulation in social sciences is that of Denzin's (1970) four-tier classification (data, investigator, theoretical and method). Denzin's work emphasised that to get a fuller picture of reality, more than one strategy must be used, particularly in relation to triangulation of methods. In addition to using triangulation as a way to broaden perspectives, triangulation is also presented as technique of checks and balances, with information from one method seeking to fill a gap or redress issues from another (Bryman, 2003; University of Strathclyde, 2013). Underpinning this, as ever, is a process of comparison. In fact, the analytical technique running through all of Denzin's (1970) triangulation types is that of comparison. Therefore, rather than situate an expansive secondary analysis approach and realist description within the tradition of triangulation, it may be more instructive to view this as a broad-ranging comparative analytical approach.

It is broad-ranging because it seeks to use many sources of data which can inform us about different aspects of reality. It is broad-ranging because it seeks to apply different analytical techniques to the same data to look for points of contrast. It is also broad-ranging because it does not focus on one method only but can and should draw on insights from quantitative and qualitative techniques. Finally, it is broad-ranging because

it seeks to interrogate evidence from many different perspectives and traditions and data, produced by different investigators across space and time, can be used to examine different theories. To use Denzin's (1970) language, these efforts combined represent elements of data, investigator, theoretical and methodological triangulation. Given the comparative method underpinning each, describing this approach as *pluralist comparative analysis* may well be a simpler and more appropriate label that better reflects the diversity of the endeavour and clearly depicts the analytical method.

Realist description – a summary

The first part of this chapter has sought to outline the key features of a realist description and how it fits within the realist method. Firstly, realist description is viewed as a second strand of realist review and is an approach that seeks to bring together and review many sources of information about a phenomenon. Therefore, it is an inherently comparative approach. As Byrne (2005) has argued, where complex causation and complex reality are concerned, a comparative approach should be the backbone of any method. In addition, using many sources of data, particularly quantitative data, is an effective way to counter criticisms that a closed method approach is not appropriate to investigation when reality is viewed as complex and open. Different datasets can give varying 'glimpses' into reality and expand the 'closed' boundaries of a single study. This allows investigators to broaden their horizons and to piece together knowledge from various sources. Fundamentally, this only works if the underlying methodology held by the investigator is embedded within realist ontology. This sidesteps difficult considerations of how to integrate quantitative and qualitative work and how to deal with discrepancies, because the focus is on exploring and expanding knowledge rather than convergence. Contrasts and conflicts are not empirical 'headaches' to be dealt with but offer potential insights into a range of different contexts, mechanisms and outcomes. This is where realist description, incorporating expansive secondary analysis approaches, has the most potential to contribute to realist methods. To attempt to illustrate this point, particularly as quantitative methods have been maligned by some

realists, this thesis focuses on quantitative evidence. Understanding how quantitative secondary analysis can be used in realist review is important. However, there is also a practical consideration in that the majority of secondary data available is quantitative in nature. Therefore consideration should be given about how to incorporate this within realist investigation. It is to the practicalities of this that this chapter now turns.

Realist description – methods for this thesis

Overview

So far the theory of realist description has been discussed but now this thesis turns to practice. As noted in Chapter 3, the core of this thesis will be a case study of female gambling behaviour. The choice of women's gambling behaviour as a case study was based on the recognition that female gambling behaviour, and how it is shaped, formed and ultimately changing, has received scant academic attention. In the early 1990s, it was recognised that understanding of female gambling was simply extrapolated from the evidence base relating to men and defined against the behaviour of men (Marks & Lesieur, 1992). This ultimately does not recognise the diversity of experience within and between women and the focus of realist description on who does what, how and why, and under what circumstances, suggests that patterns and experience of gambling among different types and groups of women should be explored. Furthermore, my interest in exploring female gambling behaviour was heightened by observations of industry actions relating to new opportunities to promote gambling via television; with the first offerings resulting in heavily stereotyped and gender biased content (the image of the bored housewife gaining excitement and entertainment from online bingo, for example) (Moser, 1993). These changes suggested that deeper examination of female gambling behaviour in Britain was warranted and that this should explore the diversity

and experiences of different types of women, rather than focus on comparisons with men.³

The sections that follow, information about the various sources of data available is presented alongside a brief assessment of the likely contribution of the data to understanding female gambling. How each source of data will be used and the range of analytical techniques that can be applied to that data, including what knowledge they add, will be traced. Detailed information about the design, methods and instruments used in each survey or study, along with consideration of the limitations of each, is presented in Appendix A. This chapter focuses on what each study can contribute, and in what way, to understanding female patterns of gambling behaviour.

Sources of data

There is an unparalleled wealth of data about gambling behaviour in Great Britain currently available. No other nation has the same diversity of information. This diversity starts with the BGPS series. This study is a large-scale survey of adults (aged 16 and over) living in private households in Great Britain. The study has been conducted three times, in 1999, 2007 and 2010, using (largely) the same methodology and has been led by the same research team. It aims to collect information about participation in all types of gambling available in Great Britain as well as measuring the prevalence of problem gambling. As gambling opportunities in Great Britain have changed and expanded, so too has the survey questionnaire, and different ways of capturing complex information about increasingly complex behaviour have been used. This was seen with the introduction of computer-assisted self-completion methods in 2010 (previously paper self-completion booklets were used) which allowed much more complicated routing to be added to the questionnaire and more detailed information about how people accessed gambling and why they did so to be captured. In each successive survey more

³ An interesting future study would be to explore changes in behaviour among different types of men and to contrast that with the experience of women. However, this is beyond this scope of this thesis.

questions seeking to add explanatory context were included in the questionnaire. For example, in 2007, detailed questions about attitudes to gambling were asked; in 2010, these were supplemented by questions looking at motivations for gambling. Of course, as a survey, only certain levels of detail were collected and, most importantly, funding was only available to fund a survey lasting approximately 15 minutes on average (Wardle et al, 2011a). Therefore, topic areas had to be prioritised and other contextual information was necessarily omitted. Here it is already evident how the BGPS offers only the narrowest of glimpses into reality.

To date, the BGPS series has been used to provide top-level description of gambling behaviour. Key statistics have been produced examining rates of overall gambling participation, the prevalence of problem gambling and the profile of problem gamblers (Wardle et al, 2007; Wardle et al, 2011a). Analysis has not tended to stretch much beyond this basic description, though in recent years more secondary analysis of this data has been performed (c.f. Vaughn-Williams et al, 2008). This has included assessment of the profile of online gamblers (Wardle et al, 2011d), exploring the performance of problem gambling measurement screens (Orford et al, 2010), understanding what proportion of gambling behaviour is accounted for by problem gamblers (Orford et al, 2012), examination of gambling involvement and its relationship to problem gambling (LaPlante et al, 2009) and looking at machine play and types of machine players (Wardle et al, 2013).

This growing body of secondary analysis demonstrates the promising use of the BGPS series as a resource to others, though, with the exception of the work on machine players and online gamblers, this secondary analysis has been rather narrow in focus. It has tended to look at problem gambling and problem gamblers and has not extended beyond this to examine a fuller remit of contexts or behaviours. Therefore, this study still offers further opportunity to look at gambling behaviours in more depth and in particular to examine female gambling behaviour. Very little examination of how

gambling varies for different groups of people has been conducted which is, arguably, a glaring omission. The only analysis produced from the BGPS series to date for women is top-level participation rates and problem gambling rates. No further exploration has been attempted. Whilst little is known about gambling behaviour for women overall, even less is known about how gambling varies for different types or groups of women. This thesis seeks to redress this.

Using the BGPS series, broad participation patterns will be traced but with focus on how behaviour varies for different age cohorts. Techniques such as Latent Class Analysis (LCA) will also be used to explore how female gambling behaviours cluster. How these clusters vary and what levels of gambling-related harm are associated with each are important questions which may yield insight into the way female gambling behaviour is enacted. For example, it is well recognised that problem gamblers often participate in a range of activities (LaPlante et al, 2009). What is less well understood is whether the range of activities women take part in, especially those women experiencing problems, is qualitatively different and, if so, in what ways. LCA will allow us to tease out these issues by categorising people into different groups or 'latent classes' based on their responses to the gambling participation questions. This uses the opportunity presented with the BGPS data to dig deeper and look at how behaviours vary for different groups of people, which directly relates to Pawson and Tilley's (1997) recommendation to explore heterogeneity and context. It also makes use of an analytical technique recommended by Olsen (2009) as being particularly appropriate to realist investigation – that of exploring and examining latent structures and classes within quantitative data that are not immediately obvious and have not been specifically pre-determined by investigators.

A further opportunity is that, to my knowledge, this is the only gambling prevalence survey worldwide that uses a household-based sampling approach. This means that once interviewers have made contact with the selected household, they attempt to

interview everyone who is aged 16 and over living at that address. This is a design conceit used to maximise the number of individuals interviewed whilst minimising costs. Across the survey series, interviews with all eligible individuals within co-operating households were achieved at around 80-85% of households (that is around 4,000 households per survey year). This offers an opportunity not only to examine the behaviour of the individual but also to place this in the context of the behaviour of the household. Household structures, beliefs and behaviours can play a role in shaping individual behaviour and the design feature of interviewing all adults in the household allows this to be explored. This may well allow insights into underlying mechanisms to be teased out as different household structures can be examined and women's status within those structures can be identified (i.e., as mother, caregiver, independent person, etc.). These structures may influence the way in which some women gamble, their reasons for doing so, and this may relate to differential outcomes. Viewing household-based sampling as an opportunity rather than a design effect to be taken into account opens up the BGPS data to new ways of investigation and consequently provides an opportunity to deepen our knowledge.

A further level of information can be added to this data; that is, merging information about location of gambling opportunities onto the survey data. The Gambling Commission maintains an annual register of the location of all licensed gambling venues. This includes all licensed commercial premises ranging from bookmakers, casinos, amusement arcades, racetracks and bingo clubs. However, it excludes vendors of National Lottery products (which can be reasonably assumed to be ubiquitous), pubs with slot machines and privately organised informal gambling venues (such as bingo clubs in church halls). Nonetheless, this register gives a reasonable approximation of the availability of commercial gambling premises in the area surrounding the main residence of the BGPS participant. As register data contains postcode information, data about commercial gambling density can be merged onto the BGPS information to

provide a third level of information against which to examine female gambling behaviour – that of gambling availability.

Female gambling behaviour can also be explored in relation to other recreation and leisure contexts. Part of this context may include what other recreational opportunities are available in the area. Whilst this data was not included within the BGPS and cannot easily be produced from national registers, the BGPS did include questions about the other types of leisure activities that a participant may have undertaken. Therefore, at an individual level, how gambling is integrated with other leisure activities can be explored. Other contextual influencers can be examined too, such as area deprivation (though this can be taken much further using the Taking Part survey data, see below).

Finally, the BGPS series allows us to examine how female gambling behaviour has changed across the series and to explore which groups have experienced greater rates of change. Whilst this only gives information for an 11-year period, it can be contextualised alongside surveys of gambling behaviour conducted in 1977 and 1951 and other contemporary accounts, such as those obtained from the Mass Observation study of gambling in 1947. This allows us to place female gambling behaviour, and changes to it, within a longer historical context and to trace various mechanisms that facilitated change.

This brief overview shows the variety of ways in which pre-existing data can be reanalysed in a new and fresh way to explore issues pertinent to female gambling behaviour. It is already evident that taking existing data and looking at it in a new way (i.e., by looking at household relationships) or by supplementing and supporting this data with other knowledge (i.e., by adding administrative records of gambling premises) starts to expand the analytic potential of this resource. Whilst this alone is of value, an expansive secondary analysis approach offers further potential benefits. It provides an opportunity to supplement this knowledge with that from other studies and hence to

broaden out empirical horizons. This leads us into consideration of the other sources of data available.

The next major sources of data available are the Scottish Health Survey and the Health Survey for England. In 2012, questions about gambling behaviour and problem gambling measurement instruments were included in these studies for the first time. The combined achieved sample size of both studies, which use very similar methodologies and have identical gambling questions, was around 12,000 adults. As with the BGPS, the level of detail included in the main survey reports simply described overall patterns of participation and prevalence rates. The data have not been used for further in-depth analysis (as yet). Therefore, this resource represents the largest available source of British survey data on problem gambling to date and offers a number of analytic opportunities relating to our case study. It offers an opportunity to explore findings emerging from the BGPS analysis in more detail, specifically relating to factors around ethnicity and religion.

As will be seen in later chapters, this thesis goes on to argue that realist description should include historical data where possible. In terms of searching for data to incorporate into analysis, the data used do not always need to be contemporaneous. For most large-scale national surveys there are significant time lags between the start of data collection and data publication. Therefore, it would be almost impossible to impose this as a criterion (for example, the Health Survey data started to be collected in January 2012 but data were not made publicly available until April 2014). In some sense, all data included in this thesis are historical. Nevertheless, consideration should be given to potential changes witnessed within that time span and the influence of this on the relationships observed. This should be a prerequisite when considering use of data from a number of years ago. For example, there have been many changes in the way gambling is regulated, promoted and conceptualised since the introduction of the Gambling Act 2005, full implementation of which came into being on 1st September

2007. This does not preclude use of data from a number of years ago, it simply means that evidence from these datasets needs to be considered against the context in which it was collected.

Looking to the recent past, there is at least one potentially very useful source of information about gambling behaviour that could be incorporated into analysis: the Taking Part survey series 2005–2008. When thinking about whether it is appropriate to use these data, consideration must be given to how the gambling landscape has changed. The BGPS series showed that by 2010 there had been some changes in gambling behaviour; more women were taking part in gambling than ever before and the same was true of older people. Whilst past year prevalence rates remained largely stable, people who did gamble were taking part more often and participating in a greater range of events. There was also some evidence that attitudes to gambling were becoming more positive (Wardle et al, 2011b). However, these changes were matters of degree rather than large step changes. The proportion of past year female gamblers increased from 65% in 1999 to 71% in 2010. Furthermore, broad correlates of gambling behaviour and problem behaviour remained fairly consistent (although they have only been analysed for all adults combined and not for women specifically). Therefore, whilst gambling behaviour is clearly subject to some variation and change, these changes are not so drastic that data about gambling behaviour collected in 2007–2008 is now obsolete. In fact, given realists' focus on reproduction, they may serve a very useful purpose in helping to explore and explain current patterns of behaviour.

Part of understanding context also has to include understanding historical context, even if that is the very recent past. This may be important when examining differential effects upon different cohorts and for better understanding of what shapes the behaviour now observed. Given this, the Taking Part studies have potential to illuminate various other aspects of behaviour.

The Taking Part series is a continuous cross-sectional survey (though a longitudinal element has recently been introduced) designed to examine participation in art, culture, heritage and sports among adults and children aged 11 and older in England. In addition to measuring participation rates, detailed questions are included about barriers to access, social capital and socialisation (that is the extent to which participants were introduced to arts, heritage and cultural activities by their parents). In the 2005/06, 2006/07 and 2007/08 studies three questions were included about gambling. These measured gambling participation in the past year, in the past week and place of participation. This allows gambling behaviour to be contextualised within a broader spectrum of leisure and recreation. Casey (2008) has noted the need to situate patterns of female gambling behaviour, specifically National Lottery play, within the broader remit of domestic life and female leisure opportunities. The Taking Part data allow this to be done at a broad-ranging level for the first time. To date, these data have been used to present broad information about gambling participation and to examine levels of happiness among gamblers (Forrest & McHale, 2009; Aust & Vine, 2006). It has not been used to examine gambling within female leisure patterns, and therefore represents an exciting opportunity.

The method of collecting data for the Taking Part survey was very similar to that used for the Health Surveys, with the exception that a single adult per household was selected rather than the whole households being interviewed. A further and real benefit of the Taking Part study, aside from its broad range of contextual data, is its sample size. Overall, in 2007/2008, 29,420 adults took part in the study. Of these, there were 14,515 female respondents, of whom around two-thirds had gambled in the past year. This sample size allows us to drill down into the data at a much deeper level. By using techniques such as LCA, different groups of female gamblers with different patterns of leisure participation can be identified and their profile, location (with respect to area characteristics) and position (both within the family, within work and so on) can be examined.

Furthermore, the Taking Part survey series offers an opportunity to provide some insight into issues relating to gambling access and availability. Often gambling participation is contextualised alongside availability of other leisure and recreational habits or activities. Here the argument runs that variations in gambling behaviour may be related to the availability or otherwise of other leisure facilities. Understanding the extent to which female gamblers are engaged in other leisure activities may provide insight into these issues. Again, teasing out variations between types of gamblers will be informative and allows exploration of how patterns of integration of gambling and other leisure activities may display non-linear patterns in terms of relationship to availability.

So far all the sources of data discussed have been large-scale, cross-sectional surveys. Whilst the approach outlined so far has demonstrated how these data can be looked at in new ways by applying alternative methods or by linking administrative data, it only focuses on one population type – adults living in private households across Great Britain. The value of an expansive secondary analysis approach is the opportunity to explore phenomena from many angles. The next sources of data are useful in exactly this respect and offer potential to further widen our empirical horizons.

The first source is data generated by the largest problem gambling treatment provider in Great Britain. This provider has a network of treatment partners across Great Britain and, on average, provides treatment (generally in the form of counselling) to around 2,700 individuals per year. Information about each person entering treatment is collected in a standardised way (though this does not necessarily mean it is recorded uniformly) via a centrally-linked database. This records demographic information, information about gambling behaviour including history, types of problems, other problems, family situation and so on. Progress through the treatment process is tracked, with problem gambling scores being collected and recorded at both the outset and end of treatment. As with any information collected by busy people, the quality may be somewhat variable, with different people liable to record information in different ways, to varying levels of accuracy. Yet what this offers is a unique opportunity to begin to

examine issues relating to female problem gamblers who seek treatment. This has the potential to link with findings from other studies, such as the Health Survey series and the BGPS, and also creates an opportunity to explore the behaviours and contexts of a unique and rare subsample of the population – those seeking treatment. Evidence from the BGPS has shown that the vast majority of people who believe they have problems with their gambling do not seek treatment and that often, when they do, they seek out informal sources of help – usually turning to family and friends (Wardle et al, 2011a). Help seeking is rarer still among women. This dataset offers the opportunity to provide some insight into a largely hidden population group and to examine how their experiences vary.

All of the sources of data discussed so far pertain only to adults. Understanding the broader context of female gambling behaviour requires some consideration of youth. To date, there have been three youth gambling studies conducted by the National Lottery Commission (NLC), the last of which was run in 2009. Since then, the NLC has funded questions in Ipsos MORI's youth omnibus on an annual basis. This is largely to examine participation rates in National Lottery products among youth, as keeping the National Lottery free from underage play is a key regulatory objective. However, other questions about gambling, including parental attitudes and facilitation, have been asked.

Alongside this, questions looking at participation in free gambling games and social media gambling games have also been administered. Aside from the annual main report of findings published by Ipsos MORI, these data have not been routinely examined. This is mainly because these data have not been made publicly available which has naturally limited what analysis can be carried out.

This dataset is important in two main respects. Firstly, it tends to show that boys are more likely than girls to gamble when under age (i.e., under the age of 16). This is a pattern that persists through most age cohorts, but the gap between men and women narrows as age increases. Examining these data will allow investigation of whether

similar patterns are evident among younger females. This may give insight into the possible presence of trends or cohort effects. Cohort effects may also be traced by comparing patterns of behaviour among a younger cohort within the BGPS 1999 and the same cohort in 2010. For example, those aged 16-24 in 2010 are part of a cohort who are 'digital natives' and grew up in an era when the National Lottery was well-embedded within the national psyche (Prensky, 2001). Those of a similar age in 1999 were part of cohort where online gambling did not exist in any uniform way and the National Lottery was in its infancy.

In recent years, there has been a steep increase in the development, provision and popularity of social media style gambling games which are accessible through social networking platforms such as Facebook. There has been much debate about the nature of these products specifically focusing on whether they represent games or gambling or a hybrid of both (Parke et al, 2013). They are heavily marketed and advertised and also increasingly popular. As noted previously, Zynga's 'Texas Hold 'em Poker' product is 'liked' by over 68 million people on Facebook worldwide. Furthermore, traditional gambling companies are buying into and partnering with these new social media companies, blurring the boundaries between real money gambling and virtual gambling games. Therefore, the normative boundaries of gambling access are widening as convergence between digital and physical domains gathers pace. Where possible, this thesis will seek to draw on these themes of social change to explore if and whether any changing patterns in female gambling behaviour or gambling interest can be determined.

To the best of my knowledge, the only data available in Britain examining correspondence between digital and 'real money' gambling are those which have been collected through the youth tracking survey. Although the survey questions are sparse, it is possible to examine groups of youth who do and do not integrate and access these products. Factors associated with each group can be traced using youth tracking data

from 2012. Unfortunately, the questions used were significantly changed in 2013, meaning that examining changes over this short time frame can not be assessed. However, using the 2012 data will allow us to put some contextual information around this new phenomenon and see how it is developing. (Access to the 2011 data was also requested but was not provided in time to allow inclusion in this thesis). Here our empirical horizons are being expanded not just by inclusion of different population groups but by inclusion of different domains and specifically that of digital environments.

Situating descriptive secondary analysis within realist investigation

The preceding sections have demonstrated that there is a great deal of analytical potential for this case study by creatively combining evidence from various sources of data. This analytical potential is expanded by applying different types of analytic methods to pre-existing data and, in some cases, by adding administrative data to routine survey data to create further dimensions and layers to be examined. This enables individual behaviour to be viewed within certain contexts, in this case that of the household and of the local area. What is required to implement an expansive secondary analysis approach successfully is good knowledge of the area, understanding of what data exists and how it has already been used, and strong personal networks to negotiate access. For example, the youth tracking data are not made publicly available but can be obtained, on request, through the NLC. The same is true for the treatment data.

This chapter has argued that realist description incorporating detailed secondary analysis is possible if one approaches methodology as something that is located within the investigator's ontology. To do this effectively, it is necessary to challenge the assumption that survey methods are embedded within a positivist paradigm. Here methods and ontology are blended with the investigator's methodology. As an approach, realist description is inherently a comparative endeavour which incorporates

most of Denzin's (1970) triangulation types. It provides a (potentially) powerful starting point for realist investigation by using pre-existing information to help examine, explore and refine existing theory and to trace various contexts and mechanisms that may present themselves (in either real or theorised forms) throughout the process. It is likely that this starting point will help to refine questions that should be subject to further primary investigation. This thesis is certainly not arguing that realist description can and will provide all the answers needed: on the contrary, its power arguably comes from helping the realist investigator to set better questions and to be more specific, more focused, when theorising about mechanisms, contexts and outcomes. This is by drilling down into data in different ways and expanding empirical horizons by casting a wide net to search for understanding in different circumstances.

The ability to theorise in a more focused fashion is arguably more useful for the realist, as it may allow subsequent primary methods to be targeted more specifically, precisely and efficiently into uncovering knowledge in certain areas. If the mantra of the realist evaluator is 'what works for whom under what circumstances' (Pawson & Tilley, 1997) then the mantra of the realist describer is 'who does what, how and why, and under what circumstances'.

This, as they say, is the theory. Demonstrating and exploring the extent to which this possible, tracing both the potential and limitations of the approach, is the focus of the rest of this thesis.

Analytic and table conventions

Chapter 5 through 7 describe results of new analysis of various datasets and present some of these results in tabular and graphical format. In these chapters the following conventions have been used.

- Unless otherwise stated, the tables are based on the responding sample for each individual question (i.e., item non-response is excluded). Therefore bases may differ slightly between tables.
- The group to whom each table refers is shown in the top left hand corner of each table.
- The survey on which analysis is based is shown in the top right hand corner of each table or in the chart. The following naming conventions have been used:
 - BGPS: British Gambling Prevalence Survey
 - YTS: Youth tracking surveys
 - YGS: Youth Gambling Survey 2009
 - Taking Part: Taking Part survey 2007/2008
 - Treatment data: Treatment data from problem gambling counsellors.
- The data used in this report have been weighted (with the exception of the treatment data). Both weighted and unweighted base sizes are shown at the foot of each table. The weighted numbers reflect the relative size of each group of the population, not the number of interviews achieved, which is shown by the unweighted base.
- The following conventions have been used in the tables:
 - No observations (zero values)
 - 0 Non-zero values of less than 0.5% and thus rounded to zero
 - [] An estimate presented in square brackets warns of small sample base sizes. If a group's unweighted base is less than 30, data for that group are not shown. If the unweighted base is between 30-49, the estimate is presented in square brackets.
 - * Estimates not shown because base sizes are less than 30.
- Because of rounding, row or column percentages may not exactly add to 100%.
- A percentage may be presented in the text for a single category that aggregates two or more percentages shown in the table. The percentage for that single category may, because of rounding, differ by one percentage point from the sum of the percentages in the table.
- The term 'significant' refers to statistical significance (at the 95% level) and is not intended to imply substantive importance.
- Only results that are significant at the 95% level are presented in the thesis commentary.

Chapter 5: The “feminisation” of gambling? Reassessment from a realist perspective

Introduction

In the previous chapter the paucity of knowledge about female patterns of gambling behaviour was outlined very briefly. There has been very little investigation exploring the basic differences between men and women and much less about how behaviour varies across different types of women under different circumstances. Therefore, when taking a realist perspective to understanding female gambling, one is starting from a low evidence base. What evidence does exist tends to follow these lines: women gamble less than men; women start gambling at a later age than men but progress to develop problems more quickly (an effect known as ‘telescoping’); women prefer to play games of chance and not skill; women gamble to escape (Potenza et al, 2001; Volberg 2003; Casey, 2008; Svensson et al, 2011; Holdsworth, Hing & Breen, 2012). This is of course a very blunt summary, but these themes are repeated time and again in any overview of the literature around female patterns of gambling behaviour: and, of course, these themes have some basis in fact. Prevalence surveys worldwide do indeed show that gambling is less prevalent among women than men; that when women gamble they tend to play games like lotteries, scratchcards or bingo in greater number compared with other activities; and frequent reports from treatment providers suggest that women who experience problems tend to use gambling as a way of escaping from their social and emotional reality (Volberg, 2003; Wardle et al 2007; 2011a; Karter, 2013). Whilst these may be the average patterns, the question from the realist’s perspective is whether this is telling the whole story. Arguably, what is needed is a focus on realist description. In this case, realist description suggests focus on describing and understanding the gambling behaviour of different types of women, why and how they gamble and under what circumstances.

A dominant concept in the academic literature relating to female gambling is that there has been a “feminisation” of gambling. This appears to have gained traction after its inclusion in the 1999 Australian Productivity Commission Report (APC, 1999). For the Productivity Commission, “feminisation” of gambling meant that more women were gambling, more women were developing gambling problems and were therefore seeking help for these problems. The use of the term “feminisation” in this respect simply means more women doing something. It does not refer to broader domains of identity and gender, of which there has been very little consideration in gambling research. Despite this, the term “feminisation” of gambling has, however, gained traction among gambling scholars. Its use in this thesis reflects this rather narrow conceptualisation, as ascribed by the APC and adopted by gambling researchers.

As shall be seen in this chapter, concerns about the “feminisation” of gambling have a strong historical lineage. The Productivity Commission’s articulation of these concerns is the latest in a long line of rhetoric about female gambling behaviour. Since this articulation, some academics have sought to examine processes of “feminisation” and often the explanation provided is related in very simple terms to the increase in access and availability of electronic gaming machines (Volberg, 2003; Holdsworth, Hing & Breen, 2012). The rhetoric runs that women have a preference for machine-based gambling, being a game of chance: as access to these machines increases, and attitudes towards machine gambling become more normalised, female gambling increases as a function of female preference for this form of gambling (Holdsworth, Hing & Breen, 2012).

This explanation presents the relationship between availability of gambling and uptake in behaviour in a fairly straightforward and linear way, conceptualising this as a ‘dose/response’ relationship. However, as the work of LaPlante and Shaffer (2007) has demonstrated, a linear relationship between access and uptake cannot necessarily be assumed. To date, the assumption that the “feminisation” of gambling is due to

increased access to forms of gambling attractive to women (in Great Britain at least) has, at best, been unchallenged and, at worst, ignored.

There has also been relatively little attempt to unpack what “feminisation” of gambling actually means as a concept. There has been little critical examination of what it means, for whom, and under what circumstances. The concept of “feminisation” seems to be treated as a given, with little examination of evidence exploring to what extent “feminisation” processes actually exist. The few studies which have looked at this issue have done so in a fairly simplistic way, typically comparing male and female participation rates or problem gambling rates only (there is one exception, see Svensson et al, 2011; discussed below). In many jurisdictions, gambling participation data have only recently been made available through routine surveys or routine data capture from treatment providers; the available trend data does not have a long lineage. Furthermore, the ad hoc and sporadic nature of many prevalence surveys creates complexities in comparing how rates of gambling have changed. For example, in Great Britain the BGPS surveys were conducted in 1999, 2007 and 2010 before funding was cut in the Government’s Comprehensive Spending Review in 2010. Whilst this gives us three data points, the trend data are not as comprehensive or regular as data collected for similar behaviours such as cigarette or alcohol consumption. In short, researchers have done the best they can with the information they have. However, the result is a fairly blunt way of conceptualising “feminisation” through a tendency to simply consider whether prevalence rates have increased or not according to the data available (Volberg, 2003). This tends to sideline broader considerations of the mechanisms that might shape this distribution, such as whether “feminisation” is an active strategy promoted by the industry.

In particular, what this approach misses is the historical context of how female patterns of behaviour have changed over a longer time frame and how those changes may be related to specific variations in the broader social, regulatory and commercial

environment. Historical developments, evidence of continuing or changing patterns, should be considered an important determinant of context. Historical determinants should rank alongside more regularly cited social determinants (such as current socio-economic considerations, demographics etc.) as a contextual influence (Krieger, 2011). Understanding historical determinants can help to interpret and explain phenomena observed in the present day. Retrospective review can help to highlight potential mechanisms that may be in operation in shaping current behaviour. In short, understanding historical determinants, alongside social determinants, should be a key part of realist description. A key part of realist description is retrodution which means, as Olsen (2009) explains, examining why things appear the way they do. This means looking to historical context and situating behaviours within this.

This chapter aims to examine the case for a “feminisation” of gambling in Britain drawing on these themes and by applying precepts of realist description. It starts by exploring conceptually what is meant by “feminisation” and thinking about this as more specific mid-range theories. New analysis from the BGPS series (and other studies) relating to these theories is presented and consideration given to the historical context of behaviours to help explain observations.

“Feminisation” of gambling: concepts and theories

As noted above, the classic definition of “feminisation” of gambling is given as women gambling more, experiencing more problems and seeking more help. This is a much rehearsed sequence that pervades the literature on female gambling behaviours (c.f. Holdworth, Hing & Breen, 2012; Volberg, 2003; Casey, 2008). However, there is much about this definition that needs to be explored.

First, what does ‘gambling more’ mean? Does this mean gambling on more activities, gambling more money, spending more time gambling, increasing the frequency of participation? Could this even mean spending more time thinking about gambling?

These questions really relate to how gambling engagement is defined. This is a particularly nebulous concept which has no standard definition in gambling research (Blaszczynski, 2013; Wardle et al, 2011a). In previous research, the number of activities undertaken has been used as a rough proxy of engagement, where it is argued that people who take part in a greater range of activities are more engaged in gambling (LaPlante et al, 2009). However, as LaPlante et al have also argued, there may be two related domains of engagement to consider: depth and breadth (LaPlante et al, 2013). In terms of transforming these concepts into something measurable, they suggest that breadth of gambling could be the number of gambling activities undertaken, whereas depth of gambling is some measure of frequency of engagement. When developing the questionnaire for the BGPS 2010, the research team (including myself) specifically looked at how to better measure gambling engagement. It was proposed that this could be measured on two domains: participation and volume. 'Participation' included the number of activities undertaken in a given time period and the frequency of that participation, and 'volume' related to the amount of time and money spent on gambling. There are distinct parallels with LaPlante et al's (2013) work and domains of breadth and depth.

Of course, measuring this is often easier said than done. In the BGPS 2010, questions relating to the participation and volume domains were limited by methodological and practical considerations (another example of subjective forces influencing the design and ultimately the reported outcomes in quantitative work). It is notoriously difficult, for example, to obtain accurate data on the amount of money spent gambling in a questionnaire setting. People tend to overestimate their winnings, underestimate their losses, interpret the term 'spend' in different ways and generally provide fairly poor data (Wood & Williams, 2007; Wardle et al, 2007). A particularly unsuccessful attempt was made to measure net expenditure in the BGPS 2007, which resulted in respondents reporting net winnings for most activities: if these reported figures were accurate, there would be no commercial gambling industry in Great Britain. In light of these

methodological difficulties, others have recommended that the frequency of gambling days per month should be the preferred index of gambling involvement (Walker et al, 2006). Given that there is little consensus over how to define gambling involvement and methodological complexities about how to measure this, it is not surprising that exploration of “feminisation” of gambling has (largely) not moved beyond consideration of prevalence rates. Of the contributions available so far, LaPlante et al’s (2013) concepts of breadth and depth seem most useful, as this can at least be measured and monitored within survey settings and it does attempt to encapsulate a broader range of behaviour.

To examine whether women are gambling more therefore requires focus on (at least) the following:

- the number and type of activities they are engaging in over a number of different time periods (i.e., last week, last year);
- their frequency of gambling;
- their levels of gambling expenditure;
- the amount of time spent gambling.

But these are simply metrics, that can be operationalised and measured within a survey, though arguably these take us further than consideration of prevalence rates alone. Actual patterns of gambling consumption are likely to be much more nuanced and related to individual circumstances and behaviours. To dig deeper into this, it is likely to be beneficial to look at gambling engagement across the life course and at what stages of life women are gambling more, if at all. This highlights an important consideration; that different groups of women may be experiencing “feminisation” in different ways. For example, if younger age cohorts are starting to gamble at a younger age, then their gambling careers (Reith & Dobbie, 2013) may turn out to be very different and distinct from those of other age cohorts. Unpacking “feminisation” theory in a realist way

therefore means not only considering what 'more' actually means but also exploration of what 'more' means for whom and under what circumstances.

Consideration of circumstances suggests focus on the interaction between number and type of activities engaged in. As noted earlier, female preferences for machine gambling have been highlighted as a mechanism of the "feminisation" of gambling. In some jurisdictions, such as Australia and North America, machine gambling availability has increased and some researchers see a clear link between this and more women gambling in general (albeit alongside changing attitudes to gambling itself) (Volberg, 2003). The common argument is that women tend to prefer luck-based games and men prefer competitive or skill-based games (Holdworth, Hing & Breen, 2012). This dichotomy was expanded by Svensson et al (2011) in their examination of gambling "feminisation" in Sweden. They argued that not only was it important to examine the type of games engaged in (skill or chance) but the way in which it was conducted (publicly or privately). For them, the dichotomy of public and private spheres was particularly important when thinking about gendered constraints which may influence behaviour. They argued that differences in gambling participation rates between men and women are socially determined by a range of economic, political, cultural and regulatory processes.

This is an important observation and encourages a reorientation in thinking. It switches our view of "feminisation" of gambling from simply being an outcome to thinking about "feminisation" of gambling as part of a broader process whereby gendered constraints are being challenged and renegotiated. Svensson et al (2011) argued that if gambling "feminisation" is viewed as part of a broader movement within female equality, whereby women have greater access to economic and political resources and power, "feminisation" will manifest itself as a convergent process – where rates of male and female gambling will become closer. Here the processes of "feminisation" would see problem gambling being more equally distributed between the sexes and changes in

gambling preference would occur. Although Svensson et al (2011) concluded that the evidence did not support these hypotheses (they stated that there were no obvious signs of “feminisation” in gambling in Sweden) their method of situating “feminisation” of gambling within broader social contexts and thinking about this as a process rather than just as an outcome has merit.

Therefore, when considering the “feminisation” of gambling it is not enough to simply consider levels of engagement, types of engagement also need to be considered and any changes observed placed in broader social and historical context. This might shed light on some underlying mechanisms which influence how and why behaviour has changed, or at the very least, suggest new theories for exploration. It is to exploring this within a British context that this chapter now turns.

What is known about female gambling in Great Britain?

Before assessing the evidence examining the “feminisation” of gambling, it is wise to summarise what is currently known about present-day female gambling behaviour in Great Britain. Despite three BGPS reports being available, detailed information about female gambling behaviour in Britain is relatively sparse. First, the majority of women gamble. In 2010, 71% of women had gambled in the past year, slightly lower than the estimates for men (75%). For women, the most common forms of gambling were playing the National Lottery, participation in other lotteries, scratchcards and then betting on horses, playing bingo and playing machines. One could argue that this follows the expected ordering of gambling preferences, as women are said to prefer luck-based games, except that this also mirrors the most common activities for men. Whilst the skill/luck dichotomy between men and women and their gambling preferences might not be obvious in Great Britain, it is clear that women took part in fewer activities than men; 1.6 gambling activities on average in the past year for women compared with 2.3 in the past year for men (Wardle et al, 2011a).

The latest BGPS also tells us that female attitudes to gambling tend to be slightly more negative than positive, and that women were most likely to gamble for the chance of winning 'big money', because it is exciting, and to make money. Motivations for gambling were very similar to those reported for men. Interestingly, women were no more likely than men to say that they gambled to escape boredom or to fill their time and they were less likely than men to gamble for 'coping' reasons (Wardle et al, 2011a). This latter observation is particularly interesting, as this challenges traditional assumptions that female gambling motivations tend to be more related to emotional support and to escaping everyday life (Potenza et al, 2001): although, of course, some women are gambling for these reasons. This points to the importance of taking a more nuanced perspective and examining how motivations and behaviour manifest differently for different groups of people.

Finally, in 2010 around 0.2%-0.3% of women were classified as problem gamblers, with a further 4.2% being classified as being 'at-risk' of experiencing some problems. These estimates are lower than those for men and it is a fairly common phenomenon that men experience more problems with their gambling than women. Women did not seem to display any greater preference for gambling to escape problems, or to relieve depression or anxiety than men (Wardle et al, 2011a).

This is effectively all that the BGPS reports says about female gambling behaviour, and on first sight it seems that some common assumptions about female gambling are not stacking up against the evidence. The commonly repeated belief is that women prefer games of luck whereas men prefer games of skill. This does not appear to be the case based on this review. Men are just as engaged in games of luck as women. However, men tend to engage in more activities so that they combine games of skill with games of luck also. Women are more likely to gamble for escape and coping reasons: again, this evidence does not support this assertion. Finally, women are less likely to gamble than

men: this is the one hypothesis that is supported. Women do gamble less than men and typically on fewer activities, but the differences are not large.

This is fairly crude analysis and says little about what different types of women are doing. Whilst the average number of activities that women engage in is around 1.6 per year, well over one in ten women take part in four or more activities and similar proportions took part in two or more activities in the past week. This suggests a great deal of heterogeneity among women, yet little is known about how patterns of behaviour vary for women, under what circumstances and why.

What this information gives is a baseline against which to assess the case for “feminisation” of gambling in Great Britain. In the sections that follow, the case that women are gambling ‘more’ is examined by broadening out analysis from simple comparisons of headline prevalence rates and the introduction of historical and contextual data. Secondly, the evidence of whether more women are experiencing harm is examined. Running through all of this is consideration of which types or groups of women may be doing more or less gambling. The main consideration in this chapter is women of different age groups. Whilst longitudinal data is not available to examine how behaviour for the same women changes across the life course, focus on different age cohorts can start to tease out some information about how this may vary. Chapter 6 picks up themes of how gambling varies among different types of women in more detail.

Are more women gambling? Evidence from the British Gambling Prevalence Survey

The answer to the question posed above really depends on the time frame under review and, of course, how ‘more’ is defined.⁴ To look at basic patterns of participation first: the BGPS series shows that more women gambled in the past year in 2010 than 1999. Estimates increased from 68% to 71%; a modest, though statistically significant,

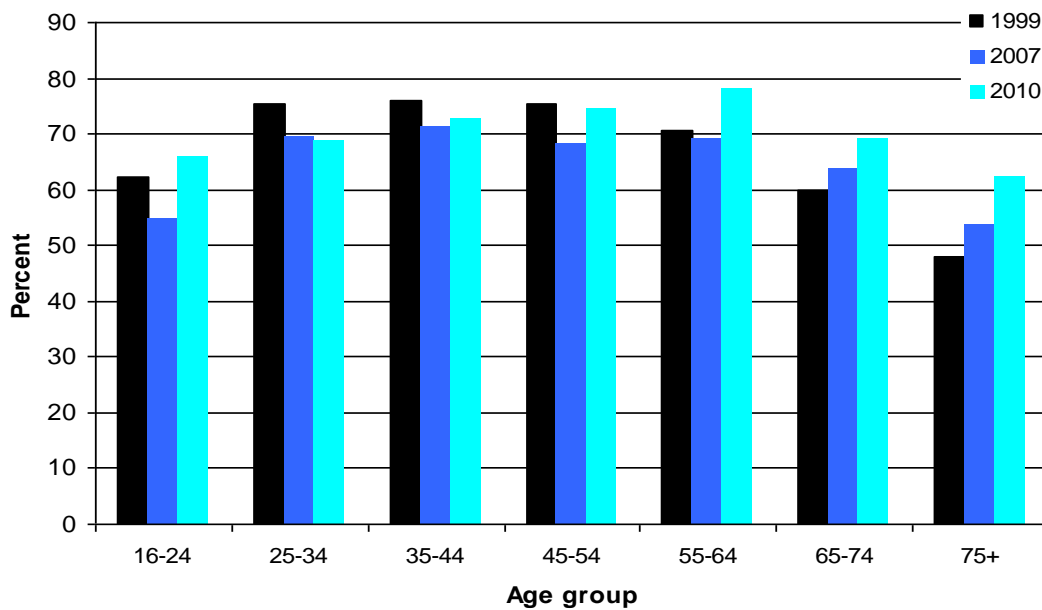
⁴ A summary of the key statistics quoted in this section are shown in Table 5.1, more detail is given in Appendix B, Table 5.1 to 5.10.

increase. However, looking at past week participation, estimates decreased from 48% to 40% (see Appendix Table 5.1). There is already a conflicting story; on the one hand, it looks as though more women are engaging in gambling, but on the other hand, it appears as though those women who do engage are doing so less frequently (rates of participation in the past week typically being taken as a good proxy for regular participation).

Of course, this just presents the overall picture for all women. New analyses of patterns of behaviour among women of different age groups show some interesting differences. As can be seen in Figure 5.1, whilst overall there was a moderate increase in past year gambling rates among women between 1999 and 2010, this increase came almost exclusively from women aged 55 and over. Looking at rates of past year gambling among those aged 65 and over shows that rates were around at least ten percentage points higher in 2010 than in 1999, and that by 2010 well over half of all women age 75 and over had gambled in the last year. Conversely, past year participation rates between 2010 and 1999 were either similar or slightly lower for those aged under 55. This suggests that if past year participation rates are an indication of “feminisation”, this process is occurring disproportionately among older rather than younger women.

Figure 5.1: Past year gambling prevalence among women, by age and survey year

Source: British Gambling Prevalence Survey



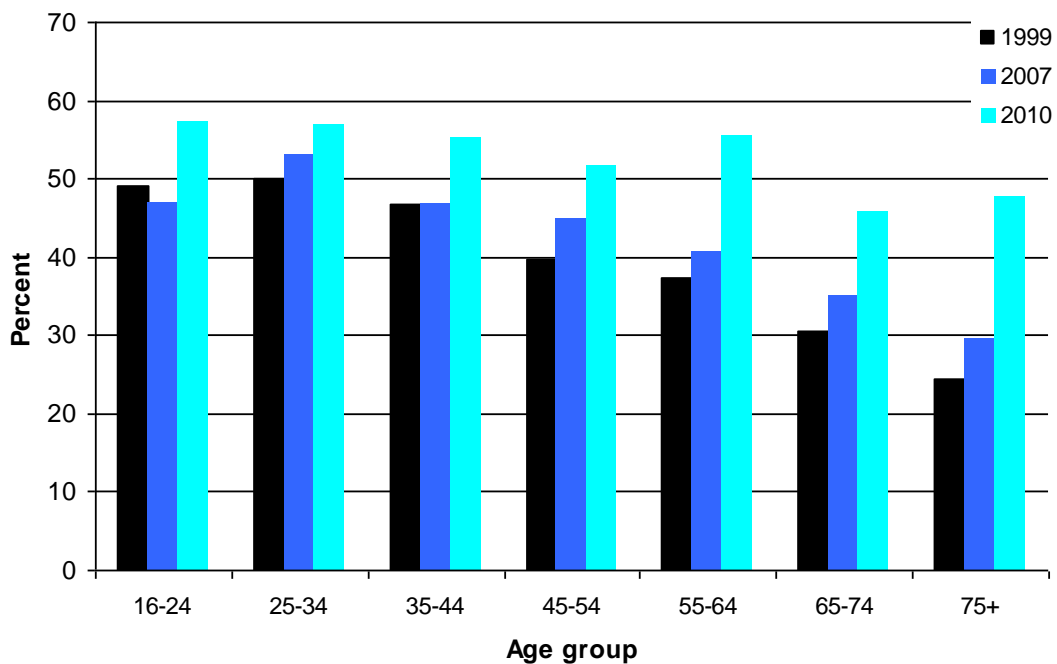
However, this is not the whole story. Simply comparing past year prevalence rates for all kinds of gambling is not the only metric to consider when assessing “feminisation” of gambling. Indeed, in some ways this figure is misleading. This is because in Great Britain, the National Lottery is by far the most popular form of activity. Therefore, trends observed in past year rates are very susceptible to fluctuations in the popularity of the National Lottery. The National Lottery operator Camelot itself recognises that its popularity can wax and wane and that, typically, there is a trend for lottery participation to decline over time (NLC, 2013). A standard feature of most lotteries worldwide is reinvention of product and offers to counter this trend. This has happened recently in Great Britain with a shake-up of the ‘lotto’ game whereby additional prize products in the form of a raffle, increased stakes and reorganised prize structure were introduced in 2013 (NLC, 2013).

To look at patterns in other forms of gambling, those who only took part in the National Lottery can be excluded (see Appendix Table 5.2). This sees a different picture emerge (see Figure 5.2). Here, there are increases in gambling participation at all age groups,

though the difference is most marked among those aged 55 and over. This indicates two things, first that young women are gambling more than previously, but just not on lottery activities alone. Second, that the increase in gambling participation among older women is not just driven by their playing the National Lottery, but also by their increased engagement in other activities. By 2010, nearly half of all women aged 55 and over had gambled on something other than the National Lottery alone in the past year. The increase was such that past year patterns of participation on activities other than the National Lottery alone became increasingly similar (though still lower) to that of their younger counterparts.

Figure 5.2: Past year gambling prevalence among women, excluding National Lottery only play, by age and survey year

Source: British Gambling Prevalence Survey



This evidence alone would suggest that while gambling is increasing for most women, the increase is most pronounced among those who are older. However, this too ignores some of the issues discussed earlier in this chapter regarding how to define gambling

'more'. Another metric available for consideration is the number of activities undertaken. Some caution needs to be taken with this analysis. As previously noted in this thesis, every time the BGPS was conducted the list of gambling activities was updated to reflect those activities available in the market. For example, in 2010, poker played in a pub was added to reflect this perceived trend. In 1999, 12 gambling activities were presented to respondents, in 2007, this increased to 17, and to 18 in 2010. Therefore, it is possible that any significant changes in the number of activities undertaken between survey years is a result of changing the way questions were administered and the way in which activities were defined. However, as a partial way to counter this, activities recorded in 2010 have been recoded to match the activity listing in 2007 and 1999 (for example, combining betting on sports and betting on other activities to count as one and not two activities as was done in 2007 and 1999). However, though there may be some issues about whether this represents 'real' change, it is being used in this context as a marker of depth of engagement and examining how depth of engagement may vary between groups of women.

Looking at the average number of gambling activities undertaken shows that women overall were gambling in more activities in 2010 than in 1999; mean estimates rose from 1.3 to 1.6 (see Appendix Table 5.3). Examining this by age group shows that this increase was evident across all ages, though the increase was arguably more pronounced among older women. However, whilst this indicates an absolute increase, it does not shed light on whether women were gambling more given the increased number of activities available to them. This relates to how to measure depth of gambling using metrics like number of activities undertaken across a period when the absolute provision of gambling activities has expanded (and hence the number of activities included in the survey expanded to match). What counts as 'deep' engagement in a relative sense depends on what the total landscape looks like. To give a theoretical example, if I consume two chocolates out of three available to me, I have consumed most of the available chocolate. If I consume two chocolates out of ten available to me, I have

consumed a minority of that chocolate available to me. In this way my absolute level of consumption is the same but what it means and how it is expressed as a proportion is relative to availability.

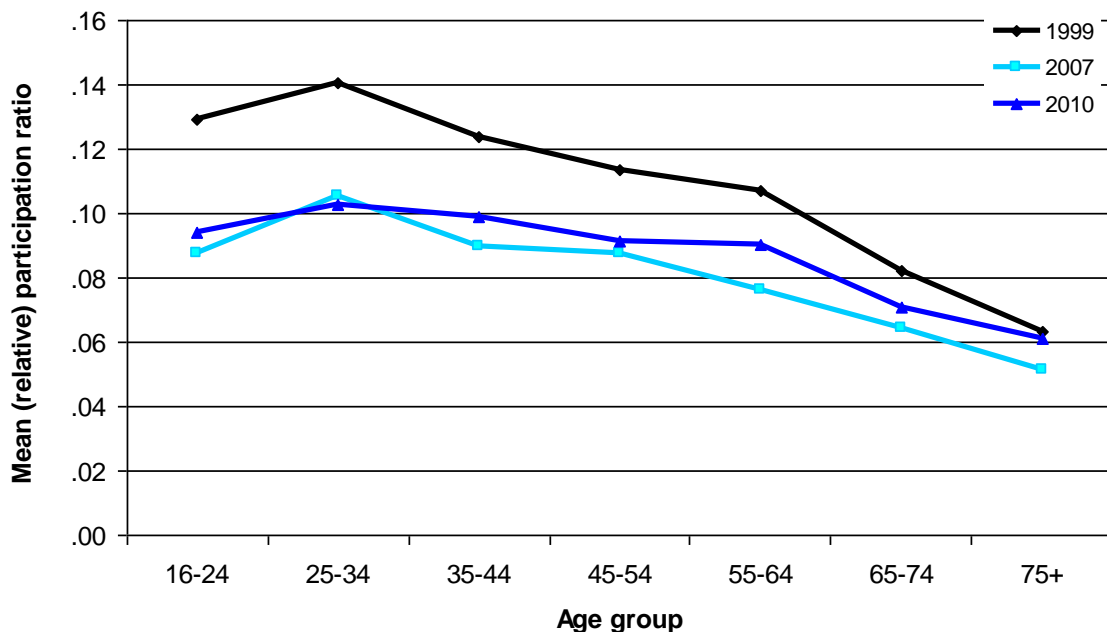
Arguably, this broad principle may be applied when looking at changes in depth of gambling using number of activities undertaken as a measurement metric. Adjustments can be made to the calculations to take this into account. To calculate this, the number of activities engaged in can be expressed as a ratio of the number of activities presented to respondents. As noted above, this works on the rationale that taking part in two or three activities does not, in a relative sense, represent the same measure of gambling depth in 1999 as it does in 2010. In 2010 the gambling landscape is vastly expanded and there are many more opportunities to gamble. Calculation of the ratio is simple; it is the number of activities undertaken divided by the potential number of activities available. For example, in 1999 someone taking part in two activities would have participation to availability ratio of 0.17 (2 divided by 12) whereas in 2010 someone taking part in two activities would have a participation to availability ratio of 0.11, representing lower relative engagement (if not necessarily lower absolute engagement) given the expanded range of opportunities.

Whilst this is an imperfect measure, it does at least attempt to take the expanding gambling landscape into account when using number of activities as a measure of gambling depth. Analysis of relative gambling participation to availability ratios shows some very interesting results (see Figure 5.3). Relative participation ratios were typically lower among women in 2010 than in 1999, suggesting that women's interest in gambling has not necessarily kept pace with increased gambling opportunities available to them. Again the pattern by age group is striking – the fall in relative participation ratios is greatest among younger women (falling from 0.13 in 1999 to 0.09 in 2010), whereas the gap between estimates for 1999 and 2010 narrows for older women, and for those aged 75 and over, estimates are very similar.

As mentioned, this is an imperfect measure; for women to have maintained their participation to availability ratios they (generally) would have had to add a further gambling activity to their overall gambling repertoire between 1999 and 2010; given the range of expanded opportunities it may be unrealistic to expect women's interests to have kept pace with this. However, this analysis shows that women are not, overall, engaging in more activities to this level of depth, despite increased opportunities. Fundamentally, this shows that a distinct linear and dose/response model between availability and engagement as implied by those arguing that more opportunities to gamble means more women gambling is not, on this evidence, supported. But some women have changed their depth of engagement and these are women who are older, who are increasingly narrowing the gap in behaviour between themselves and their younger counterparts.

Figure 5.3: Mean relative participation to availability ratios among women, by age group and survey year

Source: British Gambling Prevalence Survey



So far the analysis presented has only examined past year gambling prevalence rates. This is a fairly blunt measure as participation ranges from women who take part in the

office sweepstake to those to gamble on a daily basis. As observed earlier, the way “feminisation” theory is presented suggests a direct and almost linear link between women gambling ‘more’ and ‘more’ women experiencing problems. However, if women gambling ‘more’ is simply some women taking part in gambling in a more ad hoc way, the idea that these women may experience more problems is cast into doubt. The problem with looking only at past year gambling rates is that what is happening with frequency of engagement is obscured.

To look at this, there are two further measures of gambling engagement that can be considered using the BGPS series: rates of gambling in the past week and frequency of gambling. Past week prevalence estimates in many social scientific studies are taken as a proxy for regular gambling. If someone engages in an activity on a weekly basis, then they are likely to have done this in the past week. Of course, there is some margin of error, some people trying the activity for the first time will be included but, on the whole, this is taken to be a reasonable approximation of regular (weekly) participation. Information about frequency of gambling was only collected in the 2007 and 2010 studies. Nevertheless, this can be explored to look at the distribution of gambling participation across a range of frequencies, rather than simply looking at the past week or past year.

First, looking at past week prevalence among women, rates have fallen from 48% in 1999 to 40% in 2010. As before, fluctuations in the popularity of the National Lottery account for much of this change and when National Lottery only play is excluded, the reduction is slightly less marked – falling from 19% in 1999 to 16% in 2010. Again, there is a particularly interesting pattern by age group, whereby the greatest reductions in past week prevalence come from the younger age groups. For women aged 65 and over, past week prevalence rates are rather more stable. For example, 45% of those aged 65-75 had gambled in the past week in 2010; 46% reported the same in 1999. Indeed, by 2010 the prevalence of past week gambling was higher among older women than

younger women, a marked difference from the pattern observed in 1999, whereby rates were higher among those age 25-54. If weekly prevalence rates are a good marker of very regular gambling, this evidence tells us that women are engaging in gambling on a regular basis in fewer numbers but that the main driver of this is that younger women are gambling less. Older women have maintained their levels of very regular gambling, though notably have not increased them.

The second measure is of self-reported gambling frequency. In 2007 and 2010, all participants were asked to report how often they took part in each of the gambling activities presented. There are two different ways to look at these data: either by looking at frequency of the most frequently reported activity or by summing the frequency data across all activities and calculating an approximate number of gambling days per year. Both methods are presented here (see Appendix Tables 5.4 and 5.5) There are limitations with both. The former does not take into account the full range of gambling activity that someone might engage in, whereas the latter is a broad approximation. For example, in creating a number of gambling days per year for someone doing an activity between 2-3 times per month, the calculation assumes this is 2.5 times per month. This gives a total number of gambling days per year for that activity of 30 days per year. It turns an approximation into a more concrete estimate, which of course may be subject to error. The latter measure may also be susceptible to the expansion of the number of activities inquired about. In 2010, frequency information was obtained for a greater range of activities: therefore increases observed between 2007 and 2010 may be a function of the questionnaire administration rather than real differences. However, this information combined may give more insight into which groups have experienced change, which should be taken together with other evidence thus far presented.

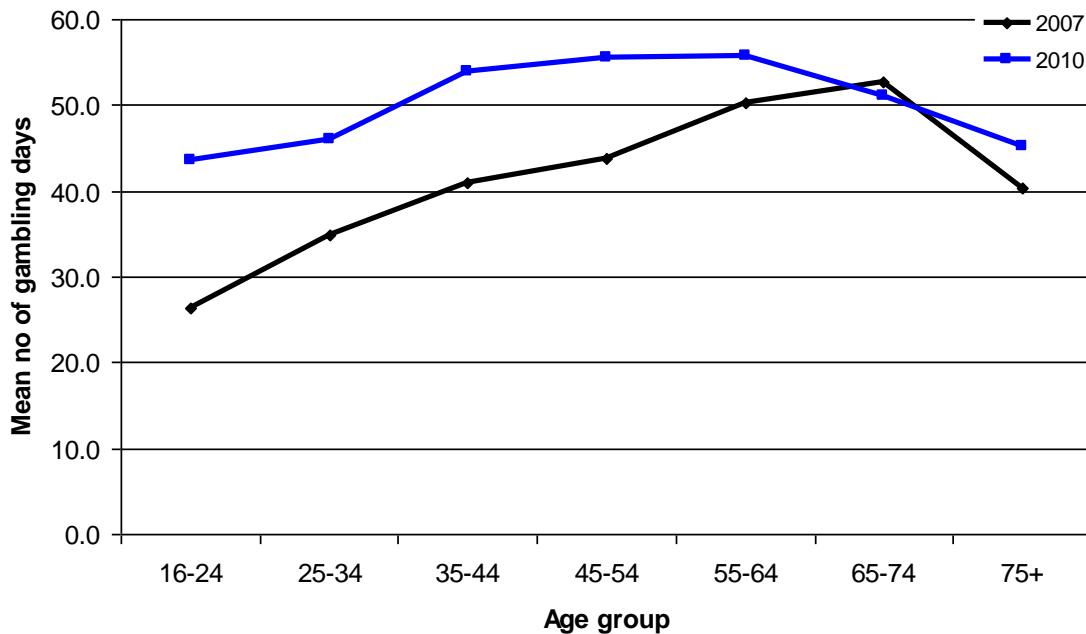
First, looking at the frequency of participation in the single most frequent gambling activity, there are some small but significant increases in participation. In 2007, 11% of

women had gambled nearly every day or every day on their most frequent activity. This increased to 13% in 2010. But previously seen, what is of most interest is the pattern by age. The greatest increases were observed among those aged 65 and over. Indeed, in both 2007 and 2010, older women were more likely than younger women to have gambled nearly every day on their most frequent activity.

However, as noted above, this only looks at one single activity and does not give a measure of gambling depth by examining frequency of gambling across all activities. Younger women take part in more gambling activities than older women and therefore, when this is taken into account, one would expect to see a different pattern because of the increased range of interests of younger women. This is shown in Figure 5.4.

Figure 5.4: Average number of gambling days per year among women, by age group and survey year

Source: British Gambling Prevalence Survey



What is notable about this pattern is that it is the very young and the very old who have the lowest average number of gambling days per year, with frequency typically being higher among the middling age groups. However, it is also evident that in 2010 women

had, on average, a greater number of gambling days per year (estimates rose from 41 days in 2007 to 51 days in 2010). Whilst this may be a product of the way the questionnaire was administered, the pattern by age group was notable. If this increase was the result of slightly different questionnaire administration, one might expect the increase to be uniform across all age groups. It is not. It is greatest among very young women, with rates for those aged 16-24 rising from 26 gambling days per year in 2007 to 44 gambling days per year in 2010.

Taken together with previous results, this evidence shows that whilst very frequent (i.e., weekly) gambling behaviour may be declining among the youngest women, there does seem to be some evidence for an increasing depth and breadth of interest in gambling among this group. The number of activities engaged in has increased and, excluding National Lottery only players, participation in other forms of gambling has increased. This evidence suggests increased frequency of play, according to both measures, even if that increased frequency is not at the most frequent level. What this suggests is an overall broadening (i.e., number of activities) and deepening (i.e., frequency of play) of interest in gambling activities among this age group. Without these additional measures, it may have been concluded that there was no evidence of this group gambling 'more', as past year prevalence rates were stable and past week prevalence rates were lower. Therefore, examining what is meant by gambling 'more' and identifying suitable metrics to measure breadth and depth (drawing on the theory postulated by LaPlante et al, 2013) has helped to identify different patterns of gambling among younger women.

Table 5.1			
Gambling behaviour among women, by survey year			
<i>All women aged 16 and over</i>			<i>BGPS</i>
Gambling prevalence	Survey year		
	1999	2007	2010
	%	%	%
Past year gambling prevalence	68	65	71
Past week gambling prevalence	48	37	40
Past year gambling prevalence (excluding National Lottery only)	41	44	53
Past week gambling prevalence (excluding National Lottery only)	19	14	16
Mean number of gambling activities undertaken per year	1.3	1.4	1.6
Mean number of gambling days per year	n/a	40.9	50.6
Engagement in types of gambling among past week gamblers			
Private chance	96	93	95
Private strategy	3	4	4
Public chance	15	13	10
Public strategy	3	4	4
Mean DSM-IV scores	0.2	0.2	0.3
<i>Bases*</i>			
<i>Weighted</i>	<i>3955</i>	<i>4636</i>	<i>3955</i>
<i>Unweighted</i>	<i>4070</i>	<i>4733</i>	<i>4177</i>
* Bases shown are for past year prevalence, bases for other analysis vary around this figure due to item non-response			

Realist description – key points

The application of a realist approach to examination of feminisation of gambling and female patterns of gambling participation has proved particularly useful. First, what gambling 'more' meant was explored conceptually and was associated with theory about range and depth of gambling engagement. This provided a framework against which to interrogate known data about female gambling behaviour and identify a range of metrics that could provide insight to these key questions. By looking at different groups of women (in this case, age groups), key differences and patterns between some groups of women have been traced (though this is by no means comprehensive). The sections that follow extend this analysis, looking at why this might be, and use this as a conceptual framework to explore changes in female gambling more generally. As an application of realist description, this part of the investigation sought to critically examine a pre-existing concept, developed further mid-range theory about what this might mean and how it might manifest in behaviour and crucially, sought to explore this for different groups of women. This analysis is not necessarily comprehensive, but serves to illustrate how this approach might productively be used for descriptive analysis.

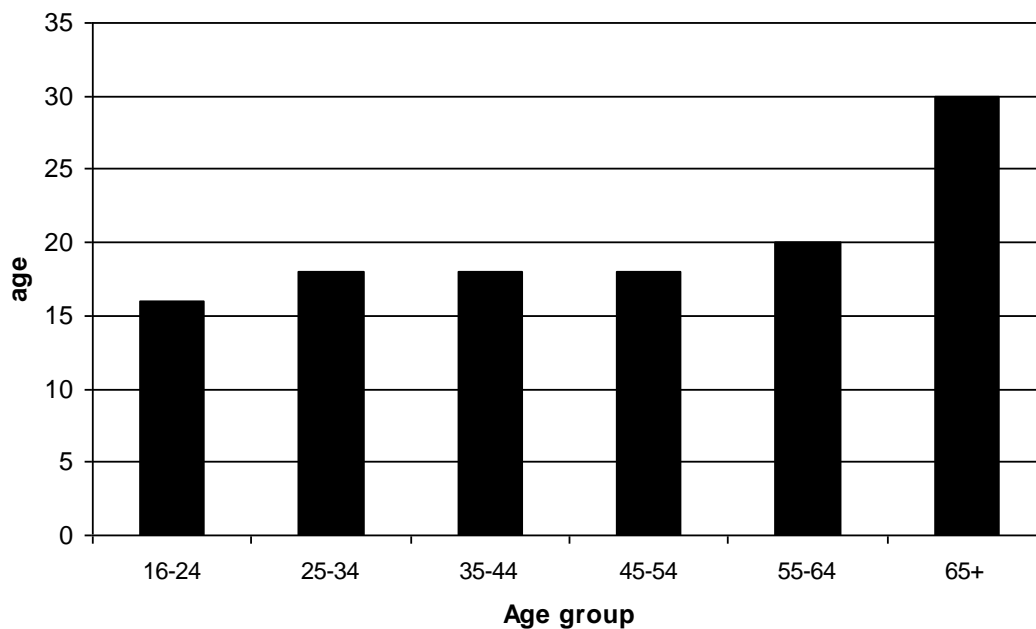
Identification of younger women as a key group of interest for “feminisation” suggests further analysis to explore this: age of gambling onset. Younger women appear to be subject to changing patterns of gambling behaviour. However, the BGPS series only includes women from age 16 onwards. This begs the questions – what is happening among younger girls and how has this changed? In 2007 and 2010, all participants were asked to report how old they were the first time they gambled. There is a well-documented relationship between early onset of gambling and experience of subsequent gambling problems; women are typically believed to start gambling later in life than men but to progress to problems more quickly (Kim & Grant, 2001). There is, however, little evidence about how age of onset varies between different age cohorts of women.

Examination of different age cohorts is particularly useful as results can be related to the broader circumstances in which that cohort lives. To look at whether older women started to gamble at an older or younger age than younger women, a survival analysis needs to be performed. Survival analysis is a technique that takes into account the fact that younger cohorts have not had as much opportunity to experience an event as older age cohorts. A classic example is that of age of first sexual intercourse. A simple cross tabulation of age of first intercourse by age group typically shows that younger people have sex at a younger age. But this analysis does not take into account the fact that many of those aged 16-24 have not yet had sex and may go on to do so, whereas most older people have. This skews results (c.f. Robinson et al, 2011). The same principle is in operation for age of first gambling experience and survival analysis techniques are used to take into account the proportion of people who have not yet experienced the event (called ‘censored observations’ in survival analysis). In the analysis, a survival function is calculated, which is the cumulative proportion of people gambling by a given age. This can be presented for different age groups. The median age of first gambling can also be presented. This is the age at which the cumulative proportion of gambling is equal to 0.5.

Survival analysis of age of first gambling (using 2010 data only) shows some interesting results (see Appendix Table 5.6). There are two clear patterns evident. The first is that there is clear evidence that younger age cohorts (i.e., those aged 16-24) are starting to gamble at a younger age than other age cohorts. By age 16, 50% of those aged 16-24 had gambled compared with 39% for those aged 25-34 and 17% for those aged 65 and over. Median age of first gambling for each age group is shown in Figure 5.5. This is the age at which half of the age group had tried gambling. The variation by age cohort is clear.

Figure 5.5: Median age of first gambling among women

Source: British Gambling Prevalence Survey 2010

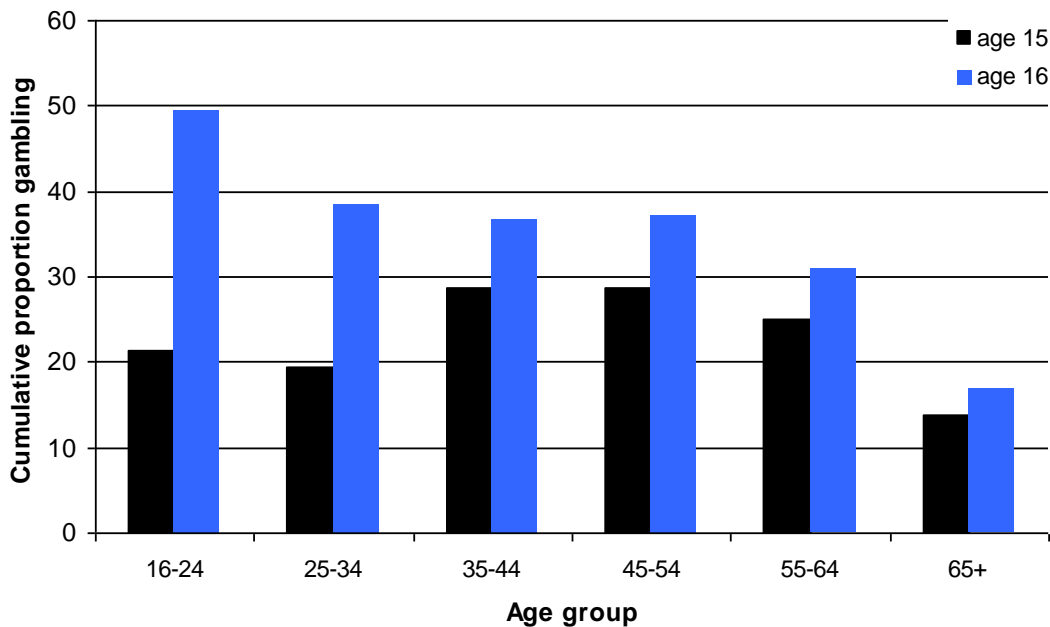


It is also clear that the age of 16 marks a clear turning point in gambling behaviour. Up until age 15, it was those aged 35-64 who had the highest proportions who had ever gambled. Looking at this alone means that there is little evidence of increased levels of gambling onset among the younger age groups. From age 16, the proportions starting to gamble increase substantially (see Figure 5.6). The difference between the age groups is likely to be the introduction of the National Lottery and its related products. For older women, the age of 16 was not such a pivotal age in terms of providing legal access to

gambling products and arguably, there were fewer opportunities available to them. For those aged 16-24 in 2010, turning 16 was a milestone in terms of legal opportunity for engagement in the National Lottery, the purchase of scratchcards and participation in football pools (though it is doubtful how many young women took part in this latter activity). Buying a first lottery ticket (legally) could be seen as a rite of passage by some.

Figure 5.6: Proportion of women who have ever gambled by age 15 and 16, by age group

Source: British Gambling Prevalence Survey 2010



However, this does not appear to be the only effect in operation. If the advent of the National Lottery is wholly responsible for these changes, one would expect to see this pattern among all cohorts who turned 16 since the introduction of the National Lottery in 1994. This has been examined also. Everyone interviewed in the BGPS 2010 who was aged 31 or younger at the time of interview turned 16 after the National Lottery was introduced in 1994. If the National Lottery is the primary driver of differences in the age of first gambling, one would expect to see similar patterns for all those aged 31 and under. This is not evident. In fact, there appears to be a further cohort effect in operation. Whilst those aged 25-31 were more likely to have gambled by age 16 than all

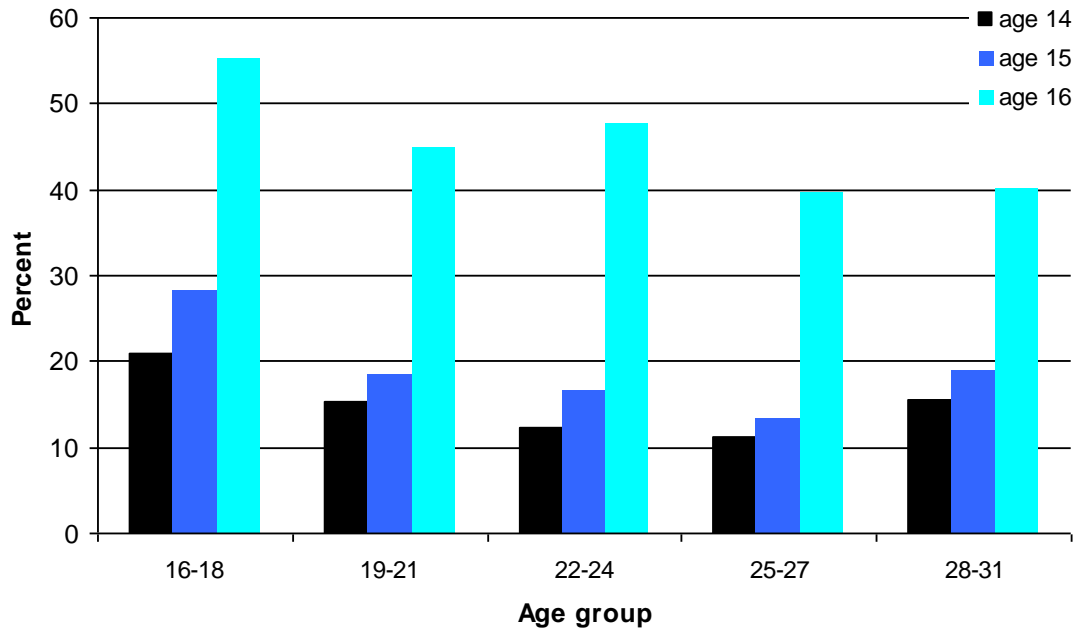
older age cohorts, the proportion of this cohort gambling by age 16 was lower than those aged 16-24. Among those age 16-24, 50% had gambled by age 16 whilst the equivalent proportion among those aged 25-31 was 40%.

This demonstrates that even within cohorts who all grew up with the National Lottery as an available product, the youngest age group are starting to gamble at a younger age. This suggests the presence of other effects. This could be simply that the National Lottery is more embedded as a rite of passage among younger women than previously, or it could be related to changing attitudes to gambling, which are known to be becoming more positive (Wardle et al, 2011), or related to a changed gambling landscape in which gambling opportunities are more abundant and more widely advertised.

To examine this, further survival analysis has been conducted for different age groups within the 16-31 cohort. This shows some further surprising results, namely that the age of gambling onset appears to be different among those aged 21 and under compared with those aged 22 and above. The main difference here is not the step change in gambling onset at age 16 (though that too is evident) but rather that these younger age groups do appear to start gambling at a younger age. This is shown in Figure 5.7 and Appendix Table 5.7.

Figure 5.7: Proportion of women aged 16-31 who had ever gambled at each age, by age cohort

Source: British Gambling Prevalence Survey 2010



For those aged 16-18, 21% had gambled by age 14 whereas 15% of those aged 28-31 had gambled by age 14. This was even more marked when looking at the proportion who had gambled by age 15; 28% for those aged 16-18 and 19% for those aged 28-31. Taking a more granular look at differences within the 'legal lottery' age cohort has highlighted these differences. The step change at the age of 16 still occurs but there is a marked pattern of trying gambling at an even earlier age among the youngest cohort; arguably starting to replicate earlier onset of gambling observed among women aged 45 and over.

This cohort is of particular interest, as this is the cohort who transitioned from youth to young adulthood in the period since the full implementation of the Gambling Act 2005. The Gambling Act 2005 sought to reposition gambling as a valid leisure and recreational activity. It included a new ethos in licensing objectives of aiming to permit applications and vastly expanded advertising to gambling. It is therefore possible that some of this youngest age cohort, particularly the very youngest (i.e., those aged 16) may have been

influenced by this context change in terms of their gambling onset. This is, however, just one theory that needs further exploration. This cohort is also interesting as the youngest group roughly coincides with the same age cohort described by some as 'digital natives' (i.e., those born from 1993 onwards). 'Digital natives' refers to the cohort of youth born into an environment that is embedded within and surrounded by technology and technological innovation (Prensky, 2001; Helsper & Enyon, 2011). The gambling industry in the past ten years has shown itself to be particularly adept at integrating within and capitalising on technological shifts. Therefore, a further argument could be made that these patterns are simply a further reflection of broader changes in leisure, recreation and consumption patterns observed among 'digital natives'.

This is also just one possible avenue of further investigation and the analysis presented in this chapter does not allow more than speculation about interesting avenues of inquiry. For a start, what the first type of gambling interaction was, and what mode of access was used, is unknown. Much deeper investigation would be needed to explore how youth are accessing gambling and how and if they are integrating online gambling and offers with offline provision (this analysis is extended in Chapter 7). However, it does highlight some interesting observations and prompts questions about why these patterns might be observed.

Here realist description has given some insight into how patterns of gambling behaviours are varying between different age cohorts. This has been related to broader societal changes to help explain these observations. However, more qualitative investigation would be needed to better understand how and why youth are engaging with gambling at a younger age and to test theories that this may be related to broader technological mechanisms facilitating access and/or changing normative environments. In this thesis, using a realist descriptive approach has given further insight into a range of different outcomes and used this to theorise about mechanisms and contexts. Further research would need to be undertaken to explore this in depth.

Realist description – key points

What this analysis shows is the importance of understanding **context**. The survival analysis results can be interpreted in light of known changes in the gambling landscape and the dates of these changes can be used to explore how behaviour varies among different age cohorts. Understanding this context and thinking about the implications this may have on different age groups gives a framework around which to situate analysis. This analysis also showed that descriptive analysis can be the starting point of realist investigation. Here, analysis showed an interesting observation; this observation was then considered alongside broader knowledge and theories relating to the age cohorts under investigation and placed in context of known historical and regulatory changes. This prompted thinking about what might be going on with this group of youth and about what mechanisms might be shaping behaviour. It creates a potential starting point for a more in-depth realist investigation, thus demonstrating the usefulness of descriptive statistics for realists when used alongside other evidence and theory and when results are viewed in context.

Context is more than this, however. To truly understand and interpret changes in behaviour observed over a short time frame, a more expansive approach to context is needed. Understanding historical antecedents is just as important. It is to this endeavour which this chapter now turns.

Are more women gambling? The importance of context

Whilst the evidence presented in the previous section gives good insight into current patterns of female gambling behaviour, this only shows what the patterns are over an 11-year period. To focus on this evidence alone would be treating female gambling behaviour in an ahistorical way, as if female gambling did not exist prior to 1999. Clearly, this is not a sensible assertion. There is much historical evidence about the involvement of women in gambling, both as consumers and as providers of gambling products. Therefore, this historical context should also be taken into account when examining whether more women gamble and, in particular, when examining the veracity of “feminisation” of gambling theory in Great Britain. As previously mentioned, theory relating to how “feminisation” of gambling works is often related to availability, and specifically availability of certain types of gambling. The logic is that women prefer game types such as slot machines, these machines are more available, attitudes towards play become more normalised; and hence, more women gamble.

This is a deterministic view of gambling behaviour change which is conceptualised (almost) as simple economic reaction to increased supply. Those using this logic argue that changes in normative values and attitudes towards gambling act as a mechanism through which participation is further encouraged, with negative views of female gambling no longer acting as a restraining force (Holdworth, Hing & Breen, 2013). However, this still leaves little consideration of more generative views of causal processes or understanding of the circumstances in which behaviours change, or for whom. The postulated relationship between attitudes and behaviour seemingly relies on a fairly linear assumption that changes in one causes changes in the other. This is both untested and, in the context of Great Britain, unsupported. The relationship between attitudes and behaviour is complex. For example, the majority of people have fairly negative attitudes towards gambling, yet the majority of people gamble (Wardle et al, 2011a). This relationship needs to be considered in greater detail, with particular focus on who may respond to attitudinal shifts of this kind and why.

For now, applying this more deterministic view of change to “feminisation” theory in Great Britain would encourage the following lines of reasoning. Great Britain has one of the most liberal, open and accessible gambling markets in the world. Gambling accessibility has increased, largely through the advent of the internet which is freely allowed in Great Britain, but also through the removal of some restrictions – such as the requirement to be a member of a casino for 24 hours prior to play. That said, accessibility has been constrained in other areas, with the removal of some slot machines from ambient locations, such as fast food shops or minicab offices. There has also been an increase in normative availability, with gambling advertising now allowed across all forms of media. This provision has been adopted with enthusiasm by the gambling industry and latest estimates show that in 2012 around 4% of all available televisual advertisement slots were for a gambling product (OfCom, 2013). Therefore, adopting a deterministic view of the relationship between availability and behaviour, more women should be gambling.

Yet, as seen in the previous section, the evidence is somewhat mixed though it does appear that there have been some marked increases in gambling among older women and also among younger women (though with respect to the latter patterns are masked by fluctuations in play on the National Lottery). The calculations presented of theoretical participation to availability ratios offer little support for a direct linear relationship between availability and participation, though there is evidence that behaviour is changing for some. Furthermore, if this deterministic pattern is true, then one would expect women to have gambled less in the past than now, as there was less gambling availability previously than now. Here, ‘the past’ means looking beyond 1999 when the gambling prevalence survey series first started.

It is fortunate that Great Britain has a number of other sources that provide information about British gambling behaviour. In 1947, the Mass Observation undertook both quantitative and qualitative examination of gambling behaviour and in 1951 the Central

Statistics Office undertook a survey of betting. In 1977, a further survey of gambling behaviour was undertaken as part of a report to the Royal Commission investigating the potential impact of a National Lottery (Kemsely & Ginsburg, 1951; Hoinville, Collins & Smith, 1977; Mass Observation, 1948). These surveys, alongside other historical sources, help to build a picture of gambling behaviour in Great Britain since the Second World War and allowing assessment of current behaviour in the context of historical, social and political change.

Whilst the reports of these studies are available for reference at various national archives, the original data are not.⁵ This means there is a reliance on what the original investigators chose to analyse and how they documented results when attempting to use these sources to assess female patterns of gambling behaviour. Both the Mass Observation study and the 1977 study did not routinely present their analysis by sex, rather they discussed findings for women in an ad hoc fashion (if at all).

The 1951 survey is different. It presented nearly all findings by sex and therefore provides the clearest evidence about female gambling behaviour at this time. In the sections that follow, primacy is given to the 1951 results for this reason, though findings from the other studies are introduced where appropriate.

The 1951 survey of betting was representative of men and women living in Great Britain who were aged 16 and over. The aim was to examine the prevalence of engagement in all forms of gambling available either legally or illegally at that time (Kemsely & Ginsburg, 1951). In 1951, very few forms of legal gambling activity were open to ordinary people. There was no National Lottery, no scratchcards, there were no legal

⁵ The 1977 survey data is held by the UK Data Archive and was converted into digital format for this study. Unfortunately, the conversion was not successful and the resulting data were unreliable. For example, in the converted digital data there are over 4,000 individual responses to questions, yet the survey report notes that only around 1,600 adults were interviewed. Despite considerable attempts to clean and check the data by the author, it has not been possible to reanalyse this information.

casinos or bingo halls, bookmakers were either only legally available on-course or off-course for credit betting (though there were plenty of non-legal provision). The football pools, however, were in existence and by most accounts (Clapson, 1992) were exceedingly popular, and dog racing had since the 1920s become a new urban phenomenon. The main difference was that in 1951, with the exception of the pools industry, there was little formal, organised and commercial provision of gambling. Most gambling provision tended to be informal, private and illegal. Despite this, the results from the 1951 study are striking, in that they estimated that around 66% of women gambled in the past year, with over 38% betting on horses in the past year, this being the most popular activity for both men and women. This is particularly notable as gambling was far less (legally) available in 1951 than in 2010 and yet the past year gambling estimates are not vastly dissimilar. The findings from the earlier Mass Observation study show a similar pattern. In that report, the authors noted that men were more likely to gamble than women but that 39% of women had bet on horses, 28% had played the pools and 17% had gambled on cards (Kemsley & Ginsburg, 1951; Mass Observation, 1948).

Of the various informal (and illegal) forms of gambling available in the immediate post-war era, street bookmakers are the most renowned. Supported by informal networks of agents or 'runners' (to collect bets and distribute winnings) and operating out of informal locations, mainly the back rooms of houses but often other places like local public houses, they were a common feature of most urban neighbourhoods in the first part of the 20th century. Police records of raids on street bookmakers show a good proportion of men and women being recorded as present in these premises. Clapson (1992) gives details for a raid conducted in Bootle in 1915 where over 100 women were counted with a 60/40 split of men to women. The 1951 Survey of Betting showed that of women who bet, over a third (35%) bet with a street bookmaker and a further third bet with a 'friend'. What betting with a 'friend' means is not made clear and could vary from a private wager with a friend, or asking a friend to place a bet, or even a 'friend'

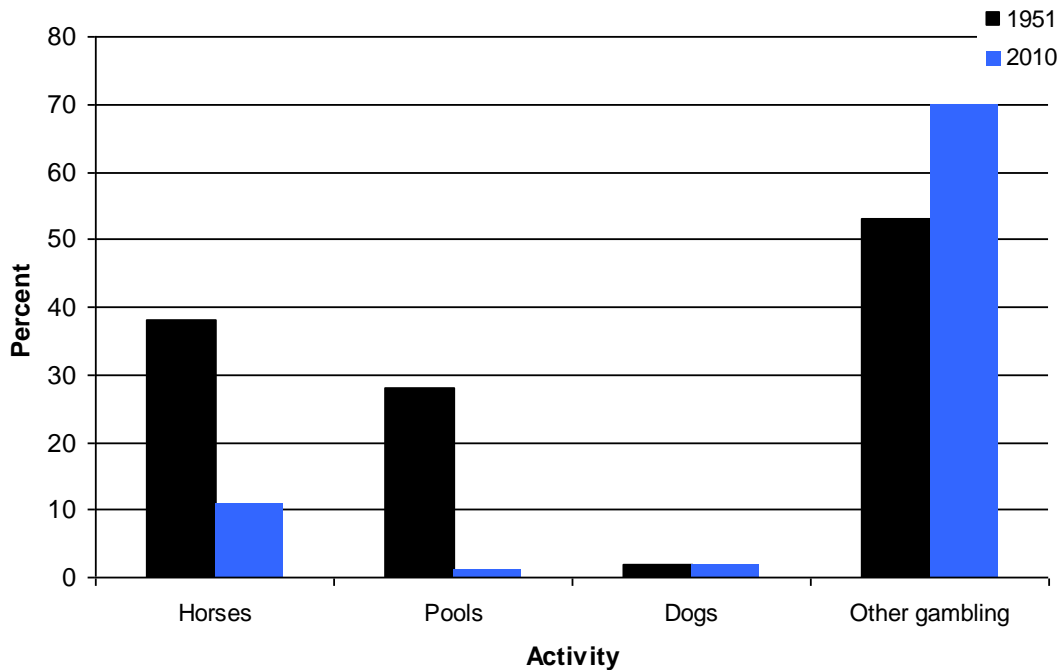
being seen as the bookmaker's agent. Both Clapson (1992) and Chinn (2004) note the presence of female runners working on behalf of bookmakers, so it is not inconceivable that a local 'friend' could also be the bookmaker's agent with whom the bet was administered. Downs (2009) has also pointed to the organisation of informal bingo events (or 'housey housey') around a similar time frame and notes that this was a popular pastime, particularly in poor urban areas, and was especially popular among women.

It is clear from this very brief overview that the majority of women in the mid-20th century had a propensity to gamble in some form. Even when most forms of legal gambling were closed off to many women, either by access (i.e., whether a racecourse or dog track was within their local proximity) or by means (as credit betting was the only form of off-course betting legally available at that time), women still engaged informally in gambling through a range of private means and did so in great number.

The 1951 survey shows that betting on horse races was the single most popular form of activity among women (38%). This was followed by playing football pools (28%). However, over half of all women (54%) also reported gambling on some other kind of activity, whether betting on boxing, billiards, boat races, pigeon races, coursing, football, the Irish Sweepstakes or raffles. Notably betting on any kind of card game for money, roulette and playing machines were specifically excluded from the survey, so one might assume that gambling prevalence rates quoted in this study were somewhat lower than reality. These estimates can be compared with those observed in the BGPS 2010 (see Figure 5.8).

Figure 5.8: Past year participation among women in comparable activities, by survey year

Source: British Gambling Prevalence Survey & 1951 Survey of Betting



What is notable is not necessarily the increased numbers of women taking part in other forms of gambling; given the advent of the National Lottery this is to be expected. Moreover, the most striking patterns are the decline in the popularity of female betting on the horses and on the football pools. The latter can be fairly easily interpreted: it is generally assumed that the football pools acted to serve suppressed demand for a lottery (Forrest & Perez, 2013), and commentators have noted the striking decline of the pools in the face of the introduction of the National Lottery. It is estimated that by 1997, just three years after the introduction of the National Lottery, turnover was close to 60% lower for football pools betting (Forrest & Perez, 2013). It may well be that substitution effects between lottery and football pools were even more pronounced among women. In 1951, the authors of the betting survey commented on the lower levels of participation in the football pools observed among women than men and noted a strong relationship between doing the pools and attending football matches. In short, they stated that those who were much more interested in football were more likely to

play the pools. With likely lower salience among women, it is perhaps not surprising that female interest in the football pools declined rapidly given the introduction of an alternative.

It is, however, much more difficult to envisage such substitution effects around horse racing. It is not a similar activity in terms of its structure (though one suspects many infrequent punters do indeed treat the activity more like a game of random chance, choosing their horse based on numbers, name, jockey and so on). Furthermore, horse racing as an event, or rather its availability as an event on which to gamble, has increased since the introduction of the National Lottery. In the last decade alone, the number of horse racing meetings staged in Great Britain has increased, rising from 1,270 in 2003 to 1,464 in 2013.⁶ There has also been growth in the number of all-weather tracks available, introduction of winter evening meetings and Sunday fixtures were introduced in 1995, growing from 24 Sunday meetings per year in 1995 to 147 in 2008. In short, opportunities to either attend a horse racing meeting or bet on one have grown since the introduction of the National Lottery in 1994. Therefore, availability of this product has expanded.

Arguably, there were more opportunities to bet on a horse race in 2010 than in 1951. Yet in 1951 nearly two out of every five women had bet on a horse race in the past year, whereas in 2010, only around one in ten women reported the same. According to the 1951 survey, placing bets on major races like the Derby and the Grand National was extremely popular: overall 31% of women in 1951 placed a bet on the Derby and 21% placed a bet on the Grand National (Kemsley & Ginsburg, 1951). These data are not available for 2010 but given the much lower prevalence rates of horse betting overall, it is likely to be much lower than this. Of course, this is not necessarily comparing like with like with these estimates (given the omission of a specific question about the major races from the BGPS series), but they do provide useful contextual information. If in the

⁶ Figures collated from the British Horse Racing Authority: see www.britishhorseracing.com

1950s horse race betting was especially popular among women, but evidence suggests it is no longer as popular now, this raises the questions: what has changed and why?

Examination of changes in the way betting was legislated and regulated ultimately provides some insight into these issues. The introduction of the Betting and Gaming Act 1960 legislated for the development of commercial legal bookmaking. Betting shops were introduced in May 1961, and by 1962 it was estimated that there were over 13,000 betting shops nationally (Clapson, 1992). The introduction of these shops ended the street bookmaker phenomenon and with it (largely) ended informal and ultimately private provision of betting services, moving this business to something that was legal, formalised, regulated (to different degrees) but ultimately public. As Cassidy (2014) has noted, these new public places took on distinct masculine characteristics which are evident to this day. They ultimately became male spaces. Cassidy's work and that of others, suggests a number of mechanisms that influenced this masculinisation.

First, the original betting shops of the 1960 Act were conceptualised and thus established to provide a single service; a betting service, no more, no less. Legislation governing the establishment of these offices was purposely developed so that the interiors would be austere, which was hoped would prevent loitering in these spaces. Over the years, provisions about the interiors of bookmakers' offices changed, from the introduction of seats, televisions, to the provision of soft drinks. However, initially they were designed to be unattractive spaces in which people would not want to spend their time. There was also a class dimension around the formulation of these provisions; the middling elite wanted to discourage the working classes from spending their money in this way (Reith, 1999). This was bound up with the view that gambling was not a valid recreational activity in which the working classes should participate. Previous debates about the legalisation of betting had seen commentators suggest that betting shops on high streets would present a particular vulnerability for women as they could easily stop off to bet whilst doing their shopping (Clapson, 1992). This was seen as particularly

undesirable. Whilst not articulated as a prevention mechanism for women per se, the limitations placed upon early bookmakers concerning their interiors almost certainly served to disproportionately discourage women from using these new services. For some, they were simply unpleasant places to be, arguably representing a countervailing mechanism.

A second mechanism relates to reputation and attitudes. Whilst it is clear from earlier evidence that most women gambled, there was a particular strain of moral repudiation reserved especially for female gamblers among some commentators. Female gamblers were viewed as particularly dangerous, because of the influence they could have on their children, because of their role as caregivers, and because of their role in maintaining the household income. These types of arguments pervade the literature from the National Anti-Gambling League (who were particularly prolific in the early 20th century) and that of others. Whilst some were sympathetic to the situation of women, their sympathy tended to be couched in the dialectic of moral repudiation and expressed disdain for gambling. For example, in 1907 Lady Bell observed that whilst gambling among housewives was “*horribly undesirable*” it was “*understandable given the circumstances of their daily lives*” (quoted in Clapson, 1992).

Evidence from the 1948 Mass Observation report also shows a complex range of opinions about gambling among women themselves. This report included evidence from case studies in various areas across Great Britain. Investigators not only surveyed the people living in these areas but also conducted observations at racecourses and (informal) bingo halls, and conducted in-depth interviews with local people. Whilst the report itself does not talk specifically about female attitudes to gambling, it includes selected quotes from women and some of the raw transcripts are still available. How the evidence was organised and presented in the report is of course likely to be highly selective. However, careful review reveals some interesting themes (Mass Observation, 1948).

First, women's attitudes to gambling were much more likely to be negative than men's. The Mass Observation recorded that 29% of women said they were against gambling, compared with 14% of men. However, the Mass Observation noted that the majority of those who said they were against gambling had themselves gambled. Not for the first time, a disparity between what people say and what they do is evident. One striking interview with the wife of a dog track owner highlights this succinctly. She describes how about half of the people attending the dog track, in the better (read 'more expensive') stands are women. This is supported by various investigators' observations, noting that women made up a good proportion of those in attendance at dog tracks. She states how women bet "*quite a lot but in a small way*" but when asked what she thinks women's attitudes to gambling are states that "*well, on the whole I would say that women disapprove of gambling*" (Mass Observation, 1947). This highlights a second theme concerning women's gambling; that despite the majority of women taking part in some way, there is a sense among women that they are judged and that they judge other women for their behaviour. One male interviewee summed up this situation: "*I think all women like a little flutter, even though they may like to pretend that they don't*" (Mass Observation, 1947). Other women interviewed expressed disdain for gambling, citing the wastefulness of the activity and providing examples of what their female neighbours had done as an example of this wastefulness. One interviewee stated:

"Well, it's such a complete waste of time and money, there are so much better things to be done. I knew that Mrs C wasted her money on pools and horses, but I had no idea it was so universal. It doesn't get them anywhere".

(Mass Observation, 1947)

Among these women, there was also a clear sense that they did not want to be judged in this way, one woman saying "*my mother would never have allowed any gambling in the house*", and that this has coloured her opinion of gambling since (Mass Observation, 1947). However, it was also clear that there were groups of women who paid less

attention to what others thought, and investigators described how groups of women socialised together around betting and gambling activity. This ranged from going to the dog track, to playing cards for money or playing football pools. Some women also looked disdainfully on those who did not gamble, with one interviewee stating (with regards to who played pools), *"I think most people do, it's only stodgy people that don't"* (Mass Observation, 1947). Here, there was a sense that it was a modern behaviour to play pools and engage in gambling.

This demonstrates the diversity of opinion among women themselves about gambling and the complex relationship this had with behaviour. Given this, it is perhaps unsurprising that the 'spectre' of women gambling was something that dominated debates about the position of gambling in British society. What is striking is how little this rhetoric has changed. In some ways it could be argued that where the National Anti-Gambling League has left off, the modern-day press has taken up and perpetuates these concerns. Writing in 2013, an article in the Independent newspaper led with the statement that *"online gambling is becoming more attractive to women than drugs or alcohol"* going on to note that *"experts say that spiralling numbers of women are admitting to gambling problems in the wake of the explosion of online gambling"* (Gallagher; The Independent, 2013). This quote distinctly draws on "feminisation" of gambling outcomes, in that more women gambling leads to more problems. Its headline-grabbing comparisons with alcohol use and drug use are particularly interesting. It is insinuated that gambling is less preferable to consumption of drugs or alcohol which, arguably, serves to perpetuate rhetoric around what it is and is not acceptable for women to do.

In fact, the advent of online gambling has caused particular concerns among commentators and these concerns have gained traction in the national press (though since 2013 onwards, concerns about online gambling have been supplanted by concerns about gambling machines). Some treatment providers have conceptualised issues with

female problematic gambling in terms not dissimilar to those heard a hundred years previously. In 2010, one treatment provider stated that:

“There are sites (online gambling) that are targeting women. But the children are placed in front of the TV so they are not getting the emotional nurturing”

(McVeigh, The Guardian, 2010).

This is virtually identical to rhetoric used by anti-gambling campaigners in the early part of the 20th century. As Clapson quotes, Canon Green, a virulent anti-gambling campaigner, stated in 1913 that a *“betting woman was worse than a betting man because she set a bad example to her children”* (Clapson, 1992: 47). In 2013, the Daily Mail reported that: *“Middle Class women fuel rise as online gambling takings are set to hit £2billion”* with a sub-heading *“the proportion of women who gamble has soared by a third”* This was also accompanied by a statement that *“the proliferation of online gambling has brought into the home an activity that was historically male dominated”* (Kelly, The Daily Mail, 2013). Brief review of the evidence from the 1951 betting survey and various social histories of gambling has shown this not to be the case; more male than female participation, yes, but the extent to which this represents a dominance is uncertain. (Clapson, 1992; Chinn, 2004, Kemsley & Ginsburg, 1951).

Of course, one should always take these headlines with a pinch of salt. Journalists need to create newsworthy prose, quotes from experts can be taken out of context, and they represent a certain perspective. However, it is notable that the rhetoric around women gambling still centres on common themes: largely that it is not a desirable activity for a woman, that more women engaging in gambling is something of a concern, and that women who gamble (may) neglect their other womanly duties of care giving, running households and nurturing children.

This rhetoric replicates that which abounded in the early and mid-20th century but as shown, there was a discord between this rhetoric and practice. In the early to mid-20th century, most women gambled and the single most popular activity was betting on horse racing. With the movement from betting being a more informal and private activity to its being an activity that was increasingly conducted in more public, visible and formal spaces, it is not surprising that reputational concerns for women became exacerbated. Cassidy's (2014) recent work provides some illuminating insights around this issue. This study included in-depth interviews with women about the changes in betting behaviour engendered by the implementation of the 1960 Act: a key theme repeatedly referred to was that of reputational issues. One of Cassidy's research participants summarised this succinctly, describing her feelings when visiting one of the new betting shops:

"I know I wouldn't want my mum to see me there. It felt different somehow. Of course I was used to someone calling for my bets at home."

(Cassidy, 2014: 178)

This quote articulates the feeling that these more visible public spaces were not the places for respectable women to be seen. The 'runner' or agent visiting the private household to collect the bet was seen as something very different to crossing the threshold of a public place where women and their activity were more visible to others and therefore more susceptible to judgement.

These two interrelated mechanisms, of increased visibility and reputational concerns, arguably acted as factors to restrain female engagement in betting from the 1960s onwards. In particular, issues of greater visibility arguably encouraged greater attention to be given to reputational concerns. Previously, reputational concerns and normative attitudes could be (somewhat) negotiated by the more private nature of the interaction between punter and bookmaker. This was not possible in the new bookmakers' shops

and thus the interaction between reputational concerns and public (and male dominated) spaces served to restrain women from engaging in these activities.

Finally, a further structural issue can be identified which potentially acted as a mechanism restraining female involvement in betting post-1960. This is related to the previous discussion but has a distinct character and relates to safety. Corney and Davis (2011) in their recent qualitative work with female internet gamblers noted that the internet provided a space for women to gamble that was both private and safe. 'Safety' was not unpacked as a concept: in some cases it was clear it meant 'anonymous', and in others cases it meant 'personal safety', in that the activity could be engaged in from the safety of one's own home. Cassidy's (2014) work also sheds light on the issue of personal safety. Her observations of her time working in London bookmakers' shops recorded incidences of brawling, aggression and verbal abuse; although her work also demonstrated the particular dynamics of community within bookmakers which sometimes operated to protect others, with regular punters intervening when people were perceived to be behaving unacceptably. Nonetheless, this continued masculinisation of these spaces presents an image of a space which may affect some people's sense of personal safety. If women (and others) value their sense of safety, as Corney and Davis's (2011) work implies, and this feeds into decision making about whether or not to bet within bookmakers, it is perhaps unsurprising that women withdrew from these spaces in the period following the 1960 Act.

This shift was abundantly clear by the mid-1970s, when a survey conducted for the Royal Commission inquiry estimated that less than 2% of women bet at least once a month on either horse or dog races. The difference between this study and the 1951 study is stark. In 1977, the difference in betting behaviour between men and women was sufficient for authors to state that:

“the profile of race betting is very different from that of pools entrants or of potential lottery entrants – race betting is largely confined to men.”

(Hoinville et al, 1978; 25)

In 1951, the authors of the survey concluded that whilst men were more likely to bet than women, it was still a (minority) female pastime. The only (broadly) comparable estimates between the two studies are that in 1951, 5% of women had placed a bet on a horse race off-course in the past week. In 1977, around 2% of women had placed a bet on either a horse or dog race in the past month, meaning that past week rates for horses only were likely to be even lower than this. This is indicative of a broader trend by which a once relatively popular activity among some women declined between the 1950s and the 1970s. It has, arguably, not really recovered. Between 1999 and 2010, the proportion of women who bet on horses in the past week was 1% or lower. Here, accounts of various historical and structural changes in the way one type of gambling was provided suggests a range of mechanisms that served to restrain women from participating in a previously popular activity. As Svensson et al (2011) state, it is likely that patterns of male and female engagement in gambling and activity preferences are socially determined and the case study of betting, crucially drawing on historical context, provides evidence to support this.

Further support for this is given by brief comparison between betting (now nearly always assumed to be a male preference) and that of bingo (now assumed to be a female preference). What happened in the betting environment is in stark contrast to what happened in the bingo industry, following the introduction of the 1960 Act. Downs (2009; 2010) has traced the history of bingo and particularly of the development of commercial bingo. She notes that bingo has often been excluded from social histories of gambling and certainly it was excluded as a specific gambling activity in the 1951 survey of betting, where no specific mention of this was made anywhere in the questionnaire. This was despite the proliferation of informal bingo clubs (especially in urban areas) and

the popularity of a similar game called 'housey housey'. 'Housey housey' was particularly popular among troops during the Second World War and Downs states that bingo seems to have started among men in the services from the late 19th Century. Bingo therefore has strong antecedents as an activity popular among men, yet as Downs noted (2009), it was concern about the impact of bingo upon women that attracted moral censure. As Downs states, the rhetoric around the commercialisation of bingo focused particularly on issues of the enticement of women to gamble, again viewed as undesirable. In the case of betting, concerns about reputation and negative attitudes towards female engagement (potentially) served to restrain female gambling behaviour. Why then did similar moral outcry not witness the same effect and impact for bingo?

An explanation is given in Downs' (2009) further exploration of the commercial history of Mecca Bingo. She outlines Mecca's business strategy of turning pre-existing dance halls into multifunctional entertainment spaces. This introduced gambling into a pre-existing space which women would already frequent and be familiar with. Other venues, like cinemas, which were familiar to women and acceptable for them to frequent, also hosted bingo. Therefore, the spaces in which these activities were conducted were not masculine spaces but places with which women were already familiar, and spaces in which they already had some shared ownership. Downs (2009) also outlines Mecca's promotional strategy of achievable glamour, with high profile and aspirational women, such as Diana Dors, being hired to promote the new club; new club openings by celebrities such as Barbara Windsor were newsworthy events. This may have served to counter some of the moral censure against bingo and, for some, highlighted the aspirational value of the activity. Furthermore, these spaces were leisure spaces, created as places in which people would wish to spend time (though clearly, there was a great deal of variety in type of bingo clubs). Whereas betting shops were designed to be spaces in which you placed your bet and left, bingo clubs wanted you to stay – and of course, because of the nature of the game, the club was a place in which you had to stay.

Therefore, perhaps a crucial difference relates to the public and private nature of the betting and bingo activity. Bingo was a game that (at that time) could only be played with others. The difference pre- and post-implementation of the 1960 Act was simply whether it was legal or not. Therefore, the 1960 Act did not encourage a fundamental shift in domain from private to public spaces. Women who played bingo prior to 1960 had already rejected moral censure and engaged in this activity openly. Simply joining or playing at an official club was arguably a much smaller step change than that which occurred for betting. For women bettors, the move they had to make was greater. Their behaviour had to move from a more private to public setting and that would require ownership of their behaviour and an equal rejection of moral disapproval. Given the unappealing and increasingly masculine shaping of the spaces in which betting was conducted, it is perhaps not surprising that female participation in betting declined.

Bingo halls were also seen as safe spaces, in which women could gather and spend time without attracting undue attention. Dixey's (1996) examination of bingo in the early 1980s highlighted this as a key theme. In this article, she documented thoughts from female bingo players who stated that:

"it's the one place you can go on your own without a male escort, there's no question of 'oh, what's she doing here on her own' (Dixey, 1996: 142) or that 'you can have a laugh and you're sort of safe with people'"(Dixey, 1996: 145).

The perceived safety of the bingo hall is in direct contrast to the perceived 'danger' of the betting office.

What this highlights is a range of countervailing mechanisms that arguably served to restrain women from engaging in a once favoured activity. As noted in earlier chapters, the development of commercial gambling can be viewed as the creation of an entity with emergent properties. The way in which it emerged was governed by the attitudes

and values of those creating the legislation which were then transferred through the provisions of the 1960 Act. The environment set out by this legislation defined how some forms of commercial gambling developed. This, combined with decisions taken by those actively involved with commercial gambling itself, shaped the way commercial gambling was provided post-1960. Mecca Bingo sought to associate itself with affordable glamour, making these spaces attractive and seeking to renounce the 'spectre' of female gambling by using aspirational female stars to promote their services (Downs, 2009). In a recent (personal) conversation with a leading bingo executive, they stated that they felt that it was not necessarily that women more than men preferred bingo, but rather that they had created an environment which was more attractive to women. The same may be true in reverse of bookmakers. Once established as a male space, Cassidy's work has shown how this is perpetuated in current London bookmakers. This adds further evidence for the existence of structural mechanisms that shaped female patterns of gambling behaviour.

The impact of these mechanisms upon behaviour appears to vary in different ways for different activities. It seems to be related to the way in which commercial gambling developed, the decisions made by executives, the legislative and legal environment in which they were operating, broader social attitudes towards female gambling, and the degree of confidence women had in shaking off moral censure about certain activities. With regard to the latter, an interplay between the type of space in which each activity was conducted and its enticement to disregard reputational concerns may be postulated.

Realist description – key points

In the previous section, a number of realist principles have been used. The first is **retroduction** – explaining why things are the way they are. By situating female gambling behaviour in historical context, a range of social and contextual mechanisms have been identified to explain why women no longer engage in betting activity to the same degree as previously. The second is a core principle of the descriptive method – that is to **cast a wide net**. Sources of data used include current survey information alongside examination of historical sources accessed at the British Library, the National Archives and the Mass Observation Archive respectively. Themes identified from this evidence are contextualised alongside review of literature to gain better understanding of the processes that help to explain the changes in behaviour observed. A final grounding in realist ontology is explanation which is framed in terms of mechanism, contexts and also **emergent properties**. In particular, this analysis draws on the view of the commercial gambling industry as an emergent property with the power to change and affect behaviours.

More women gambling? A cyclical process

As stated at the outset of this chapter, when considering the ways in which female gambling behaviour has varied, and thus when considering whether there is any evidence for a “feminisation” of gambling, historical context is vitally important. To consider only data from the last decade (i.e., the BGPS series) is to lose a wealth of information about the ways in which female gambling behaviours have varied and under what circumstances. In terms of realist description, understanding context means understanding historical contexts as well as the current social contexts that shape behaviours. Drawing on historical context, the increased interest in gambling described in the first part of this chapter may be viewed not as a “feminisation” of gambling but as the ‘re-feminisation of gambling’. This accepts that women have always been interested and involved in gambling but that their preferences and participation in certain activities have waxed and waned and have been shaped by a structural system that supported participation in certain games and restrained participation in others.

As noted by Corney and Davis (2011), and as highlighted by the media articles quoted earlier, the internet has been much discussed in promoting female gambling participation. Whilst more work is needed to examine this relationship, one could see this as part of a cyclic pattern whereby the privacy once offered by the street bookmaker is replicated in a different mode. Certainly Corney and Davis (2011) saw anonymity and privacy as key themes in female participation in internet gambling. This could offer additional support for the theory of “re-feminisation” and recognition that this is a cyclical process offering access to previously popular forms of gambling in an environment of changing attitudes to gambling more generally.

The idea of cyclical processes, shaped by themes of privacy, suggest further thought be given to the concept of gambling domains. In Svensson et al’s (2011) work on “feminisation” of gambling in Sweden, they argued that “feminisation” would see an increase in participation in public gambling domains and in games of strategy. This is

based on the observation that traditionally women tend to take part in games of chance, like the lottery, and tend to take part in domestic (private) games (also like the lottery) in greater number. In their hypothesis, “feminisation” as a process would start to see shifts towards women taking part in games of skill and taking part in gambling more publicly.

Using data from the Swedish Longitudinal Survey of Gambling, they created four groups of gamblers: public chance, public strategy; private chance; and private strategy, based on which activities people undertook.⁷ They then examined this to see if domain membership changed over time or if there were any significant changes comparative to men: they concluded not.

Similar analysis has been performed for this thesis, as concepts of public and private spheres are emerging as important themes relating to female patterns of behaviour. However, distinguishing between whether an activity is a public or private activity, or even chance or strategy, is difficult. For example, betting would typically be classified as a game of skill. This is because of the assumption that the punter brings some knowledge to bear on their assessment of what they think is the most likely outcome. This is, however, only an assumption, and punters can choose their bets for many reasons. A bet placed in a bookmaker’s shop is a public activity as anyone present at that time can see the bet being made, whereas a bet placed with a bookmaker online is a private activity, as the only people who know this transaction has taken place are those who have laid and backed the bet. In order to be able to ascertain whether a

⁷ The domains were defined between those games which are pure chance (like the lottery or scratchcards) and those requiring some element of skill (like poker or blackjack). They were also separated by whether they are public games (i.e., played in public venues with others) or private (i.e, played in private spaces without interaction of others). There is clearly some ambiguity between terms. For example, betting is typically conceptualised as involving some element of skill, but for some choosing which team or horse to back may be a more chance-based decision. Likewise, some activities maybe played in private spaces (i.e., homes) but on public forums (i.e, online poker). Despite these ambiguities it is still a useful distinction to make as it allows some consideration of the interaction and possible effect of mechanisms relating to these domains.

gamble is public or private requires information to be available about the circumstances in which the gamble is made. In the BGPS series, this level of detail is only available using information collected from those who gambled in the past week. Activities were categorised as follows:

<p>Public chance:</p> <p>Bingo played at a club Fruit/slot machines Machines at a bookmaker's Table games at a casino (excluding blackjack and poker)</p>	<p>Private chance:</p> <p>Lotteries Scratchcards Online bingo Online casino games (excluding blackjack and poker) Online fruit machine-style games Football pools</p>
<p>Public strategy:</p> <p>Blackjack/poker played at a casino Poker played at another venue Betting in a bookmaker's or at the course</p>	<p>Private strategy:</p> <p>Betting online with a bookmaker or betting exchange Spreadbetting Private betting</p>

Estimates were produced for each domain to examine if prevalence rates for each type varied over time. Because these data are based on past week estimates some care is needed in interpreting the results. This is because past week prevalence rates have generally declined.

This analysis showed that past week participation in games of private chance or public chance was significantly lower in 2010 than in 1999. This is to be expected, as play in the National Lottery makes up a significant part of the private chance category and this has declined, whereas bingo played at a club makes up a significant part of the public chance category, which has also declined. However, engagement in either public or private strategy games remained stable, meaning that in the face of declining rates of past week participation overall, strategy games retained (what little) popularity they had. Rates of decline are being driven by reductions in popularity of games of chance rather than reductions in the popularity of strategy games (but to be fair, participation

rates in strategy games are so low it would be difficult for them to reduce much further). The pattern is a little clearer if analysis is limited to past week gamblers only, thereby taking into account the fact that past week participation rates have declined overall. Among past week gamblers, there was a small reduction in participation of private chance games (96% in 1999; 94.5% in 2010) and a reduction in the popularity of past week public chance games, falling from 15% in 1999 to 10% in 2010. However, there was a significant increase in participation in public strategy games, rising from 2.5% in 1999 to 4.1% in 2010 (see Appendix Table 5.9).

No differences were observed by mode of gambling, either public or private. This, however, does not mean that this distinction does not have theoretical importance. The lack of association may be related (partially) to the method of analysis used. The domains are not mutually exclusive; someone who was included in the private chance group because they played the lottery would also be included in another domain if they also undertook this activity. In reality, the distinction between public and private is not dichotomous. This distinction may have more conceptual importance when considering changes in behaviour for specific activities (like betting) rather than as a broader explanation for changes in behaviour overall.

In particular, the internet introduces conceptual confusion over what is private and what is public gambling. Betting with a bookmaker, once a very public activity, can now be done privately in one's own home. This is perhaps the clearest example of where the internet splits on the public/private dichotomy. However, not all gambling behaviour conducted online can be said to be private. Some forms of activities actively encourage social participation with others. For example, online bingo companies heavily advertise their social components and have online chat rooms. Other examples include online poker, where an individual plays against others, or the increasing convergence of online gambling with social media functionality. This starts to blur the distinctions between public and private types of activities (Torress & Goggin, 2014). Furthermore, the

development of social media gambling, whereby players are actively encouraged to use the social networking applications to share their behaviour and interests with others (by competing against them; updating their status with wins; inviting others to participate) serves to blur the boundaries between public and private even further. In some instances, players have a choice online about whether to engage with features such as these and these choices are no doubt shaped and mitigated by a whole range of features, including the normative perceptions and attitudes of others in the network.

However, the point that some women appear to be re-engaging with strategy types of gambling is important and, potentially, relates to theories of “re-feminisation”. Previously, women were most engaged in strategy forms of gambling – namely betting. From the 1960s onwards, games of chance became the preference for a variety of reasons outlined earlier in this chapter. The advent of the National Lottery and related products cemented this. What this evidence suggests is the start of a potential re-emergence of interest in strategy games. Whilst these are still very much a minority interest, this could point to a revived interest in these forms of gambling now that the broader circumstances surrounding their provision and attitudes towards them (among some) have changed.

Understanding whether more women are gambling therefore requires attention to broader social trends and developments to help understand and interpret trends. In this context, the (potential) re-emergence of interest in strategy forms of gambling and evident increases in gambling depth and breadth among older and younger groups are not the outcome of “feminisation” of gambling. Rather, they are part of a continuing process of “re-feminisation”, given the changes in the gambling landscape observed in the last 50 years. In this context, it is almost surprising that more women are not gambling today. These themes are explored in the next chapter.

Are more women experiencing gambling problems?

The second part of “feminisation” theory is that more women are experiencing gambling problems and seeking treatment for those problems. The first issue to consider is what is meant by ‘problems’. Documenting this alone could take a whole thesis, but what follows is a brief overview. There is little consensus over how to define gambling problems and even less over how to actually measure them. Disagreement abounds regarding what counts as a ‘problem’ and there are differences between what counts as a ‘problem’ in a medicalised sense and the broader harms that could be a consequence of gambling. Castellani’s (2000) excellent study of how the term ‘problem gambling’ came to be appropriated by the medical profession covers this debate in more detail. In Great Britain, the terminology typically adopted is to describe ‘problem gambling’ as “*gambling to a degree that compromises, disrupts or damages family, personal or recreational pursuits*” (Leseur & Rosenthal, 1991). However, many of the instruments used to measure problem gambling do not take such a broad perspective and instead concentrate on measuring internal states of mind and traits unique to the individual (for example, measuring tolerance, preoccupation or withdrawal). Whilst these may have side effects for personal, family or recreational pursuits, these impacts are not specifically covered within survey measurement instruments (of course, in the context of treatment and counselling these impacts are likely to be discussed).

More recently the term ‘gambling-related harm’ has gained traction especially among policy makers, largely as a way to move away from individualistic perspectives of problems to broaden out consideration to a range of other harms that people may experience. However, this too has defied definition. The term is frequently used by Great Britain’s Responsible Gambling Strategy Board (RGSB), who state that gambling-related harm is:

“the adverse financial, personal and social consequences to players, their families and wider social networks that can be caused by uncontrolled gambling”

(RGSB, 2012: 10).

This concept is often used alongside notions of a public health approach to understanding gambling behaviour but there is still little conceptual clarity about what this means. A by-product of this is that there has been no strategic attempt to collect data about gambling-related harm as a broader concept within various social surveys. In Great Britain, one concession is that the BGPS series has used two different screening instruments when attempting to measure problems.

The use of different instruments is a direct reflection of this situation and does at least recognise that the range of problems experienced can vary for different types of people. Therefore, when attempting to understand if more women are experiencing problems, the limitation of the available data needs to be recognised. It comes solely from the BGPS series and these data do not and will not reflect the full range of problems and harms experienced in reality. Worryingly, review of one measurement instrument used in the BGPS suggested that it was not very suitable for detecting problems among women and postulated that women may experience gambling problems in a very different way to men (Orford et al, 2010). These caveats must be borne in mind when considering the analysis that follows.

There is very little data available about the number of women seeking treatment for gambling problems. Treatment organisations such as GamCare publish annual statistics which show an increase in the number of people being treated. However, it is unclear whether this is because of an absolute increase in the number requiring treatment or because of improved awareness and expansion of these services. Certainly GamCare, in particular, has increased its reach in the past few years, adding more treatment partners, launching online counselling and rejuvenating its helpline offer. What is known

is that very few people who experience gambling problems actually seek any kind of formalised help, so numbers accessing treatment is only a very crude metric for assessing how experience of harm may be changing.

Therefore, in order to assess whether more women are experiencing problems, regardless of whether they are seeking treatment, the BGPS series is, once again, the key source of data. Some caveats should be noted before proceeding. First, the BGPS is a survey of people living in private households. This excludes people who live in institutions from analysis. This includes those living in student halls of residence, prison populations and other institutionalised populations. It also excludes homeless population groups. Therefore, the estimates of harm or experience of problems produced by this study are likely to be an underestimate of the true population rate. Given the increased breadth and depth of interest in gambling demonstrated among women aged 16-24, the most pertinent of these excluded groups may well be student groups.

Second, any measures of sensitive behaviours collected via social surveys will be subject to error. People may not wish to report their true behaviour or feelings or may not be cognisant that they are, indeed, experiencing problems. This, again, will affect the estimates collected. However, information about different types of problems experienced has been collected in the same way since 1999, with (hopefully) the same biases evident. This provides a platform to examine the evidence base for the second part of “feminisation” theory.

The questions used by all three BGPS studies to measure problem gambling are based on the DSM-IV screening instrument. This assesses a range of gambling problems across ten domains and results are used to categorise whether or not a respondent was a current problem gambler. Overall, the BGPS series shows that there has not been a significant increase in problem gambling prevalence rates among women. Estimates

were 0.29% in 1999 and 0.34% in 2010.⁸ However, this does not necessarily mean that more people are not experiencing some form of harm or that the range of problems experienced is the same across the series. The BGPS study was designed to be able to detect changes in problem gambling rates among all adults to +/- 0.3 percentage points (Wardle et al, 2011a). Put simply, the study was not designed to examine whether female rates of problem gambling had changed; it is under-powered to do so.

Therefore, a different measurement metric is needed. The DSM-IV instrument is usually scored in a binary fashion, whereby people are either categorised as meeting each of the ten criteria or not. Scores range between a minimum of 0 and a maximum of 10. However, this is a fairly blunt way to measure complex behaviours and does not take into account the full range of information provided by respondents. Respondents are not simply answering 'yes' or 'no' but are rating their agreement in terms of how frequently they experience each issue, ranging from 'never' to 'very often'. Therefore, the DSM-IV can be scored as a continuous scale, taking into account the full range of responses. This gives a minimum score of 0 and a maximum score of 30. Obviously, a lower score means either fewer reported problems in total or a lower frequency of reported problems. A higher score means more problems experienced more frequently. This allows greater differentiation between survey years and population groups to be detected.

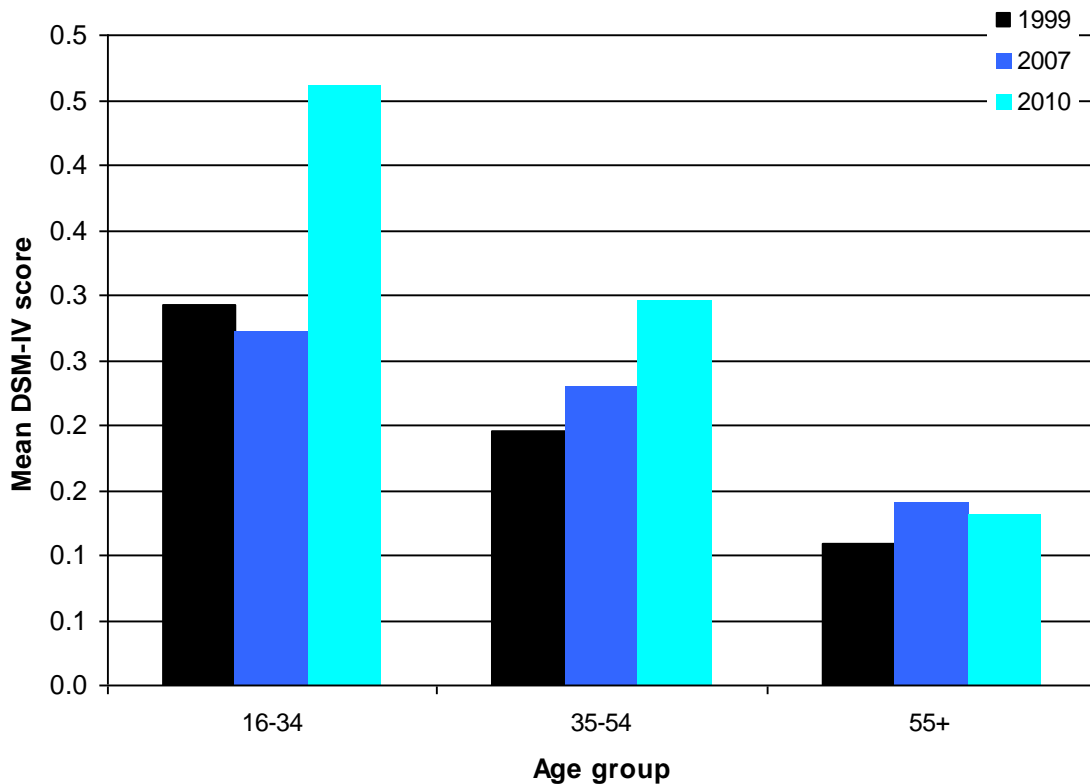
Results for women are shown in Figure 5.9. Overall, mean DSM-IV scores increased from 0.2 in 1999 to 0.3 in 2010 (the scores are heavily skewed towards 0 because of the number of women who do not gamble or who gamble with no problems). (see Appendix Table 5.10). The average values themselves are fairly meaningless but do demonstrate that women are reporting slightly more problems with gambling than previously. Of particular interest is the observation that the increase in overall scores is driven by younger women. For women aged 16-34, mean scores increased from 0.3 in 1999 to 0.5

⁸ In 2010, the confidence interval for this estimate was 0.2% to 0.6%.

in 2010, whereas among those aged 55 and over mean scores were 0.1 in all survey years.

Figure 5.9: Mean DSM-IV scores among women, by age group

Source: British Gambling Prevalence Survey



These differences by age are striking as they suggest two different patterns occurring for different age groups. Both younger and older women showed signs of increasing their involvement with gambling according to a range of metrics. “Feminisation” theory states that as more women gamble, more women will experience problems. This, however, is not supported by this evidence. The experience of gambling-related problems, as measured by mean DSM-IV scores, has not changed for older women despite their notably increased levels of engagement in gambling. Whereas, for younger women aged 16-34, mean DSM-IV scores have increased, suggesting a greater range of problems being experienced among this group. This group also displayed increased interest in their depth and breadth of gambling along with some indication that gambling onset was progressing more quickly than (some) of their older counterparts. It is among this

age group that traditional “feminisation” (or “re-feminisation”) theory seems to be supported. From a realist perspective, this raises some very interesting questions. It indicates that different processes are at work for different age groups: both can be said to be gambling ‘more’ in some respects, but only one group shows evidence of experiencing ‘more’ problems.

Realist description – key points

In this section the second part of feminisation theory was explored – that increased female gambling participation leads to more gambling problems among women. In an attempt to examine this, the potential pitfalls of the existing data have been examined as well as a brief consideration of the power relations that underpin how gambling problems are defined. This is particularly important to ensure that the ‘nuances’ associated with the ‘numbers’ are documented. More crucially, this analysis provides further evidence that the relationship between gambling behaviour and gambling problems is complex and varies for different people. These differences warrant further investigation. This chapter has critically examined the process of feminisation in Great Britain and argues that a process of “re-feminisation” is occurring, which has a range of different outcomes, shaped by a variety of mechanisms and contexts. This is not to say that the original concepts and pathways of gambling feminisation do not hold true for jurisdictions such as Australia, which has a very different gambling culture and landscape. Rather, that this concept cannot be transplanted wholesale to another jurisdiction without very careful examination of the context, cultures and behaviours in that region.

Chapter 6: Types of female gamblers

Introduction

The previous chapter looked at changing patterns of female gambling behaviour and specifically examined the historical and cultural contexts of female gambling. This chapter aims to explore the extent to which realist description can be used to examine current contexts and to explore patterns of female gambling behaviour in depth. In this chapter, the focus is on how gambling varies among adult women living in the general population. In the next chapter, different population groups are considered, namely adolescent females and those who seek help for gambling problems.

The focus of this chapter is to better understand and describe how gambling behaviour may vary for different types of women in different circumstances. Analysis presented in Chapter 5 highlighted potentially different patterns of gambling emerging between different age cohorts. It also emphasised how focus on overall prevalence rates might miss a wealth of further detail about how different women engage in gambling. The objective of this chapter is to extend this analysis by examining whether different groups of female gamblers can be identified and, if so, to describe the features that distinguish them. This includes consideration of individual, social and broader environmental factors that are associated with gambling behaviour. Analysis in this chapter is extended further by examining spatial relationships between gambling availability and gambling behaviour using data obtained from licensing records about the location of gambling premises.

Before presenting this analysis, it is worth reflecting on how this process may fit within a realist approach to descriptive investigation. As stated in Chapter 5, the realist describer seeks to document who does what, why and how and under what circumstances. For realists, knowledge is framed by focus on context, mechanism and outcomes (CMO). These CMO configurations have been most broadly applied to evaluation, whereby the

outcome is the range of outcomes evident as a reaction to the varying influence of differing mechanisms operating under certain contexts for an intervention (Pawson & Tilley, 1997). Translating this for descriptive purposes draws on this and in this thesis groups of people or certain behaviours represent 'outcomes' with varying mechanisms and context influencing how these behaviours are shaped and formed. In terms of process, investigating CMO configurations in a descriptive way is not a linear process. That is, one does not always theorise about the context and mechanisms first and then measure the outcome (as would be done if using an evaluation design incorporating logic models, for example).⁹ Often in descriptive analysis, the observation (the outcome) is the starting point and investigators then work backwards to understand why that might be. It is a classic retroductive process. Theories around context and mechanism are then implicitly inbuilt into analysis plans. This does not mean that the process is data driven nor that theory is of secondary importance. It means that there is a flexible and iterative relationship between data and theory and this relationship is reflexive and often implicit. This does not make this form of descriptive investigation incompatible with realist methods but rather acknowledges that outcomes themselves are context bound; the designation of something as an outcome to be explored can vary depending on the aims and objectives of the investigator.

These points are illustrated in the analysis that follows, both in this chapter and in Chapter 7. This chapter takes exploration of whether there are different types of female gamblers as its starting point for investigation. Identifying the existence of these groups is the outcome and further analysis then aims to explore the context and mechanisms that shape them.

⁹ This assumes that all evaluations operate in ideal-world situations where theories of change and logic models are developed prior to the intervention being implemented and research then designed to measure different theorised mechanisms to assess how and why outcome varies. In practice, this does not always occur and evaluators can often be asked to evaluate a programme once it has already started. They then too, have to work backwards from observed outcomes to theory, mechanism and context.

Exploring types of female gamblers

Identifying groups

The previous chapter argued that female gambling behaviour is not homogenous and stated the need to explore who does what, why and how, and under what circumstances. This analysis seeks to do just that. Using LCA and data from the BGPS 2010, a number of different groups of female gamblers have been identified. Olsen (2010) highlighted LCA as an appropriate realist method which can be used to uncover groups in data that were previously unobserved. The technique is essentially one of data reduction that takes a range of input variables (in this case gambling behaviours) and examines how these cluster and co-occur. The result is the production of mutually exclusive groups of people representing 'latent' classes. This means that these groups are uncovered through the analytical process and based on correlations of behaviours rather than being predetermined by the investigator at the outset of the study. Each respondent is assigned a probability of membership to each class based on their range of responses to the input variables and is then assigned to a final class based on their highest probability of membership. The trick is to develop a final model that performs well according to various goodness of fit statistics, has low classification error (i.e., does not have people with low probabilities of membership) and provides resulting classes that are useful and interpretable. This last clause clearly invites investigators to apply some subjective judgement. It is not always specifically mentioned when presenting the technical details of model development. However, it is vitally important. If the resulting classes are not interpretable or do not have any logical (or theoretical) meaning then how useful results are is questionable. More information about how the LCA classes for this analysis were chosen is presented in Appendix C.

As with any data reduction exercise, there are different ways of approaching analysis. For this chapter, two LCA approaches were tried. The first was based on which activities women had undertaken in the past year and how many activities they had participated in. The optimal solution for this analysis was a six-cluster categorisation, ranging from

non-gamblers to multiple interest gamblers (i.e., those who took part in many activities). These groups therefore covered breadth of female gambling behaviour but did not include depth of female gambling. Chapter 5 showed how depth of engagement is an increasingly important metric and that when used to examine female patterns of gambling behaviour shows much more variation between groups than focus on participation rates alone. Therefore, a second LCA model was constructed. This included a) whether someone was a past year gambler, b) the number of activities they had undertaken in the past year (i.e., breadth of engagement), and c) their number of gambling days per year (i.e., depth of engagement). This also gave a six-class solution as the optimal result. The first method has been used in previous reports based on Health Survey data where measures of depth of engagement were not available (see Wardle et al, 2014). However, the latter method can only be performed using BGPS data as this is the only dataset which includes measurements for both depth and breadth of engagement. To my knowledge, this is the first time this type of LCA model has been produced using the BGPS data.

Comparisons of the two models in terms of their resulting classes is shown in Table 6.1.

Table 6.1 Resulting LCA classes from two different methods

Method 1: participation in 19 gambling activities in past year and number of activities undertaken			Method 2: whether past year gambler, number of activities, number of gambling days per year		
Class	Name	Proportion of women	Class	Name	Proportion of women
A	Non-gamblers	29%	A	Non-gamblers	29%
B	National Lottery only gamblers	17%	B	Low depth; Low breadth (median 1 activity, 3 gambling days per year)	16%
C	Minimal interest – lottery and one other activity	17%	C	Low breadth, medium depth (median 1 activity & 52 gambling days per year)	14%
D	Minimal interest – non-lottery activities	13%	D	Low depth, medium breadth (median 2 gambling activities & 15 gambling days per year)	12%
E	Moderate interest (3-4 activities)	17%	E	Medium breadth & depth (3 activities; median 104 gambling days per year)	26%
F	Multiple interest (5 or more activities)	6%	F	High breadth & depth	4%

What this illustrates is that there are a number of different ways to identify and classify these latent groups. The choice between them relies on what the investigator thinks is most appropriate for their chosen purpose and which method resonates best with theories about behaviour and outcomes. This is an apt illustration of how outcomes can vary depending on the aims and objectives of the investigator. Drawing on this, method 2 was chosen to be optimum. First, there is a growing body of literature suggesting that when it comes to gambling-related harm, it is not necessarily which activity people engage in that is important but how much they do of something. It has been suggested that this be measured on two domains, breadth and depth of gambling (LaPlante et al, 2013). Of course, this does not mean that looking at individual behaviours (e.g., online gambling) as outcomes is not important, rather that when distinguishing between

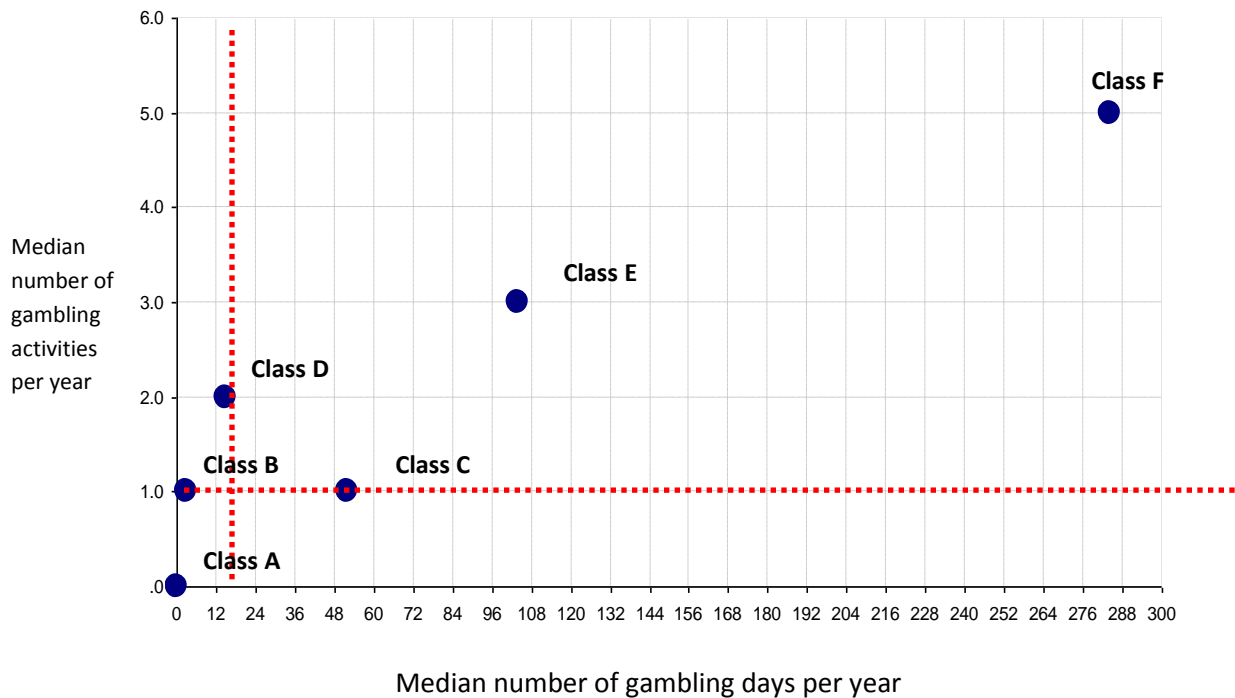
groups of gamblers it makes sense to look at the full range of information available and differentiate between women with lower and higher levels of engagement. Second, the first model created more conceptually messy outcomes. For example, National Lottery only gamblers identified in method 1 may have played only once a year, or may play twice a week, yet they are categorised as belonging to the same group. This seems unsatisfactory as it potentially obscures a broader spectrum of behaviour. Whilst knowing about the types of activity that people do and how activities may cluster is important, better understanding of the range and spectrum of gambling behaviour in terms of levels of engagement is arguably even more so (LaPlante et al, 2009).¹⁰ For these reasons, method 2 was the preferred approach and outcomes (i.e., female gambling groups) reflect behaviour mapped upon a spectrum of behaviour. Whilst this example highlights how outcomes can vary based on the aims of the investigator, it is this process of review, comparison with theory and transparency of decision making that helps guard against critiques of data mining or that analysis is self-reinforcing.

Figure 6.1 shows the position of each class on this spectrum according to median number of gambling activities and median number of gambling days undertaken.

¹⁰ Results of the two models were compared against each other which highlighted these more 'conceptually messy' outcomes.

Figure 6.1: Median number of gambling days and activities per year, by LCA class

Source: British Gambling Prevalence Survey



The red lines on Figure 6.1 show the median number of gambling days per year and median number of gambling activities per year for all women. Those classes above these red lines are categorised as having either medium or high engagement on each domain and those either on the median level or below categorised as having either average, low or no engagement in each domain. What is striking is that after Class A (non-gamblers), the second largest group were women in Class E (moderate depth and breadth gamblers); 26% of women were categorised as moderate depth and breadth gamblers. When those with high engagement in both domains are included (Class G), this rose to 30%, meaning nearly one in three women (typically) engaged in around three activities per year (or more) and gambled on average on 100 days per year. The remaining third of women gambled, on average, to a lesser extent than this (see Appendix Table 6.1).

The profile of women in each group varied by the type of gambling activities undertaken (see Appendix Table 6.2). For example, in Class F (high breadth and depth) nearly all

women (95%) had played the National Lottery and bought scratchcards (83%). Rates of playing bingo, machines in bookmakers, betting on other sports events and gambling online were all at least five times higher than the average, showing the degree of their breadth of interest. Women in Class E (moderate breadth and depth) had also nearly all played the National Lottery and their rates of engagement in scratchcards, casino table games, football pools and bingo were at least twice the average rate of participation. For Class C (low breadth, medium depth) nearly all had taken part in the National Lottery (89%) but rates of engagement in other activities were lower than the average for all women. This group therefore mainly consists of those who played the National Lottery and not much else. For Class B (low depth and breadth), rates of participation in all activities, with the exception of charity lotteries, were lower than average, showing that these women occasionally engaged in gambling activities, but did not do this very often. Finally, women in Class D were more likely than average to have taken part in nearly all forms of gambling, but did not do this very often. They can best be described as a group of women who dabbled in a range of gambling but on a rare occasion.

How do female gambling groups vary?

Methods

Having identified the outcome groups, the next step was to explore who belonged to each group and to try to unpick the different contexts and mechanisms that might influence membership. Binary logistic regression was used to examine this.¹¹ The range of variables included in the model was specifically chosen to reflect both the range of known mechanisms and/or contextual factors associated with gambling behaviour or those theorised to be associated with gambling behaviour. For example, gambling behaviour has been repeatedly shown to be associated with parental gambling behaviour, therefore it was pertinent to include this in the model to explore how this

¹¹ Six separate regression models were constructed, one for each group. In each model, the outcome of interest was membership of this group versus membership of all other groups. See Appendix C for further details.

may vary among different gambling groups. Likewise, this thesis has also emphasised the social nature of gambling. It seems likely that there are social network effects influencing gambling. Whilst the BGPS data do not contain information about the gambling behaviour of broader networks of family, friends or colleagues, they do contain details of the gambling behaviour of other adults residing in the household. This is because of the household based design of the study, whereby all adults aged 16 and over resident in the household were eligible to be interviewed.

For around 85% of households, information from all resident adults aged 16 and over was obtained. Therefore, it is possible to examine how many other people living in the household had also gambled in the past year. Obviously, for those households where information from all adults was not obtained this is not possible. Overall, around 47% of women lived in households where there was at least one other adult gambler present. A third of women (33%) lived either in single adult households or where there was not another gambler present and 20% of women lived in households where information about gambling behaviour among other household members was not available. As noted in Chapter 4, this analysis is possible by treating the household based sample design not as a design conceit but rather as an opportunity to explore household based behaviours further. Of course, it is not perfect, in that information is not complete for all households, but it does allow us to analyse this relationship for the first time. This was therefore included within the regression models. The variable created, number of other gamblers in the household, represents a household and social context but also represents a proxy identification of potential mechanisms influencing behaviour. The mechanism is that of how the behaviour of others may influence the behaviour of the individual and vice versa. As shall be seen, differentiating between contexts and mechanisms in descriptive, quantitative research is not always straightforward.

In terms of context, it was important to include a range of variables that reflect the different circumstances in which groups of women might live. This included their socio-

economic status but also their situation, such as whether they were married, had children and so on. It also included some measure of the types of areas in which they lived. On the BGPS data, there were few area level variables available. For example, area deprivation could not be included in the models because of differences in measurement between England, Scotland and Wales.¹² Increasing attention has been given to the relationship between gambling availability and impact on gambling behaviour. Therefore, a measure of local area access to certain gambling venues was created as a measure to explore this (this is discussed in more detail later in this chapter). In addition to these measures, earlier chapters have also emphasised the interaction between the individual and their broader environment. Therefore a range of factors representing the characteristics of the individual were also included in the models.

The full range of variables included in the models is shown in Table 6.2. This summarises factors by their potential level of influence, that is, whether they are characteristics pertaining to the individual, to the household or to the area. As review of this list shows, it is not comprehensive. As noted above, there were very few area level variables available to explore female gambling behaviour. One correlate, number of other leisure activities engaged in, is also a candidate for further review. Gambling has been reconceptualised by government as a valid leisure and recreational activity, therefore it seems appropriate to explore what other forms of leisure different groups of gamblers take part in. The data available on the BGPS are sparse, but as demonstrated later in this chapter, this can be supplemented with analysis from the Taking Part survey, which measures engagement in various forms of leisure and recreation and has the added bonus of containing greater detail on area level metrics.

¹² England, Scotland and Wales each have different ways of measuring and calculating area deprivation which cannot be combined. For researchers attempting to do so, it is recommended that advice is sought from the lead statistician in each country. See Office for National Statistics, 2013.

Table 6.2 Variables included in the logistic regression models¹³

Individual – socio demographic/economic	Individual – health and lifestyle	Household	Area
Age	Wellbeing score	Whether a parent to a child living in the household	(Exposure to gambling in immediate area)
Ethnicity	General health status	Number of people in the household	
Marital status	Presence of limiting longstanding illness	Number of other gamblers living in the household	
Educational qualifications	Cigarette smoking status	NS-SEC of household reference person	
Economic activity	Alcohol consumption		
Financial difficulties	Parental gambling status		
Personal income	Number of other leisure activities engaged in		

In the sections that follow, the factors predicting membership of each group are discussed and implications for the identification of different context and mechanisms drawn. Results relating to area level exposure to gambling are discussed separately, due to their more complex nature. Finally, further analysis drawing on supplementary analysis from the Taking Part survey is presented and results synthesised.

Factors associated with non-gambling

A number of factors were associated with being a non-gambling female (see Appendix Table 6.3a). These were ethnic group, number of other gamblers in the household, number of other leisure activities engaged in, alcohol consumption, smoking status,

¹³ The variables included in these models were chosen either because they have previously been demonstrated to be associated with gambling behaviour (this applies to all of the socio-economic and health and lifestyle behaviours included, see Wardle et al, 2011) or, because they were considered conceptually important. For example, understanding the gambling behaviour of others in the household points to a potential social network affect and therefore warranted inclusion; or whether someone was a parent to a child under 16 may have limit their opportunities to gamble or restrict opportunities to certain types and therefore too warranted investigation.

economic activity, educational attainment, number of adults in the household, NS-SEC of household reference person¹⁴, and parental gambling status. These reflect a range of individual, health and lifestyle and household-level factors demonstrating the multi-faceted nature of factors that influence gambling behaviour.

First, looking at individual factors, the odds of being a non-gambler were higher among all non-White ethnic groups than among women who were White/White British. For example, the odds of being a non-gambler were 2.9 times higher among women who were of Asian/Asian British background than those who were White/White British. This finding is not surprising, as it has been consistently reported that those of Asian/Asian British origin are less likely to gamble (Forrest & Wardle, 2011). A further individual-level factor associated with non-gambling status was economic activity. Here, those who were not in paid employment were more likely to be non-gamblers. This was especially true of women who were unemployed, where the odds of being a non-gambler were 2.4 times higher than women in paid employment. The odds of being a non-gambler were also 1.6 times higher among women who looked after their family and home than those who were in paid employment. Finally for individual-level factors, women whose highest level of academic attainment was degree level were more likely to be non-gamblers.

Looking at health and lifestyle factors, the odds of being a non-gambler were lower among those who consumed greater amounts of alcohol and among those who were cigarette smokers; meaning that women who smoked and drank greater quantities of alcohol were less likely to be non-gamblers. Non-gamblers also took part in a lesser range of other leisure activities. The odds of being a non-gambler decreased by 0.94 for every additional other leisure activity undertaken, essentially meaning the more an

¹⁴ NS-SEC is the National Statistics Socio-Economic Classification which is a measure of socio-economic status based on the current or former occupation of the household reference person (formerly the Head of Household). It has similarities to the Registrar General's Social Class.

individual engaged in other leisure activities, the less likely they were to be a non-gambler.

A number of household-level variables were associated with female non-gambling. First, the gambling behaviour of other people in the household was particularly important. Women who lived with other adults who gambled were themselves less likely to be a non-gambler. For example, the odds of being a female non-gambler were 0.06 times lower among those who lived with three or more other gambling adults than women who did not live with other gambling adults. The odds of being a non-gambler decreased as the number of other gambling adults in the household increased, displaying a largely linear relationship. One counterpoint to this was that women who lived alone were less likely than women living with others in non-gambling households to be a non-gambler. This suggests a further range of influences are at work. For example, if the relationship was solely dependent on whether a woman lived with a gambler or not, one might expect the odds of being a non-gambler to be similar for women living alone to those who lived in households where no-one gambled: they were not. Being a woman who lived alone meant that they were even less likely to be a non-gambler than other women living in non-gambling households. It is worth noting that age was taken into account in this model, so this does not explain the differences. Whilst it is clear that who women live with is important, it is evident that others factors are at play also. This suggests that immediate social networks are important but that there are likely to be a range of other countervailing mechanisms at work too.

Interestingly, the odds of being a female non-gambler were higher among those who lived in larger households, regardless of the gambling behaviour of those people. For example, the odds of being a non-gambler were two times higher among those who lived in households with four or more people than those who lived in households with just one or two people. Here, household composition is important. Living in larger households meant that women were more likely to be non-gamblers. However, if the

people that they live with gamble, they were then less likely to be non-gamblers. What others in the household do is clearly important.

The final household-level variable that was associated with non-gambling was NS-SEC of the household reference person. Women living in households where the household reference person was in a routine or manual occupation had lower odds of being a non-gambler than those living in managerial and professional households. This means that women in households of lower socio-economic status were less likely to be non-gamblers. Here, it is not just who women live with, but the status of their household that helps to explain non-gambling behaviour.

Factors associated with female gambling types

When looking at the factors associated with membership of each of the gambling groups, in some cases the patterns observed were simply the inverse of the relationship described above. This is because the logistic regression model looks at the factors associated with membership of each group versus all other women, including non-gamblers. However, a number of interesting patterns differentiated each gambling group and these are highlighted in the section that follows.

Looking first at Class B low depth and low breadth gamblers (see Appendix Table 6.3b), again a range of individual, and health and lifestyle factors were associated with membership. Unsurprisingly, women from non-White ethnic backgrounds were less likely to be low depth and breadth gamblers. This is likely to be a function of the lower propensity of this group to gamble. The odds of being a Class B gambler were around 0.6 times lower among those with lower levels of educational attainment than those educated to degree level. Women who were unemployed were less likely to be Class B gamblers. For employment and ethnicity, these results are simply the inverse of the association observed for non-gamblers. But for education, the patterns between the

two groups were the same; women with lower levels of academic attainment were both less likely to be non-gamblers and low-depth and breadth gamblers.

Parental gambling status and engagement in other leisure activities were also associated with being a Class B gambler. The odds were lower among those whose parents regularly gambled (0.66) and increased by 1.04 times for each additional leisure activity reported. Finally, age was significantly associated with low depth and breadth gambling; the odds decreased as age increased.

Turning to Class C, the low breadth and medium depth group whose primary form of activity was the lottery (see Appendix Table 6.3c), shows the range of factors associated with membership were only at the individual level: these were age, ethnicity and educational qualifications. This group tended to be older; the odds of membership were significantly higher among all women aged 25 and over than among those aged 16-25. There was also a distinct age gradient evident, with the odds of membership (generally) increasing as age increased. For example, the odds of being a Class C gambler were 1.7 times higher among women aged 25-34 than those aged 16-24, whereas the odds were over four times higher among those women aged 55 and over.

The odds of membership were lower among non-White ethnic groups than women who were White/White British. Finally, the odds of being a Class C gambler were higher among those with lower levels of educational attainment: odds were around 1.5 times higher among those with no qualifications than among women educated to degree level or higher.

Household-level factors were more commonly associated with Class D gambling (low depth and medium breadth gamblers; see Appendix Table 6.3d). The odds of belonging to this group increased as the number of other gamblers in the household increased. Odds were 3.7 times higher among those who lived with three or more gamblers than

among those who did not live with any other gamblers. However, a converse relationship was evident with total number of adults in the household, where odds were lower among those who lived with a higher number of other adults. Again, what other people in the immediate social network of the individual do appears to be important. Odds of belonging to this group were lower among those living in routine and manual households than those living in managerial or professional households. Finally, the odds of belonging to this group typically decreased with advancing age, being around 0.5 times lower among those age 55 and over than those aged 16-24.

Classes E and F represent our most engaged female gamblers (see Appendix Tables 6.3e and 6.3f). Comparing the regression models for these groups highlights an interesting pattern. This is that for both, a range of household-level variables are associated with membership.

Looking at Class E (moderate engagement) gamblers first, NS-SEC, number of gamblers in the household and household size were associated with membership. First, the odds of membership were higher (1.56) among those living in routine and manual households than among those living in managerial and professional households. Looking at who women lived with also displays some interesting results. The larger the household, the less likely a woman was to be a moderate engagement gambler. However, if other adults in the households were gamblers, then women themselves were more likely to be gamblers. For example, the odds were around 7.6 times higher among those who lived with three or more other gamblers than those who did not live with other gamblers. Yet again, who women live with, and what those people do, has a strong association with individual gambling behaviour. This relationship was not confined only to who individuals lived with at the present, but familial networks were also important: the odds of being a Class E gambler were higher among those whose parents had also gambled regularly.

A range of individual and other health and lifestyle characteristics was also associated with moderate engagement gambling. These were educational qualifications, economic activity and cigarette smoking status. The odds of being a Class E gambler were typically lower among those not in paid employment and were higher among those with lower levels of academic attainment. The odds were higher (1.45) among those who currently smoked cigarettes.

Finally, looking at Class F (high engagement gamblers, see Table 6.3 below), cigarette smoking status, parental gambling status, NS-SEC of household reference person, educational attainment and number of other gamblers lived with were associated with membership. Taking the individual factors first, odds of membership were 2.4 times higher among current cigarette smokers. Odds of being a high engagement gambler were higher among those with no or other educational qualifications (1.82). Parental gambling status was positively associated with membership, the odds being 1.8 times higher among women who had parents who gambled regularly with no problems and 2.5 times higher among women who said that their parents gambled regularly and had experienced problems. Turning to household-level factors, like Class E, lower socio-economic status was positively associated with high engagement gambling. The odds were 2.2 times higher among women living in routine and manual households than those living in managerial and professional households. This highlights a distinct social patterning associated with high engagement gambling. The final, and strongest, relationship was the number of gamblers who women lived with. The more gambling adults that women lived with, the more likely they were to be a highly engaged gambler themselves. The odds increased as the number of gamblers in the household increased. For example, among women who lived with one other gambler, the odds of being a Class F gambler were 2.9 times higher than women who did not live with other gamblers. The odds increased to 7.8 for women who lived with two other gamblers and to 10.8 for those who lived with three or more other gamblers. Taking this analysis together demonstrates that living arrangement, socio-economic position, parental

influence and engagement in other health behaviours are all strongly related to high engagement gambling.

Table 6.3			
Estimated odds ratios for belonging to Class F (high breadth and depth gamblers)			
<i>All women aged 16 and over</i>		<i>BGPS 2010</i>	
Socio-demographic and health characteristics	OR	95% CI	
		Lower	Upper
Number of other gamblers in household (p<0.001)			
0	1		
1	2.92	1.06	8.03
2	7.83	2.52	24.32
3 or more	10.82	2.68	43.77
Partial households	4.68	1.59	13.79
Single person households	2.25	0.72	6.99
NS-SEC (p<0.001)			
Managerial & professional	1		
Intermediate	1.00	0.51	1.96
Routine & manual	2.23	1.33	3.73
Unknown	1.69	0.68	4.20
Cigarette smoking status (p<0.001)			
Non-smoker	1		
Current smoker	2.43	1.58	3.72
Parental gambling status (p<0.001)			
Parents did not gamble regularly	1		
Parent regularly gambled	1.75	1.15	2.68
Parents regularly gambled and had problem with gambling	2.46	1.14	5.32
Educational qualifications (p<0.01)			
Professional qualification/degree or higher	1		
A-levels/O-levels or equivalent	0.97	0.56	1.71
Other/None	1.82	1.00	3.31
Hosmer-Lemeshow Test: F-adjusted test statistic = 0.697; p=0.711			

Discussion

This analysis highlights a number of important themes relating to who different types of female gamblers are, and their individual and social contexts. It also sheds light on some potentially interesting mechanisms which warrant further investigation. The first is the

strong relationship witnessed between gambling status and ethnicity. Non-gamblers were more likely to be from Asian/Asian British groups than White groups and where ethnicity was associated with gambling, the converse was true. This is often explained with reference to religious and cultural practice. In particular, those from Islamic backgrounds are prohibited from gambling by the Koran. Therefore, if some of these groups are observant of religious protocol then lower rates of participation in gambling would be expected. What is surprising is that similar regression models using combined English and Scottish Health Survey for England data have shown that both ethnic origin and religious background together predict female non-gambling (Wardle et al, 2014). In the Health Survey study, the odds are as expected, in that Muslim females are less likely to be gamblers than those with no religious affiliation. What is notable is that ethnicity remains significantly associated with non-gambling even when religious affiliation is taken into account. This suggests that other factors are at work, beyond Islamic religious adherence, influencing the propensity of Asian/Asian British women to gamble. It may be that other dominant religious groups (such as Sikhs or Hindus) are less likely to gamble or that there is some other cultural practice influencing this. This highlights the potential conceptual overlap in applying realism to descriptive analysis. Religious and ethnic cultural backgrounds are clearly contextual factors but adherence to religious commandments could also serve as a mechanism influencing and shaping behaviour outcomes, in this case engagement in gambling. Careful thought is needed to unpick these relationships. This is especially true given that previous evidence has shown that whilst those of South Asian backgrounds are less likely to gamble, those that do gamble are more likely to experience problems (Forrest & Wardle, 2011). Tracing the range of different contextual factors and mechanisms underpinning this alternative outcome is therefore important, recognising that context also includes individual as well as broader social determinants.

A second theme is the challenge these results present to the typical orthodoxy that parental gambling behaviour is associated with individual gambling behaviour. This

analysis has shown that this is not true for all gambling types. Class B gamblers (low depth, low breadth) actually displayed an inverse relationship with parental gambling status, with the odds of class membership being lower among those with parents that gambled. Parental gambling behaviour is typically viewed as a developmental context that affects subsequent behaviour, though the mechanisms of this transmission have received scant attention. This finding suggests more thought is needed about how this relationship works. For example, this finding could be because particular types of parental gambling behaviour are more associated with particular types of individual behaviour. Unfortunately, the only data available is a self-reported metric of whether parents gambled regularly when the respondent was young, and so detail is not available about what types of gambling the respondent's parents engaged in. The idea of there being particular associations that better describe the relationship between parental and individual behaviour is plausible. Qualitative evidence from a study of gamblers in Glasgow showed a gendered relationship between familial and individual gambling behaviour. Men described how they were introduced to activities like betting by the males in their family whilst women described how they were introduced to activities like bingo by the women in their family (Reith & Dobbie, 2011). This suggests a correspondence and confirmation of interest through shared familial relationships and activities. Notably, Class B gamblers tended to be mainly lottery players and in most cases, the lottery would not have been an available product to their parents which may offer a plausible explanation of this relationship.

Whilst plausible, more likely is that these women do not view the National Lottery as a gambling activity and they clearly do not engage in other forms of gambling. Evidence from previous research has shown that people often do not consider the National Lottery to be gambling (Casey, 2008; Wardle et al, 2011a). Therefore, these findings are commensurate with this outcome. If the National Lottery is not viewed as a gambling activity, but rather a good cause, or a bit of fun, shared familial bonds may have less importance in shaping behaviour. It is also plausible that the relationship between

gambling and parental status is so strong that those with gambling parents are more likely to take part in a range of activities, not just the lottery. This is potentially supported by the strong association with multiple interest gambling. Here, theorised mechanisms such as parental behaviour contributing to attitude formation or even facilitating access to gambling can be suggested. However, parental gambling behaviour was not significantly associated with all groups, suggesting the relationship is more nuanced than previously supposed. Further investigation into how these associations manifest into different outcomes for different women is needed.

The final theme emerging from this analysis is the importance of broader social contexts. It was evident that who women lived with, and the circumstances in which they lived, were related to membership of different gambling groups. The number of other gamblers that women lived with emerged as a strong predictor of gambling behaviour, be it at lower levels of engagement or the highest level of gambling interest. In this thesis, the context of the social network was constrained to that of the household but findings are suggestive of social network influences beyond household boundaries. Within households, a range of mechanisms can be postulated. These range from shared social behaviours and interests between household members, initiation of gambling between household members, facilitation (i.e., someone to buy lottery tickets for you or place bets) and so on. This links with social network theory, which suggests three main mechanisms to explain shared social network behaviour. The first is influence and assimilation, whereby individuals assume the interests and behaviours of others in the network. The second is homophily, whereby individuals choose social networks of other individuals who have shared interests. The third is that there are external influences operating to influence all individuals within the network (Christakis & Fowler, 2011). All three processes could be at work to explain the observed association between individuals and the gambling behaviour of others in their household.

This analysis also highlights a limitation of realist description using quantitative data alone. One can only speculate as to what the specific mechanisms might be; there is little evidence available to explore them further. This analysis simply demonstrates the relationship between context and outcomes; the mechanisms need further investigation. However, these findings are still important: they allow better theorising about the range of influences and are especially important to the field of gambling studies. What this analysis demonstrates is the necessity of broadening our considerations of the determinants of gambling behaviour from the biological and individual to encompass the social and the broader network of families, friends and households. This has implications for how responsible gambling interventions may be developed. For example, understanding the mechanisms through which behaviours are shared via social networks may suggest a new range of ways to intervene with gamblers to prevent harm.

Finally, what this analysis has shown is that not all women are the same and that not all female gamblers are the same. There are different groups of female gambling evident which have different characteristics. From this analysis, they appear to be quite distinct groups, with different profiles and potentially different determinants of behaviour.

The influence of area exposure to gambling

Recently, the spatial distribution of gambling outlets has been subject to investigation (focusing on machines) and this has demonstrated that there are areas in Great Britain which have higher densities of gambling machines than might be expected relative to the population or to geographic area (Wardle et al, 2013). This research also demonstrated that these areas of high density of gambling provision, dubbed 'high density machine zones', had a significant correlation with the socio-economic characteristics of the areas in which they were located. These areas were more likely to have greater levels of income deprivation, higher levels of unemployment among the

resident population, younger resident population profile and a higher proportion of residents from minority ethnic groups (Wardle et al, 2013).

In recent years particular attention has been given to the phenomenon of clustering of bookmakers. Research conducted by Geofutures, an independent spatial analysis research company, confirmed that clusters of bookmakers were evident across Great Britain. This is largely attributable to features of the Gambling Act 2005 whereby the 'demand' test was removed. Prior to the implementation of the Gambling Act in 2007, the 'demand' test was the main feature governing licensing decisions for gambling premises. A simple summary of the demand test was that an operator had to evidence that there was unmet and unstimulated demand for their products in an area in order to be granted a licence. The Gambling Act 2005 abolished this and replaced the demand test with an 'aim to permit' clause for local authorities, explicitly stating that they should not take into account pre-existing supply when reviewing licence applications and that they should aim to permit the application (assuming it met with the three licensing objectives of the Gambling Commission) (Light, 2007). The Select Committee hearing on the impact of the Gambling Act 2005 concluded that an unintended consequence of the Act was that bookmakers now clustered in some high streets as these premises moved from back street to high street locations, occupied vacant properties and followed competitors (Culture, Media and Sport Committee, 2012).

Clearly then, there is a spatial element to the distribution of gambling premises. Whilst some aspects of this distribution have been examined, the relationship of this distribution with gambling behaviour has not. It was possible to do this for the first time for this thesis by creating an index of gambling density for low level geographies and matching to the survey data collected from the BGPS 2010, matching data at a postcode level. See Appendix C for fuller details of how this was produced and how data release and confidentiality issues were handled. This is important as it represents an area level context that may be associated with gambling behaviour.

The first step in this analysis was to use the Gambling Commission’s 2010 record of licence holders to map the geographic location of all licensed gambling premises. This represents the first limitation of this approach. The quality of these data is variable: not all premises listed had a postcode, not all postcodes were valid. Furthermore, previous research using the Gambling Commission’s premises database has shown some notable omissions, for example completely missing returns from some local authorities (Wardle et al, 2011c). A data cleaning and management exercise was conducted on the 2010 register which resulted in a listing of 11,780 premises: of these, 589 did not have a valid postcode (c. 3% of the register and were excluded from analysis). A second limitation of using the Gambling Commission’s register is that this only records certain venues where premises licences are granted. This excludes all venues selling lottery tickets and scratchcards and also excludes pubs, clubs and other ambient places where slot machines may be present. The resulting list is therefore heavily skewed towards the distribution of bookmakers and does not include some types of gambling; see Table 6.4.

Table 6.4 Number of premises by type recorded in Gambling Commission premises register

Venue type	Number of premises in the register
Adults Gaming Centre	2280
Betting shop	8299
Betting (track)	26
Bingo hall	628
Casino	158
Family entertainment centre	360
Not known	29
Total	11780

Once premises were geolocated, they were then aggregated to Middle Super Output Area (MSOA) level.¹⁵ MSOAs are areas designed to have a minimum population of 5,000 adults and a mean of 7,200. This means they can vary in size and shape, as they are

¹⁵ Because of different geographies in England and Wales to Scotland, this analysis is restricted to England and Wales only.

based on population size rather than geographical size. This was chosen as the geographic level for analysis for three main reasons. First, lower level geographies (like Lower Super Output Areas or Output Areas) would have probably been too small to allow meaningful analysis. They represent local areas with populations of 300 people to 1,500 people. In urban areas, this represents very small geographic spaces and is unlikely to fully represent the local area in which people live. With Output Areas, the lowest level of geography available, this limitation would be amplified. Secondly, the analysis presented in this thesis represents only the first exploratory attempt to examine the relationship between gambling provision and gambling behaviour. Therefore a well established and recognised geographical boundary was chosen for this initial exploration. This thesis seeks to explore how using data in different ways may provide useful insight into the mechanisms governing behaviour. It does not purport to be an expert spatial analysis. Therefore, the analytical approach taken was more simplistic than one might expect from a fuller spatial investigation and uses data aggregated to MSOAs only as a starting point for investigation. Finally, there were only 11,191 gambling venues in the sample and therefore a geographic area was needed that was large enough to be able to map and explore differences between them. Of the commonly available geographies, MSOA seemed the most appropriate.

Once venues were aggregated to MSOA level, excess risk rates were calculated using the statistical package GeoDa. Excess risk rates are similar to standardised mortality ratios. The number of venues per head of the population was calculated: this gives a population average. The number of venues per head of population is then calculated for each MSOA. This is divided by the population average to give a ratio. A ratio of 1 means the rate at the MSOA level is the same as the population level. A ratio of less than 1 means the number of gambling venues is lower than expected given the population in that area, and a ratio higher than 1 means the number of gambling venues is higher than expected. Essentially, it identifies areas where there are a greater number of gambling venues than expected given their resident population.

The distribution for England and Wales is shown in Figure 6.2.

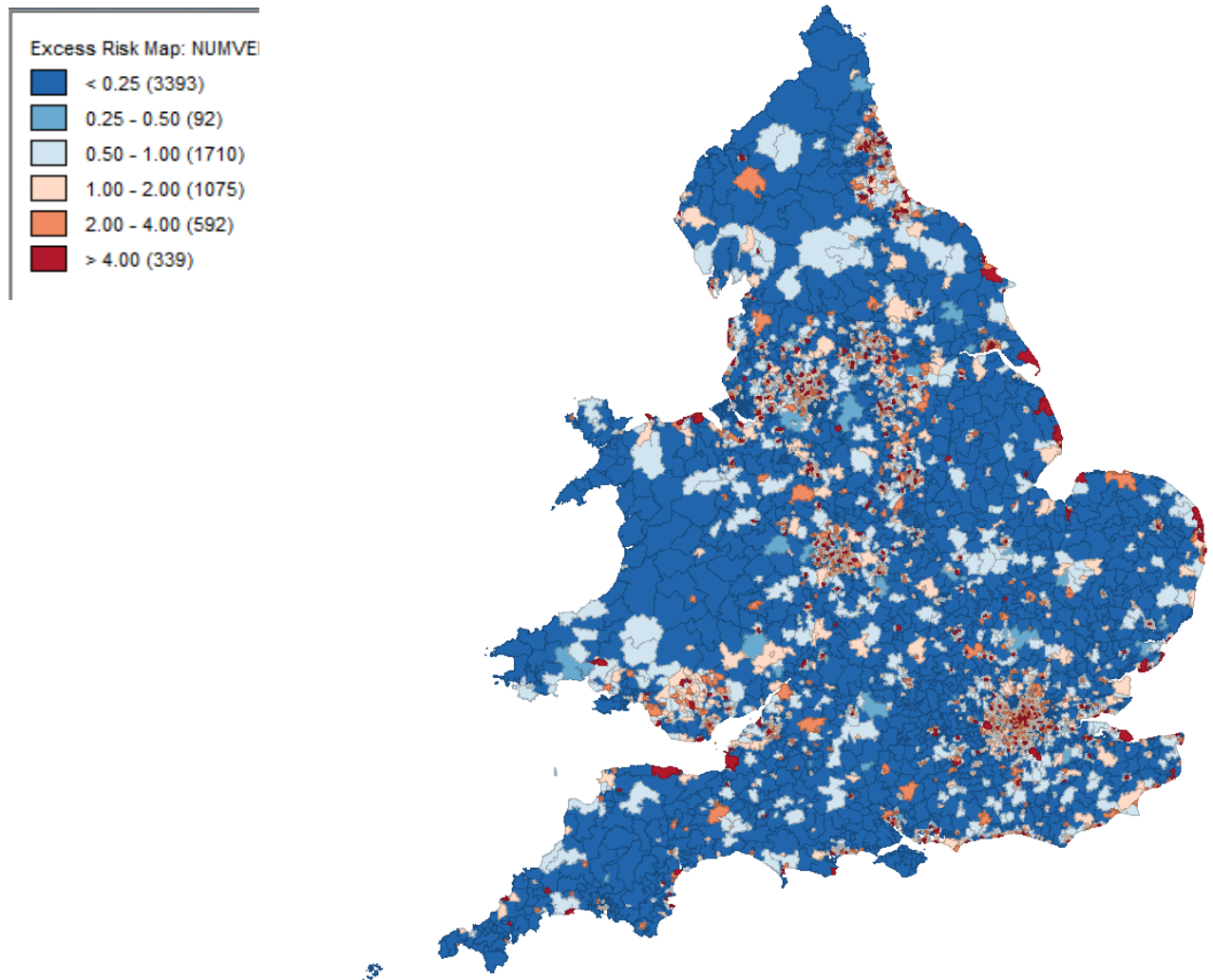


Figure 6.2: Excess risk ratios for gambling venues, by MSOA

As can be seen from Figure 6.2, there are some MSOAs which have a higher than expected number of gambling venues given their population numbers. These are shown in red and orange in the above chart. The overall pattern is for them to be located in urban areas and concentrations can clearly be seen in and around London, Birmingham, Manchester, Cardiff and Newcastle. This may, in part, reflect the tendency for central urban areas to have lower population density. Unsurprisingly, some coastal areas have a higher than expected number of venues, which is likely a reflection of the tradition of

seaside arcades. As can be seen, nearly half of all MSOAs in England and Wales do not have any licensed gambling premises.

The excess risk ratios computed for each MSOA were merged onto the BGPS data, using the home postcode of the participant to identify the MSOA to which they belonged. An ordinal variable was then created which included the following categories: no gambling venues (excess risk ratio = 0); less than average gambling venues (excess risk ratio <1 but >0); higher than average gambling venues (excess risk ratio >1 but less than 1.89); and highest excess risk ratios (excess risk ratio > 1.89). This latter category was identified by those cases which were one standard deviation (or more) from the national mean. When merged onto the BGPS data, 48% of women interviewed lived in areas with no access to gambling venues in their immediate area, 25% lived in areas with less than average access, 13% lived in areas with higher than average access and a further 13% lived in areas with the highest access to gambling venues.

However, when patterns of gambling behaviour were explored by area exposure there were few significant differences observed (see Appendix Table 6.4). Past year gambling rates among women in areas with no gambling venues were 71%, and in the highest access areas were 73%. In some ways this is to be expected, as past year gambling rates are dominated by National Lottery play, access to which is not taken into account in the excess risk ratio calculations. The same pattern was true when looking at past week gambling rates, with little variation between women living in different areas. Looking more specifically at activities like betting or table games at a casino, where access to these venues was directly included in the excess risk ratios, there was also no clear pattern between past year participation, past week participation or more regular participation. The only exception to this was bingo, where monthly participation in bingo was higher in areas with higher than expected gambling venues (8%) and lower in areas where there were no gambling venues (5%). However, on the whole, when access to venues was measured disproportionately focusing on proximity to bookmakers, it

seems there was an inconsistent relationship between access and behaviour. To confirm this, all regression models presented earlier in this chapter were re-run to include area gambling access. This was not a significant predictor of any female gambling group and did not alter the final results of these models in a significant way.

Given the highly skewed nature of this metric mirroring the distribution of bookmakers, it is unsurprising that the relationship between gambling access and behaviour for men was more complex. For example, 11% of males living in areas with no immediate gambling venues had bet on sports events in the past year. Among those living in areas with the highest access, it was 20%. The same pattern was true for betting on dog races; past year prevalence rates for men ranged between 5% for those living in areas with no gambling venues to 10% among those living in the highest access areas. For men, it seems a different relationship is evident.

This observation is important and it provides insight into how CMO configurations may differ for men and women. Chapter 5 traced the development of bookmakers and noted that they are highly gendered spaces. Given that bookmakers dominate the excess risk metric as a function of their greater number, the broad lack of association between physical exposure to gambling venues and patterns of female gambling is unsurprising. It is also unsurprising that a stronger relationship is observed for men. This patterning does not, however, mean that among women a relationship between exposure to gambling and behaviour can be discounted. Rather, it suggests that when focusing solely on the relationship with physical access, this association is dominated by gendered mechanisms. More thought is needed about how to measure and define gambling exposure, what contexts to include and different domains to consider. For example, exposure may comprise of different domains, those of access and availability. The former may include physical access, whereas the latter could include things like opening hours, or the internet and account-based provisions. The analysis presented here has highlighted the potentially gendered nature of relationships between exposure to

physical gambling outlets and behaviour and suggests, taken together with analysis presented in Chapter 5, reasons as to why this might be – namely the historical and cultural contexts in which commercial bookmakers have developed and a prevailing view that these are male spaces.

Filling the gaps – further analysis from the Taking Part survey

Introduction

As noted earlier in this chapter, the BGPS series offered only limited insight into the range of other leisure activities undertaken by women and how this was related to different types of female gambling behaviour. The BGPS also has very limited area level variables available. The Taking Part survey 2007/2008 goes some way to addressing these gaps.

Exploring the relationship between gambling and broader leisure repertoires is important. The Gambling Act 2005 sought to redefine gambling as a valid recreational activity that all could enjoy, should they choose to. The positioning of gambling under the remit of the Department of Culture, Media and Sport supported this view and the then government's intentions were made clear by Tessa Jowell (then Secretary of State for Culture) when she stated that:

“In the future, well-informed adults will have greater freedom and choice to spend their leisure money on gambling if they want to. The law will, for the first time, treat them like grown ups. Outdated restrictions ... will be removed and the industry will be able to develop innovative new products. Gambling will be increasingly combined with other leisure products in attractive surroundings providing high quality entertainment for adults.”

(Light, 2007: 684)

Arguably, the Act was, in part, a rebranding exercise. No longer was gambling to be treated as the 'poor cousin' of the leisure economy. It was to be freely promoted, subject to market forces and competition and firmly positioned as a valid recreational choice. As Chapter 5 showed, this movement was not out of line with the views of some people for whom it was clear that gambling represented a fun leisure and recreational choice. However, gambling is a divisive issue (as also noted in Chapter 5) and there were (and are) those who believed that gambling should not be broadly promoted, that it is not a recreational product like all others, and who continued to view gambling in a negative way (Orford, 2010). This tension between policy positioning and broader beliefs continues to be played out to this day, with national media campaigns to stop the spread of gambling machines, for example. This tension is also evident in the attitudes of the British public, typically viewing gambling more negatively than positively, though supporting an individual's right to engage should they want to. Implicit within this is the pervading sense that gambling is not the 'right' sort of recreational activity that people should engage in. In the past gambling was viewed by the middle classes as a 'lowbrow' activity, with the sense that the working classes should not be spending their money in this way (Clapson, 1992). This narrative is persistent and underpins current British attitudes to gambling (Orford et al, 2009).

Therefore, examining the relationship between gambling behaviour and engagement in other leisure activities is important. It potentially allows us to make some assessment about how, and for whom, gambling is integrated within broader leisure repertoires. Exploring this relationship may give deeper insight into the types of people who gamble and why. Gambling clearly is not the only leisure activity in which people engage, so understanding more about these patterns may help us to better understand how behaviours vary for whom, and under what circumstances. This is possible by analysing data collected via the Taking Part survey in 2007/2008.

The Taking Part survey also offers a further addition to our explanatory power. This is the ability to explore area level relationships in greater detail than hitherto allowed by the BGPS series. The Taking Part study included Acorn categorisation in its dataset. This is a system of classifying residential neighbourhoods based on a range of geographic and demographic indices (i.e., property type, profession and age of individuals in area, area type, ethnic make-up of areas, etc). There are numerous different types and categories which are summarised under five main groupings: wealthy achievers, urban prosperity, comfortably off, moderate means, hard pressed (CACI, 2014). It therefore distinguishes between the different types of areas in which people live. Whilst exposure to physical gambling venues may not have been related to female gambling behaviour, other characteristics of the areas in which women live may be. Indeed, recent results from the Health Surveys series have shown that problem gambling is related to living in areas of greater deprivation.¹⁶ Analysis of behaviour by Acorn classification allows the relationship between female gambling behaviour and area contexts to be explored fully for the first time.

Methods

The Taking Part survey is an annual survey aimed at capturing information about participation in leisure, culture and sports in England. It is a nationally representative survey of both adults and children, and in 2005–2008 questions about participation in gambling were asked of all adults aged 16 and over, as well as questions about engagement in a range of other leisure activities. The survey content tended to focus on collecting information about more formal engagement in leisure and recreation, such as participation in classes, visits to heritage sites, etc. The survey's main priority was to collect data to monitor progress towards Public Service Agreement (PSA) targets on cultural engagement among adults. Therefore, the survey did not cover informal forms

¹⁶ In Scotland the relationship was that those categorised as most deprived according the Scottish Index of Multiple Deprivation were more likely to be problem gamblers. In England, the relationship was that those living in the most health deprived areas were more likely to be problem gamblers (Wardle et al, 2014).

of leisure activity in particular detail. Informal leisure activity includes things such as spending time with friends or family, watching television or eating out. Only one question covered these more informal forms of leisure, which was whether this was something respondents did in their free time. There was an additional question about time spent watching television. Therefore, when using this data one must recognise that there is a skew in the type of knowledge it represents. Activities contributing to PSA targets are well covered in the survey, other leisure is not. Whilst the survey describes itself as a survey of leisure activity, the knowledge it represents relates to forms of leisure that the government would like to promote. It does not include informal leisure activity in detail and therefore does not provide a fully balanced view of an individual broad range of leisure engagement. However, some information is better than none, although these biases need to be recognised. As noted earlier, gambling was repositioned by the then Labour government as a valid leisure activity. It seems, therefore, appropriate to consider gambling behaviour alongside other forms of leisure which the government would like to promote.

To build on the work presented earlier in this chapter, LCA was again used to identify different groups of female gamblers. This was with the intention of seeing whether engagement in other forms of leisure activity and Acorn classification predicted membership of different gambling groups. However, because the questions asked in the Taking Part survey varied from those used in the BGPS series, it was not possible to recreate the same LCA groups. The LCA produced for this analysis only focused on past year gambling participation (i.e., breadth of gambling involvement), as frequency of participation (i.e., depth) was not asked. (Full details of the development of the LCA models are shown in Appendix C). Therefore, the limitations outlined earlier in this chapter about this approach apply to this analysis – all that is known is what people did, not how often they did it.

For the LCA model, a six-class solution was deemed optimal. This included the following groups (see Appendix Table 6.5 for more detail):

Class 1: Non-gamblers – this represented 41% of women who had not gambled in the past year, the proportion of female non-gamblers in the Taking Part study being higher than the proportion recorded in the BGPS 2010.¹⁷

Class 2: National Lottery only gamblers – this group represented 31% of women who had only played the National Lottery in the past year.

Class 3: National Lottery and other activity gamblers – this group represented 8% of women who had bought tickets for the National Lottery and had engaged in one other form of gambling (though not scratchcards) in the past year.

Class 4: Multiple interest gamblers – this represented 7% of women who had a broader range of engagement in gambling activities. All had taken part in at least three activities in the past year if not more. Nearly all had bought tickets for the National Lottery (96%), nearly two-thirds had bought scratchcards (62%), half had bet on horses (50%) and nearly half had played bingo (47%) in the past year.

Class 5: Minimal interest (non-lottery) gamblers: this group represented a diverse range of gambling behaviours for around 7% of women. They had taken part in one or two activities but notably had not bought tickets for the National Lottery.

Class 6: National Lottery and scratchcard only gamblers: this represents 3% of women who had all engaged in both activities but only these activities alone.

¹⁷ In the BGPS 2007, 35% of women were non-gamblers, which is more in line with the Taking Part study results. The main reason for the difference is likely to be due to question wording, as the Taking Part study did not include the same comprehensive list of gambling activities as the BPGS, meaning that gambling behaviour is likely to be under-reported in the Taking Part study series.

The intention was to model the factors associated with membership of each group along with engagement in various other forms of leisure activity and their relationship with Acorn classification. The forms of leisure activity included in the models and what type of activity they represent are shown in Table 6.5 below.

Table 6.5 Type of leisure activities included in the Taking Part survey

Leisure participation	Description
Participation in arts events	Whether the respondent had taken part in any art forms in the past 12 months. This ranged from dancing, playing music, performance, photography, crafts, reading, writing etc.
Attendance at arts events	Whether respondent had attended various arts event in the past 12 months. This ranged from going to the cinema, theatre, music performances and dance events
Visit to library	Whether respondent had been to a library in the past 12 months (not for work or academic study)
Visit to archive	Whether respondent had been to an archive centre in past 12 months (not for work or academic study)
Visit to heritage site	Whether respondent had been to various heritage sites in the past 12 months. This ranged from visiting a historic town or city, a historic place or site (i.e., castle, cathedral etc), an archaeological site and historic park/garden
Visit to museum	Whether respondent had been to a museum or gallery in past 12 months
Walked for recreation	Whether respondent had done any walks lasting 30 minutes or more in the past four weeks for recreation
Cycled for recreation	Whether respondent had done any cycle rides lasting 30 minutes or more in the past four weeks for recreation
Participated in sports	Whether the respondent had participated in a range of sports activities in the past four weeks. This included all forms of formal sports and activity and included informal activity like jogging, playing frisbee, skittles, darts etc.

With many of these forms of leisure activity, there is a well documented social gradient. For example, participation in the arts is higher among those from more educated backgrounds; 64% of those educated to degree level or higher had participated in arts events in the past year compared with 45% of those with less than five GCSE grades A-C or equivalent.

Therefore, when developing the regression models, it was important to ensure that controls for socio-economic and demographic status were also included, so as not to obtain spurious results from bivariate associations. The range of socio-economic and demographic variables chosen for inclusion replicated, where possible, those included in the BGPS analysis and also covered a range of individual, household and area level factors (see Appendix B). Some additional factors, like whether working full time or part time, were included because of theoretical association with leisure behaviour (in this case free time).

Despite attempts to include a similar range of variables across the two sets of analyses, there are some notable differences. The first is that number of other gamblers present in the household is not available. This is because the Taking Part study selects one individual at random from each household: therefore information about other household members is not available. Secondly, religious status was collected in the Taking Part survey. Recent evidence from the Health Surveys for England and Scotland has shown that religion status is an important predictor of gambling status even when ethnicity is taken into account (Wardle et al, 2014). Therefore, it was sensible to include this alongside ethnicity in the model. Measures of mental wellbeing were not included in the Taking Part survey, but happiness was. Happiness is largely considered to be a component of wellbeing and has been used by some as a proxy measure for wellbeing status (Forrest & McHale, 2009).

The relationship of leisure, area and gambling behaviour

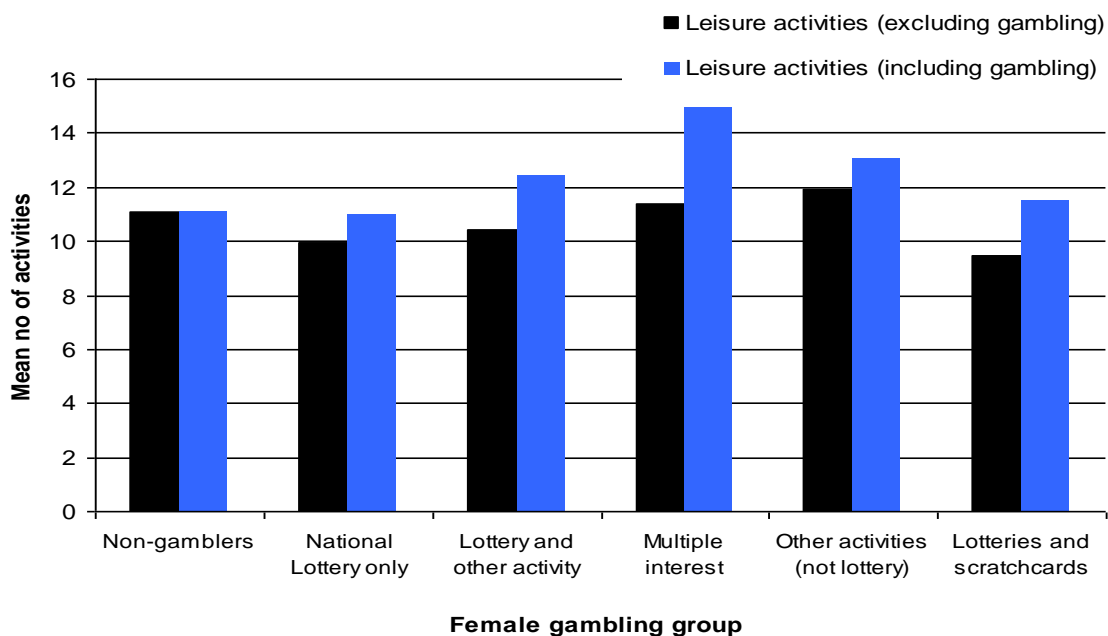
Whilst a number of socio-demographic and economic controls were included in analysis, the main focus was to examine how engagement in other forms of leisure activities and how areas' characteristics might be related to gambling behaviour. These findings are summarised below. First, participation in a range of other forms of leisure was associated with non-gambling (see Appendix Table 6.6a). These were participation in various art forms, visits to heritage sites, visits to museums and attendance at live sports

events. The odds of being a non-gambler were higher among women who had participated in two or more art forms in the past year and the odds were also higher among those who had visited museums in the past year. In short, these women were more likely to be non-gamblers; this (potentially) suggests that women who do not engage in gambling tend to take part in a range of arguably more ‘highbrow’ leisure activities instead. This is supported by participation in live sports events, as women who attended live sports events in the past four weeks were less likely to be non-gamblers. However, women who had visited heritage sites also had lower odds of being a non-gambler, suggesting that the relationship between gambling and leisure cannot be so simply delineated between ‘highbrow’ and ‘lowbrow’ activities.

It appears, as with so much of gambling research, that the pattern is more complex than this, as demonstrated by Figure 6.3. In this study, women were asked individually about participation in over 100 different forms of activity. Figure 6.3 shows the mean number of activities undertaken by each cluster.

Figure 6.3: Mean number of leisure activities undertaken, by female gambling group

Source: *Taking Part Survey 2007/08*



This shows that when gambling activities were excluded, non-gamblers and multiple interest gamblers, on average, took part in a similar number of other leisure activities (11.1). National Lottery only gamblers and Lottery and scratchcard only gamblers took part in the least other forms of leisure activity (10.0 and 9.5 activities respectively). However, if gambling activity is included as a valid recreational choice, a much more distinct picture emerges, as most gambling groups take part in a much greater number of activities, on average, than non-gamblers. Of course, this is to be expected when adding gambling into the equation – rates for non-gamblers will never change and rates for gamblers can only increase. However, looking at the difference between non-gamblers and multiple interest gamblers suggests that the latter are a group of people who are engaged in a broader range of leisure and recreation activity which includes gambling. There does not appear to be any kind of substitution effect but rather that gambling is being added to their already fairly broad leisure and recreation repertoire.

Examination of the types of leisure forms associated with membership of each group was further explored through regression models. National Lottery only (Class 2) gamblers had an interesting profile (see Appendix Table 6.6b). They were less likely to have participated in various arts forms (odds being 0.74 times lower among those who participated in two or more arts events than those who did none). They were also less likely to have visited a museum or to have cycled for recreation. The only form of leisure and recreation which positively predicted membership of this group was walking for recreation, with the odds of being a National Lottery only gambler being 1.15 times higher among women who had walked for recreation in the past month. Participation in other forms of leisure (like heritage, archives, attending arts events, libraries and live sports events) was not associated with membership of this group. It appears, therefore, that National Lottery only gamblers were less engaged in a range of arts and sports activities than other women.

The same was arguably true for National Lottery and scratchcard gamblers (Class 6; see Appendix Table 6.6f), who had the lowest mean engagement in all forms of activity. In the regression models, the only leisure activity significantly associated with membership was visits to museums; the pattern being that women who visited museums were less likely to be National Lottery and scratchcard gamblers.

Multiple interest gamblers (Class 4; see Appendix Table 6.6d) have already been highlighted as a group of women highly engaged in a range of leisure activities. The regression models supported this. The odds of being a multiple interest gambler were higher among those who had attended or participated in arts events, higher among those who had made visits to a heritage site, who had attended live sports events and who had engaged in sporting activity in the past four weeks. It would appear that the term 'multiple interest' does not just apply to their gambling behaviour but also to their fuller repertoire of leisure activities, as women in this group were more likely to engage in a wide range of other forms of leisure entertainment as well as to display a broader interest in gambling. It is this range of engagement that is also interesting. Of course, the association with sports is intuitive. However, there were also strong associations with taking part in a broad range of arts, culture and heritage activities. A picture begins to emerge of this group of women as one which is generally more socially engaged in the more formalised forms of leisure included in the study.

Class 5 (non-lottery gambling, Appendix Table 6.6e) also displayed positive associations with broader leisure repertoires; attending live sports events, participating in sporting activity or participating in the arts was significantly associated with membership of this group – the odds being higher among women who had done these activities.

However, this range of associations between other forms of leisure and gambling was not always evident. For Class 3 (lottery and other activities, Appendix Table 6.6c) the

only association evident was with cycling for recreation (the odds of membership being lower among those who cycled).

Acorn categorisation was also associated with class membership for all groups except Class 5, non-lottery players. The general pattern among gambling women was that those living in areas defined as something other than 'wealthy achievers' had higher odds of membership for each group. This was particularly true of women living in 'hard pressed' areas, who had odds of being a multiple interest (Class 4) gambler that were 1.65 times higher than women in 'wealthy achiever' areas or had odds 1.49 times higher of being a lottery and scratchcard (Class 6) gambler than women in 'wealthy achiever' areas. The exception was National Lottery only gamblers, where Acorn categorisation was significantly associated with membership but most of the individual categories did not vary from the reference group.

For all other socio-demographic and economic variables, association with membership of each group varied, though some key themes can be determined. For example, National Lottery only gamblers seemed less economically disadvantaged than other groups. These women were more likely to be in paid employment and to work full time, though they were also likely to have lower levels of educational attainment. Multiple interest gamblers by contrast seemed to have a profile of greater (potential) economic or health inequality. The odds of membership were higher among women who lived in routine or manual households, and were higher among those with fewer educational qualifications. Women with poor self-reported health were also more likely to be multiple interest gamblers, the odds being over two times higher among those with either bad or very bad health compared with women in very good health. This group were also more likely to consume greater amounts of alcohol and to be cigarette smokers. However, they were also more likely to be in paid employment, though the odds of membership were higher among women living in hard pressed areas (as noted above).

Other groups had a lesser range of socio-economic variables associated with membership. Here, more individual level factors were associated with membership, such as ethnicity, smoking status or alcohol consumption. Among gamblers, the broad patterns were that odds of membership were lower among non-white groups, lower among non-smokers and lower among those who did not consume alcohol.

Finally, it is worth mentioning the relationship observed between ethnicity and religion. As observed with the Health Surveys discussed earlier, both religion and ethnicity were significantly associated with non-gambling, multiple interest gambling and gambling on lotteries and other activities. Among female gambling groups, the broad pattern was that the odds were lower among non-White groups and lower among those from non-Christian religious groups. For non-gamblers, the inverse of this was true. As with the Health Surveys, the surprising finding is that for these groups both terms were significant in the model, further suggesting the need to look more closely at the relationship between ethnic status, religious affiliation and gambling behaviour.

Discussion

The relationship between gambling behaviour and leisure is complex. Given the historical and cultural antecedents of gambling behaviour, gambling (perhaps with the exception of casino gambling) is often viewed as a 'lowbrow' activity; something that is reserved for the working classes (Clapson, 1992). When thinking about gambling and leisure, a range of cultural stereotypes predominates; images of hard drinking and smoking cultures spring to mind and create the expectation that gambling would be more likely to be integrated with similar (lowbrow) leisure experiences.

However, among women that does not appear to be the case. The group of women most engaged in gambling were also engaged in a range other leisure activities that could be considered both highbrow and lowbrow. The main differentiating factor was not the types of leisure they participated in but that they took part in a greater range of

leisure activity altogether, spanning visits to heritage sites to participation in sports. The profile of multi-interest gamblers emerges as a group of women who have a broad leisure repertoire across a range of different areas, of which gambling is just part.

This sheds light on the associations evident in the BGPS analysis. That analysis also showed that engagement in other forms of leisure activity (both formal and informal) was associated with some forms of gambling and that as the number of other leisure activities undertaken increased, the odds of being a non-gambler decreased. What this analysis adds is an understanding that there does not appear to be a specific relationship between particular forms of 'formal' leisure participation and gambling. Rather, those that gamble most generally appear to have a broad leisure repertoire spanning a range of leisure forms. This highlights the broader social contexts of gambling women's experiences. As seen previously, multiple engagement female gamblers tended to live in larger households and with a greater number of people who gamble. They also appeared to have a broader 'formal' leisure and recreation repertoire. In terms of mechanisms, this could simply mean they are more social people, or it could mean that they have a broader social network which influences their behaviour, or some combination of both. What is particularly striking is that their gambling and leisure repertoire appears to be broad despite their relatively more economically constrained circumstances.

Finally, this analysis has also shown that area characteristics are also highly important and are associated with different types of gambling behaviour among women. Women living in 'wealthy achieving' areas were less likely to be gamblers, whereas those who lived in 'hard pressed' areas were more so. Specifically, more multiple interest gamblers than average lived in 'hard pressed' areas. This provides further contextual understanding of how behaviour varies for different women in different circumstances. However, like analysis presented earlier in this chapter, the precise mechanisms underpinning this association remain to be explored

Realist description – key points

From the perspective of realist description, this chapter has shown how weaving together analysis from different sources can identify a broader range of potential mechanisms for exploration. This is with specific reference to the relationship between ethnicity and religion. Using information from the Health Surveys for England and Scotland and the Taking Part survey helped to interpret the findings within the BGPS analysis and to suggest that different mechanisms, such as adherence to religious protocol and varying cultural practice, be explored. It provides a good example of how using multiple sources of information and data helps to broaden the horizons of a single empirically closed study. Surveys are inevitably a closed method, often with their aims and objectives reflecting the needs of their clients and investigators. However, as discussed earlier in this thesis, weaving together evidence from many different surveys can help to expand the horizons of these 'closed' methods. In this example, an association observed using one set of data was further interrogated using another. This also allowed further exploration of area level characteristics, highlighting some important associations.

This chapter has also highlighted how use of techniques like LCA shed new light on well-established associations. The relationship between parental gambling behaviour and the gambling behaviour of the individual is well-known and assumed to be a positive association (if your parents gambled you yourself are more likely to gamble). Using LCA to identify different groups of female gamblers has shown that this is not always the case. There is one group of women, Class C, who are mainly lottery players, where having parents that gambled means the woman is less, not more, likely to belong to this group. This raises questions about why this might be and suggests that the nature of the mechanisms that might govern this relationship need to be unpicked. The LCA technique, combined with the focus of exploring how behaviour varies for whom, and under what circumstances, helped to identify this.

Cont...

Realist description – continued...

This orientation also meant that data were critically examined to create new variables that allowed intra household relationships to be explored. This analysis has proved to be particularly important. This emphasises both the social nature of gambling and the importance of considering social networks in terms of how behaviour is shaped and formed.

The analytical process undertaken in this chapter also showed that the retroductive process should not only apply to empirical observations but also to how data have been produced and the type of reality they reflect. The information collected by the Taking Part survey reflects government interest in a particular range of activities they wish to encourage. It does not reflect all leisure activity. Understanding this and exploring how and why data have been collected is important as it has implications for the analysis produced. Therefore, retroductive questioning, that is, understanding why things are the way that they are, also applies to understanding how and why data were produced in the way in which they were.

Finally, this chapter also highlighted some limitations with applying realist CMO configurations to descriptive analysis. The subsequent results arguably tell us more about the relationship between C and O and less about M. This is still useful, as it helps to highlight and develop theories about mechanisms which can be explored in more detail in future work.

Chapter 7: Female gambling among other population groups

Introduction

The previous chapter explored how female gambling behaviour among adults living in private households varied. It used different sources of information to explore this from different angles, with particular focus on the relationship between area exposure, social contexts and leisure. Analysis presented in Chapter 5 outlined some other key population groups of interest. First, it identified those aged 16-24 as a cohort of women who are potentially experiencing gambling in a different way from older cohorts. Secondly, it focused on issues relating to women who experience problems with their gambling behaviour and looked at theories relating to the “feminisation” of gambling and argued that these did not hold true across all groups of women. Given this, it is appropriate to further explore how gambling problems might manifest for different types of women, why and under what circumstances. Furthermore, the identification of younger adult women as a key group of interest suggests that the experiences of even younger females should be examined to help determine further patterns or trends.

This is the focus of this chapter. It first presents evidence about gambling among adolescent girls in Great Britain and maps emerging themes back to the contexts and mechanisms argued to shape female gambling behaviour identified in Chapter 5. It secondly focuses on a very specific subsample of women who present for treatment for gambling problems, to provide further insight into their experiences and contexts, and discusses some problems in applying realist CMO configurations to quantitative descriptive analysis.

Female gambling behaviour among youth

Introduction

A number of studies have been commissioned to explore gambling behaviour among youth in Great Britain. In 1998, 2005 and 2008, large school-based surveys were conducted to measure and monitor gambling behaviour among youth aged between 11 and 16. Commissioned by the National Lottery Commission (NLC), the primary aim of these studies was to monitor underage engagement and access to National Lottery products. However, despite each survey having large sample sizes (typically over 8,000 youth) data from these studies have never been explicitly analysed to explore patterns of behaviour among girls. Typically, the main reports of findings quoted prevalence rates among girls and included gender in regression models but did not extend analysis further. To my knowledge, no further analysis of these datasets has been undertaken with regard to female gambling behaviour, probably because they are not publicly available. The NLC also commissions an annual suite of questions on Ipsos MORI's youth omnibus. Yet again, analyses presented among girls are limited to overall prevalence rates. Therefore, despite a large amount of research work being undertaken with youth in Great Britain, very little is actually known about patterns of female gambling behaviour among adolescents. A literature review conducted for the Gambling Commission in 2008 outlined key risk factors for youth engagement in gambling (Valentine, 2008) but as Forrest and McHale point out:

“adolescents’ lifestyle and use of leisure time generally appear to have changed substantially with the popularisation of mobile telephony and computer-based entertainment. It might therefore, be unsafe to assume that previous patterns of young persons’ gambling behaviour continue to prevail.”

(Forrest & McHale, 2012: 608)

The main findings reported are that young female adolescents engage in gambling less than their male counterparts and fewer experience gambling problems. However, as

observed in Chapter 5, it appears that younger age cohorts of women are increasing their participation in gambling and increasingly starting to gamble in greater numbers at a younger age. Simply looking at patterns of behaviour among female youth by comparison to that of males is insufficient. It potentially misses a much broader spectrum of female gambling behaviour and outcomes. Following on from Forrest and McHale's logic, continuing to define knowledge of female gambling against that of male youth potentially obscures interesting patterns and variations and encourages the existing hegemony to prevail.

It is therefore prudent to further examine patterns of gambling behaviour among female youth. To do this, access to the data from the NLC's youth tracking surveys for 2013 and 2012 and the 2009 Youth Gambling Survey has been secured with permission from the Gambling Commission.¹⁸ (See Appendix A for a fuller description of these surveys). Using these data allows current patterns of gambling participation for younger girls and how gambling patterns vary for different groups of youth to be explored. First, evidence shows that there has been an overall decline in the number of female youth who have gambled in the past week: estimates fell from 13% in 2009 to 10% in 2013 (see Appendix Table 7.1). This seemingly extends the patterns observed for women aged 16 and over, whereby evidence from the BGPS also showed a decline in past week gambling rates. However, as documented in Chapter 5, a number of other metrics indicated that overall frequency of gambling may be increasing. These alternative metrics are not available in the youth datasets.

What is particularly interesting is that among girls past week gambling does not appear to have age gradient. Gambling is just as popular among those aged 12 as it is among those aged 15. This pattern has not changed; it was evident in 2009 and was equally evident in 2013. In 2013, 9% of girls aged 11 had gambled in the past week as had 10% of girls aged 15. On the face of it, this seems quite extraordinary. Most other activities

¹⁸ The 2011 data was also requested but was access was provided too late to be included in this thesis.

where there is a legal barrier to entry (such as smoking or alcohol consumption) see participation increasing as age increases, as youth are more likely to be able to access the activity when they are older (and look older) (Fuller, 2013). This serves to highlight a key difference between gambling and these other public health behaviours. Gambling is not just a commercial activity, where access can be controlled and legislated. It is also a private activity, performed in homes, schools and clubs where there are no access restraints, except the willingness of others to engage.

Youth context – extended consideration of public and private spheres

Many academics have argued that a public health perspective should be applied to the consideration of gambling (c.f. Chapter 2 of this thesis). When it comes to thinking about gambling, youth and public health, it pays to recognise the fundamentally different nature of the product under consideration. This recognition means that theory from similar substantive areas cannot simply be imported and applied to gambling. Recognition of the different types of activities included in this behaviour, consideration of public and private domains and the increasingly blurred boundaries between the digital and physical worlds need to be taken into account. Of course, there will be useful parallels with behaviours like smoking or alcohol consumption, but gambling is arguably an even more complex area in which to explore youth behaviour.

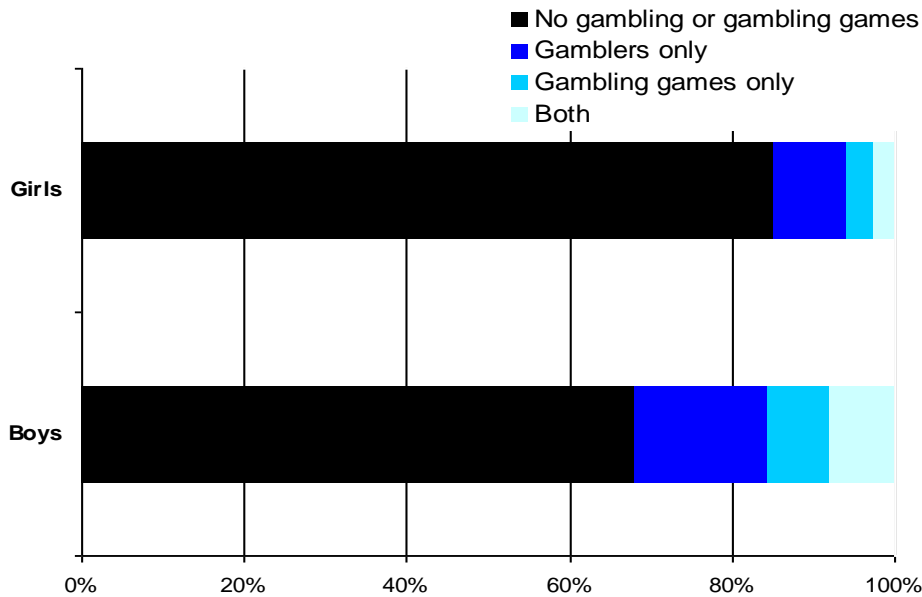
This complexity is partially due to the public, commercial and private domains that constitute gambling, but the complexity is also increasing due to the growing overlap within and between digital provisions of gambling. As noted earlier, gambling is unique as it is the only public health behaviour that has a parallel in both the physical and digital world (though of course, pornography and sexual behaviour is the nearest parallel). Most gambling activities conducted in the 'real' world now have an online counterpart, and increasingly traditional land-based gambling corporations are seeking to integrate their offers through expanding their products via new forms of technology. These technological developments include products such as online gambling websites

but also apps, integration with social media, and complex marketing and advertising campaigns centred around mobile phones and embedded within social media platforms. This complexity increases exponentially when social media gambling games are also included in the mix. These games replicate 'for money' gambling games but are typically accessed and played through social media platforms (like Facebook, or more recently as stand alone apps) and involve the risk and reward of virtual currency. These products are exceptionally popular. It is estimated that social media gambling games have over 173 million monthly users, with poker being the most popular form of gambling game undertaken (Parke et al, 2013). This creates an unparalleled third dimension when considering the gambling and gaming market. The social media gambling games have 'for money' parallels in both the physical and digital domain: this is something that is unique to this type of gaming product.

Evidence from the NLC tracking survey shows that these social media gambling games are popular among youth in Great Britain. Using this survey allows examination of this for the first time. Most statistics reported by the industry only look at participation among those aged 18 and over, and Facebook data tends to be reported from those aged 13 and over as this is the minimum theoretical age at which one may have an account (Parke et al, 2013). In the 2012 youth tracking survey, explicit questions were asked about the use of these games and showed that overall, 16% of boys and 6% of girls had played such games in the past week (see Appendix Table 7.2). For both boys and girls, roughly half of those who had played these games had also gambled in the last week, highlighting a high degree of overlap between these games and gambling (see Figure 7.1). This is not surprising as social media gambling games replicate many forms of traditional gambling product, like roulette, slots and poker.

Figure 7.1: Proportion of youth engaging in gambling and gambling games, by sex

Source: Youth Tracking Survey 2012



What is striking is that 6% of girls had engaged in this activity in the week prior to interview, making playing these gambling games more popular than all individual forms of ‘for money’ gambling activity (past week prevalence was highest among girls for playing cards for money at 4%). Playing these forms of games was more popular than smoking cigarettes, though not quite as popular as drinking alcohol in the past week.¹⁹ Of further interest was that the profile of engaging in these games did not vary by age – they were just as popular among girls aged 12 years old as they were among girls aged 15 years old. The rates of integration with other forms of ‘for money’ gambling did not vary either, meaning that around half of those playing these games at the youngest age were also gambling ‘for money’.

In this way, it appears the internet and the creation of these new forms of gambling games are serving to open up new ways of accessing gambling-style content to youth. Private gambling and gaming no longer means something done with friends and family

¹⁹ Estimates from the Smoking, Drinking and Drug Use Survey 2013 show that rates of past week smoking among 11-15 year olds were 4% and 9% for alcohol consumption.

in informal (physical) spaces, but now includes the broader remit of private action through the provisions on digital platforms. Of course, for some, this action may not be private. Social media gambling style games are often embedded within more open platforms and networks, where users can choose to advertise their progress on the game to others in their network, compete to become part of the leaderboard, or display their interest by 'liking' a site. Therefore, not only is the concept of gambling blurred between digital and physical spaces, the distinction between public and private spheres is arguably becoming more blurred with the development of new content embedded within social media platforms. This means a once private activity involving a simpler interaction between user and machine can now be undertaken in a very public way, should the user choose. The youth tracking study tells us little about why or how youth play these games, nor does it give us insight into how youth are exploring and using the different functionalities of the game. These areas are ripe for further investigation.

Gambling behaviour among female adolescents

What the youth tracking study does tell us is that girls, like boys, display a range of interests in gambling and that this is sometimes supported by interest in other gambling-style content and sometimes not. Whilst interest in gambling is a minority pursuit among female youth (much more so than it is among boys), the 2012 study shows that around one in seven girls had engaged with some form of gambling or gambling-style game in the week prior to interview. The study only collects information about behaviour in the past week and arguably rates of ever gambling or less regular gambling would be higher than this (see Appendix Table 7.3).

Using data combined from the 2012 and 2013 youth tracking studies (to boost sample sizes) allows us to explore different patterns of gambling behaviour among young females. LCA (detailed in Chapter 6) was used to identify four mutually exclusive groups of young female gamblers. The first of these groups was, of course, non-past week gamblers: these accounted for 89% of female youth. Of course, just because they had

not gambled in the past week does not mean they were non-gamblers. Unfortunately, the data do not drill down into this level of detail. The next group was those who had gambled in the past week on one or two activities, which tended to be either playing machines, privately betting or playing cards for money (called 'bettors' and 'machine players' hereafter). Thirty-one percent of girls in this group had played cards for money, followed by 28% who had played slot machines and 23% who had bet privately. Interestingly, none of the girls in this group had bought tickets for the National Lottery. This group represented 8% of all girls aged 11-16. Next was a group of girls who had only participated in lotteries or lottery-related products in the past year, representing 2% of all girls (called 'lottery players' hereafter). Eighty-eight percent of this group had bought tickets for the National Lottery Draw and 26% had purchased scratchcards. The final group, representing 1% of girls, was those who had typically engaged in four or more forms of gambling activity (called 'multiple interest' hereafter). This group displayed really broad-ranging interests in gambling including 83% who had played slot machines, 70% who had played cards for money, 64% who had played bingo and 54% who had bought lottery tickets (see Appendix Table 7.4).

What is particularly interesting is that the most prevalent of the past week gambling groups was not lottery players, but was bettors and machine players. This group contained a mix of girls gambling on games of chance (slot machines) and games of skill (betting and playing cards for money). Notably, this group of girls had not purchased lottery tickets. Examination of overall prevalence rates in each activity further support this, showing that engagement in betting or card-playing activities was just as prevalent as playing lotteries and related products or playing machines. This does not support assertions about the oft-assumed female preference for games of chance; among those aged 16 or under, playing cards for money or betting was just as popular as chance-based activities.

Of course, there was a distinct group of girls who only displayed interest in lottery and chance-based activities. The youth tracking data allows us some (limited) opportunity to explore the profile of these groups in more detail. The analysis is, however, limited by the small bases sizes in the data, meaning detecting statistically significant differences is difficult. It is also further limited by the range of socio-demographic information available, which is not exhaustive. That said, results show some interesting findings. First, comparison of the profile of each showed that main differences between groups occur by working status of parents, self-reported academic attainment and parental attitudes and behaviour to underage gambling. For example, a greater proportion of multiple-interest gamblers came from households where neither parent worked. A greater number of this group were also more likely to think that they were not doing well at school and to have parents with fairly permissive attitudes to underage gambling.

To explore this further, the characteristics of belonging to each group were modelled using logistic regression. The characteristics entered into the model were the same for each group and represented the fullest set of individual, household and familial, and environmental variables available. These were: age, whether residing in an urban or rural area, whether living in a single parent household or not, work status of parents, whether has siblings, family affluence, area deprivation, self-assessed performance at school, ethnicity, and whether have parents with permissive attitudes to gambling or not.

The factors associated with non-past week gamblers were working status of parents, whether the respondent was an only child or not, self-reported academic performance and whether they had parents with permissive attitudes to underage gambling or not (see Appendix Tables 7.5 and 7.6a). The odds of being a non-past week gambler were 0.57 times lower among those who lived in households where neither parent worked than those where both parents worked. Odds were also 0.45 times lower among those

who felt they were doing badly at school (compared with those who felt they were doing well) and 0.32 times lower among those with parents with permissive attitudes to underage gambling (compared with those who did not have parents with permissive attitudes). Finally, the odds of being a non-past week gambler among female youth were around 1.4 times higher for those who had siblings compared with those who were only children. What this means is that adolescent girls are more likely to be a non-past week gambler if they have siblings and less likely to be so if neither parents work, they feel they are doing badly at school, or they have parents with permissive attitudes to gambling.

Looking at the betting and machine gaming group (see Appendix Table 7.6b), place of residence (i.e., a rural or urban location), whether in a single parent household, parental permissiveness and self-reported academic performance were associated with group membership. Odds were around 1.5 times higher for those living in single parent households, 1.8 times higher for those who felt they were not doing well at school, and 2.1 times higher among those with parents with permissive attitudes to gambling. The odds of being a bettor or machine player were 0.5 times lower among those living in rural areas.

For the other groups, there was less variation. This is most likely to be because of small base sizes making modelling difficult (see Appendix Tables 7.6c and 7.6d). For both lotteries and multiple interest gamblers, parental attitudes were important. The odds of being a lottery gambler were six times higher among those with parents with permissive attitudes to gambling than those without permissive parents. Likewise the odds of being a multiple interest gambler were 4.1 times higher among this group. Age was associated with being a lottery gambler, but the odds either did not vary from the reference group of younger children or varied with no clear pattern (a number of different age variables were tried in the model to explore this).

Discussion

These results highlight some interesting patterns. Firstly, what parents do matters. Parental permissiveness in this study was defined as having a parent who had either given permission for the youth to gamble online or had bought the youth lottery tickets. These parents were facilitating youth gambling. These behaviours were significantly associated with each of the past week gambling groups. In some ways, this is to be expected. Engagement in these forms of activities is age-prohibited yet clearly there is a group of parents who are facilitating access for their children. Where parents are willing to do this, it is not surprising that these youth are more likely to gamble. However, there appears to be something more at work here. Parental permissiveness also predicted membership of the betting and machine play group. This group notably did not buy lottery tickets and only a minority (4%) had gambled online in the past week. This suggests that parental permissiveness in terms of access may be measuring a latent mechanism – that of more positive attitudes to gambling, which could be influencing youth behaviour. Information is not available about the parents' individual gambling behaviour, though if the parents are buying lottery tickets for youth it may be assumed that they are more likely to gamble themselves.

This pattern replicates well-established knowledge from other health behaviours; that is that the attitudes and behaviours of parents can influence the child. With gambling, parental permissiveness is tantamount to active encouragement to engage (or at least, not discouragement). It suggests that some parents view gambling as a different type of product to other public health issues (and probably do not even consider it public health behaviour). Public health advocates often cite concerns about youth gambling, stating that problem gambling rates among youth tend to be higher than among adults (Forrest & McHale, 2012). They also cite concerns that gambling in youth may alter brain development and how youth view risk (Parke et al, 2013). On the other hand, exploring and engaging with risk is a part of the developmental process. Gambling and, in particular, social gambling games offer a way to do this. What this means is that

gambling as both concept and behaviour is complex and nuanced. It embodies contemporary debates about how youth develop and navigate risk and, as a behaviour, it is increasingly straddling the digital and physical worlds. This creates complexities about how youth understand the nature of the product, how they engage with it and what role it may have in subculture and identity formation. Government itself recognises this complexity. With regards to smoking, drinking and drug use, governments are unequivocal – youth should not engage. However, when it comes to gambling, it appears government finds it difficult to be as unequivocal. Some parents clearly have differing attitudes, and Great Britain is one of the few jurisdictions in the world that legally allows its youth to gamble (on category D slot machines). Despite age verification processes being a key concern for the regulator and the protection of youth being a licensing objective, the Gambling Act 2005 did not take the opportunity to end this somewhat idiosyncratic approach to youth gambling. As noted previously, distinctions become even more blurred when the public, commercial and private range of the activity is taken into account. All of this suggests that when it comes to gambling and youth, theory cannot simply be transplanted from one substantive area to another. The nuances of these differences need to be carefully considered.

This analysis also highlights some implications for the associations seen among adults and parental behaviour. That this association is observed among both adult and youth is testimony to the strength of these mechanisms. But it also highlights how for different age cohorts the mechanisms may be both proximate and distal. In the case of youth, parents acting as facilitators encourage gambling participation; a proximate mechanism. Among adults, this direct facilitation is no longer necessary and the parent's influences may be more distal in terms of shaping early behaviour experiences and attitudes and, of course, providing a social network within which to gamble. These associations may indeed mask a latent mechanism which is actually early onset of gambling, as facilitated by parents. Evidence from the youth tracking surveys would certainly support this. This

highlights how bringing together descriptive data from different sources can help to shed light on some of the underlying processes and mechanisms.

Another key theme identified in this analysis is the clear identification of a group of girls whose gambling behaviour focused mainly on betting or playing games for money. As noted earlier, this challenges some long-held assumptions about female preferences for certain types of games. With these observations, there are likely to be structural mechanisms at play: betting privately or playing games for money is one way for youth to take part in a range of informal gambling activities when other forms are not legally open to them (though youth under the age of 16 are legally permitted to play some forms of slot machines). This highlights an interesting dynamic between the private nature of the skill-based activity and equal interest in this activity among youth. This has parallels to some of the arguments rehearsed in Chapter 5 and it seems that when games of skill are undertaken in more private settings, girls are just as likely to be interested in these as other forms of gambling. There does not appear to be an ingrained preference for chance-based forms of activities. Arguably, this could be a response and reaction to the structural boundaries imposed upon access to certain forms of gambling. Here, the private, informal and unregulated activity of betting provides the context, and issues of access and social networks with similar interests arguably provide a mechanism shaping behavioural outcomes. This has resonance with the analysis presented in Chapter 5, and in terms of expanding the boundaries of our theories, it is interesting to be able to expand and apply them to this cohort of young women. It provides greater plausibility to the theories presented earlier in the chapter.

This is, of course, likely to be just one of many mechanisms at work. With regard to the betting and gaming group, there were associations with parental permissiveness, discussed above, but also poor academic attainment, and whether living in a single parent household. This latter observation is notable as it was significant even when other socio-economic characteristics were controlled for. This highlights a limitation of

the realist descriptive approach. Here, the association between a household context and behavioural outcome has been identified, but detail or information on how the mechanism underpinning this works is lacking. As noted in an earlier chapter, documenting these relationships is important but this serves also to illustrate the boundaries of this approach.

Exploring female problem gambling among women seeking treatment

Introduction

So far this thesis has used large-scale and national survey data to explore different patterns of female gambling behaviour. When looking at gambling behaviour more generally, this is fine: these surveys generally provide a good source of information on a full range of different behaviours (depending on the questions asked). However, when looking at problematic gambling these datasets are insufficient and can do little more than look at prevalence rates. In the case of women, the most recent surveys of gambling behaviour in Great Britain did not permit analysis of prevalence rates by age because there were too few observations to allow this analysis. When published, this analysis had to include the caveat that just because no women aged 25-34, 55-64 or 75 and over in the sample population were problem gamblers this did not mean that this was true at a population level (Wardle & Seabury, 2013; Wardle et al, 2014). When thinking about female gambling problems, this highlights an important constraint of survey data. Because female problem gambling rates are low, very large sample sizes are required to obtain enough numbers for analysis. For example, the BGPS 2010 only identified 18 female problem gamblers; in the Health Surveys for England and Scotland the figure was 13, thus limiting the range of analysis possible.

Given this, it is not surprising that little is known about female problem gambling. In Great Britain, only one authoritative source of information about female gambling problems exists. This is Karter's (2013) work based on her years of insight providing

counselling and treatment to women with gambling problems. Typically, issues relating to female gambling problems tend to be extrapolated from those observed from the population as a whole (which is dominated by men given their greater prevalence of gambling problems) (Mark & Lesieur, 1992), or female problem gambling experiences are defined in contrast to those of men (Potenza et al, 2001). Applying a realist perspective suggests that individual focus should be given both to the experience of women independently, and also to different types of women to better understand how gambling problems and harms vary for different groups. The mantra of realist description, that is understanding how behaviour varies for whom and why under what circumstances, seems particularly apt when thinking about female gambling problems.

As noted earlier, survey data are not suited to this type of analysis because of limitations of sample size. Qualitative insight can provide more detail on the processes, harms and consequences of female gambling behaviour, yet little is known in a quantitative sense about the range and variety of female gambling problems. As early as 1992, the patriarchal focus of problem gambling research was highlighted (Mark & Lesieur, 1992). Little has changed and scant attention (with a couple of notable exceptions) has been given by the academic community to female problem gambling behaviour (Karter, 2013). There is clearly a knowledge gap. To help fill this gap, access to data held by one of the leading problem gambling treatment providers in the UK has been secured for this thesis. This organisation provides face to face counselling for over 2,000 problem gamblers per year, of which around 10% are women. From first assessment to progression throughout the counselling process, data are voluntarily recorded about these clients. This ranges from collecting some basic demographic information such as gender and ethnicity to administering problem gambling screens at first contact and also later in the counselling process, to examine changes in scores and thus to assess improvement and change.

The dataset provided includes information on 9,436 clients where the DSM-IV problem gambling screen was administered at first contact between 2006 and 2012.²⁰ Of these, 1,192 clients were women, representing around 13% of clients in the dataset. This provides the largest sample of female problem gamblers ever obtained and analysed in Great Britain to date. Of course, this is not a representative sample, but rather information from a self-selecting group who are presenting for treatment for gambling problems. As problem gambling is frequently held to lie upon a continuum of behaviour ranging from non-problematic to problematic, it is reasonable to assume that these women represent the more severe end of the spectrum. Therefore, whilst these data can be used to explore patterns and variations **within** this group, they cannot be extrapolated to female gambling behaviour more generally. This is important. These data can be used to examine how behaviours and circumstances vary within those who present for treatment. This may then provide theoretical insight into what may be happening for other women, but extrapolation beyond this level of theorising is not possible. From a realist perspective, this is still useful, as findings from this source can help us to theorise about the ways in which female gambling behaviour may vary more generally.

Who are the women who present for treatment?

The BGPS shows that of women who believed they had a problem with their gambling, only 2% sought help from a formal treatment provider. The most commonly cited source of help was family and friends (24%). Over two-thirds (68%) had not sought help from anyone. Seeking formal help from a treatment provider is a minority pursuit even among those who believe they have problems with the way they gamble. So, who are these women who do present for treatment? Data collated from the 1,192 clients presenting for treatment between 2006 and 2012 shows us that these women are most likely to be White/White British (92%), to have children (80%), to live in rented

²⁰ For some clients, alternative assessment tools were used. However, the DSM-IV was the most commonly used; therefore analysis presented in this thesis is restricted to this subset of clients.

accommodation either privately (25%) or social housing (20%), to be an employee (52%), and to be in debt (80%). A quarter of these women (25%) were unemployed. This is around five times higher than national rates of unemployment among women.²¹ Likewise, around a third (34%) reported that they had some kind of mental health condition and around 16% stated they had some other form of disability. The profile of the women presenting for treatment therefore displays higher than average associations with ill-health and also economic disadvantage (as displayed by enhanced unemployment rates, the proportions living in social housing and proportions living in debt – though clearly there may be some circularity here).

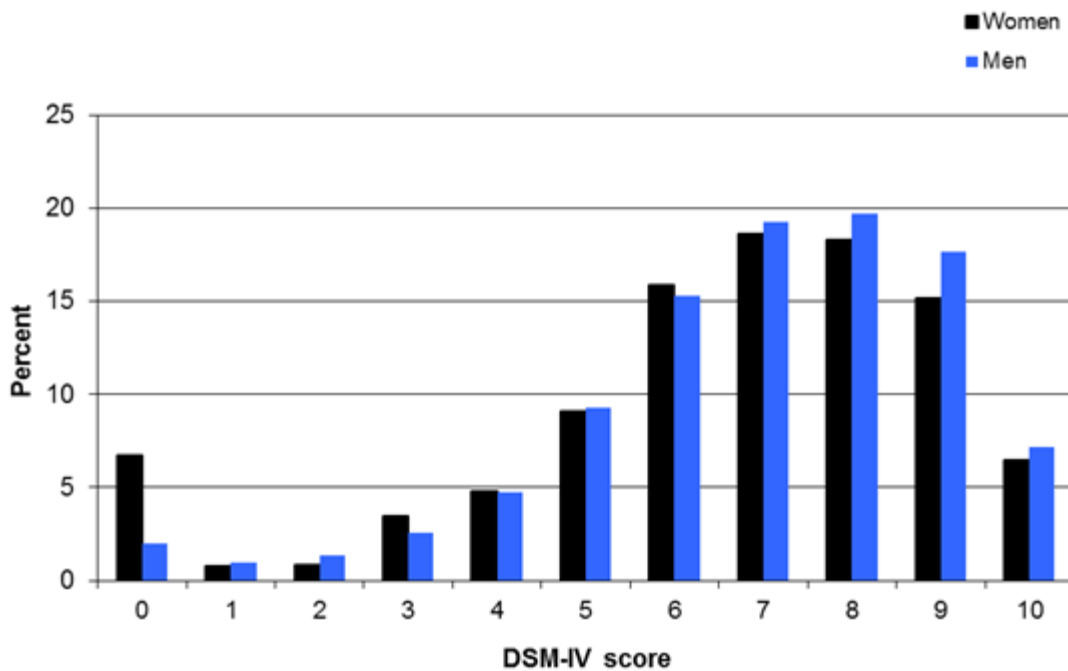
In the first treatment session problem gambling status was assessed using the DSM-IV screening criteria. In population-based studies, a score of 3 or more is taken to indicate problem gambling. In clinical settings, the threshold of 5 or more is taken to represent pathological gambling (APA, 1993). Typically, women presenting for treatment had average DSM-IV scores of 6.5 out of 10. Overall, 84% of women presenting for treatment were categorised as pathological gamblers. Figure 7.2 shows the distribution of DSM-IV scores among both women and men (see Appendix Table 7.7 also).²²

²¹ The English and Scottish Health Surveys in 2012 estimated that around 5.5% of women aged 16 and over were unemployed according to the International Labour Organisation definition. Review of how this information was recorded by counsellors suggests that these estimates are comparable as counsellors were able to record a range of different economic activity statuses. Of course, there is the possibility that there is some variation in the way this data is recorded which may account for some of the difference.

²² Data was only recorded by counsellors as whether the client experienced the problem or not. Ten different aspects of problems were included. A score of 1 was allocated if the client reported experiencing the condition. Therefore, in this analysis the DSM-IV is scored out of 10. This is in contrast to Chapter 5 where the DSM-IV was scored out of 30 as greater detail about frequency of experiencing the problem was collected.

Figure 7.2: DSM-IV scores among women and men presenting for treatment

Source: Treatment data 2006-2012



By and large the distribution is similar, with two exceptions. The first is the proportion of women presenting for treatment with a DSM-IV score of 0; 7% for women and 2% for men. At first look, this may seem strange – why would people presenting for treatment not have a DSM-IV score indicating that they are experiencing problems? There are a number of explanations. First, when administering the screen, the counsellors ask whether the client has experienced the problem in the past month. It is possible that some people have had a period of gambling abstinence prior to seeking help. Conversations with GamCare counsellors confirm that this is plausible. That being the case, it is notable that more women than men attempt abstinence prior to seeking help. It also highlights this group as one for further investigation. They may have particular characteristics or circumstances that facilitate abstinence but still need to seek help. This is where more insight is needed into who these people are and the types and range of problems they experience (see later in this chapter).

The second explanation relates to the DSM-IV screen itself. The range of problems experienced by these people may not be adequately covered by the DSM-IV screen. There are over 20 different screening instruments in existence, covering a wide range of harms. Evidence from the BGPS series which routinely included two different measurement instruments to capture gambling problems showed that different instruments can and do identify different people to be problem gamblers. The DSM-IV is tightly focused on psychological harms and consequences and does not focus on broader harms that may relate to health, wellbeing, impact on families, friends and communities for example. Therefore, it is plausible that those people presenting for treatment with a DSM-IV score of 0 may be experiencing different types of harms, problems and consequences that are simply not captured by the DSM-IV screen. It is worth remembering at this point that these instruments are constructs that were designed and developed to reflect a certain view of reality. In the case of the DSM-IV, this was a particularly bio-medical and individualised view of gambling problems (Castellani, 2000). Here again, employing a realist ontology when examining quantitative data and results like this is useful. It recommends that 'erroneous' results are not taken at face value but are critically reviewed and that the power relations underpinning them are considered.

A final explanation relates to how these data are collected and the process which these women are going through. The DSM-IV scores are collected at the first contact with counsellors. Conversations with these counsellors emphasised that this is just a small part in the initiation of the therapeutic process: they noted the deep sense of shame that some clients experienced when first presenting for treatment and suggested that having a DSM-IV score of 0 could be simply because at that point in the process the client was not ready or willing to admit openly to their range of problems. Karter's (2013) work on female problem gamblers has highlighted shame as a key theme. When discussing female access to help services she noted that:

“Issues of shame and guilt are important factors... In the past it has been particularly hard to reveal oneself as woman who gambles, whether socially or problematically, when it is seen as predominately male activity”

(Karter, 2013: 61).

This may, in part, help to explain why a higher proportion of women than men present for treatment and have a DSM-IV score of 0 recorded; but it also highlights a potentially more worrying trend. Chapter 5 traced a variety of gendered mechanisms that served to promote or restrain women from engagement in certain forms of gambling. It was argued that the dominant view of gambling as male activity, negative attitudes to female gambling, and development of highly gendered gambling spaces sought to exclude women from once preferred activities. Here it appears that similar forces, especially fear of being judged, may also be restraining women with problems from accessing the help that they need.

The second pattern highlighted in Figure 7.2 shows that slightly higher proportions of men (45%) than women (40%) have a DSM-IV score of 8 or more. This means that men presenting for treatment display a slightly greater range of problems as measured by the DSM-IV scale; mean scores were 6.9 among men and 6.5 among women. Men were more likely than women to endorse each DSM-IV item, though patterns of endorsement were broadly similar, with ‘chasing losses’ being the most commonly reported issue and ‘committing a crime to fund gambling’ being the least. There was one exception, that of gambling to escape from problems or to relieve dysphoric moods: women were more likely than men to say that this is why they gambled. For women, this was the second most commonly endorsed DSM-IV item; 80% of female clients reported this behaviour compared with 71% of men. This finding is in keeping with previous literature suggesting that female gambling problems can, for some, manifest themselves in different ways to those of men. For some women, gambling to escape the pressure of daily life, stress, and using gambling as a mechanism to relieve tension or change mood is common.

This appears to be the case among women presenting for treatment in Great Britain, with two-fifths of female clients reporting this. Of course, the obverse of this is also true and one-fifth of women did not experience these problems. With regard to men, whilst women did report gambling for these motivations in greater number, the majority of men also said the same. Therefore, gambling for escape is equally important for some men, though this may be combined with a greater range of issues also. This is a further example of how the nuances of blunt statements, like female preferences for escape, have received little academic attention. What is needed is better understanding of the types of women who present for treatment and how their range of problems may vary according to different circumstances. It is to this which this case study now turns.

Types of female ‘problem gamblers’

As in previous chapters, LCA was used to identify different types of female problem gamblers (see Appendix Table 7.8). For this analysis, this was based on their responses to the DSM-IV items and three distinct groups were identified (see Appendix C for fuller details of the LCA process). The first group (cluster 1) was the largest, representing 52% of female clients. This group of women displayed a greater range of gambling problems, endorsing 8.3 DSM-IV items on average. Nearly all (99%) said that they were preoccupied with gambling, that they had chased their losses (97%) and that they had lied to family and friends about the extent of their gambling (96%). More than nine out of ten women in this group had attempted to cut back on their gambling in the month prior to treatment, had gambled for escape, or had felt irritable when attempting to cut back on gambling. Around one-quarter (26%) had committed a crime to fund gambling in the month prior to assessment. This group arguably represents those women who were experiencing the most severe gambling problems and who were experiencing a broader range of harms and consequences concurrently.

The second group (cluster 2), which represented 40% of women, were those who were typically defined as pathological gamblers (they had a mean DSM-IV score of 5.3) but did

not endorse as wide a range of DSM-IV items. Among this group, gambling for escape was the most commonly endorsed item (80%) followed by chasing losses (76%) and lying to friends and family (72%). These were the only items which over seven in ten women in this group endorsed. Other items were endorsed to a lesser extent, especially committing a crime to fund gambling (10%) or being irritable when attempting to cut back on gambling. These women clearly displayed a range of harms relating to their gambling behaviour. However, unlike cluster 1, this was much more focused on gambling for escape, chasing losses, and lying to loved ones, as the main aspects of problems. Finally, the last group (cluster 3), representing 7% of women, was those who tended to have a DSM-IV score of 0 or of just 1 (means scores were 0.1%).

Looking at the differences between cluster 1 and cluster 2 highlights an important consideration. For both groups, gambling for escape was a key issue. Yet cluster 1 shows that among those who experienced very severe problems, this is just one of many different problems, and that more commonly issues like preoccupation bind women in this group. Whereas for cluster 2, gambling for escape was much more prominent as this was the dominant problem reported. Existing literature around female gambling problems suggests that gambling for escape is a predominant and primary motive. Yet evidence from this analysis shows that this is only true for one group of women. Among those experiencing much more severe problems, escape is just one of many issues. Of course, it is also possible to view these results as a spectrum. It may be that those in cluster 2, where escape was a prominent problem, might have gone on to develop a wider range of problems (that is, move into cluster 1) if treatment had not been sought. Though plausible, this is unknown. LCA produces discrete and mutually exclusive groups of clients. To examine whether these groups represent different points along a spectrum of behaviour requires longitudinal data which are not available. Equally, it may be that women in cluster 2 experience a different range of harms, those that are less well represented on the DSM-IV instrument. What is interesting is that there are two main groups of women presenting for treatment – one, the majority, who seemingly

have a greater range of problems, and another who are equally categorised as pathological gamblers but for whom problems centre more on issues of escape, chasing losses and concealment of behaviour.

There were some key differences between the types of women who belonged to each group (see Appendix Table 7.9)²³ For example, those in clusters 1 and 2 were much more likely to report that they had some form of disability than women in cluster 3. Seventeen percent of women in clusters 1 and 2 had some form of disability compared with 10% of those in cluster 3. Commensurate with this, women in clusters 1 and 2 were also more likely to have another mental health issue. Notably, 35% of women in cluster 1 had a diagnosed mental health problem compared with 23% in cluster 2 and 13% in cluster 3. Women in cluster 1 were also less likely to be homeowners (and more likely to live in rented accommodation) and were more likely to be unemployed than other groups. Finally, a significantly higher proportion of women in cluster 1 were in debt (85%) than those in cluster 2 (76%) or cluster 3 (57%).

What this analysis also shows is that not all groups of women experience the same kinds of gambling problems and that the women who experience different types of problems have differing profiles. To explore this further, it is useful to think about how different types of gambling problems may cluster together. Previous research analysing responses to the DSM-IV screen in the BGPS series has shown that the DSM-IV screen seems to measure two different dimensions. According to Orford et al (2010), these are gambling dependence and gambling-related harm. The former includes behaviours such as lying to family and friends, making unsuccessful attempts to stop gambling, feeling irritable when attempting to cut back on gambling, and so on. The latter includes

²³ Because of data quality, regression models were not constructed to identify factors associated with the membership of each group. There was a large amount of missing data and a very limited range of predictors included in the dataset which could have given spurious results. Therefore, the analysis reported here is based on bivariate analyses, which also has its limitations. Small base sizes, for example, make detecting statistically significant differences difficult.

committing a crime to fund gambling, risking a relationship or job or borrowing money to relieve a desperate financial situation. This dimension could be viewed as consequences from excessive gambling. To date, this analysis (in Britain at least) has only been performed using the BGPS data and it has not explored whether these two dimensions also exist among the broader population of problem gamblers. This analysis has also never been performed (again in Britain, at least) on a sample of women alone.

The method through which these dimensions were identified was factor analysis. This is essentially a data reduction technique that allows exploration of patterns of responses to multiple questions to which the investigator then makes some judgement about the latent characteristics these patterns may represent. Before using the treatment data in this way, there are a number of methodological considerations to document first. Factor analysis is typically undertaken when there is an ordinal measurement of an attitude, behaviour or value. In the treatment data, responses to the DSM-IV were binary coded; clients either experienced the behaviour or did not. Factor analysis can be performed on binary data but this needs to be based on a tetrachoric correlation matrix rather than the more standard Pearson's correlation matrix. Tetrachoric correlations are used for binary data and typically assume that these binary data represent an underlying latent trait that is continuously distributed; i.e., whether someone has chased losses in the past month is binary coded, the behaviour itself actually exists upon a continuum of those who have done this just once (or not at all) to those who have done this every day. In this case, the DSM-IV items though binary coded represent a continuum of gambling behaviour and so using tetrachoric correlation seems appropriate.

First, the correlations between pairs of items highlighted some interesting patterns. Among women, there were strong correlations (>0.6) between a number of items. These are shown in Table 7.1

Table 7.1 Correlation coefficients between DSM-IV items for women

	Pre-occupied	Tolerance	Cut back	Irritable	Escape	Chasing losses	Lying	Crime	Risk job/relationship	Bailout
Pre-occupied	1									
Tolerance	0.63	1								
Cut back	0.51	0.47	1							
Irritable	0.53	0.48	0.60	1						
Escape	0.50	0.52	0.54	0.53	1					
Chasing Losses	0.64	0.60	0.53	0.49	0.65	1				
Lying	0.61	0.50	0.48	0.50	0.54	0.63	1			
Crime	0.35	0.17	0.18	0.24	0.25	0.35	0.37	1		
Risk job/Relation Ship	0.39	0.30	0.27	0.30	0.32	0.37	0.40	0.44	1	
FinancialBailout	0.46	0.37	0.35	0.38	0.38	0.50	0.57	0.31	0.39	1

What is interesting is that the strongest correlations are all between pairs of items which Orford et al (2010) would categorise as being related to gambling dependence. The other items (crime, risking relationships and financial bailout) did not correlate strongly with any other item, with the exception of financial bailout which was positively correlated with chasing losses and lying to family and friends. Of even greater interest is that repeating the correlation matrix for men did not show such clear cut results. Only two correlations had a coefficient of 0.5 or more: these were chasing losses and lying to family and friends (0.51), and preoccupation with gambling and tolerance (0.55).

The correlation matrix shown in Table 7.1 suggests that some pairs of behaviours are strongly related, and that among women there are strong positive associations between some ‘gambling dependence’ behaviours. To explore this further, exploratory factor analysis was conducted. Fuller details of the development of the factor models are given in Appendix C.

The factor analysis was conducted separately for men and women, though it gave broadly similar results. A two-factor solution was the preferred option in both cases. Items clearly loaded onto one of the two factors, meaning little ambiguity in the solution. The results broadly replicated (and in the case of women, reinforced) the findings of Orford et al (2010). Attempts to extract increasing numbers of factors gave unsatisfactory results, as increasingly items loaded between factors in a way that was not interpretable.

The factor loadings for both men and women are shown in Table 7.2. Broadly speaking, the factor analysis suggested that there were two dimensions evident within responses to the DSM-IV screen. The first included preoccupation with gambling, tolerance, attempts to cut back, chasing losses, lying to family and friends and irritability when attempting to cut back. These are broadly similar to Orford et al's (2010) findings, though some items like chasing losses loaded more clearly with this dimension than in their results. Therefore, following their work, this dimension has been called 'gambling dependence'. The remaining three items (crime, risking relationships and financial bailout) loaded onto a separate dimension, which has been called 'gambling harm and consequences'.

Table 7.2 Factor loadings for each DSM-IV item

	Women		Men	
	Factor 1 (dependence)	Factor 2 (consequences)	Factor 1 (dependence)	Factor 2 (consequences)
Preoccupied	0.62		0.54	
Tolerance	0.72		0.57	
Cut back	0.75		0.56	
Irritable	0.70		0.67	
Escape	0.71		0.38	
Chasing losses	0.66		0.42	0.41
Lying	0.49	0.38		0.58
Crime		0.62		0.54
Risk job/relationship		0.56		0.61
Financial bailout		0.44		0.52

Whilst these results broadly mirror those reported by Orford et al (2010), the demarcation between items and dimensions was clearer among women than among men. Among women, each item loaded clearly onto one dimension or another. This was not the case for men. Among men, chasing losses loaded equally between factors, and lying to family and friends loaded most strongly onto factor 2 (consequences). Equally, whilst gambling to escape loaded onto the gambling dependence dimension, the factor loading was not particularly strong (0.37), whereas it was much more so for women (0.7). This, perhaps, suggests that the clustering and dimensionality of the DSM-IV warrants further investigation among male problem gamblers. However, among women, the results were sharper, with two clear dimensions: gambling dependence and gambling harm and consequences.

The final element of investigation was to explore how adherence to these dimensions varied for different types of women. This requires the computation of index scores for each dimension so that results could be compared. In this analysis, this was done through a simple index procedure.²⁴ For each female client, the number of items they endorsed which belonged to a particular dimension was summed and divided by the number of items in that dimension. This gave an index score of between 0 and 1 for that dimension: the higher the score, the more items endorsed within that dimension.

Looking at gambling dependence first, a number of significant associations were evident (see Appendix Table 7.10). Index scores were higher among women who had mental health conditions than those who did not. They were also higher among women who lived in rented accommodation than among those who were homeowners, and were higher among women who had a greater number of dependent children than those who had none. Gambling dependence scores were higher among women who had been

²⁴ There are other methods available to score and weight results from a factor analysis. Saving the predicted factors scores was attempted for this thesis using Stata but did not produce satisfactory results (i.e., typically predicted factors scores should have a mean of 0 but these scores did not making results difficult to interpret). Therefore, a simple index procedure was conducted instead.

gambling for a greater period of time, which is perhaps to be expected. Finally, gambling dependence scores were higher among those with financial debt than those without any debt.

Looking at gambling harm and consequences, many of the same patterns were replicated. Gambling harm and consequence scores were higher among those with some form of mental ill-health, they were higher among those living in rented accommodation, among those with a greater number of dependent children and among those who had financial debts. Index scores were higher among those who had been gambling for a longer period of time. Interestingly, gambling harm and consequence scores were also higher among those who were unemployed (0.5) than among those who were employed (either full time (0.42) or part time (0.40)). This makes intuitive sense given that this dimension includes both financial bailout and risking a job or work opportunity because of gambling.

Discussion

Reviewing the results of both the factor analysis and the LCA, there are some notable findings. The first is the range of associations evident. For example, index scores for both dimensions varied according to a range of individual factors (i.e., mental health, employment status) and broader environmental and contextual factors (i.e., housing type or number of dependent children). This demonstrates that not all women seeking treatment experience problems in the same way. There is a relationship between both greater experience of gambling dependence and gambling consequences that varies based on who you are, who you live with, and your particular circumstances. The second observation relates to this, and shows that further health and social inequalities are evident within the treatment-seeking population. Women with higher gambling dependence and consequences scores are those who display greater social, health and economic disadvantage among those seeking treatment, who already appear to be a disadvantaged group.

However, as the very brief analysis has shown, the socio and economic factors associated with high gambling dependence and higher gambling harm and consequence scores were broadly similar. This could be because there were very few characteristics against which to detect differences (for example, because of data quality, difference in age profile could not be examined). Or perhaps they are similar because there is cyclical relationship between some of the factors examined and presentation for treatment, regardless of the nature of problems experienced. For example, it is plausible that those presenting for treatment tend, on the whole, to have more debt which could be a result of their gambling. The same could be said for some mental health issues. If this were the case, then detecting differences between these groups of women by these factors may not be possible because of the underlying relationship between the gambling problems and the factor under consideration. This data, therefore, provide information about which types of gambling difficulty are correlated with certain socio-demographic and economic factors but are less informative when attempting to unpick differences between women with higher harmful consequence and dependence scores.

Inequalities in health behaviours have long been acknowledged by public health practitioners, though the evidence base examining inequalities in gambling behaviour lags behind that of other public health considerations. This evidence shows that themes of social and economic inequalities can be extended to include those experiencing gambling problems and attempting to seek treatment, with a depressingly predictable pattern showing greater harm and dependence among those who are (potentially) most disadvantaged.

This is further supported through examination of the cluster profiles. Those who experienced a greater range and depth of gambling-related problems were more likely to suffer from both physical and mental ill-health, be unemployed and to have higher levels of debt (30% had debts of over £11,000). It has long been acknowledged that problem gamblers are more likely to experience a range of adverse health outcomes

and that there is a relationship between problem gambling and economic situation. As noted earlier, gambling behaviour is often considered to exist on a spectrum ranging from non-problematic to problematic play. This evidence suggests this spectrum continues **within** groups who have problems, with some female problem gamblers displaying particularly acute issues across a range of problems. Understanding this is important; yet again it is evident that not all women are the same.

Finally, this analysis provides an important contribution to understanding motives for gambling, and especially the relationship between female gambling and escape. Gambling to escape is clearly an important component of female gambling problems. However, it does not manifest itself in the same way for all women. For some it is a dominant feature, for others it is part of a broader spectrum of problems, albeit a likely important one. Understanding more about these nuances and documenting them (as has been attempted in this chapter) is important, as it helps us to move rhetoric away from broad assertions like 'women gamble to escape' towards more specific understanding of how this manifests for different women under different circumstances. This, as I have argued, is the primary job of the realist describer.

The brief examination of the treatment data provided in this chapter simply presents a starting point for more detailed exploration. The main purpose for this thesis was to highlight how different types of information can be used in realist description. That said, what has been documented above is undoubtedly common knowledge among counsellors who have more detailed insight available to them. Talking through these findings with counsellors confirms this is the case. Indeed, this kind of consultation with practitioner specialists forms part of the realist descriptive method. That is, drawing on expert advice and knowledge to both help uncover the power relations that underpin the numbers but also to help make sense of, and to appropriately theorise from, statistical observations. For this analysis, this was done by sending the draft chapter to key treatment providers in advance and then meeting with them to discuss findings and

queries arising from the analysis. The job of the realist describer should not stop after the production of analysis but rather continue to consult, explore and dig deeper into what has been observed.

The academic research world needs to find a bridge between this potential source of in-depth knowledge and insight and the world of generalities (and numbers) which policy makers often prefer. Whilst this thesis is largely statistical, realist describers should attempt to find ways to document evidence from myriad different sources. In this case, this includes qualitative insights from those with detailed experience of working with problem gamblers. The contribution they can make to enhanced understanding of how and why behaviour varies is exceptionally important. What the realist describer needs to do is to find a way to harness this detail and marshal this evidence. This may be by relating this insight with broader patterns observed in data (as done for this case study) to develop theory or improve explanatory understanding. For example, talking through these statistical findings with counsellors highlighted shame as a plausible mechanism shaping some of the patterns observed in the data. Equally, more formal qualitative studies could be developed to unpick these relationships in more detail. This case study chose a statistical approach but qualitative insight would be equally informative; Karter's (2013) work based on her own therapeutic insights is testimony to this.

Finally, thinking through the findings relating to escape highlights an area of complexity for the realist describer: it is not always clear what is a context, what is a mechanism and what is an outcome. Taking the example of gambling for escape, escape could be a mechanism that manifests itself in problematic gambling, or it could be the desired outcome, and gambling was the mechanism to achieve this. For example, the need to escape from one's life and problems could be a motivational mechanism prompting some people to gamble and to gambling problematically: the context is the circumstance of the individual and the intrinsic desire to escape that leads to gambling. However, it would be equally fitting to view gambling as the mechanism through which

people escape from their contexts, and as one pathway to achieve this. The question would be why some people choose gambling as a mechanism for escape, and not other activities. As this example shows, in realist description, the relationship between context, mechanism and outcome is not always clear cut. It is, arguably, dependent on the objective of the describer. For example, if the objective is to examine why people gamble, then the behaviour is defined as the outcome and arguably escape could be the mechanism. However, if the objective is to look at the types of rewards people get from gambling, then escape could be the outcome and gambling the mechanism. The realist describer should think carefully about these issues, seek to define their outcomes and their objectives carefully, and have a reflexive relationship with the evidence if it becomes clear that the original CMO configurations are not what was expected.

Chapter 8: Concluding remarks

This thesis aimed to consider the extent to which realist description, formulated as a second strand of realist review, could be developed as a research method. It did so by setting out the case of what a realist approach to the study of gambling could offer. This was namely by providing a research orientation that expressly recognised and sought to explore both complexity and diversity, that recognised the multi-faceted and interlinked range of contexts that could influence behaviour, by viewing commercial gambling as possessing emergent properties, and by seeking to focus on explanation rather than prediction. This thesis has argued that these orientations offer a more powerful framework for the consideration of gambling behaviour than has hitherto been considered. Most importantly, as an orientation, it shifts knowledge production away from the deeply entrenched bio-medical model that pervades gambling research to date. Instead, realism offers a framework which recognises that individuals, their networks, their local areas and local and national socio-political circumstances, form different mechanisms and contexts that can influence behaviours in different ways. Using this framework to underpin knowledge production is arguably more fruitful in terms of explanatory power than simply continuing to hold that the individual is 'king' and that all decisions are of the individual's own making alone.

By using a realist framework, and drawing on the key principle of retroduction, this thesis has shown that in Great Britain, at least, there appears to be a process of re-“feminisation” of gambling. Tracing the historical antecedents of female gambling behaviour and how they have changed has shown that female patterns of gambling throughout the 20th century were deeply tied to broader normative values and regulatory changes. Attitudes to female gambling behaviour, especially those expressed by the powerful elites (whether the ruling classes or more recently, the national media) show little change. Female gambling was and is considered with disdain by these

groups. This ties into broader debates about the governance of female behaviour (similar themes emerge when looking at female alcohol consumption). The narratives surrounding this are resonant with the concept of 'moral panics' and can be traced throughout the 19th, 20th and now into the 21st centuries (Cohen, 1972). What women should and should not do still seems to be a topic of great interest, creating a normative environment which is likely to affect female behaviour. This was especially evident with the changes observed around the introduction of the Betting and Gaming Act 1960. Looking at historical records has allowed identification of important changes relating to public and private contexts which arguably served to restrain women from engaging in a once favoured pastime.

From this analysis, a process of "re-feminisation" has been suggested. Changes observed in female gambling behaviour are likely to be the result of changing regulatory frameworks; the actions of the gambling industry seeking to recapture a key population group; changes in ways to access gambling (i.e., more private provision through the internet); and changing normative environments, with gambling now promoted freely as a valid leisure and recreational choice. Given widespread engagement in gambling among women witnessed prior to 1960, this cannot be viewed as a process of "feminisation" as has been postulated by researchers in other jurisdictions, but rather is a process of "re-feminisation" whereby the structural mechanisms which previously served to restrain some women from engagement are changing.

The existence of these mechanisms was supported through analysis of youth gambling behaviours which demonstrated that when a further range of barriers to access were in place (i.e., age restrictions), younger girls displayed equal interest in both chance- and skill-based forms of gambling. This supports theories that there is no 'innate' female preference for games of chance but rather a range of contexts and countervailing mechanisms that restrain some girls and women from accessing these forms of activity. Finally, further support was provided by looking at the relationship between area

exposure to gambling venues and behaviour. For men, a clear association was evident. This was not so for women. The area exposure metric focused heavily on the distribution of betting shops. Drawing on evidence provided through historical accounts allowed sense to be made of this difference and prompted the suggestion that the gendered mechanisms which discouraged women from using these gambling venues were the most likely explanation for this lack of association. This served to highlight how different population groups (in this case men and women) living in the same areas can experience outcomes in different ways. This contextual understanding has been sorely neglected in debates about the relationship of access to gambling and gambling behaviour.

To my knowledge, this is the first time these arguments have been made within the gambling literature and the first time such broad-ranging historical contexts have been used to help explain patterns of behaviour observed in the present day. This is a direct benefit of taking a realist approach to investigation. As Olsen (2009) stated, realists do retrodution, that is explaining why things are the way they appear. This focus on retrodution meant that postulated theories about the “feminisation” of gambling were not taken at face value but were critically examined both within the current British context and within historical context. In order to describe how current female patterns of behaviour were changing, this contextual understanding was vital. It uncovered crucial changes in the way gambling was provided to women and helped to trace a range of different mechanisms associated with this. This process also recognised the specific historical and cultural contexts of the British gambling environment. Therefore, the concept of “feminisation” as postulated by others was not rejected: it was simply stated that in Great Britain it appeared that other processes, mechanisms and contexts were at work. A realist descriptive approach helped to refine these concepts and to make them more specific to British contexts.

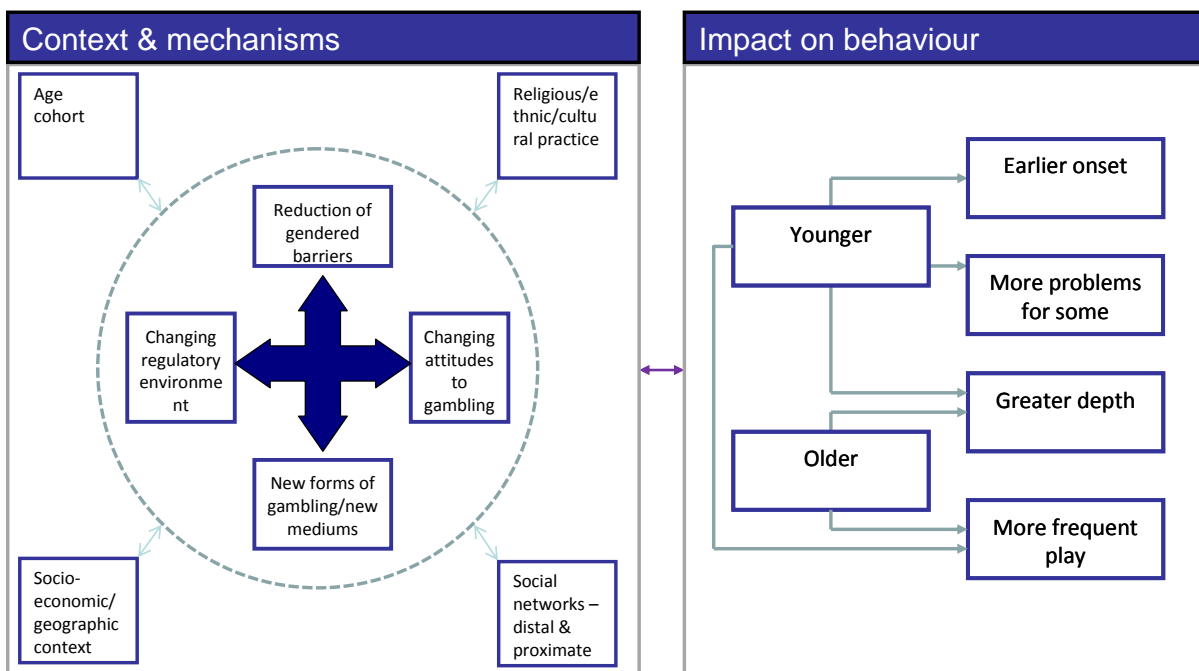
This process is visualised in Figures 8.1 and 8.2. The first figure visualises the standard process assumed by the concept of “feminisation”. Here, two mechanisms were proposed that lead, in a fairly linear fashion, to an increase in female gambling and hence female gambling problems.

Figure 8.1: “Feminisation” of gambling: standard concept



Figure 8.2 draws on the research presented in this thesis to visualise these processes in a different, more realist, way.

Figure 8.2: Re-feminisation of gambling: realist perspective



This highlights a number of potential processes which can combine to have different impacts on different groups of women. The example used in Chapter 5 was that of different age cohorts of women. Drawing together analysis from the Taking Part study and the BGPS showed that contextual factors like who one lives with, and parental behaviour, can shape behaviour, as can religious, ethnic or other cultural contexts. Where an individual lives, and their own socio-economic circumstances, are also important contextual issues. Through the course of this thesis, changing regulatory environments, changing attitudes to gambling, technological development and industry action, and changes both at a societal level (in terms of governance of female behaviour) and specifically in relation to gendered barriers to access, have been suggested mechanisms for behaviour change. These are interrelated and there is likely to be dynamic interplay between them. For example, as suggested in Chapter 5, changing attitudes may be related to changing perceptions of gendered barriers, which in turn may be related to changing regulation and ways of framing of gambling as an activity. This is the first time, to my knowledge, that 'feminisation' processes have been conceptualised and examined in this way.

Unpicking these relationships is not always clear cut. Furthermore, it is not always clear what is a context and what is a mechanism. For example, a social network heavily engaged in gambling may be a contextual factor, but when seeking to understand behaviour change, expanding or changing social networks could also be a mechanism. Therefore, there is likely to be a dynamic interplay between contexts and mechanisms depending on what questions investigators are looking at. As suggested in Chapter 2, drawing on systems theories to explore interplay between different factors and dynamic feedback loops that exist between them is useful. Figure 8.2 also draws on findings from Chapter 5 to suggest that impacts are experienced differently for different age cohorts. Evidence suggested that whilst changes in behaviour were observed among older women, there was little evidence of their experiencing more gambling problems. Among younger women, there was some evidence of their gambling 'more' and also engaging

in gambling at a younger age than their older counterparts. There was evidence of younger women also experiencing a greater level of difficulty with their gambling behaviour. For youth, a cohort effect was suggested as a potential explanation for changing behaviour, especially in relation to the changing gambling and societal landscape in which youth are growing up. Some of the specific mechanisms suggested are likely to include changing access (for example through technological change), availability and/or corporate practice which could include attempts to attract women to gambling through advertising, marketing and sponsorship as a mechanism that changes normative attitudes to gambling, alongside peer relationships and influences. However, the mechanisms looking at the differential impact between age groups in relation to the experience of gambling harms remain to be investigated.

The information presented in Figure 8.2 is illustrative of what taking a realist approach can add to understanding. It is not intended to be exhaustive. It aims to show how taking a realist approach has helped to make theories about female gambling behaviour more nuanced and to better represent the complexity of how behaviour is shaped. It also highlights numerous gaps that need to be explored further. For example, how does the relationship between religious and ethnic cultural practice operate in relation to female gambling behaviour? What aspects of this act as propagating or militating factors for changed behaviour? Why are older women gambling more yet not displaying increased problems? How do the specific mechanics of the relationship between social networks and individual behaviour operate and why? What else needs to be considered? In short, Figure 8.2 represents a summary of what has been learned so far, but is far from being the end product. It serves as a framework around which to develop further investigation. This framework should be revised and refined as knowledge builds. This is both reflective of the iterative approach realists have to the relationship between evidence and theory, and of the implication analysis approach recommended by Lieberson and Horwich (2008a). This should be viewed as the starting point of explanation, not the end.

Explanation is a cornerstone of the realist descriptive approach. The realist focus on retrodution means a critical focus on explanation. As previously stated, to produce descriptive understanding using a realist paradigm, such explanation may mean the need to incorporate historical context as a critical element of investigation. As argued throughout this thesis, realist describers should seek to cast a wide net and use a range of different evidentiary sources: this includes historical sources, where appropriate. In fact, the realist describer has much to gain by considering the processes that historians undertake to evaluate and marshal evidence. As Carr (1961) describes, historians do not see things as bound to happen. There is no focus on prediction. Rather, they treat events as closed chapters and seek to explain how and why these events occurred. In terms of their method, Carr stated that:

"[Historians] rummage in the ragbag of observed facts, select pieces and patterns of the relevant observed facts together, rejecting the irrelevant until it has sewn together a logical and rational quilt of 'knowledge'."

(Carr, 1961: 137)

Arguably, the realist describer could be said to do the same and there is increasing call for social scientists to approach their work in this way (Lieberson & Horwich, 2008; Whitehead et al, 2004). The realist describer should analyse outcomes from different angles, use different sources of data, explore and compare evidence, until a logical and plausible set of mechanisms and contexts can be suggested (as has been attempted in Figure 8.2). The focus is on explanation, not on predicting the future, and as Lieberson and Horwich (2008a) would state, these explanations should be broad-ranging and the bounds under which explanation holds true carefully documented.

In undertaking this process, this thesis has also documented that the retroductive process applies not only to how behaviour is formed, but also to how knowledge is

formed. It is argued that the realist describer should and could make use of the many different sources of information available to them. In this thesis, this was achieved through secondary analysis of the BGPS dataset, the Taking Part survey data, data from treatment providers and youth tracking survey data. However, in the analytical process it was important to consider how each dataset was produced and the power relations underpinning these sources of knowledge. For example, the Taking Part survey reflects leisure realities as set out by the government, and types of activities government seeks to promote. This does not reflect all leisure realities and this is an important caveat. With the treatment provider data, curious results such as the proportion of people presenting for treatment not classified as problem gamblers meant that critical examination of why this might be was needed. A range of possibilities was considered and discussed with counsellors who provided insight into a potentially important mechanism explaining this observation – that of shame. This investigative process is important. Numbers are powerful but numbers are also constructs that reflect the prevailing circumstances that underpin their production. Understanding how and why the numbers appear as they do is therefore of primary importance for descriptive analysis using a realist approach. This recognises the innate subjectivity of this kind of knowledge production and seeks to explore it. Again, this kind of deep consideration of how and why evidence was produced and the underlying reality it reflects is resonant of the historian's approach to assessing their 'facts'.

Of course, one question might be whether realist description is actually doing anything new. Lieberson and Horwich's implication analysis (2008a), of which there are many parallels to realism, drew heavy criticisms from some quarters, with some sociologists arguing that all they had done was document the procedure that most already follow (Goldstong, 2008). Lieberson and Horwich offered a spirited defence (2008b) but in some ways missed a key point. Even if they 'only' document what sociologists already do, this process is vitally important. Given the highly stylised nature of academic journals and their preferences for reporting, it is often very difficult to determine the

underlying relationship between ontology, methodologies and methods evident in this prose. Realism has already been critiqued as being “*a philosophy in want of a method*” (Yeung, 1997: 51). Therefore, if this thesis simply provides a rigorous documentary of some of the approaches that realists already take, this still represents an important contribution to knowledge.

Realist description as postulated in this thesis was set up as a second strand of realist review. It was intended to look at how context, mechanisms and outcomes might be reconfigured for descriptive rather than evaluative purposes. It was suggested that this could be achieved by switching mantras from ‘what works for whom under what circumstances’ (Pawson & Tilley, 1997) to ‘who does what, how and why and under what circumstances’. This sentence became the guiding principle for all of the analysis presented in this thesis. Understanding the applicability of realist methods to description was also viewed as vitally important in the context of our changing world. Big data, linked data, complex data are increasingly ubiquitous in the 21st century. As more data become available and technological capacities to exploit this improve, the primacy attached to numbers and to description shows no signs of abating. Therefore, realists need to consider how to integrate this source of information into their methodological repertoire. It is no longer adequate to simply state that quantitative methods have no place in realist research (Sobh & Perry, 2005).

This thesis demonstrated how this might be achieved by organising analysis around the framework of ‘who does what, how and why and under what circumstances’. This led to new analytical techniques being applied to well-used datasets (i.e., LCA and the BGPS dataset) and supplementing this information by thinking specifically about context, (i.e., behaviours of other household members and area level characteristics). For some, this may seem like the ‘emperor’s new clothes’, but to my knowledge, such an approach has never been used in gambling studies to date and it certainly provided me with a new way of thinking about data, analysis and theory.

This process has of course also highlighted some limitations of the realist descriptive approach. More than once this thesis has noted that analysis told us more about contexts and outcomes and less about mechanisms. This is because in quantitative analysis it is easier to find outcomes (i.e., groups of people or groups of behaviours) even if these are latent outcomes, and to look at the range of contextual influences associated with these outcomes, than it is to uncover mechanisms. Indeed, at best this thesis has explored the 'who does what' aspect of the framework and looked at the different circumstances of these outcomes, but has had less to say empirically about the 'how and why'. The 'how and why' aspects, or rather the mechanisms governing differences in outcomes, have been theorised based on the observed outcomes and relationship to contexts. In this respect, realist description should be seen as a useful tool for the starting point of broader realist research. Returning to the example of young women, analysis showed that they were experiencing the greatest change in behaviours. The temporality of context was noted in relation to this, with this group of young women growing up in a fundamentally changed technological and gambling landscape. Mechanisms were speculated on, such as changing normative attitudes to gambling, changing modes of access, and blurring boundaries between physical and digital spheres. This chapter explicitly recognised that this is just the starting point. More work should be planned to carefully expand and develop these mid-range theories and to then evidence them. The point remains, however, that if a realist orientation was not applied to descriptive statistics to start with, these variations might not have been uncovered, simply because no one was looking for them.

In the early part of this thesis, realist description was described as a pluralist comparative approach. Although this thesis focuses on quantitative methods, the importance of integrating understanding with qualitative approaches needs to be recognised. If realist description tells us something about the who does what and under what circumstances, then qualitative insight is needed to populate the 'how and the

why' questions. Realist description is not a procrustean endeavour; it does not neatly tell us all the answers nor can it be forced to do so. It is an orientation, a way of thinking and most crucially a starting point to gain deeper insight into a complex, open world in which behaviours are shaped and formed through the complex interplay of myriad influences.

List of references

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