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Pachinko: A Japanese Addiction?

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ABSTRACT *Pachinko is an 'amusement arcade' type machine that is popular throughout Japan, with an estimated 17.1 million 'players' providing an enormous annual revenue of 2.87 trillion yen (US$250 billion). It is simple and easy to play and has all the hallmarks and structural features of gaming machines worldwide. While academic discourses on the addictive potential of gaming machines are well developed, their application to pachinko is very limited. This is, perhaps, due to a number of factors. First, pachinko is portrayed as a game rather than as gambling in Japan, so that addiction issues are ignored or downplayed. Second, most accounts of 'playing' pachinko are journalistic rather than academic. Third, academics tend to focus on police corruption and organized crime rather than addiction. Here, we take the approach that pachinko represents 'gambling by proxy' and explore its addictive potential. We conclude that unless pachinko is recognized as a form of gambling, present changes in Japanese legislation will be of limited value in tackling addiction.*

Introduction

There is a wealth of information on the historical development of pachinko (Manzenreiter, 1998; Sedensky, 1991); many journalistic accounts of its popularity (Kiritani, 2007; McCurry, 2007); its commercial success and future potential (Cohen Independent Research Group, 2006; Economist, 2007); reference to its links to organized crime (Bayley, 1991; Hill, 2000; Kaplan and Dubro, 1986; Sibbitt, 1997; Whiting, 2000); and its relationship with police corruption (Johnson, 2003).

There is, however, little academic analysis of the popularity of pachinko and the social consequences of playing such an addictive 'game'. This is a striking omission. Pachinko has all the hallmarks and features of gaming machines worldwide, similar to 'fruit machines' in Britain, 'gaming machines' in the US and 'pokie machines' in Australia. Pachinko has a low initial stake; can stimulate visual and aural senses; has rapid and continual cycles of play; provides the opportunity to experience a frequent and regular 'small wins' (Griffiths, 1995, 1997, 1999); and can seduce players into continuous play.

Drawing on data from the Japanese National Police Agency (NPA, 2005) and the Japan Centre for Socio-Economic Development (2005), we first explore whether pachinko is a 'game' or is 'gambling by proxy'. We then examine changes in the popularity of pachinko and the substantial revenue produced by such a 'game'. Finally, we discuss the extent to which pachinko addiction is a Japanese phenomenon.

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Pachinko: Playing a Game, or Gambling?

Pachinko is a popular and straightforward legal 'game' in Japan. It is also popular throughout South East Asia, particularly in South Korea and Taiwan, where its legal status is less certain. Its origins are unclear but as Du Shole (2007) noted, pachinko either derives from a US pinball machine (the Corinthian) or was invented by Japanese soldiers at the end of the First World War when faced with a war surplus of steel balls. Regardless of its origins, pachinko became popular as a game in Japan in the 1920s, and apart from a Second World War ban, has remained so.

Despite being officially considered a type of leisure or entertainment, pachinko's 'game' status is somewhat undermined by a requirement that a person must be 18 to enter a pachinko parlour. Indeed, Japanese adolescents appear to prefer the numerous 'games centres' throughout Japan, and evidence from elsewhere suggests that this might be due to reasons such as: excitement; freedom from parental supervision; a social meeting place; and also escapism (Griffiths, 1995). Pachinko, in comparison, is a relatively monotonous way for adults, let alone adolescents, to spend free time.

For those unfamiliar with pachinko, the following outline will help contextualize the 'game'. First, players insert money to pay for supplies of small 'steel balls' which they then propel by turning a handle on the machine. The balls cascade down the machine through a maze of 'pins' toward an open slot. Players aim to successfully 'guide' as many balls as possible into open slots. At a set time on the machine, the slots increase in size and players attempt to take advantage of this to accumulate more balls.

The three main types of pachinko machine (Kiritani, 2007) are:

- *Hanemono*: 'Wings' either side can 'guide' the projected ball into the slot. The slot will open under certain playing conditions, increasing the size of the 'target hole' to amass a greater number of steel balls;
- *Deji-Pachi*: A central LED display is activated when a ball has successfully negotiated the maze of pins and enters a particular slot;
- *Kenrimono*: Certain 'rights' accrue throughout the course of play and which seems to appeal to the more 'serious' pachinko player.

Pachinko parlours have also increased the number of 'poker-style' or 'pachi-slot' machines, which are more akin to 'fruit machines' or 'gaming machines' where players set a reel of symbols spinning and hit 'stop buttons' to line up symbols in a wining pattern. These machines did not appear in Japan until 1981 and yet now appear very popular in the new warehouse-style pachinko parlours established throughout Japan. They now outnumber the 'traditional' pachinko machines (Economist, 2007).

If a player is successful, regardless of the type of pachinko machine played, they will have trays full of steel balls. Each ball is counted by a machine at the pachinko parlour counter where players are issued with a receipt for the total value of the win estimated (at the time of writing) at four yen per steel ball. This receipt can then be exchanged for a 'prize' with a nominal equivalent value (usually of nominal value within the exchange process, but of little or no value to the outside world, e.g. a particular pack of washing powder). Importantly, the balls cannot be exchanged for cash within the parlour. The crucial issue in defining pachinko as 'gaming or gambling' is what happens once the 'prizes' are claimed. The process

is also in constant flux according to changes in policing policy, yet much of the available English-language literature provides a somewhat outmoded and static view of this exchange process. It is certainly the case that players used to exchange the 'prize' in a nearby specialist 'office' for cash, but always at a reduced rate from the nominal value of the receipted 'prize'. Several sources (Johnson, 2003; Kiritani, 2007; McCurry, 2007; Whiting, 2000) have suggested that the 'prize', once exchanged at the 'office', is sold back to the parlour where it is used again. Via this exchange process, the successful player has money to return to playing pachinko, the parlour has a 'customer' spending money, and the office (generally seen as connected to organized crime, see Bayley, 1991; Hill, 2000; Kaplan and Dubro, 1986; Sibbitt, 1997; Whiting, 2000) makes a profit by deducting a percentage and reselling of the 'prize'.

More recently, the Japanese National Police Agency (NPA, 2005) has defined this type of exchange as illegal. Indeed, it appears that its legal status was always questionable, but that it was tolerated as part of the process of 'playing' pachinko. There is now some evidence that the NPA has started to use its powers to reduce the extent to which pachinko facilitates 'gambling by proxy'. For example, the NPA (2005) charged five pachinko 'owners' in 2004, 16 in 2005 and nine in 2006 for purchasing a prize from a customer. The number of cases is very small, however, in relation to the number of pachinko parlours throughout Japan (15,165 in 2005). It seems clear that this approach is more to do with signalling intent to deter than as a fully resourced law enforcement process.

A more far reaching policy was introduced by the NPA in an attempt to stop 'gambling by proxy,' whereby pachinko parlours now have to offer prizes that have real, rather than nominal, value. The player can then chose a prize equivalent to the receipted value. These prizes must have real market value – e.g. a television, a laptop computer or a domestic appliance – so that the process of 'monetary gain' profit is disrupted. The apparent intention of the NPA is to ensure that pachinko appeals to those who like to win prizes rather than those who like to gamble to win money. Legally, 'winning goods' is not considered gambling; but exchanging them for money to continue playing pachinko, and/or simply exchanging them for cash to spend elsewhere, is.

The Popularity of Pachinko

The popularity of playing pachinko is not in doubt. The figure of around 30 million players is still often cited (Economist, 2007), but the most recent data, presented in Figure 1, extracted from *The Leisure White Paper* (Japan Centre for Socio-Economic Development, 2005), show that pachinko declined in popularity from an estimated 29.9 million in 1989 to 17.1 million in 2005, yet this is still around 20 per cent of the Japanese adult population.

If we consider pachinko as 'gambling by proxy', it is also important to view this in relation to other avenues of gambling available in Japan. While pachinko parlours are privately run and owned by individuals or organizations, other types of gambling are state-controlled.

Figure 2 shows the decline in pachinko's popularity in relation to other key forms of gambling in Japan. From 1989 to 1994 levels of pachinko participation remained stable, but from 1996 to 2000 it declined noticeably, after which it was subject to fluctuations before declining further from 2003. Participation in the state-controlled public lottery shows an overall rise over the same period, and has

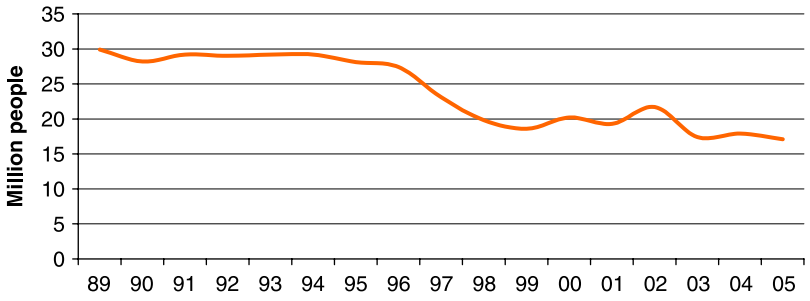

Figure 1. Officially estimated number of Japanese pachinko players, 1989–2005

a much higher level of participation. Apart from a slight rise from 1992 to 2005, all 'other state-controlled gambling' (which consists of national and local horse racing, motorboat racing, motorcycle racing and, since 2002, a soccer lottery), has remained stable. Since 1997, pachinko and all 'other' state controlled gambling have maintained similar levels of popularity, with pachinko maintaining the edge.

The decline in the number of people playing pachinko should not, however, be confused with a decline in revenue. In fact, as Figure 3 shows, revenue has risen from 15.3 trillion yen in 1989, to 28.7 trillion yen in 2005. In short, the number of people playing has decreased by nearly 11 million, but the revenue has nearly doubled. Perhaps a more important observation regarding this data is that pachinko revenue sharply increased until 1994, and has remained stable around the 30 trillion yen mark since the collapse of the Japanese economic bubble in 1994 and an almost flat inflation rate.

In a period of economic stagnation and low inflation then (see Costello and Parry, 2007), it appears that gambling revenue, at least in Japan, is not necessarily threatened. From a psychological perspective, this might be explained by findings that those who are addicted to a type of gambling are relatively impervious to the rise and fall of worldwide economic markets. Personal circumstances and financial commitments often continue to be neglected. For example, see Kalischuk *et al.* (2006) for problem gambling and its impact on families; Nower and Blaszczynski (2006) for impulsivity and gambling; Lambos and Delfabbro (2007) for numerical reasoning and irrational beliefs about gambling, and Welte *et al.*

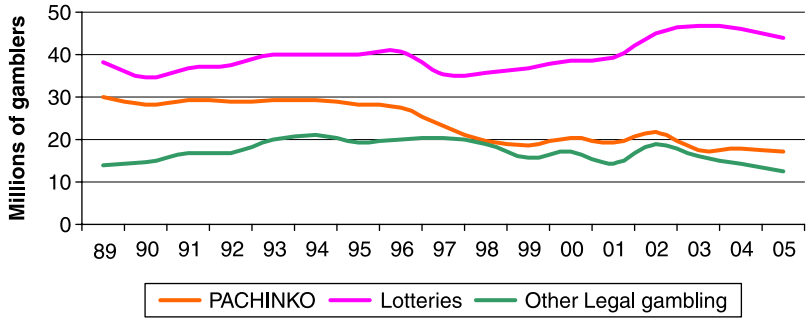

Figure 2. Estimated number of Japanese gamblers (millions).
Source: Adapted from *The Leisure White Paper* (Japan Centre for Socio-Economic Development, 2005)

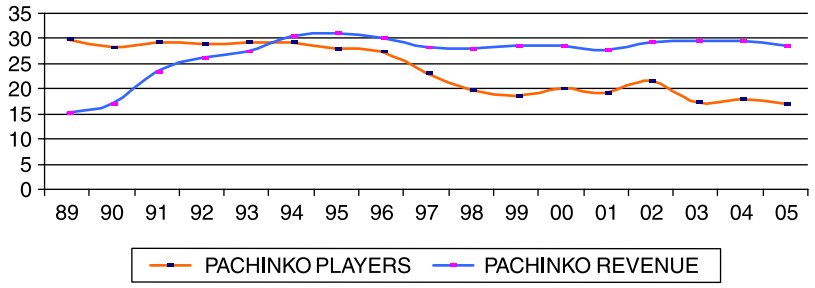

Figure 3. Pachinko players (millions) and revenue (100 trillion yen), 1989–2005. *Source*: Adapted from (Japan Centre for Socio-Economic Development, 2005: The Leisure White Paper)

(2007) for risk factors. In addition to this, pachinko could be seen as a form of release in an otherwise difficult and demanding working life. It offers a sense of temporary escape where there is still the possibility, no matter how slim, that one might win at pachinko. This is evidenced by the explanation that, cognitively, gaming machines are not necessarily played for pleasure, satisfaction or entertainment (Griffiths, 1995; Nower and Blaszczynski, 2006; Lambos and Delfabbro, 2007).

The failure to win does not deter those with a gambling problem. Instead it paradoxically appears to increase the conviction that a large win is imminent and deserved (Ladouceur, 2004). This is when the role of luck (Griffiths, 1995) and the illusion of control (Langer, 1975) which is influenced by a particular conjunction of events or circumstances, such as the right person or atmosphere at a gambling venue, are provided as an explanation or excuse for those with a gambling problem. This does not necessarily lead to a conviction that one can control outcomes. It can, however, lead to a misplaced confidence that one can predict or even anticipate an outcome (Raylu and Oei, 2004). The consequences of such misplaced optimism and 'excessive appetite' (Orford, 2001) have frequently led to excessive amounts of money spent (or rather lost) and serious crime (Fisher, 1991; Meyer and Fabian, 1992). As noted in Figure 1, while the number of people playing pachinko has dropped, the volume of play has increased. In addition, using 1996 as a baseline of 100, Figure 4 shows that by 2005, 4.9 million pachinko machines are now crammed into fewer, obviously larger, parlours, so that the average number of machines per parlour has increased over this time period from 268 to 314. Further research is needed here, but these data might suggest that the population continuing to play pachinko are 'hard core' and thus possibly addictive players, who are now more concentrated in their own 'specialist centres'.

At this point, it is not yet possible to know whether gaming machines are responsible for the development of problem gambling or whether those people who already have a problem controlling gambling are drawn towards these machines. In addition to this, the proliferation and evolution of measures of 'adult problem and pathological gambling', which are used to assess gambling in clinical settings and population research, have encountered some criticism (see Abbott and Volberg, 2006; McMillan and Wenzel, 2006). Such reviews are useful and informative. However, perhaps it is also important to note research that shows that the relative qualities of different screening tools depend, in large part, on the

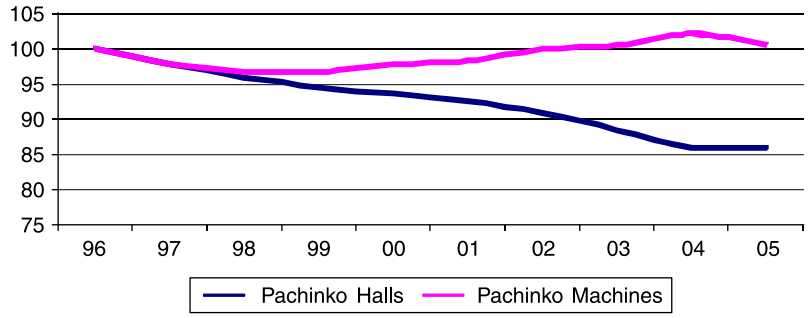

Figure 4. Percentage change in numbers of pachinko halls and machines, 1996–2005 (baseline 100)

cultural, social and political contexts within which problem gambling researchers work (Abbott and Volberg, 2006). Therefore it is doubtful that there is a 'gold standard' screening tool that we can apply anywhere regardless of the circumstance. This does not mean that explanation of problem gambling is impossible, but it does mean that once the common 'factors' regarding gambling are taken into consideration, researchers then need to be aware of different variables, i.e. gender, cultural acceptance of gambling etc., that undoubtedly impact on the screening tool employed.

Furthermore, we need to consider the changing structural context of pachinko. Previously, pachinko parlours were seen as seedy and squalid and male-dominated (Kiritani, 2007). Now seemingly in line with the NPA initiative, pachinko is being re-packaged as a friendly and accessible environment for women. In fact, pachinko parlours have been encouraged by the NPA initiative to make the environment more 'female friendly' and have responded by making the available 'facilities' more conducive to drawing in female players. Free coffee is now offered, and some parlours have refrigerators in them so women on the way home can place food in them to keep it fresh. Some parlours even have miniature television screens affixed to the pachinko machines, all in an attempt to encourage women to play pachinko.

Moreover, the NPA-led reform which encourages 'worthwhile' prizes has also changed the atmosphere in pachinko parlours, as high-end Gucci items – e.g. handbags, suitcases – have replaced the 'valueless' prizes previously offered. The impetus for such a change is obvious. With a decline in interest in playing pachinko, the parlours are trying to revive or remodel the 'game' to draw in 'new' people to play pachinko. However, to what extent is this necessary, as we noted earlier that the number of people playing has dropped and yet the revenue has nearly doubled?

Indeed, while the proportion of male players declined (Japan Centre for Socio-Economic Development, 2005) from 2001 to 2005, the percentage of women players increased by 2 per cent (see Figure 5).

This trend, though slight, raises new questions. Will this move to 'feminize' the parlours maintain a 'hard core' of female pachinko players? Will it draw in new women players? Is the growing concern in the Japanese media over children left in cars a result of the feminization of pachinko? All of this points to a potential growing social problem. Most of the research has shown that men tend to have the

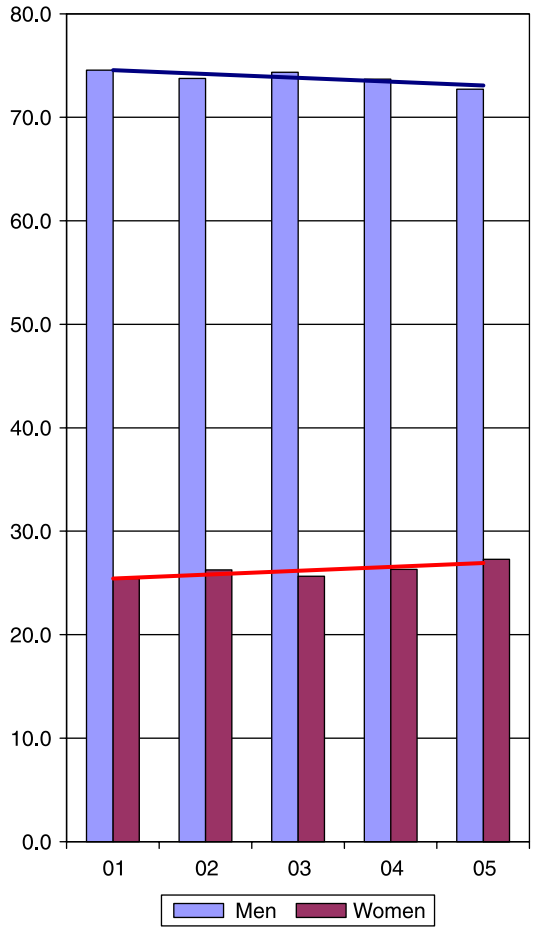

Figure 5. Changes in percentage of men and women playing pachinko, 2001–5. *Source*: Adapted from *The Leisure White Paper* (Japan Centre for Socio-Economic Development, 2005)

highest rates of problem gambling, and where gambling is easily accessible there is some concern regarding the feminization of gambling (Volberg, 2003). Although gambling in Australia has been traditionally viewed as a male pursuit, the introduction of gaming 'poker' machines and the increased availability of gambling venues have been linked to an increased participation of women similar to pachinko in Japan. Women who have gambling problems are also increasingly common in New Zealand (Abbott, 2001).

There are a few sensational examples highlighted in the Japanese media to support both the notion of a more desperate hard core of pachinko gamblers, and of new problems caused by feminization. In one case, an Osaka Prefecture (City Hall) employee embezzled two million yen to play pachi-slot machines, while in another a man murdered a woman to fund a pachinko addiction. There have also been 15 recorded deaths of children from 2002 to 2005, most of who have died of heatstroke and dehydration from being left in cars while their parent(s) played pachinko (Japan Centre for Socio-Economic Development, 2005). These

incidents mirror journalistic accounts from other countries of children locked in cars in casino car parks (Darbyshire *et al.*, 2001).

Pachinko and Gambling: A Japanese Problem?

The evidence presented here is part of ongoing research (Brooks *et al.*, 2007) of the socio-demographic characteristics of pachinko involvement and is thus essentially exploratory in nature. What is clear at this stage is that, similar to gaming machines, pachinko has all the hallmarks of a potentially addictive 'game'. This hypothesis is supported by research that suggests that the prevalence rate of pathological gambling is higher among those who gamble on electronic gambling machines than among people who play other gambling type games (Griffiths, 1995, 1997, 1999).

While this hypothesis regarding gaming machines has some empirical foundation (Breen and Zimmerman, 2002), not all the available research on the matter is consistent. For example, as Blaszczynski and Nower (2002) noted, people who have a gambling problem are as diverse as the types of gambling and 'games' available. With such a variety, a single diagnostic approach for gambling and addiction is too simplistic. As Welte *et al.* (2007) noted, although the research findings on addiction are important, playing gaming machines will not necessarily lead to pathological gambling. There are a number of considerations that might fit into proximal or distal factors. Proximal factors are those that influence behaviour in the present; these can be internal, cognitive or physiological, or external, such as a particular type of gambling or venue. Distal factors are those removed in time, such as personal childhood experience and/or past gambling experience. These latter factors are complex and are far more difficult to assess (Abbott and Clarke, 2007).

There is a substantial body of international research that illustrates that some types of gambling, particularly continuous, rapid, frequent 'games' perhaps with an element of skill in them, such as pachinko, are much more strongly associated with problem gambling than others (Productivity Commission, 1999; Abbott and Volberg, 1999, 2000) and evidenced by the disproportionate revenue they produce in comparison to other forms of gambling (Blaszczynski, 2005). The characteristics of high-frequency gaming machines are only one part of the problem. There is some debate as to the location, opportunity and placement of gaming machines (Blaszczynski, 2005) and the ease with which a casino or any gambling establishment is accessed (see Shaffer *et al.*, 2004 for the USA and Fernandez-Alba and Labrador, 2005 for Spain).

The debate regarding the positioning of gambling establishments has also moved on from the theoretical perspective of gambling as just an individual problem to one that now considers the impact on the family (Kalischuk *et al.*, 2006), and viewing gambling as a public health issue. However, there is a difference of opinion regarding the liberalization of gambling laws (Blaszczynski, 2005; Korn and Shaffer, 1999; Messerlain *et al*, 2005; Room, 2005) and its impact on families (Kalischuk *et al.*, 2006). Consequently problem gambling is being approached in a holistic way where it is viewed as a health problem that interacts with the agent (act of gambling), the host (problem gambler) and the environment (family, community, culture) (Kalischuk *et al.*, 2006).

There is also a growing consensus among academics and clinicians that a single, specialized theory is of limited use. Instead a comprehensive theory must contain

elements of psychology, social and biological factors (Gupta and Derevensky, 1997; Lesieur, 1989) and consider the social context in which we live. This can also be said of the relationship between impulsivity and problem gambling. As suggested by Nower and Blaszczynski (2006), and illustrated by the use of a model, it is important to reconceptualize impulsivity as a multi-factorial construct in which the complex interplay of personality, cognition schemas and the principles of reinforcement need to be considered. Therefore, the bulk of the evidence so far reflects the interplay of environment, opportunity and individual (Welte *et al.*, 2007).

Regulation of the pachinko parlours and those who have an 'excessive appetite' to play and consume pachinko and pachi-slot machines are both current concerns in Japan. Legally, in Japan, if habitual gamblers are punished, it is by imprisonment rather than coerced treatment. The Japanese Penal Code (Act no. 45 of 1907), chapter XXIII, article 186) states that 'A person who habitually gambles shall be punished by imprisonment with work for not more than three years'.

In 2003, 1,192 gambling/lottery violation acts were reported to the Prosecutors' Office, of which 241 were awarded custodial sentences. Of these, 188 (78%) were in the form of suspended prison sentences. However, we should ask to what extent can this punishment-orientated approach work? Habitual gambling is difficult to assess, hence the problem of assessing the proportion of pachinko players who are problematic. Even working within legal 'guidelines', the law is often open to interpretation by the police, public prosecutors and the judges as to who to charge, who to punish and what sentence to pass. Perhaps in response to the few and yet regular cases of child deaths reported above, the NPA (2005) has introduced a raft of measures. It has revised the regulations concerning the approval of pachinko machines to suppress what is referred to as the arousal of players' 'gambling spirits'. However, it has not reduced the speed/number of revolutions of the reels on pachi-slot machines in an attempt to reduce the intense rapid cycles and continual cycle of play associated with gaming machine addiction.

While there is available literature and evidence on the interplay of environment, opportunity and individual risk factors associated with problem gambling, there is little information on how these factors vary by age and gender. Although it is well documented that men and women prefer different types of gambling (Hing and Breen, 2001) little is known about the impact of gaming machines on men and women with perhaps the useful exception of Kweitel and Allen's review (2003).

Legislation and public acceptance of gambling has also affected the pattern of those who engage in some type of gambling and how they gamble. Depending on the history, culture and political view of a country, the roles women are expected to undertake are different. These roles tend to 'traditionally' revolve around caring for a family, but the trend towards smaller families throughout the developed world is almost certainly changing the behaviour of adult females. Even in this context, Darbyshire *et al.* (2001) have speculated that an increase in female gambling will have negative ramifications for the family, especially for dependent children. Others have already provided evidence of the financial hardship and emotional impact on children in such circumstances (Abbott *et al.*, 1995; Lesieur, 1989; Lesieur and Rothschild, 1989).

There are still serious limitations to the evidence on problem gambling and its impact on the family. First, most sample sizes are too small to draw any significant

conclusions (Black *et al.*, 2003). Second, studies cannot achieve random or representative samples of the general population, limiting the generalizability of the research. Ciarrocchi and Hohmann (1989) used specialized 'patients' and, later, Ciarrocchi and Reinert (1993) focused on those who already had gambling problems and had sought help through Gamblers Anonymous or Gam Anon. Others have drawn from the prison population (Abbott, 2001; Lesieur, 1992).

It may be better to view these studies as a base upon which to build further, more extensive research. For the moment, the existing studies may be of use in developing effective treatment programmes for those who do have problems. There is currently very little treatment provision in most countries and less still for assisting family members (Abbott *et al.*, 1995; Orford *et al.*, 2003).

More encouragingly, with increasing global recognition of problem gambling, a number of jurisdictions have developed a framework of harm minimization and harm reduction in promoting the concept of 'responsible gambling.' In a broad sense, the primary aim of 'responsible gambling' is the concept of gaming establishments and owners providing a recreational product that minimizes the potential harm for all players of a community. Therefore, harm minimization strategies aim to stall or prevent the transition of people moving from 'at risk' to 'problem gambling' status (Blazczynski, 2005). It appears Japan is also aware of the dangers of potential harm with the development of the 'All Japan Cooperative Association of Pachinko Operators' (AJCAPO) which is a 'business circle' of operators with a vested interest in pachinko. This is the largest of all the organizations involved in pachinko, and has established a Recovery Support Network (RSN). The RSN provides those with 'pachinko dependency syndrome' with information and can refer them to a public health centre. Rather than deal with the problem itself, therefore, the RSN, provides an appropriate 'conduit' to professional services and treatment. It remains to be seen how many are treated for dependency, but it is certainly a more positive approach than the punitive measures referred to above.

Prior to this relatively recent recognition of pachinko as a potential social problem in Japan, it was still predominantly considered a 'game' and a harmless form of entertainment. This is similar to previous attitudes to gaming machines in the UK, USA, Australia and New Zealand, and there may well be some transferable value in the approaches developed here for Japanese policy-makers. This is a discussion that Japan must also now enter into if it is to deal more effectively with problem gambling in general, and problems related to pachinko in particular, and perhaps see pachinko as a form of gambling instead of playing a 'game'.

Conclusions

While the NPA's development of a pachinko policy is welcome, it is perhaps too early to state what such an approach will achieve. After all, the NPA is to be commended on encouraging pachinko parlours to take on some of the responsibility for vulnerable players via the AJCAPO and RSN. However, to what extent these 'bodies' will achieve tangible results rather than simply provide a discourse of caring is an evaluation question for the future. With the proposed change(s) in pachinko regulation by the NPA noted above, and the encouragement given to pachinko parlours to offer and display prizes of substantial real value, it might be wise to review these measures in time to see if they reduced the

incidence of addiction, and the regrettable and unnecessary deaths of young children.

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