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WHY PEOPLE GAMBLE

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On behalf of:
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Attn: Sharon McCook
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Why people gamble: Examining the determinants of problem gambling

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Conflict of interest statement
All members of the research team involved in the present project and production of the Final Report are employed by universities or organisations that they are affiliated with.

They declare no conflict of interests to this research project.

Disclaimer
This Report summarises qualitative and quantitative data collected in late 2003 and throughout 2004, and reflects the view and experiences of people who gamble, people with problem gambling, individuals affected by problem gambling and professionals working in the field of problem gambling. Members of the research team have taken all care to accurately capture and interpret the views of participants while maintaining their privacy and confidentiality.

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FOREWORD

When looking down at the passing terrain from an aeroplane, it is notable how different the same landscape can appear than when travelling by other means such as by car or by foot. Flying provides an overview of the whole scene, giving a sense of how all the parts fit together, but it misses out considerably on important detail. Driving in a car, on the other hand, allows the observer to appreciate the terrain in much closer detail, but it confines observations to areas close to roads. While covering less terrain, tramping enables the observer to zoom in close onto objects and helps in forming a far more intimate appreciation of the forces and subtle variations that shape the landscape. We need all these different viewing angles and levels when studying gambling and how people shift from moderate levels of gambling to problem gambling.

As has happened in most developed democracies over the last two decades, Aotearoa/New Zealand has undergone unprecedented and rapid increases in gambling consumption driven, on the whole, by the commercial availability of new technologies in gambling, most notably the electronic gambling machine. Systematic research on this topic is relatively new, and we have little idea on the longer term impacts of high levels of gambling consumption. Research efforts so far have focused mainly on large population surveys that contribute to a general overview of the gambling scene. Two such large national surveys and a range of smaller attitudinal surveys have contributed to building an overall picture of the changing role of gambling behaviour in our lives. These large surveys have helped orient us to the range of harms associated with rises in gambling consumption, but at the overview level the picture is hazy and many of the details and interactions are difficult to discern. The research gaze now needs to focus more closely onto the places where gambling impacts appear most active.

The following document reports on a series of initial studies in which people from varying backgrounds were asked to describe and explain their experiences and reasons for gambling. The studies break new ground in that they not only aim to describe what is going on, but, by asking “why people gamble”, they also aim to identify explanations for what is observed. The three different parts of the report include, first, a comprehensive literature review of factors that influence gambling, second, a set of individual key informant interviews and a series of focus groups, and finally the development and piloting of a detailed questionnaire that will be used later to explore the explanatory factors in more detail. The interviews and focus groups engage a broad range of participants that include people from different cultural contexts, people who gamble problematically, people who gamble regularly, family members affected by gambling, and professionals working in the gambling field. The studies identify a range of key influences on gambling behaviour that include the importance of winning as a way out of financial problems, psychological factors such as escaping from stress and loneliness, environmental factors such as the design, presentation and promotion of electronic gambling machines, and family and peer influences on gambling along with cultural and spiritual factors. The report concludes by emphasising the importance of avoiding simple and singular explanations for why people gamble, and that the complexity of gambling behaviour will require multifactor explanations.

The Centre for Gambling Studies is particularly proud of the achievements of the following report for four main reasons. First, the studies involve a variety of quantitative and qualitative methods that allow the observer to both look down from above and move

in close to examine the way gambling interacts in people's lives. Second, the present project attempts a multi-site collaborative effort involving staff from three separate universities – the University of Auckland, Massey University and Auckland University of Technology. Third, the report pursues the integrity of cultural worldviews by involving researchers from four different cultural backgrounds – Mäori, Pacific, Asian and European/Päkehä – and engaging them in designing, collecting and reporting on the situation for their own people. Finally, while the research is looking for explanations for gambling behaviour, the design and analysis of the information collected maintains parallel attention on the practical nature of each relevant context. This pragmatic focus aims to seek out clues and opportunities for future interventions.

The authors are keen that as many people as possible read the content of this report. It will be of interest to people in a broad range of roles that include policy makers, public health professionals, community workers, problem gambling counsellors as well as for those simply interested in the part gambling is playing in people's lives. The authors also make the point that though this research draws our gaze a little closer, considerably more investigation is required before a solid picture of gambling in Aotearoa/New Zealand can emerge. Much of our current understanding of gambling is based on hunches and guesswork. An integrated series of research programmes is required that will enable observation from different levels, including from above, from in between and from within gambling contexts. In particular, the findings in the current report point to the importance of research in the form of future longitudinal studies, qualitative interview studies and ethnographic studies.

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EXECUTIVE SUMMARY

Context

There is substantial international and Aotearoa/New Zealand literature on risk factors for problem gambling. Little is known, however, about their relative importance or how, precisely, they contribute to the development of gambling problems. From two national prevalence surveys it is estimated that approximately half of the problem gamblers in this country are of Mäori, Pacific or Asian ethnicity. Ethnicity remains a significant risk factor when other predictors of problem gambling are taken into account in multivariate analyses, suggesting that ethnic differences are important in the development of problem gambling. There is a need to develop methodologies and undertake research that examines these differences and identifies the major determinants of problem gambling in the Aotearoa/New Zealand context.

Objective

The purpose of this project is to develop and report on a methodology to explain why New Zealanders gamble and progress from moderate levels of gambling to problem gambling.

Methods

The study progressed through four stages:

(1) Systematic review of relevant local and international gambling and addictions literature.
(2) Key informant interviews and focus groups with gambling treatment practitioners, non-problem gamblers, problem gamblers and family members of problem gamblers of Mäori, European/Päkehä, Pacific Island (Niue, Tongan, Samoan) and Asian (migrants from the Southeast Asian region) ethnicities.
(3) Development of a research framework and methodology, drawing on information and conclusions from stages (1) and (2).
(4) Pilot of the research methodology in a specific community location (South Auckland).

Major Results

Literature Review

From the literature review it is evident that many gambling ("agent"), individual ("host") and environmental factors are implicated in the development of problem gambling. Factors consistently identified include:

- exposure to and regular involvement in continuous forms of gambling (particularly electronic gaming machines, track betting and casino table games);
- a family background of heavy gambling and/or problem gambling;
- biological attributes (genetic, neurophysiological and biochemical);
- particular personality traits, for example, impulsivity;
- mood states/disorders and addictive disorders including substance use/misuse;
- cognitive distortions, for example, erroneous beliefs about influence over chance outcomes; and
- demographic, social and cultural characteristics (historically male gender, youth, low income/occupational status, non-married, particular ethnic minorities – but dynamic, changing across time and jurisdictions).

The strength and relative importance of these various factors has yet to be determined and probably vary across different populations. The extent to which risk factors are causes of problem gambling is also unclear, as is the degree to which both risk and protective factors are specific to problem gambling rather than also being applicable to disorders commonly associated with problem gambling. In part these matters have not been addressed because research has typically considered factors in isolation and is not derived from explicit theoretical models of problem development. A preponderance of cross sectional surveys and lack of general population prospective studies is another reason.

Interviews and Focus Groups

Information from the interviews and focus groups was organised around three questions, namely "why do people start gambling", "what is problem gambling" and "why do people shift from social to problem gambling". Responses relevant to each question were categorised according to a framework ("e-PRESS") developed for this study (e refers to economic factors, P to personal factors, R to recruitment, E to environmental factors, the first S refers to social factors and the second to spiritual factors).

Themes emerging from interviews and focus groups were generally consistent with the findings of previous gambling and problem gambling studies in this country and elsewhere. While there was also moderate to high consistency across the four ethnic groupings considered in the present study, there were also differences. Some age and gender differences were also apparent.

Development of Research Framework and Methodology

A questionnaire was developed drawing on the findings of the literature review, interviews and focus groups, with respect to individual, social and environmental factors believed to be important in the transition to problem gambling. Emphasis was placed on the inclusion of factors deemed to be amenable to policy and/or therapeutic intervention. Meetings with experienced problem gambling and mental health specialists were convened to further inform the research team with respect to data interpretation and questionnaire development.

Pilot of Research Methodology

The main purpose of the pilot was to further examine the applicability of the various perceived reasons why people gamble and why some progress to regular and/or problem gambling. It also considered its appropriateness for major ethnic, age and gender groups.

The questionnaire was piloted with a convenience sample of 345 adults (62 Mäori, 69 European/Päkehä, 119 Pacific, 78 Asian) from South Auckland. Problem gamblers (self identified and identified by a gambling screen embedded in the questionnaire) and non-problem regular and infrequent gamblers were included. Questionnaire responses were analysed quantitatively, using various procedures, including factor analysis. Findings were generally consistent with those from qualitative analysis of the earlier interviews and focus groups.

Conclusions

Various forms of research are required to advance understanding of the determinants of problem gambling in Aotearoa/New Zealand. There is a need to specify major risk and

protective factors with greater precision and determine, both individually and interactively, how they are implicated in problem development. It is concluded that prospective general population studies, ideally commencing in childhood or early adolescence and extending over long time periods, are of particular value in this regard. More focussed, time limited investigation of high-risk groups is also recommended, incorporating both qualitative and quantitative methodologies. While there are commonalities across major ethnic groups with respect to perceived precipitants of problem gambling, there are sufficient differences to warrant ethnic specific studies. Sample size should be sufficient to enable age, gender and, where applicable, length of residence and acculturation to be considered.

Aspects of the present study were exploratory and have methodological shortcomings that preclude generalisation of the findings to the wider population. However, the convergence of certain findings from different individuals, interviewers and methodologies suggest that they warrant further examination using more robust procedures. Other major outputs, namely the literature review, e-PRESS conceptual framework and questionnaire, provide a platform for the development of future studies of gambling and problem gambling among major ethnic groups in Aotearoa/New Zealand.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER 1: INTRODUCTION

While a large proportion of the population in Aotearoa/New Zealand gambles regularly with no adverse consequences, there are a significant number of individuals for whom gambling is a problem. Estimates conservatively suggest that between 15,400 and 30,700 adults are currently problem gamblers, with a further 7,300 to 20,100 being current probable pathological gamblers (Abbott & Volberg, 2000). These individuals spend proportionately a great deal more than others, with approximately 1.3% of the population being responsible for approximately 19% of total expenditure. This can lead to a number of negative consequences for affected individuals, their families, employers, colleagues at work and the communities in which they live (Brown & Raeburn, 2001; Darbyshire, Oster, Carring, 2001; Willams, 1996).

Despite the extent of problem gambling, there is little research which examines the onset of this type of behaviour. With the exception of studies by Abbott, Williams and Volberg (1999, 2004), there appear to be no published prospective gambling studies examining the onset of problem gambling behaviour. This means that virtually nothing is known about the incidence of problem gambling, which refers to new cases of a disorder or problem that develop during a specified period of time. Because there is scant research on the incidence of problem gambling, little is known definitively about the determinants that propel or trigger the shift from non-problem to problem gambling in particular individuals, communities or population groups (Adams, 2002; Hodgins, 2001). Discerning these factors that are related to the incidence of problem gambling is a prerequisite to the design of effective public health interventions, including prevention and harm minimisation strategies (DiClemente, Story & Murray, 2000; Robson, Edwards, Smith & Colman, 2002).

While there is substantial Aotearoa/New Zealand and international research that examines how problem gamblers differ from non-problem gamblers and identifies risk factors for problem gambling, there are few studies that have specifically, prospectively addressed the transition from non-problem to problem gambling. Conceptual frameworks, for example, Blaszczynski and Nower's (2002) pathways model, incorporate findings from previous research and specify hypotheses problem development that could be examined prospectively.

Anecdotal evidence gathered at meetings of the Mäori Reference Group on Gambling, Te Herenga Waka o te Ora Whänau, has shown a strong need for research on gambling "triggers" that exist amongst Mäori. Members of the group have consistently outlined concerns about the rapid increase in access to gambling facilities and over-utilisation of these facilities by Mäori. Furthermore, evidence of Mäori who were previously infrequent gamblers but have quickly developed a problem with gambling is beginning to emerge. This has often become evident through its impact on their whänau. More often than not these Mäori have no history of gambling, which then raises the question: what are some of the attributes that "trigger" problem gambling issues amongst Mäori? This is an area of research that would be of significant interest to Mäori health, especially with strategies for Mäori community development, Mäori health promotion and Mäori public health.

Whilst there are many potential determinants implicated in previous research and several theories attempting to explain why some people develop gambling problems and others do not (Raylu & Oei, 2002), little is known specifically about the determinants that influence the shift from recreational/social gambling to problem gambling. In multicultural countries such as Aotearoa/New Zealand, it is particularly important that research takes account of possible ethnic differences. This research project aims to move this body of research forward by developing a framework for understanding the determinants of the incidence of problem gambling. Specifically, what contextual environmental, cultural and social factors interact with personal attributes to determine problem gambling behaviour. This research aims to start addressing this gap in knowledge. It consists of two main phases:

- Phase One: 1) New Zealand and international literature review, 2) key informant interviews and focus groups, 3) development of the framework and questionnaire, and
- Phase Two: 4) testing the questionnaire and methodology.

The research team for this proposal is academically and culturally diverse, including investigators from the University of Auckland, the Auckland University of Technology and Massey University, along with Mäori, Pacific and Chinese researchers. The research was conducted with a clear commitment to Kaupapa Mäori (recognising Mäori partnership and participation in a culturally appropriate manner) and involved working with Pacific peoples and Asian people in an apposite manner, such as the conduct of focus groups with culturally acceptable people speaking native languages. Additionally, the mix of key investigators and expert advisors were appropriately equipped to:

- enable appropriate data collection and participation from the four main ethnic groups (Mäori, Päkehä/New Zealand European, Pacific peoples and Asian) and specific at-risk demographic groups, such as youth, women, older people;
- consider specific cultural dimensions such as spirituality and religiosity, which could play a role in determining problem gambling behaviour; and
- establish a link with the National Mäori Reference Group on Gambling and the National Pacific Gambling Project and Asian Services, Problem Gambling Foundation of New Zealand.

CHAPTER 2: LITERATURE REVIEW: THE DEVELOPMENT OF PROBLEM GAMBLING

2.1 Introduction

Walker (1992) commented in the opening paragraph of his widely cited book 'The Psychology of Gambling':

> "Gambling behaviour…is a challenge to our best theories of human nature. Nearly all gambling is so structured that the gambler should expect to lose, all things being equal. So why does as much as 80% of the population in industrialised Western societies gamble? Again, some gamblers give up every thing of value in their lives in order to gamble: the family, the properties, the assets, their friends, their self-esteem. Why should anyone give up so much in such a futile cause? This is really the most important issue of all. Ordinary gambling is an interesting part of every human society, but it matters little if we fail to understand why it is so attractive to so many. But some small fraction of all those who gamble will destroy most of the things they value in order to continue gambling. It is of the utmost consequence to each such individual that we understand how it happened, what processes were operating, and how best their lives can be restored." (p. 1)

This review focuses on Walker's (1992) "most important issue of all" – why do some gamblers progress to problematic gambling. It is primarily concerned with the identification of factors that influence the shift from recreational/social gambling to problem gambling.

The review examines New Zealand and international studies that have significant relevance to understanding the development of problem gambling. In addition to identifying risk and protective factors, key issues and emergent themes are considered.

A second review to inform this research focused on studies that examine health-related behaviours, particularly alcohol and drug misuse/dependence, that commonly occur in association with problem gambling.

Both reviews have a particular interest in determinants that are potentially amenable to policy and therapeutic intervention. They informed the next phase of the research, which involved focus groups and interviews with key informants. In addition, they contributed to the development of a conceptual framework and research methodology to assess the determinants of the onset of problem gambling in the New Zealand context. This framework and methodology is designed to enable potential commonalities and differences between major ethnic categories (Mäori, Päkehä/New Zealand European, Pacific, Asian) and other significant socio-demographic groups to be examined.

2.2 Gambling Defined

Gambling refers to a variety of activities that share the placing at risk of something of value (usually money) in exchange for something of greater value (Thompson, 1997). In contrast to other high-risk situations such as starting a business, gambling activities are typically presented as entertainment or recreation. They are also widely viewed as forms of entertainment within wider society and often regarded as such for regulatory purposes (Abbott, 2002).

During the past decade, there has been a trend towards convergence and some blurring of differences between major types of gambling (Abbott & Volberg, 1999; Austrin, 1998; Volberg, 2001). There has also been a tendency for researchers and the wider community to group gambling activities together. Nevertheless, there are considerable differences between these activities. In addition to differences between gambling activities per se, they take place in varying physical and socio-cultural settings, appeal to different sorts of people and are regarded in a variety of ways by participants and observers (Abbott, 2002; Walker, 1992).

Given the wide diversity in types of gambling, it may be unrealistic to expect that the same factors will underlie all forms and explain why people gamble (Dickerson, 1990). However, as Walker (1992) notes, "…the main kinds of explanation are global rather than specific" (p. 5). More recently, Raylu & Oei (2002) concluded from an extensive literature review that most studies continue to treat gambling as a single phenomenon and inappropriately generalise findings from one type to another.

2.3 Major Forms and Classifications of Gambling

A significant body of international and local research indicates that some types of gambling are much more strongly associated with problem gambling than others (Abbott & Volberg, 1991, 1992, 1996, 1999, 2000; Productivity Commission, 1999; Shaffer, Hall & Vander Bilt, 1997; Walker, 1992; Wildman, 1998; Volberg, 2001; Volberg & Abbott, 1994). This is an important reason for considering different forms of gambling separately.

A number of conceptual frameworks have been developed to group together gambling activities that possess common attributes and differentiate them from other forms. Those most widely used and relevant to problem gambling include event frequency and skill-luck dimensions.

Some forms of gambling (continuous), for example, video gaming machines, involve very rapid cycles of stake, play, determination of outcome and opportunity to reinvest. Others (non-continuous) do not permit repeated re-engagement within a short time-span and are located at the opposite end of the event frequency dimension or continuum (Abbott & Volberg, 1992; Dickerson, 1993; Griffiths, 1998). Lotto and most forms of lottery are in this category. A number of continuous forms have been shown to have strong associations with problem gambling. Video gaming machine participation is particularly notable in this regard.

Gambling activities also vary with respect to the degree of skill involved. Forms such as track betting and card games that involve an element of skill are attractive to a number of "serious gamblers" (Walker, 1992) and linked to problem gambling (Hunter, 1990; Abbott, 1999; Abbott & Volberg, 2000). Hunter (1990) argues that the most addictive forms of gambling involve enough skill to allow a minor influence on outcome, but not enough for it to be in the gambler's favour.

This skill-luck dimension is complicated by the finding that, in addition to the actual level of skill that may be exercised, many gamblers have inflated beliefs about the extent to which they can influence outcomes (Toneatto et al., 1997; Walker, 1992). Significant numbers of gamblers believe that they can influence activities that are driven entirely by chance, for example, lotteries and video gaming machine outcomes. Furthermore, particular design features, aspects of gambling settings/venues and advertising are directed toward fostering participants' illusions of skill. Perceived skill may be as important, if not more important, than actual skill in the development of gambling problems.

2.4 Problem Gambling

Serious problem gambling (pathological gambling) is listed in the two major classifications of mental disorders, the International Classification of Diseases (ICD) and Diagnostic and Statistical Manual of the American Psychiatric Association (DSM), within the category of disorders of impulse control. The defining diagnostic characteristics include:

- a continuous or periodic loss of control over gambling;
- a progression, in gambling frequency and amounts wagered, in the preoccupation with gambling and in obtaining money with which to gamble; and
- continuation of gambling involvement despite adverse consequences.

As information has accumulated about the nature of problem gambling since pathological gambling was first included in these official classifications over 20 years ago, the diagnostic characteristics have changed somewhat. In the most recent version of the DSM (the DSM-IV) they show greater resemblance to criteria for alcohol and drug dependence than previously.

To make a DSM-IV diagnosis of pathological gambling, a clinician is required to ascertain that any five of ten specified criteria are met. In contrast to most other mental disorders there is no requirement that these signs and symptoms are present at the time of or during a specified period preceding assessment. This reflects the assumption that pathological gambling is a progressive, chronic or chronically relapsing disorder. In other words, "once a pathological gambler, always a pathological gambler".

The most widely used screening instrument for problem gambling, the South Oaks Gambling Screen (SOGS) (Lesieur & Blume, 1987), was based on DSM criteria (DSM-III) and also did not specify a time frame. To be counted, items could apply at any time in the past and/or currently. In 1991, the original SOGS was modified for inclusion in the first national prevalence study of problem gambling (Abbott & Volberg, 1991, 1992, 1996). This adaptation (SOGS-R) included the development of "lifetime" (criteria acknowledged at any time including the present) and "current" (criteria acknowledged

during the past six months) measures. The SOGS-R and close variants have since been used widely in research, community and clinical settings.

Abbott and Volberg (1991, 1992, 1996) found that the "lifetime" measure detected significantly more probable pathological gamblers ("probable" because they were identified by a screen rather than a diagnostic interview) than the "current" measure. This implied that many people who previously had problems no longer did so.

Although pathological gambling is conceptualised as a discrete entity that people either do or don't "have", the cut-off point for inclusion is, to a degree, arbitrary. For this and a variety of other reasons, many researchers and clinicians consider problem gambling to lie on a continuum ranging from minor to major severity.

Abbott and Volberg (1991, 1992, 1996) considered people with sub-threshold problems (scores of 3 to 4 on the SOGS-R) separately from probable pathological gamblers and people with no or minor problems (scores of 2 or less). An important finding in the present context was that the difference between the number of "lifetime" and "current" problem gamblers was considerably greater than that for corresponding categories of probable pathological gamblers. This raised the possibility that recovery was more common among people with less serious problems. Thus, the minor-major severity continuum might also reflect a transience-chronicity dimension.

While the above findings, at least in hindsight, do not seem surprising, they contradict the notion that serious problem gambling is a chronic disorder that may be arrested but not "cured" by treatment and that people with problems are inevitably on a progressive downward spiral. These assumptions remain inherent in official psychiatric definitions of pathological gambling. Given that there were no problem gambling treatment services and few mutual help groups prior to the 1990s, the findings further suggest that large numbers of people overcome their gambling problems without specialist assistance.

Although suggestive, because past problems are assessed retrospectively when the SOGS-R is administered, the above findings needed to be treated with caution until prospective (longitudinal studies where the same people are assessed on repeated occasions) were undertaken.

Abbott, Williams & Volberg (1999, 2004) re-interviewed regular non-problem gamblers, people with problem gambling and probable pathological gamblers from the 1991 New Zealand national survey, seven years after their initial assessment. Their findings were consistent with the hypothesis that substantial numbers of people with problem gambling would overcome their problems and that this would be more evident for people with less serious problems to start with. Also consistent was the finding that only a minority of people with current or past problems in 1991 had progressed to more serious problems seven years later. Additionally, it was found that many people previously classified as "**lifetime"** probable pathological and problem gamblers did not report having **ever** experienced these problems when re-assessed following the passage of seven years. While not widely discussed, this phenomenon ("negative incidence") has been documented in prospective studies of other disorders and social problems. In the present instance, an implication is that all previous lifetime prevalence estimates of problem gambling are highly conservative. This further suggests that the

gap between “lifetime” and “current” prevalence (ie recovery) is greater than it appears to be when they are assessed concurrently.

Although participant attrition, a relatively small sample size and some design features mean that the findings of Abbott et al. (1999, 2004) should be treated with a degree of caution, most have been replicated by recent prospective studies as well as retrospective research investigating “natural” or “self recovery” processes (see below). They are also consistent with findings on alcohol misuse and dependence and some other drug dependencies (Vallaint, 1995).

The allocation of all people with serious gambling-related problems to a single diagnostic category has been criticised on a variety of grounds additional to failure to differentiate between levels of problem severity. People with gambling problems vary just as widely as gambling activities. Some of these differences may have important implications for problem development and resolution. Consequently, attempts to provide general explanations for problem gambling may fail or be limited by their failure to consider this diversity, and the possibility that those particular subgroups of problem gamblers may take different pathways into and out of problematic gambling.

The importance of examining differences between problem gamblers is illustrated by some additional findings from the Abbott et al. (1999, 2004) study. A number of factors, measured in 1991, were examined prospectively in multivariate analyses to assess their relative contribution to the prediction of future gambling problems. Although initial problem gambling severity was a significant predictor of continued problems on the part of probable pathological and problem gamblers, the strongest single predictor was a preference for track betting rather than for other forms of gambling. In other words, there appears to be something about track betting and/or people who develop problems with this particular form of gambling that plays an important role in sustaining gambling problems.

In addition to concerns about over-simplification, clinical diagnostic and “medical model” approaches have also been criticised, because they typically assume there is something physically and/or psychologically distinct about problem gamblers that differentiates them from other people and accounts for the development of their problems. Part of the concern is that it looks for causes of problem gambling within the individual rather than externally, within wider society (Lloyd, 2002). Some argue that this takes the focus away from examination of the contribution of the gaming industry and economic, socio-cultural and political factors to problem gambling.

In addition to precluding development of a comprehensive understanding of determinants of problem gambling, it can be argued that this approach may actually contribute to an increase in problem gambling prevalence. In part this could arise from directing public and political attention away from powerful institutions that have a vested interest in the expansion of gambling. The portrayal of people with problem gambling as a very small group of people who are qualitatively different from other gamblers may help to make it more socially and politically acceptable to introduce policies that promote the further expansion of gambling, including more addictive forms. It is a small step from focussing on factors within the individual that lead to problem gambling to blaming individuals for their problems. This could further distance researchers, policymakers and members of the wider community from consideration of features

inherent in certain forms of gambling, and other environmental and social factors implicated in problem development.

In contrast to “medical model”, psychological and other approaches that focus on causal factors within individuals, a variety of social science disciplines, including some psychological specialties, place their primary or exclusive focus on external factors. The other major research and practice tradition with medicine and the health sciences (other than clinical medicine), public health, is also within this tradition. Epidemiology is an important component of public health. This discipline includes the systematic investigation of the extent and distribution of disorders throughout populations (prevalence), the rate at which new cases arise (incidence) and identification of risk and protective factors. Epidemiological findings help to pinpoint areas that warrant more detailed investigation and constitute potential intervention points to address through legal and public policy initiatives or macro-level health promotion, protection and preventative programmes.

As discussed, gambling and problem gambling research can be differentiated on the basis of whether its emphasis is on understanding the role of factors internal or external to individuals. Both approaches are clearly necessary to obtain comprehensive understanding, as are theoretical models and research that consider interactions between variables across internal and external categories.

Research may also be differentiated on the basis of whether the focus is on proximal or distal factors. Proximal factors are generally more easily identified and influence gambling behaviour in the here and now. These factors can be internal, for example, emotional states and thoughts (cognitions), or external, for example, aspects of a particular gambling activity or setting. Distal factors are removed in time, for example, childhood experience, genetic transmission, past gambling experiences, or prevail currently or recently in other (non-gambling) settings. Factors in this category are typically more difficult to assess and their influence on gambling behaviour may be mediated by complex intervening processes, including temperament and personality attributes. Again, comprehensive understanding is likely to involve the specification of interactions between factors that have their origins at various times in the past, occur in diverse contexts and are present currently.

There is a very large body of literature that has relevance to furthering understanding of reasons why people gamble and develop gambling problems (Abbott, 1999; Raylu & Oei, 2002; Walker, 1992; Wildman, 1997). Much of the published research has significant conceptual and/or methodological shortcomings, many of which are common to the broader disciplines within which studies are located rather than specific to gambling (see Abbott, 1999, for discussion).

Abbott and Volberg (1996) concluded that a major weakness of gambling research is the reliance placed on cross sectional correlation studies and the relative lack of field studies employing longitudinal, experimental and quasi-experimental designs, which allow stronger causal inferences to be drawn. They also pointed to the value of qualitative research to complement quantitative studies and called for the adoption of methodological and statistical procedures to be used in mainstream epidemiology. These concerns and proposed remedies have more recently been reiterated by Shaffer, LaBrie & LaPlante (2004).

Until very recently, Abbott, Williams and Volbergs' (1999, 2004) study was the only prospective examination of gambling and problem gambling employing an adult general population sample. This meant that there were no studies of the onset (incidence) of problem gambling or longitudinal studies examining the natural history of gambling and problem gambling. These are serious omissions, particularly when the concern is to identify factors that explain transitions from low to high risk gambling and from high risk to problem gambling.

In the absence of prospective and incidence studies, it was necessary to rely on retrospective accounts as a proxy for past behaviour, including gambling involvement and problems. As mentioned above, with respect to the assessment of "lifetime" problem gambling, retrospective accounts can be inaccurate. Inaccuracies are even more likely to occur in studies conducted in clinical settings or involving people with problem gambling who have received treatment and/or participated in mutual support groups, such as GA. Many problem gambling studies are of this type. In addition to involving atypical samples of people with problem gambling and having potential for errors in recall, they carry heightened risk for errors of interpretation (Walker, 1992) or retrospective interpretation (Abbott, 1999; Oldman, 1978).

Errors of interpretation are distortions of past memories that arise from subsequent experience, including that related to treatment and/or mutual help participation. The past is, in effect, reconstructed. This phenomenon has been noted previously with respect to alcohol dependence where it is argued that it compromised understanding of this disorder and its treatment (Abbott, 1979; Abbott et al., 1991).

Raylu & Oei's (2002) recent critical review of the problem gambling literature reached a number of similar conclusions to those mentioned above from earlier reviews. They highlighted the need to seek specific explanations for major forms of gambling. They also emphasised the need to enhance the methodological quality of future studies and broaden the focus from a preoccupation with the identification of factors that explain why people start gambling. They suggested that a more useful line of investigation would be to identify factors that influence the cessation of gambling in a single episode. Their rationale for this was that the continuation of gambling in such situations is an important characteristic distinguishing problem and pathological gamblers from non-problem gamblers.

While identifying a variety of sociological, familial/genetic and individual factors that they considered to be fairly convincingly implicated in the development and maintenance of problem gambling, Raylu & Oei (2002) observed that virtually all problem gambling studies are "Western-based". They were particularly concerned that the results of these studies are generalised to other cultural and ethnic groups without demonstration that they are applicable. They concluded that research was urgently needed with a wider variety of populations.

2.4 Approach to Review of Literature

Rather than attempt to cover all potentially relevant literature, the review is selective, with an emphasis on studies that:

- have direct relevance to the identification of factors that influence the development and maintenance of frequent involvement in high risk forms of gambling;
- advance understanding of the transition from frequent non-problem gambling to problem gambling;
- are prospective rather than retrospective or cross sectional; and
- have been conducted in New Zealand or contribute to designing research involving ethnically diverse samples.

The review is organised within a public health framework. It makes a distinction between the agent, host and environment and identifies major aspects of each that appear to be implicated in the development of problem gambling. These aspects can increase (risk factors) or reduce (protective factors) the probability of problem development. This framework, initially employed to understand and develop public health responses to infectious and other physical illnesses, has been extended to non-infectious diseases and mental disorders, including substance use disorders and problem gambling. With respect to problem gambling, the agent is exposure to gambling activities, the host is the person with problem gambling, and the environment is the physical, social and cultural context in which the host lives and gambling occurs. Following this review, the relative importance of different factors and the way in which they influence recruitment to high-risk gambling participation and problem gambling development is considered.

2.5 Gambling Exposure

2.5.1 Introduction

Gambling participation is a necessary condition for the development of problem gambling, just as alcohol use is required for the development of alcohol problems. While some people who would develop gambling problems may well experience other problems if not exposed to gambling, they cannot become people with problem gambling without first engaging in gambling activities.

Although most societies, historically, had some form/s of gambling, many parts of the world experienced unprecedented increases in gambling availability, participation and expenditure during the past two decades. This growth was particularly evident in countries such as New Zealand and Australia, where electronic gaming machines and large urban casinos were widely introduced. A variety of broad interrelated trends drove and accompanied this expansion and is likely to continue to shape the evolution of commercial gambling internationally. These trends include a growing legitimacy and acceptance of gambling, the spread of gambling to previously non-gambling settings,

the intersection of gambling and financial technologies, accelerated globalisation and impacts of the Internet (Abbott & Volberg, 1999).

2.5.2 Different forms and potencies

As indicated previously, different forms of gambling vary considerably with respect to the strength of their association with problem gambling. In jurisdictions with "mature" gambling markets, 2-5% of adults are typically estimated to have or have had a gambling problem. Rates for regular electronic gaming machine, track and casino table game participants, however, generally range from 15-25% (Abbott & Volberg, 2000; Gerstein et al., 1999; Productivity Commission, 1999; Smith & Wynne, 2004).

While electronic gaming machines, track betting and casino table games appear to be similarly "addictive", in that comparable percentages of regular participants experience problems, in Australia, New Zealand and some other jurisdictions most people with problem gambling currently experience problems with gaming machines. For example, in New Zealand during 2003 approximately 90% of new gambling helpline callers and face-to-face counselling clients reported that their problems primarily involved gaming machines, predominantly in non-casino settings (Paton-Simpson, Gruys & Hannifin, 2004). This is a significant change from earlier times and has mirrored the increased accessibility of and rising proportion of total gambling expenditure on gaming machines. Thus, the reason for the great majority of people with problem gambling in New Zealand having problems with gaming machines appears to be more a consequence of higher dosage and duration of exposure rather than of machines having higher potency than track betting and casino table games.

2.5.3 Availability and problems

Given the strong relationship between problem gambling and high levels of engagement in particular forms of gambling, it could be expected that the substantial increases in gambling availability and expenditure that occurred in New Zealand and many other countries will have led to significant increases in problem gambling. This has been examined in a variety of ways, including prevalence surveys, replication surveys in the same jurisdiction, studies comparing sub-sectors of the population with variable gambling exposures, impact studies with and without comparison groups, longitudinal surveys and natural experiments (Abbott, Volberg & Rönnberg, 2004; Abbott & Volberg, 1999; Shaffer, LaBrie & LaPlante, 2004).

National commissions and academic reviewers of relevant literature have generally concluded that increased gambling availability has resulted in an increase in problem gambling. The Australian Productivity Commission (1999), for example, stated:

> "While causation is hard to prove beyond all doubt, the Commission considers that there is sufficient evidence from many different sources to suggest a significant connection between greater accessibility – particularly of gaming machines – and the greater prevalence of problem gambling." (p.8.1)

The Commission estimated that if electronic gaming machine accessibility in Western Australia was increased to that of Eastern states, problem gambling prevalence would more than double.

The United Kingdom Gambling Review Body (2001) concluded:

> "It is clear that some forms of gambling are more addictive than others. The more addictive forms involve a short interval between stake and payout, near misses, a combination of very high top prizes and frequent winning of small prizes, and the suspension of judgment.
>
> "A central question for us has been whether increasing the availability of gambling will lead to an increase in the prevalence of problem gambling. The weight of evidence suggests that it will do so." (p.85)

From our consideration of New Zealand and international literature, it appears that the introduction and expansion of new gambling forms, especially continuous forms, has given rise to significantly increased rates of problem gambling. This has been found at the national level, across whole populations, as well as within sub-populations (for example, women), that previously had low levels of participation and problems. More recently, in some jurisdictions that have undergone increased and prolonged exposure to continuous forms of gambling, it appears that prevalence rates have remained constant or dropped (Abbott, 2001; Volberg, 2001; Abbott, Williams & Volberg, 2004; Abbott, Volberg & Ronnberg, 2004). New Zealand is one of the jurisdictions in this category (Abbott & Volberg, 2000). Reasons for this have not been clearly established but appear to include social adaptation, increased public awareness of problem gambling and the provision of specialist problem gambling services (Abbott, 2001; Shaffer, La Brie & La Plante, 2004; Volberg, 2001).

The foregoing points to the importance of understanding factors that (a) lead to regular involvement in high-risk forms of continuous gambling and that (b) result in the development of problems for a significant minority of regular participants. The most recent New Zealand national survey (Abbott & Volberg, 2000) estimated that 11% of New Zealanders 18 years and older participated weekly or more often in one or more gambling activities of this type. Specifically, 2% reported playing non-casino gaming machines this often, 3% bet on horse or dog races, 6% purchased Instant Kiwi tickets and 1% engaged in sports betting, money betting with friends or work-mates, card games or housie. Less than 1% took part in any other continuous form. Frequent participation and high expenditure (losses) on these forms of gambling are very strongly associated with problem gambling. Most studies showing this relationship are cross-sectional and correlational. It cannot be determined from studies of this type to what extent frequent participation and high expenditure precede and lead to problem development rather than result from it. While clinical case studies and accounts of past gambling behaviour from in-depth survey interviews indicate that this is highly likely, findings from this research are subject to inaccurate recall and retrospective interpretation. Samples are also frequently small and non-representative of gamblers in the community who develop problems.

In New Zealand, problem gambling prevalence rates in 1999 were less than half what they were in 1991. Interestingly, while the weekly or more frequent participation rate was the same in both surveys for non-continuous gambling (primarily Lotto and raffles), the percentage of frequent continuous gamblers reduced significantly from 18% to

10.5%. Although reduced participation in high-risk forms of gambling may have contributed to lower problem gambling prevalence, a lowering of prevalence may also have resulted in reduced frequent participation.

As mentioned previously, there have been no prospective (longitudinal) studies involving repeat assessment of the same individuals over time until recently. The few studies of this type involve relatively small, non-representative samples. One consequence is that while quite a lot is now known about the prevalence of problem gambling in general populations and population sectors, virtually nothing is known about its incidence. Incidence refers to the number or percentage of people who develop a problem for the first time during a given interval, for example, the past 12 months. More, well-designed, prospective incidence studies are required to adequately investigate how exposure to particular forms of gambling and other factors influences the transition from non-problem to problem gambling, as well as from problem to non-problem gambling.

Some findings from the small number of prospective studies as well as from other relevant research will be discussed in the section of this review that looks more directly at the development of gambling problems.

2.6 Environment

2.6.1 Introduction

A variety of factors additional to gambling exposure have an impact on problem gambling. Some are closely associated with, or part of, physical and social contexts in which gambling takes place, and play a role in increasing or decreasing exposure. Others, while more peripheral, include factors shown to have strong associations with problem gambling.

2.6.2 Broad trends and contextual influences

Abbott and Volberg (1999) have identified broad, inter-related contextual influences and trends that they maintain have and will continue to have an important role in shaping the evolution of commercial gambling internationally.

Changing attitudes

Until the latter part of the 20th century, gambling was generally disapproved of and tightly regulated and constrained in most Western societies. A shift in attitudes towards gambling, particularly on the part of the middle classes, has played an important role in the legitimisation and legalisation of gambling in many parts of the world. Factors contributing to this change are discussed elsewhere (Abbott & Volberg, 1999; Abbott et al., in press). One of the more notable is the increased secularisation of society and more liberal position of most churches on gambling.

Increased acceptance and availability leads to gambling activities reaching into societies and cultures in ways that further advance their acceptance and legitimacy. For example, the oversight and/or operation of gambling activities become part of the

routine process of government and governmental agencies. Governments and local governments may become dependent on gambling revenue to finance essential services. So too, to varying degrees, may voluntary organisations, sports and social clubs, churches and the mass media, as well as a wide variety of occupations and businesses that provide services for the gambling industry, including lawyers, accountants, public relations and advertising.

There appears to be a feedback loop operating whereby public acceptance of gambling has contributed to further increases in gambling availability, which in turn has increased acceptance. Both availability and acceptance have played an important role in the spread of gambling participation across major sectors of the population. Regular participation in the forms of gambling that have expanded most during the past decade (video gaming machines and casino gaming) is a major risk factor for problem gambling. The spread of gambling to groups that previously had low levels of participation, for example, women, has been followed by increases in problem gambling prevalence in these groups.

While there has been a marked shift in attitudes towards gambling, during the past decade there has also been an increase in awareness of, and concern about, negative impacts of gambling. The major focus has been on problem gambling and its attendant health, personal, social and financial costs (Abbott & Volberg, 1999). Gambling research, particularly prevalence studies, government commissions, reviews and committees of inquiry, have played a significant role in increasing public and political awareness and stimulating debate. In a number of jurisdictions, including New Zealand, this concern has resulted in community and political initiatives that have led to measures being taken by governments to reduce or limit further expansion of particular gambling activities. It has also contributed to the development of specialist problem gambling information, helpline and counselling services (refer to Appendix A for further information).

In addition to influencing policies and laws that govern public exposure to gambling, as well as problem gambling service provision and other measures intended to reduce adverse impacts, attitudes more directly influence the gambling behaviour of individuals who hold them. This influence extends, to varying degrees, to others in their family and wider social networks. For the most part, as indicated, changing attitudes towards gambling have contributed to greater availability, exposure and problem gambling prevalence. However, reductions in both problem gambling prevalence and regular gambling participation have also been found in some jurisdictions, including New Zealand, despite increased availability and per capita expenditure. It seems likely, albeit not investigated, that increased awareness of problem gambling and changing attitudes towards high risk forms of gambling have played a part in prevalence stabilisation and reduction.

Gambling in non-gambling settings

Historically, legal gambling has been confined to a narrow range of settings. One of the most notable changes internationally has been the recent shift of gambling from gambling-specific venues to a wide variety of readily accessible social settings not previously associated with gambling. This change is an aspect of gambling's increasing integration with major social institutions, communities and everyday life.

Increases in the number, variety and distribution of gambling venues, including the extension to previously non-gambling settings, has been referred to as "McGambling" (Goodman, 1995) and "convenience gambling". In addition to enhancing physical accessibility, this extension reduces social and psychological barriers to access. Gambling becomes a backdrop in diverse environmental and social settings, reflecting and probably enhancing widespread acceptance (normalisation) of gambling.

Internet gambling

A wide array of lottery and casino games and events betting is available on over 1,500 Internet gambling sites (Eadington, 2004). The large and continually increasing number of Internet sites is another example of the extension of gambling to previously non-gambling settings; one that takes "convenience" gambling to a new height by bringing a variety of activities directly into homes and workplaces throughout the world, 24 hours per day. Griffiths and Wood (2000) identify a number of features of online gambling that suggest it will contribute significantly to problem development. However, to date, prevalence surveys have found that only a small percentage of people regularly participate in Internet gambling and that it does not appear to be a significant risk factor for problem gambling (Abbott & Volberg, 2000; Volberg, 2001; Welte et al., 2004). This may well change in the future as Internet sites continue to expand and encryption technology and the security of financial transactions improve, and more people participate on a regular basis.

Intersection of financial and gambling technologies

Electronic technologies and their intersection with financial institutions are evolving rapidly and have a significant influence on gambling. As with the Internet, to which they in part relate, this impact is likely to become more profound. Current examples include cashless gambling using debit or credit cards.

Management systems have been developed by gambling industries to facilitate player tracking and speed financial transactions (Bivins & Hahnke, 1998). These developments have enabled the evolution of new gambling modes such as "point spread" where bets are placed on events by telephone, even while they are taking place, using pre-arranged debit accounts or credit lines. Technologies also now enable satellite wagering via cable/satellite television and allow sports action to be stopped and bets placed in real time. Major providers of casino financial services in North America are currently installing multifunction automated cash machines (described by one commentator as "an ATM on steroids") and exploring the feasibility of installing debit card transaction technology directly on electronic gaming machines (Parets, 2004).

Globalisation

The four developments discussed above are elements of inter-related global processes that are major drivers of economic, social and cultural change worldwide. Additional elements include international financial markets, trans-national corporations, non-governmental organisations and technology, international travel, sojourning and migration, and cultural homogenisation.

Globalisation has contributed to rapid changes in legal gambling, including technological change and heightened competition. The focus has shifted from local and national to the international level, and gambling has become big business, integrated into mainstream economic development and reclassified as part of the entertainment sector.

There have been significant impacts at national and sub-national levels, including an undermining of traditional and charitable gambling. Governments have often responded by providing tax relief and/or allowing less successful sectors, for example, track betting or lotteries, to expand and diversify into other forms of gambling. This has contributed to increased gambling availability and normalisation and also resulted in a blurring of traditional distinctions between different forms of gambling (Volberg, 2001).

The rapid evolution of gambling globally, including technological change, intense competition, within and between jurisdictions, and the convergence of previously differentiated activities, have made it more difficult to regulate gambling. A further consequence of this rapid change is that it is difficult for research to keep up. Particular findings related to gambling and problem gambling, as well as policy and other decisions influenced by them, may have a short shelf life.

2.6.3 Gambling contexts

Earlier, in the context of considering gambling as the "agent", preference for, regular participation in and high expenditure on some types of gambling activity were noted as significant risk factors for problem gambling. Reference was also made to the increased availability and accessibility of these forms, in some situations, being associated with increases in problem gambling prevalence. These high-risk gambling activities are typically classified as being continuous in nature or involving an element of actual or perceived skill. While useful, these terms are general and do not reflect the wide variety of more specific attributes or structural features of gambling that have been claimed or shown to influence the development of problem gambling. These attributes and features include event frequency and pay-out intervals, stake/bet size, probability of winning, size of wins, presence and size of jackpot, "near miss" opportunities, cash or credit basis, knowledge needed to take part, degree of skill involved, extent of player participation and the social or asocial nature of the activity (Abbott et al., in press).

In addition to attributes inherent in particular forms of gambling, the social settings and venues in which gambling activities take place are also variable and attract different clientele. Contextual differences include availability (for example, number of outlets, access times and entry requirements), legality, location, type of venue, safety/perceived safety of setting/neighbourhood, purpose (for example, fundraising event, church function), association with other attractions, alcohol availability, and light, colour and sound effects.

Mention has been made of the movement of gambling activities into settings not previously associated with gambling. This has increased contextual variability and, coupled with the development of more positive attitudes towards gambling, contributed to increasing gambling access and widespread participation. Advertising, designed to present gambling activities as attractive and socially acceptable fun or family entertainment, has probably also played a significant role.

Although some contextual factors have been shown to influence aspects of gambling behaviour and, in a few instances, to be linked to problem gambling, to date little is known about the extent and nature of their relationship to the development and maintenance of problem gambling. While some types of gambling activity have

particularly strong associations with problem gambling and these relationships are likely to be at least partially causal, little is known about the particular structural and contextual components that account for these associations.

2.6.4 Demographic, social and cultural factors

Although patterns of gambling involvement and problem gambling prevalence rates vary considerably across jurisdictions and over time, several socio-demographic factors have been fairly consistently associated with problem gambling. Some others emerge in a number of studies but are less consistent.

Early prevalence studies
Early general population surveys in a number of countries, including New Zealand, found male, youth and young adulthood, low income and single marital status were almost universally risk factors for problem gambling (Abbott & Volberg, 1991; 1992; 1996; Becona, 1996; Dickerson et al., 1996; Ladouceur, 1996; Shaffer & Hall, 1996; Shaffer, Hall & Vander Bilt, 1997; Volberg, 1994; 1996). Non-Caucasian ethnicity, low occupational status and less formal education also emerged in a number of studies. Large city residence was an additional factor in some.

Stability and change
Some of the more recent surveys have been national in scope. Relative to earlier studies, a number have employed larger samples, superior methodologies and multivariate analysis to examine the relationships between risk factors and their relative importance as predictors of problem gambling.

The most recent U.S. national surveys, like previous state-level surveys, found elevated prevalence rates for men, non-Caucasian and low income households (Gerstein et al., 1999; Welte et al., 2001, 2002, 2004). However, whereas Gerstein et al. found young adults continued to have higher prevalence, Welte et al. (2001) did not. The latter study also found that, while males had a higher rate of problem gambling, they did not differ from females with respect to more serious probable pathological gambling. Some recent sub-national North American studies have also found an erosion of previous sex differences (Volberg, 2003). The most recent New Zealand and Australian national surveys, as well as clinical presentation data from these countries, paint a similar picture (Abbott & Volberg, 2000; Productivity Commission, 1999). This change in sex ratios followed the widespread introduction of electronic gaming machines and increased gambling participation of women. In New Zealand and Australia the change may also be, in part, a consequence of prevalence reductions for men.

Contrary to the foregoing work, some jurisdictions, for example, North Dakota and Washington State, have experienced increases in the prevalence differential between men and women. These states and Montana have also had increases in the proportion of non-Caucasian problem gamblers, including Native Americans (Volberg, 2003). This change has followed substantial increases in the availability of gambling forms favoured by men, for example, commercial card rooms and/or tribal casinos and “casino-style” charitable gambling operations.

Significant changes have occurred with respect to other risk factors in New Zealand. In 1991, Pacific peoples and Mäori, males, adults aged 18 to 24 years and unemployed people were at very high risk for problem gambling. Statistically significant but less important risk factors included living in a large household, lower occupational and educational status and Auckland residence (Abbott & Volberg, 1991, 1996; Volberg & Abbott, 1994). Eight years later, in 1999, Pacific peoples and Mäori remained at very high risk (Abbott & Volberg, 2000). Living in large households and Auckland residence also remained risk factors.

While males continued to outnumber females in the 1991 New Zealand survey, as in one of the recent U.S. national surveys, the difference was greatly reduced and confined to less serious problem gambling. Other changes included the age group most at risk shifting from 18-24 to 25-34 years, unemployment, low occupational, educational and non-married status no longer being significant risk factors. Some additional risk factors emerged from multivariate analyses incorporating previously mentioned risk factors and other socio-demographic variables. These factors were Christchurch residence, household income of NZ$40,001-$50,000, Catholic religion and being born outside New Zealand, Australia, Europe and North America. Household income of NZ$30,001-NZ$40,000 was associated with low prevalence.

As indicated, the 1991 New Zealand risk factors are congruent with those from earlier studies in other countries. The 1999 findings point to problem gambling becoming more widely distributed throughout society, with proportionately more women, adults aged 25 years and over, people in the paid workforce, middle classes and some migrant groups having problems. While in part a consequence of problem gambling increasing in some of these groups relative to 1991, this change is also due to reductions in problem gambling among men, young adults, unemployed and some low income groups. The spread of problem gambling throughout society is also apparent in Australia, although in that country people aged 18 to 24 years remain at somewhat greater risk than older age groups (Productivity Commission, 1999).

The 1999 New Zealand survey findings have recently been compared with those from a Swedish survey conducted at the same time (Abbott et al., 2004). Both surveys used similar methodologies, involved official government statistical agencies in the study design and data collection, had large national samples and obtained high response rates. New Zealand and Sweden had both experienced rapid expansion of legalised gambling and shared a history as well-developed welfare states that had opened their economies to international market forces and reduced welfare provision. While having similar per capita gambling expenditure at the time the surveys were conducted, they differed in that New Zealand had urban casinos in its two major cities and greater availability of electronic gaming machines. New Zealand also had a more ethnically diverse population and a much larger proportion of migrants. Additionally, specialist service provision for problem gamblers was far more extensive and accessible.

Given the greater availability of high-risk forms of gambling, including electronic gaming machines and casinos, in New Zealand and greater socio-cultural diversity, it was anticipated that that country would experience higher levels of problem gambling. Contrary to expectation, combined problem and probable pathological gambling prevalence rates were somewhat higher in Sweden. The strongest socio-demographic risk factors in Sweden (male, age under 25 years, non-married status, living in major

cities, receiving welfare payments and born outside Sweden) much more closely resemble those of the 1991 New Zealand survey than its 1999 counterpart.

Vulnerability and risk factors

While problem gambling rates appear to be elevated in some socio-demographic groups because of their greater exposure (assessed by average expenditure and/or frequency of participation) to high-risk gambling activities, there are exceptions. Some ethnic and migrant groups (for example, Pacific peoples and immigrants from countries other than Europe, Australia and North America in New Zealand, African Americans in the U.S., and immigrants in Sweden) are less likely to be involved in gambling overall, but include substantial minorities that gamble a great deal and are at high risk for problem gambling. These appear to be population sectors in an early phase of introduction to gambling (Abbott, 2001; Abbott, Volberg & Rönnberg, 2004). In the case of the two New Zealand groups, while having both high average expenditure and problem gambling rates, they do not have disproportionately more people who participate frequently in continuous forms of gambling. This suggests vulnerability factors are operating that increase the likelihood that people in these groups will develop problems if they take part weekly, or more often, in high-risk gambling activities.

There are also cases of low levels of problem gambling associated with high levels of frequent participation. New Zealand examples include some high occupational status groups and people aged 35-44 years (Abbott & Volberg, 2000). Additionally, some groups with lower rates of problem gambling in 1999 than in 1991, for example, men and people aged 18-24 years, appear not to have significantly reduced their levels of frequent gambling participation. These findings suggest protective factors are operating, additional to any effects from somewhat reduced or changed gambling participation patterns. While this may be the case for young adults in New Zealand, if so, it is contrary to the findings of most youth and young adult studies internationally, including the earlier New Zealand survey, and two surveys of Auckland university students (Clarke, 2003; Clarke & Rossen, 2000). From the last two surveys, young problem gamblers gambled more frequently, on more activities and on more continuous games than non-problem gamblers. They also were more likely to consider that their parents gambled too much. These studies generally indicate youth and young adults are a vulnerable rather than a resilient group. Given that this is the case, the New Zealand youth findings should be treated with caution but considered in future studies.

Whereas youth generally have elevated problem gambling prevalence relative to other age groups, older adults (65 years and over) generally have very low rates. This was the case in New Zealand in both 1991 and 1999. Older adults also have lower levels of gambling helpline and counselling service consultation (Paton-Simpson et al., 2004). It has been suggested that members of this group are vulnerable to developing problems when they take up gambling activities they had not previously engaged in (McNeilly & Burke, 2000). Furthermore, problems escalate rapidly because many older people are on set incomes and moderate losses can have substantial negative impacts (Stewart & Oslin, 2001). While there are clinical and anecdotal reports that are consistent with the notion of vulnerability, general population prevalence rates for older people are typically not only low per se, they also appear to be low when participation and expenditure are taken into account. While low prevalence may be largely a consequence of low exposure, if anything, the New Zealand survey and clinical data suggest that older people generally may be resilient rather than vulnerable. For example, during the

period when electronic gaming machine availability increased and casinos were introduced, there is no evidence of increased gambling problems. On the contrary, there was a statistically significant reduction in problem gambling prevalence among older people from 4% in 1991 to 0.7% in 1999.

A recent study in Florida found that, whereas older adults had problem gambling rates approximately half those of other adults, some subgroups were at high risk, including ethnic minority males and those who were still in paid employment. Retired people had much lower rates (Volberg & McNeilly, 2003). This study, alongside research with other older people, indicates that older people have had, and appear to continue to have, low levels of problem gambling. Further work is required to ascertain whether they are vulnerable or resistant to problem development in the face of higher levels of gambling exposure and participation. It is important that future studies recognise the heterogeneity of older populations. In contrast to youth, where research has increased markedly in recent years, little is known about older adult gambling and problem gambling.

Indigenous and ethnic minority populations

Some indigenous populations, including Mäori and Native Americans, have particularly high rates of problem gambling (Abbott & Volberg, 1991; 2000; Volberg & Abbott, 1997; Zitzow, 1996a; 1996b). These groups have histories of colonisation, exploitation and oppression. They continue to be socially and economically disadvantaged to varying degrees and are at high risk for many health and social problems, including alcohol and drug problems. In addition, they are young demographically.

As already mentioned, a number of ethnic minority groups, including Pacific peoples and some categories of migrants in New Zealand, have high problem gambling prevalence rates. Their problems are sometimes predominantly associated with particular forms of gambling. For example, the majority of Asian people (predominantly Chinese) contacting specialist problem gambling services in this country report problems with casino table games (Paton-Simpson et al., 2004). In New Zealand, problem gambling rates did not increase appreciably for recent migrants until they had been resident for four years or more (Abbott & Volberg, 2000).

Indigenous, ethnic minority and some migrant groups are typically characterised by multiple risk factors. Given this situation, it is unclear to what extent these factors, other than aspects of ethnicity and culture, account for their higher prevalence rates. Some studies (for example, Abbott & Volberg, 1991, 1996, 2000; Abbott et al., 2004; Volberg, Abbott, Ronnberg & Munck, 2001; Welte et al., 2004) have controlled for many of these other risk factors and found that ethnic group membership remained a significant risk factor. As indicated, this was the case for Mäori and Pacific peoples in both the 1991 and 1999 New Zealand national surveys. Even when all other significant socio-demographic risk factors were included in multivariate analyses, Mäori and Pacific ethnicity remained the dominant risk factors. This implies that ethnicity per se is important in this regard, rather than being an artefact of other variables associated with both ethnicity and problem gambling, such as age, income or Auckland residence.

It has been suggested that ethnic minority status remains a risk factor when other factors are controlled because minorities have much lower net financial worth, even at the same income levels as other groups (Welte et al., 2004). This means that they have

fewer financial resources to draw on to buffer the effects of gambling losses. They also suggest gambling may be more likely to be regarded as a form of investment and means of escaping poverty.

While economic considerations, such as those indicated in the previous paragraph, may play a role in accounting for higher problem gambling prevalence among some indigenous, ethnic minority and recent immigrant groups, it seems probable that cultural values and beliefs, as well as social factors within minority subcultures, play a role. For example, Bellringer, Cowley-Malcolm, Abbott and Williams (in press) found that Pacific mothers' involvement in traditional gifting to community, extended family members and churches was associated with gambling participation. In a small pilot study of 14 Samoans, Perese and Faleafa (2000) found that many of the participants reported gambling as a form of fundraising to meet gifting obligations. However, others said if gambling led to an inability to participate in gifting, it was disapproved of. Some participants commented that participation in church fundraising activities was associated with their gambling exposure.

Canadian research (Tepperman & Korn, 2004) with six ethnic minority groups concluded that cultural beliefs, practices and family socialisation influence gambling participation and that these factors are durable across generations. A recent literature review noted that there is a substantial gap in research internationally concerning the role of cultural factors in the development of problem gambling (Raylu & Oei, 2002). Of the relatively small number of relevant studies, many involve non-representative convenience samples. In general population prevalence studies, ethnic minority samples are generally too small to allow meaningful analysis. Even in those that over-sample selected groups (for example, Abbott & Volberg, 1991, 1996; Volberg et al., 2002), they do not allow more fine-grained analysis by ethnicity, for example, individual Pacific ethnic groups rather than a general Pacific peoples category.

Religion and spirituality

Religious affiliation has been associated with problem gambling in a number of studies. For example, an early prevalence survey conducted in Texas (Wallish, 1993) found both Catholics and people who did not consider religion to be important in their lives had elevated rates of problem gambling. Catholicism has emerged as a risk factor in other studies, including the 1999 New Zealand national survey (Abbott & Volberg, 2000). In that survey, Catholics reported higher average weekly gambling expenditure than other religious groups and were over-represented among track bettors and frequent participants in continuous gambling activities.

High levels of gambling involvement on the part of Catholics has been noted in other studies (Kallick-Kaufmann, 1987; Walker, 1992) and is consistent with the relatively more permissive view that the Catholic Church has taken towards gambling on the part of its members as well as within society generally (Abbott & Volberg, 2000). Historically, most Protestant denominations and sects adopted a strong moral stance against gambling and lobbied for legislative and other restrictions on gambling throughout the mid-19th and early 20th centuries. In the 1999 New Zealand survey, "other Christians", predominantly Methodists and a variety of Fundamentalist Protestant denominations, had a very low rate of problem gambling. Proportionately large numbers reported never or rarely gambling and, relative to other religious groups, few reported taking part weekly or more often.

In the New Zealand study, Catholics and other Christians retained their respective high and low risk statuses when other social, cultural and demographic risk factors were incorporated and controlled for in multivariate analyses. This suggests aspects of religious affiliation per se play a role in gambling participation and problem gambling. These linkages are of interest given that New Zealand is a predominantly secular society with some of the lowest levels of religious affiliation and observance internationally. While theologians and social historians have considered religion in relation to gambling (for example, Costello & Millar, 2000; Grant, 1994), little attention has been given to religion in the development of problem gambling. This is surprising given the stances adopted by major world religions and various Christian denominations with regard to gambling and the strong role of religion in community and family life in many parts of the world, including the U.S. It is also surprising considering that the major mutual help approach to problem gambling, Gamblers Anonymous, is a quasi-religious programme that has a spiritual dimension requiring belief in a higher power.

The high rates of problem gambling among some indigenous, ethnic minority and immigrant populations further highlight the importance of research on aspects of religious belief and participation that may be involved in the development of problem gambling in different cultural contexts. This includes religions other than Christianity, for example, Islam, which are strongly opposed to gambling. In New Zealand, people with non-Christian religious affiliations resemble other Christians in that many are non- or infrequent gamblers and relatively few gamble regularly. However, they differ in that those who do gamble regularly have particularly high average expenditure and are at significant risk for problem gambling. Many people in the non-Christian religious category are recent migrants and Asian people. Probably over half of problem gamblers in New Zealand are of Mäori, Pacific or Asian ethnicity. Religion may play important yet different roles in fostering and protecting against the development of problem gambling in each of these groups.

Spirituality refers to existential and transcendent aspects of life that contribute to a sense of meaning and purpose, coherence and connectedness to others (Spaniol, 2001). It may include belief in God or a higher power and a religious or other set of values to guide relationships with other people and live one's life more generally. Some studies have found lower rates of addictive disorders among people with stronger religious and/or spiritual engagement (Kendler et al., 1997). Spiritual factors have also been found to influence recovery from problem gambling, assessed by abstinence and life satisfaction (Walsh, 2001).

Durie's Whare Tapa Wha model of health (Abbott & Durie, 1984; Durie, 1994) maintains that te taha wairua (spiritual health and practice of tikanga Mäori) is one of four essential foundations for overall wellbeing. Pacific peoples' cultures place similar emphasis on the importance of spirituality in health, for example, the Samoan fonofale model (Mental Health Commission, 2001). While international research is identifying ways in which spiritual and religious involvement can contribute to health and wellbeing (D'Souza & Rodrigo, 2004), there appears to be little or no research specifically on whether or not spirituality protects against problem gambling or the extent to which factors such as a lack of meaning, guiding values or alienation contribute to problem development. It is also conceivable that, as gambling problems and associated

behaviours such as lying and stealing to obtain money to gamble progress, personal values and spirituality are further eroded.

Familial factors

The families people grow up in (families of origin), as well as the families they subsequently form and extended families, can contribute to problem gambling development in various ways, such as influencing exposure to gambling during childhood and, subsequently, social learning and heredity.

Many general population and treatment setting surveys have found that people with problem gambling report high levels of problem gambling among parents, especially fathers, as well as other family members, including siblings, grandparents and cousins (Abbott & Volberg, 2000; Raylu & Oei, 2002; Winters et al., 1998). People with problem gambling also typically report much higher levels of moderate to heavy gambling in their families of origin and commencing gambling at an earlier age. Family members are also mentioned most often when people are asked who or what first introduced them to gambling. This is especially so in the case of people with problem gambling (Abbott, 2001; Gupta & Derevenski, 1998). Consistent with exposure and socialisation hypotheses, New Zealanders with problem gambling also report higher levels of preference for and engagement in continuous forms of gambling from the outset of their gambling careers, as well as more frequent participation, longer sessions and higher expenditure. It needs to be noted that studies mentioned to this point are retrospective, relying on recall of temporally distant events.

Substantial ethnic differences were found in the 1999 New Zealand national survey. Whereas Mäori and European participants generally mentioned being introduced to gambling by family members during childhood, most people of other ethnicities (primarily Pacific peoples and Asian people) reported commencing gambling during their early 20s. Family members were mentioned rarely in this regard; advertising and a desire to win being much more often mentioned as ways by which they were introduced to gambling. Although caution is required owing to small sample size, it appears that, for Pacific peoples and Asian New Zealanders, socialising factors outside their family of origin are more important in their initiation of gambling.

People with problem gambling report higher levels of problem gambling on the part of their spouse/partner, work colleagues and other significant people in their lives more often than non-problem gamblers (Abbott, 2001). They also gamble more frequently on their own and less often with their spouse/partner. On the other hand, they do not differ from non-problem gamblers with respect to frequency of gambling with work-mates and friends. Further examination of interactions between people with problem gambling and other people in their lives is required to ascertain what part they play in the development, maintenance and cessation of problem gambling.

Elevated levels of distress, substance misuse and psychopathology have consistently been reported among spouses and children of people with problem gambling (Darbyshire, Oster & Carrig, 2001; Lorenz & Yaffe, 1988). Multiple aspects of family dynamics and functioning are typically disrupted, and separation and divorce are common. While often consequences of problem gambling, these and related problems on the part of family members may also precede and/or accompany and contribute to problem gambling development. They can also play a significant part in decisions made

by people with problem gambling and their resolve to change their problematic gambling through their own efforts or specialist help (Abbott, Williams & Volberg, 1999; Abbott, 2001).

2.7 Host

2.7.1 Introduction

Exposure to gambling activities and regular participation in more high-risk forms are necessary for the development of gambling problems. A number of environmental or contextual factors, alone and in various combinations, have also been found to increase the probability that gambling involvement will lead to problems. However, not all people who take part regularly in high-risk forms of gambling and are exposed to environmental risk factors become people with problem gambling. Some appear to be particularly susceptible to develop problems through participation alone or when exposed to additional risk factors. Others are resistant to problem development. Interest in understanding why this is the case and a desire to advance understanding of the determinants of problem gambling has led to the investigation of a wide variety of individual factors. Major categories of such factors are considered here. More detail and extensive references are provided in Abbott et al. (in press).

2.7.2 Biological factors

Genetics
Frequent reports of high rates of gambling problems among family members of problem gamblers suggest that there may be genetic factors implicated in the genesis of problem gambling. Twin studies have found a strong genetic influence on problem gambling and frequent non-problem gambling (Eisen et al., 1998), including “high action” games in the case of males and gaming machines in the case of females (Winters & Rich, 1998). Molecular genetic research has identified a number of specific genes and gene variants (alleles) that are more common among people with problem gambling. Most are known to influence brain neurotransmitters that control moods and temperament. Some are also associated with substance misuse/dependence, impulse control disorders and depression. Others appear to be unique to problem gambling.

Neurotransmitters
Deficits in one or more of the major neurotransmitter systems appear to be commonplace among people with problem gambling, including the serotonin (implicated in impaired impulse control), noradrenergic (implicated in heightened arousal, sensation seeking and risk taking) and dopaminergic systems (implicated in various impulsive, compulsive and addictive disorders as well as novelty seeking) (Blanco et al., 2002; Blum et al., 1995; DeCaria et al., 1998).

Brain structure and function
Neuropsychological, electro-encephalogram and brain imaging studies have found that many people with problem gambling have impairments to brain structure and function that are the same or similar to those associated with attention deficit hyperactivity disorders in children and antisocial personality disorders and serious alcohol problems

in adults (Rugle & Melamed, 1993). Brain imaging and blood flow patterns while gambling suggest problem gambling and substance dependency share common neural substrates (Potenza, 2001).

Physical health
People with problem gambling experience various physical health problems more often than non-problem gamblers, including gastrointestinal and cardiovascular illnesses, dental problems and chronic pain (Gerstein et al., 1999). While some physical health problems may stem from, or be aggravated by, problem gambling, they may also play some role in problem gambling development. This topic appears to have received little consideration.

2.7.3 Temperament and personality

Many aspects of temperament and personality have been investigated. From this research it has become clear that there is no single problem gambling personality. While many different types of people can develop gambling problems, a number of personality characteristics, traits and attributes have been identified that are common among people with problem gambling. Some appear to be significant risk factors. Those most strongly linked to problem gambling are indicated below.

Impulsivity
Impulsivity is the inclination or drive to take part in risky behaviours without thought of likely consequences or self-control, and is regarded as a fundamental aspect of human personality (McElroy et al., 1993). Youth and adult studies have established that people with problem gambling in both community and clinical settings have higher levels of impulsivity than non-gamblers and gamblers who are free of problems (Alessi & Petry, 2003; Nower, Derevensky & Gupta, 2004). People with problem gambling also have high rates of alcohol and other substance use problems/dependencies, antisocial personality and other disorders of impulse control. High impulsivity is associated with all of these disorders. These findings and related genetic and biological studies all point to impulsivity playing a role in the development of problem gambling.

In an Auckland study of first-year university students (Clarke, 2004), regression analysis showed that impulsivity was a unique predictor of problem gambling, after controlling for other risk factors for problem gambling. Depression was a significant predictor of impulsivity, and impulsivity functioned as a complete mediator between depression and problem gambling. These two findings partially support Blaszczynski and Nower's (2002) integrated model of problem gambling, wherein the path of emotional vulnerability (depression) to the severity of problem gambling is mediated by an impulsive trait.

Sensation seeking
Sensation seeking is another fundamental personality dimension that involves risk taking. It differs from impulsivity in that it is driven by a desire for novel or diverse experiences and feelings rather than a consequence of weak impulse control (Coventry & Brown, 1993). While sensation seeking appears to play some role in the development of problem gambling, this relationship is complex and mediated by a variety of other factors. For example, while most community studies find higher levels

of sensation seeking among people with problem gambling, treatment studies find no difference or lower scores than controls (Blanco et al., 1996). It has been suggested that, while sensation seeking may predispose some people to gamble, consequences of problem gambling may subsequently modify this personality trait (Raylu & Oei, 2002).

Compulsivity

Compulsivity is an inclination to engage in repetitive behaviours and is driven by a desire to avoid harm and reduce feelings of anxiety and doubt (McElroy et al., 1993). It is typically linked with an obsessive tendency to experience re-occurring and persistent thoughts that generate anxiety and is temporarily reduced by compulsive behaviours. Although obsessive-compulsive disorder and other mental disorders with obsessive-compulsive features are classified as fundamentally distinct from problem gambling and other disorders of impulse control, some of the diagnostic criteria for problem gambling are more related to compulsivity than to impulsivity. Furthermore, high rates of obsessive-compulsive disorder have been found to co-occur with problem gambling (Black & Moyer, 1998). It has been argued that psychiatric diagnostic systems should be revised to include a new grouping of impulsivity-compulsivity spectrum disorders and that pathological gambling should be included alongside substance use disorders, bulimia nervosa and obsessive-compulsive disorder.

While high levels of impulsivity and compulsivity have been found in community samples of people with problem gambling, it has not been determined whether they are precipitants or consequences of problem gambling. More research is needed to see how they are related to each other, which other personality characteristics are linked with them, and how they relate to the onset and maintenance of problem gambling.

Psychoticism and neuroticism

A number of studies have found that people with problem gambling have elevated scores on these two fundamental personality dimensions (Raylu & Oei, 2002). Neuroticism, however, is not consistently higher, and one study found a marked decrease following treatment for problem gambling, suggesting that neuroticism might at least partly arise from rather than proceed problem gambling. Heightened psychoticism is not unexpected given that impulsivity and sensation seeking are closely related to psychoticism in other populations.

Personality disorders

Personality disorders are often the extreme end of personality characteristics including those indicated above. They are deep-seated, enduring patterns of behaviour that are resistant to change. Antisocial personality disorder is much more common among people with serious problem gambling than in the general population (Roy et al., 1989). This disorder is also linked to impulsivity, sensation seeking and psychoticism. Antisocial characteristics are usually a consequence of problem gambling. While that may be so for the majority, there is a significant minority of people with problem gambling who meet the diagnostic criteria for antisocial personality disorder prior to the development of problem gambling (Abbott & McKenna, 2000; Abbott, McKenna & Giles, 2000).

In addition to antisocial and obsessive-compulsive personality disorders, quite high rates of some other disorders have also been found among people with problem gambling, including avoidant, schizotypal and paranoid disorders (Black & Moyer,

1998). It is unclear at this stage which, if any, of these disorders are significantly implicated in the development of problem gambling rather than co-occurring and running parallel courses.

2.7.4 Psychological states and mental disorders

A variety of mood states, particularly anxiety and depression, are associated with aspects of gambling behaviour, including problem gambling. Relatively little attention has been accorded to the role of positive emotions in gambling participation and problem gambling development. Problem gambling, particularly serious problem gambling, is frequently accompanied by other mental disorders.

Mood states

Most people who gamble, including people with problem gambling, report that gambling is a satisfying and enjoyable activity. Large numbers of people who gamble say they gamble to win money or think/dream about winning, because it is fun and gives them pleasure, is a hobby or interest, is part of socialising with family and friends and is exciting and/or relaxing (Abbott, 2001). The generation of these positive mood states may well be a major reason many people continue to gamble despite being aware that they are likely to lose.

In the 1999 New Zealand national survey, people with problem gambling reported excitement and relaxation while gambling much more often than people without problem gambling (Abbott, 2001). They also mentioned gambling to escape more often when feeling depressed.

These findings are consistent with the view that using gambling to relieve negative emotional states is a significant factor in the development of problem development (Abbott, 2001; Blaszczynski & McConaghy, 1989). Some research suggests that moods also influence choice of gambling activity, for example, anxious gamblers favouring gaming machines and depressed gamblers favouring forms involving greater skill and/or social interaction (Coman, Evans & Burrows, 1996). Other research has found prior negative mood states contribute to regular gamblers continuing to gamble despite repeated losses and affecting gambling decision-making, for example, depressed mood increasing high-risk/high-reward choices (Raghunathan & Pham, 1999).

Although gambling may act as an antidote or distraction from anxiety and depressed mood, people with problem gambling also frequently report feeling depressed after losing and feeling guilty after completing a gambling session (Abbott, 2001). This suggests people who are at-risk and people with problem gambling may often get caught in a circular process where they gamble to reduce negative mood states that, over time, increasingly result from their gambling behaviours, losses and associated adverse consequences.

Mood disorders

Youth and adult studies have found elevated rates of mood disorders, particularly depression, among people with problem gambling in community and clinical samples. Rates are generally higher among women relative to men (Abbott & Volberg, 1991,

1996; Gerstein et al., 1999; Nower et al., 2004; Welte et al., 2001). High rates of suicidal ideation and suicide attempts have also been reported by people with problem gambling in various settings (Nower et al., 2004). Some community studies have found people with problem gambling have higher rates of anxiety disorder, including agoraphobia and other phobias (Bland et al., 1993). Prospective studies have yet to be conducted to ascertain the extent to which mood and other psychological disorders precede and contribute to problem gambling rather than result from it.

Personality disorders

Reference has already been made to high rates of personality disorder, particularly conduct, antisocial and other "acting out" disorders, being evident in clinical samples of people with serious problem gambling.

Disorders of impulse control and obsessive compulsive disorder

Reference has also been made to pathological gambling having high co-morbidity with other disorders of impulse control and obsessive compulsive disorder.

Substance use, misuse and dependence

Many studies have found youth and adult individuals with problem gambling in community and clinical settings drink alcohol and consume illicit substances at several times the general population rates (Abbott, 2001; Fisher, 1993; Gupta & Derevenski, 2000). Surveys indicate that a high percentage of regular gamblers consume alcohol while gambling and that this may be especially so during electronic gaming machine participation (Stewart & Kushner, 2003).

Typically 30-50% of adults seeking treatment for pathological gambling have co-morbid alcohol and/or other substance misuse disorders (Crockford & el-Guebaly, 1998; Petry, 2002). Potenza et al. (2003) found helpline callers who had co-morbid alcohol problems experienced more serious gambling and related problems than other callers with problem gambling. These and other findings suggest this group might have more impaired impulse control. Again, lack of prospective research leaves unresolved whether this is the case and, if so, to what extent it is a consequence of pre-existing genetic, personality and/or other factors rather than secondary to excessive alcohol consumption.

Experimental studies where alcohol is given to participants prior to or during gambling indicates that alcohol increases risk-taking and, in the case of people with problem gambling, leads to longer gambling sessions (Ellery et al., 2003). This suggests that alcohol consumption, probably on the part of both problem and non-problem drinkers, may contribute to the development and maintenance of problem gambling. Abbott et al. (1999, 2004), in the first prospective general population study of people with problem gambling, found alcohol misuse predicted a continuation of gambling problems seven years later, even when problem gambling severity and other risk factors were controlled statistically. While not specifically addressing the role of alcohol in the development of problem gambling, these findings implicate heavy alcohol use in the continuation of problems and relapse.

Conclusion

People with problem gambling, especially severe problem gambling, have elevated rates for a variety of mental disorders. There remains uncertainty about the extent of

this co-morbidity with most specific disorders because, to date, pathological gambling has not been included in general population psychiatric prevalence studies and assessed alongside the full range of mental disorders.

It appears to be highly probable that psychological states and disorders increase susceptibility to gamble regularly and the development of gambling problems. Almost all of this research, however, is cross-sectional, and it is usually unclear whether or not associated states or co-morbid disorders precede, develop in conjunction with, or arise subsequent to the development of problem gambling. There are considerable differences between gambling activities and indications that different mood states and mental disorders may influence gambling choice. Further research is required to consider this possibility in further detail and examine prospectively how mood states and disorders interact with features of particular forms of gambling and other factors in the development of problem gambling.

2.7.5 Cognitions

People with problem gambling differ from people without problem gambling in the ways in which they think about gambling. Research suggests a number of these differences (cognitive distortions) play a significant part in both the development and maintenance of problem gambling (Griffiths, 1994, 1996; Ladouceur & Walker, 1996). Torneatto (1999) gives an extensive overview of the specific gambling-related cognitive distortions that commonly characterise the way people with problem gambling think. Most lead people with regular and problem gambling to believe they can predict and/or influence outcomes that are determined by chance.

The characteristics of particular forms of gambling appear to influence the nature and frequency of cognitive distortions displayed by people with regular and problem gambling. For example, cognitive distortions are more frequently associated with gambling activities that involve an element of skill, such as sports betting and card games (Torneatto et al., 1996). Regular electronic gaming machine participants also have high levels of irrational thinking about control and outcomes, even though their knowledge and experience have minimal or no influence on outcomes (Griffiths, 1996; Walker, 1992). Griffiths (1993) describes structural features of gaming machines that are designed to enhance irrational beliefs of winning and control. He believes these features can induce excessive and problematic gambling irrespective of gamblers' biological or psychological characteristics.

It appears likely that cognitive distortions are implicated in the development of problem gambling by helping at-risk and problem gamblers maintain high levels of gambling activity despite continued or escalating losses. However, more information is required regarding the specific cognitions that are most strongly involved, the extent to which they pertain to particular forms of gambling, and how they influence behaviour. Research has yet to address potential sex, age and ethnic differences as well as inter-relationships between cognitive distortions and other risk factors, including mood states and alcohol consumption while gambling.

2.8 Relative Importance of Risk Factors

From the foregoing review it is evident that a wide variety of risk factors have been identified within each of the general categories of agent, environment and host. Most studies have considered a small number of factors, typically from one category. Some, however, have examined inter-relationships between risk factors and extended our understanding of their connections to problem gambling. A number of these studies have also examined the relative strength of relationships between selected factors and problem gambling by controlling for the effects of others. A few have examined factors in this regard from more than one general category. Studies of this type are considered here.

The Productivity Commission (1999), drawing on data from an Australian national survey of gambling and problem gambling, included gambling participation and socio-demographic risk factors in multivariate analyses. It focussed on people who gamble regularly rather than all adults to identify factors that differentiate frequent gamblers who develop problems from those who do not. Other than frequency of participation in electronic gaming machines, track betting and casino games, younger age and city residence were the only other variables significantly associated with a higher likelihood of people who gamble regularly experiencing gambling problems. This suggests frequent participation in these particular forms of gambling per se is most important in the transition from regular to problem gambling. It also appears that youth and city residence contribute to problem gambling other than by increasing exposure to high-risk gambling activities. Although other socio-demographic factors in this study did not distinguish people with problem gambling from people who gamble regularly, some may well have contributed indirectly, for example, by being among the factors that lead people to take part in high-risk forms of gambling in the first place.

Langhinrichsen-Rohling et al. (2004) simultaneously examined individual, family and peer group correlates of adolescent gambling and problem gambling. This study is of particular interest for a variety of reasons. First, adolescence is a time when many people commence or become involved in gambling on a regular basis. It is also a developmental phase characterised as high risk for problem gambling development. In contrast to most research of its type, this study looked at correlates of different levels of gambling involvement and problem gambling (non-gamblers, non-problem gamblers and probable pathological gamblers). The sample was also sufficiently large to enable the relative contributions of a fairly large number of variables to be determined.

Adolescents who had never gambled differed from non-problem gamblers in that more were female and they reported less gambling on the part of parents and friends. They were also less susceptible to peer pressure, risk-taking and suicide proneness, had fewer sex partners, lower levels of impulsivity, and less recent binge drinking and drug use. Each of these factors appears to contribute independently and significantly to young Americans taking part in gambling activities. At-risk and less serious problem gamblers also differed from non-problem gamblers on most of the foregoing measures that have a linear relationship with degree of gambling involvement and problem gambling. In other words, mean scores on each of these measures increase in a step-wise fashion from non-gamblers with the lowest levels, probable pathological gamblers the highest levels and the three in-between groups having intermediate levels.

In the Langhinrichsen-Rohling study, peer influence, while increasing linearly, was particularly good at differentiating adolescents who gambled without problem from those who never gambled. The study authors suggest that susceptibility to peer pressure might be a general risk factor for experimentation with a variety of risk-taking activities, of which gambling is one. This factor also, however, differentiated the three at-risk/problem groups from the no-gambling/no-problem groups, suggesting peer pressure might also be important in leading youth from non-problem to problem gambling.

While most factors had a linear relationship with level of gambling involvement/problems, there were three exceptions. Depression and self-rated immaturity differentiated probable pathological gamblers from all other groups, suggesting these are important aspects of serious problem gambling among youth. Impulsivity differentiated non-gamblers from non-problem gamblers, as well as non-problem gamblers from the three at-risk/problem groups. The latter three groups did not differ on this measure. These findings suggest impulsivity influences problem gambling development by fostering experimentation and gambling participation, rather than more directly influencing progression from frequent and at-risk gambling to problem and more serious probable pathological gambling.

Like the Productivity Commission (1999) study, Welte et al. (2004) examined the extent to which relationships between socio-demographic factors and problem gambling are mediated by gambling participation. This study also drew on data from a national prevalence survey, in this instance one of the two recent U.S. surveys. Frequency of gambling, average size of wins or losses and number of different forms of gambling engaged in were all found to be strong predictors of problem gambling and remained so after other categories of risk factor were incorporated into multivariate analyses. These findings are consistent with the Productivity Commission conclusion that gambling exposure/participation is fundamentally important in problem development.

The foregoing study also found alcohol misuse and dependence was strongly linked to problem gambling and that this relationship remained when gambling behaviours were held constant and current alcohol and drug use, drug misuse/dependence and criminal offending were incorporated into the analysis. Finally, membership of particular ethnic minority groups (specified previously) and low socioeconomic status were strong predictors after all of the preceeding factors were taken into account. The authors of the study commented:

> "These findings show that diagnoses of pathological and problem gambling may have complex causes beyond mere frequent gambling or making large bets. Risk for pathological gambling is related to gambling versatility, alcohol pathology, and membership in at-risk sociodemographic groups." (p.334)

In addition to advancing identification of the most significant predictors of problem gambling within different domains, Welte et al.'s research explores the relative importance of these predictors across domains and increases understanding of how some of these factors are related to problem gambling. For example, taking part in many different forms of gambling remained significant when gambling frequency and expenditure were held constant. The authors state this could indicate an "attachment to the essence of the gambling experience" additional to heavy involvement in particular forms of gambling. A further example is the way in which alcohol is linked to problem

gambling. As mentioned earlier, alcohol might contribute to gambling problems by impairing judgment or impulse control while gambling.

Common underlying constitutional and other personal factors may also predispose some people to both gambling and alcohol problems. The finding that alcohol misuse/dependence remained a significant predictor of problem gambling when current use of alcohol and gambling behaviours are included in the multivariate analysis suggests alcohol is related to problem gambling in additional ways. It appears there are long-term effects of alcohol, related to the diagnosis of alcohol misuse/dependence, that contribute directly to problem gambling severity other than by increasing gambling behaviour. Possibilities that warrant further study include reduced income and/or increased expenditure consequent to the development of alcohol problems or alcohol-induced brain damage and cognitive impairments escalating problem gambling symptoms.

Another study that examined multiple risk factors commenced by employing focus groups and semi-structured interviews to identify experiential factors that might be involved in the development of problem gambling (Turner et al., 2003). This information was used to develop a questionnaire that was mailed to a self-selected sample of adults recruited by newspaper advertisements. A second phase of the study involved a larger sample and multivariate analyses to assess the relative importance of, and inter-relationships between, the factors identified. People who did not gamble were omitted as the focus of the investigation was why, once people are involved in gambling, some develop problems while others do not.

Turner et al. found that people with problem gambling reported experiencing a win the first time they gambled and that losses made them want to gamble more significantly more often. As found by previous investigators, including Abbott (2001) in New Zealand, people with problem gambling said they had had a large win at or near the start of their gambling "career" much more often. These and related findings suggest early wins influenced participants to believe they could beat the odds and that losses followed by wins encouraged chasing of losses. Most participants indicated winning led them to feel happy and excited. Abbott (2001) obtained similar results in New Zealand and found, additionally, that people with problem gambling reported "near misses" that were also generally associated with positive mood states more often.

In the Turner et al. study, people with problem gambling indicated that they lacked direction in their lives, had high levels of stress and little social support during the year prior to starting gambling much more often. The most frequently mentioned stressors included alcohol or drug abuse, lack of a romantic relationship and difficulty at school. Apart from these experiences, having a new opportunity to gamble and experiencing gambling wins were mentioned in association with the development of gambling problems most often.

While early wins and expectations seem to motivate problem gamblers to gamble more, relief from tension might be a stronger factor in maintaining problem gambling behaviour. An Auckland study with first-year university students (Clarke, 2004) showed, through regression analysis, that tension release uniquely accounted for the largest amount of variance in current South Oaks Gambling Screen (SOGS) scores.

Impulsivity, desire to succeed in gambling, apathy and depression were also significant, but accounted for lesser amounts.

Current problem gamblers in the Turner et al. study also had higher rates of boredom susceptibility, impulsivity, interpersonal anxiety and depression. They also had a poor understanding of random events including distorted beliefs about their chances of winning and high expectations about winning. These and the other factors identified in this study are generally consistent with those from research undertaken in a number of different countries, including New Zealand.

Regression analyses were conducted for each major category of variables across the study to identify the most important predictors to incorporate in an overall analysis. Seven factors were identified and included, namely log size of first win, net life stress (stress minus support) when started gambling, and scores from instruments measuring coping-escape, thrill seeking, boredom susceptibility, knowledge of chance and random events knowledge. Each of these factors was found to have a significant relationship with problem gambling, independent of the effects of the other factors. The authors concluded that while early and big wins are probably most important, and may sometimes by themselves give rise to problem gambling, usually a combination of factors is necessary. They found that the more of any of the seven factors were present, the greater the probability that an individual had a gambling problem. However, the sample size was not sufficient to examine the full range of potential interactions between each factor. While having a high degree of independence, the authors considered it likely that some work in combination, and that the effects of such combinations may not be simply additive.

The foregoing studies illustrate the value of examining multiple risk factors together in single studies. While enabling the relative importance of risk factors and the nature of inter-relationships between them to be assessed, they also have shortcomings. Any single investigation can only include a sample of factors likely to be associated with problem gambling and the number is constrained by sample size. Even in the most inclusive studies, usually only a minority of variance in problem gambling is accounted for by the factors considered. In other words, the majority of variance is unexplained and factors other than those under consideration are responsible. Furthermore, the particular mix of variables included influences their relative strength as predictors of problem gambling, often significantly.

More important than the limitations indicated in the preceding paragraph is the reliance of these studies on cross-sectional designs and retrospective accounts of past events. It is not possible from studies of this type to confidently determine temporal chains of events or establish whether a particular association between a risk factor and problem gambling is causal in nature. While asking people about past experiences can help clarity sequences of events and provide useful information about factors likely to be involved in the development of problem gambling, such accounts are subject to a variety of biases of recall and interpretation and are usually unverifiable.

2.9 Models of Problem Gambling Development

A plethora of theoretical models from diverse academic disciplines have attempted to explain the nature and development of problem gambling. Raylu and Oei (2002), Walker (1992), Ferris, Wynne and Single (1998) and Wildman (1998) among others have critically examined these theories and concluded that the majority have some merit, as well as deficiencies, with regard to providing insights into problem gambling and its development. Most agree that problem gambling is influenced by physiological and/or psychological predispositions and attributes and that stressful experiences and negative emotional states play a role. They differ in the emphasis placed on particular factors and explanations for how they contribute to the genesis of problem gambling. Public health and social scientists tend to place heavy emphasis on broader social and environmental factors, whereas clinicians more often focus on internal biological, emotional and cognitive factors.

Raylu and Oei (2002) observe that most theoretical models attempt to explain problem gambling in its most severe forms rather than considering the much wider range of problems that exist in general populations. This is probably a consequence of most research being carried out in clinical settings and the official conceptualisation of pathological gambling as a discrete diagnostic entity. Because of this, and the tendency to focus on one or a limited range of factors, most theoretical approaches fail to account for individual variation. No single approach is sufficiently complex and inclusive to accommodate the diversity of agent, environmental and host factors implicated in the development and natural history of problem gambling.

The closest approximation to a comprehensive framework within which to examine problem gambling development is provided by Blaszczynski and Nower (2002). Their "pathways model" includes elements from a number of other frameworks and integrates findings from large bodies of relevant research. It proposes three major subgroups that are influenced by different factors yet display many common features. These groups are (a) behaviourally conditioned problem gamblers, (b) emotionally vulnerable problem gamblers and (c) antisocial, impulsivist problem gamblers.

Availability of and accessibility to gambling, particularly forms shown to have strong associations with problem gambling, is the starting point for all people with problem gambling. Attributes of particular forms of gambling and the variety of factors that contribute to environments where gambling is widely available, socially accepted and promoted are important in this regard. In addition to access and participation, Blaszczynski and Nower (2002) propose that behavioural conditioning is an additional process common to all people with problem gambling. As indicated, early experience of big wins appears to contribute to this process, whereby gambling reward schedules and cognitive distortions related to the probability of winning and personal skill or control lead to higher levels of gambling involvement and risk taking. Given the way gambling and gambling odds are structured, losses and losing streaks increase and some frequent gamblers chase losses. This usually results in further losses, debt and chasing losses and other behaviours that define problem gambling and more serious pathological gambling.

McCown and Chamberlain (2000) provide a more detailed account of processes that appear to be involved in the common "behaviourally conditioned" pathway. They refer to these processes as "gateways" to problem gambling. The processes are as follows:

(1) Physiological changes associated with gambling are initially interpreted positively.
(2) Regular participants come under the influence of a variable ratio of reinforcement.
(3) A "big" win is experienced.
(4) Participants believe that they have substantial control over gambling outcomes.
(5) Participants believe in luck or magic.

While people with particular personal attributes are more prone to enter these "gateways" and progress towards problem gambling, Blaszczynski and Nower (2002) maintain that many individuals who lack predisposing risk factors become people with problem gambling through behavioural conditioning. Although people in this category often experience high levels of anxiety, depression and alcohol misuse, these characteristics are claimed to be largely a consequence of problem gambling rather than significant contributing factors.

Blaszczynski and Nower (2002) claim that relative to the other people with problem gambling, the "behaviourally conditioned" group has less severe gambling problems that fluctuate over time between heavy and problem gambling. People with problem gambling in this category are also believed to more readily seek and comply with treatment, display low levels of psychological disorder following treatment and more often return to non-problematic gambling.

People in Blaszczynski and Nower's (2002) "emotionally vulnerable" and "antisocial impulsivist" groups are believed to develop gambling problems through the same environmental, conditioning and cognitive factors described for "behaviourally conditioned" problem gamblers. The "emotionally vulnerable" group differs in that members are characterised by pre-existing vulnerabilities, including anxiety and/or depression, poor coping and problem-solving skills, and negative family background experiences and life events. Individuals with these characteristics are presumably attracted to gambling activities because they temporarily reduce negative emotional states and meet specific psychological needs. They are also deemed to have higher levels of psychopathology, especially affective and alcohol use disorders, be more resistant to changing their problematic gambling behaviours and less likely to return to non-problematic gambling.

"Antisocial impulsivist" people with problem gambling, like "emotionally vulnerable" people with problem gambling, are considered to experience a number of biological and psychological vulnerabilities that predispose them to develop gambling problems. They are believed to differ in that they have neurological and neurochemical dysfunctions, as well as features of impulsivity, attention deficit disorder and antisocial personality. Independently of problem gambling, they are also claimed to experience various behavioural problems, including irritability, substance use disorders, suicidal and criminal offending. These problems may interact with and be exacerbated by emotional, interpersonal and gambling problems. In this group, family histories of alcohol misuse and antisocial problems are claimed to be commonplace and gambling and gambling problems commence at an early age. Blaszczynski and Nower (2002) believe this

group is reluctant to seek specialist help and has poor treatment compliance and outcomes.

Although there is some empirical support for the distinctiveness of the three groups of problem gamblers outlined, it has yet to be demonstrated how adequately they can be identified in community and clinical settings, and the extent to which members follow the problem gambling developmental pathways predicted for them. The advantage of the model is that it is explicitly stated, integrates a substantial amount of prior research information, and is testable. Its authors regard it as preliminary and subject to rejection or refinement.

Part of the review of literature for the present project involved an examination of factors implicated in the development of substance use and misuse, and considers their relevance to problem gambling (see Appendix B). It is evident that many risk and protective factors are common to the use of a number of different substances, including alcohol (see Table 1, Appendix B). A substantial number of these factors may also be common to youth crime, youth pregnancy, early school leaving and violence.

Much more is known about the development of substance use and misuse than gambling and problem gambling. Some of the risk and protective factors for substance use/misuse are also strongly associated with problem gambling. The extent to which these common factors, relative to additional gambling-specific factors, account for the development of problem gambling has yet to be determined. Both the second and third pathways in Blaszczynski and Nower's model include a number of factors that are involved in the development of substance misuse/dependence, and many people with problem gambling in these categories have alcohol and/or other co-morbid substance use disorders. Individuals in the first ("behaviourally conditioned") pathway do not possess these predisposing biological and psychological factors. However, they may have other risk factors that have some overlap with substance use/misuse, including family socialisation and peer group influences.

2.10 Prospective Research

As indicated at various points in this review, the lack of prospective studies severely limits understanding of the role and relative importance of risk and protective factors in the development of problem gambling. Most useful in this regard are studies involving general population samples that commence prior to the onset of problem gambling and are followed and re-assessed over time. This type of study enables transitions between phases of non-problem and problem gambling (and vice versa) to be examined and theories of problem gambling development to be assessed. As indicated in Appendix B, substance use/misuse research, including New Zealand research, is much more advanced in this regard. To this point in the review, the great majority of information regarding risk factors for problem gambling and transitions from non-problem to problem gambling have come from cross sectional studies and accounts of problem gamblers' recollections of past experiences and behaviours.

Abbott et al. (1999, 2004) conducted the first general population prospective study of people with problem and non-problem gambling. Seventy-seven people with problem

gambling and 66 people with regular non-problem gambling were reassessed seven years after their initial assessment as part of the 1991 New Zealand national gambling prevalence survey. The major finding was that although none of the people with problem gambling received specialist help, the majority no longer reported problems when re-assessed. Initial problem gambling severity, preference for track betting and co-morbid excessive alcohol use predicted future problems. A significant number of people with problem gambling who no longer reported gambling problems engaged in excessive or problematic alcohol use. These findings provide some corroboration for aspects of the pathways model and advance understanding of the natural history of problem gambling. However, too few people with non-problem gambling, despite many of them being weekly or more frequent participants in continuous gambling forms, subsequently developed gambling problems to assess the incidence of problem gambling or identify predictors of initial problem onset.

Canadian research (Wiebe, Cox & Falkowski-Ham, 2003; Wiebe, Single & Falkowski-Ham, 2001) has also reassessed people with non-problem and problem gambling who took part in a general population prevalence study. Although re-assessment took place only 12 months after the baseline assessment, most people who had problems either no longer reported them or indicated that they were less severe. As in the New Zealand study, problem reduction was more common for people who initially experienced less severe problems.

While there were significant reductions in problems during the past 12 months, during this period 10% of people with non-problem gambling moved into the at-risk category, 10% of at-risk gamblers moved into the moderate problem category and 10% of people with moderate problem gambling became people with severe problem gambling.

In contrast to Abbott, Williams and Volbergs' earlier investigation, the Canadian study included sufficient numbers of people with non-problem gambling as well as at-risk participants who subsequently developed problems to assess incidence. Although it was found that emotional stress, loneliness and social support were significantly associated with problem gambling at the 12 month assessment, unfortunately these factors were only measured at follow-up, not prospectively. Consequently, it is not known whether they preceded and played a role in the transition to problem gambling or were a consequence of problem gambling. Another Canadian general population study, in this instance involving a two-year follow-up of people with non-problem and problem gambling who were regular video lottery participants, also found high rates of transition into and out of problem gambling (Schrams, Schellinck & Walsh, 2000). Again, as with the preceding study, correlate measures were only assessed at follow-up and it cannot be determined whether or not they contributed to or resulted from the transition to problem gambling.

Two other relevant adult studies have followed prospective adults. Both involved highly specialised populations, namely illicit drug users recruited from a general population psychiatric prevalence survey (Cottler and Cunningham-Williams, 1998) and casino employees (Shaffer & Hall, 2002). The former did not include sufficiently large numbers to meaningfully access factors implicated in problem onset. The latter had a larger sample size than previous prospective studies and, in contrast to the Canadian studies mentioned above, assessed a number of relevant factors at baseline. Although a wide range of demographic, social, health and psychological variables were included, none

were identified that differentiated participants who developed problems two years later from participants who remained problem free. Factors failing to predict problem development included age, sex, physical health, work absence, depression, subjective stress, ability to cope with stress, satisfaction with personal and work life, tobacco use and alcohol consumption. This study also examined predictors of problem cessation. Whereas depression and dissatisfaction with personal life did not predict the development of problem gambling, they did predict future problem reduction. In contrast to Abbott, Williams and Volbergs' (1999, 2004) findings, alcohol misuse did not compromise problem reduction or remission. Typically, gambling and alcohol problems changed together over time.

The failure to corroborate, prospectively, a number of factors that have been shown to be associated with problem gambling in cross sectional studies, raises the possibility that some or most of them arise in association with, or subsequent to, the transition from non-problem to problem gambling. In the case of alcohol and some other substance use disorders, prospective research has shown that some commonly linked neurological, personality and social attributes are predominantly consequences rather than antecedents of disorder (Abbott, 1984; Zinberg, 1984). While a number of factors failed to predict future problems in Shaffer and Halls' study, it did not include many of the most strongly and consistently implicated risk factors, including gambling involvement/behaviour and cognitions. The study's authors note that the finding of co-morbid patterns of change in alcohol and gambling problems is consistent with the view that a common underlying factor is responsible.

A few studies have examined, prospectively, gambling and problem gambling from childhood or adolescence. The first such study (Winters, Stinchfield & Kim, 1995; Winters et al., 2002), while providing useful information on the stability of gambling and problem gambling from adolescence into early adulthood, only presented aggregate data. The investigators did not examine changes at the individual level, including initial problem onset (incidence), persistence, recovery or relapse. Although they did not consider individual pathways, they did examine, prospectively, the impact of adolescent gambling on subsequent gambling for the sample as a whole. Early gambling onset was a modest predictor of adult at-risk gambling. At-risk and problem gambling during adolescence were moderate to strong predictors of adult at-risk and problem gambling. Some other factors were also assessed prospectively and found to predict future gambling patterns. Specifically, male and adolescent substance misuse were associated with subsequent at-risk and problem gambling. Adolescent delinquent behaviours (property damage, theft and assault) predicted future at-risk but not problem gambling. Parental problem gambling and poor school performance, on the other hand, predicted problem but not at-risk gambling. Of the variables examined, only prior anxiety and depression did not predict either at-risk or problem gambling.

In contrast to Shaffer and Halls' research with casino employees, the Winters et al. (2002) study spanning mid-teen to early adult years confirms that various psychosocial factors associated with problem gambling in a large body of cross sectional research predict future gambling increases and problems. It also provides some support for the role of early gambling involvement and problems in subsequent problem development and escalation. Some of the findings of this study are also consistent with the view that a number of risk factors for youth and early adult problem gambling, substance

use/misuse and "externalising" disorders are shared. This suggests that they have some common underlying causes.

Slutske, Jackson and Sher (2003) examined the extent to which adolescent gambling problems resolved prior to adulthood and the incidence of problem gambling during early adulthood. Winters et al. (2002), by confining their consideration to aggregate data, did not do this. This study involved 393 first year university students who were assessed four times during 11 years. It found that, although overall prevalence did not change over time, for the most part different people had problems at each assessment – indicating high problem transience. Prevalence did not change because new cases balanced "departures" (problem remission). Initially only males experienced problems, associated with their much higher levels of involvement in unregulated and illegal forms of gambling. This sex difference declined as the sample aged and males and females both had greater involvement in legal gambling activities. The finding of later problem onset among females and unchanging rates of new problem onset (incidence) throughout the 11 years of this study suggest problem gambling may be less developmentally confined than alcohol and substance misuse and some other problem behaviours. While of interest, the nature of the sample (university students) and low prevalence of serious gambling problems (most people with problem gambling were at a sub-clinical level) call for caution in generalisation of findings from this study.

A recent Canadian study (Vitaro et al., 2004) examined changes in gambling behaviour on the part of boys from the age of 11 to 17 years. Given that recruitment was from a prospective investigation that commenced at kindergarten, some relevant information was available from early-mid childhood. Three distinct trajectories of gambling involvement were identified, namely "low gamblers" (62% of participants), "chronic high gamblers" (22%) and "late onset gamblers" (16%). The first group had minimal or no gambling involvement throughout the course of the study. The second group began gambling by age 11 and maintained or increased their level of involvement. The third group did not commence gambling before the age of 13 but rapidly increased their involvement to match the second ("high chronic") group. At age 17, 4% of the "low gamblers", 20% of "high chronic gamblers" and 15% of the "late onset gamblers" experienced some degree of problem gambling.

The three groups differed significantly with respect to a number of factors that were self- or teacher-assessed during childhood and early adolescence. For example, "chronic high gamblers" were more impulsive, uninhibited and prone to risk taking than "low gamblers". Generally, on a number of measures, "late onset gamblers" scored between members of the other two groups. The findings are in keeping with those from previous cross sectional research that found many problem gamblers are characterised by impulse control deficits, low inhibition and high risk taking. The demonstration that some of these characteristics precede the development of problem gambling, and differentiate those who develop problems from those who do not, strengthens theoretical arguments that they are causally implicated in problem development.

Although they do not refer to Blaszczynski and Nower's (2002) pathways model, Vitaro et al. (2004) conclude that their findings imply different theoretical models are necessary to account for the varied trajectories of adolescent gambling and problem gambling. It appears that the "high chronic" group contains significant numbers of "antisocial impulsivist" problem gamblers. Vitaro et al. propose that personal predispositions are

sufficiently high to drive boys on this trajectory towards risky gambling and perhaps other risk taking behaviours. On the other hand, they propose that family and/or peer-related factors are more strongly involved in problem development among "late onset gamblers". Consistent with the pathways model, they considered it likely that the "high chronic" group is likely to experience more complex and persistent problems.

The longitudinal studies considered have examined change in gambling/problem gambling status over moderate to long periods of time. Some sought to identify predictors of future problem development. The host and environmental factors examined in these studies often precede problem gambling development by months or years. Recently, Dickerson, Haw and Shepherd (2003) have assessed more proximal predictors of impaired control over gambling involvement. Their final study in a series of investigations included an initial and five subsequent assessments of regular gaming machine participants during a 25 week period. The focus of this research was on advancing understanding of factors that precipitate transition from regular non-problem to problem gambling.

In the study referred to the preceding paragraph, impaired control (measured by subjective feelings of loss of control, inability to limit expenditure and chasing losses) was considered to be a major factor in the escalation of gambling-related problems. Rather than being atypical, it was found that a majority of participants lost control during gambling sessions, at least on some occasions. As predicted, depression measured at the outset of the study predicted impaired control during subsequent sessions. Non-productive coping methods such as self-blame and problem avoidance were also linked to subsequent loss of control. On the other hand, use of methods, such as facing up to problems and generating and implementing plans to deal with them like setting strict time and expenditure limits or avoiding venues, predicted greater control over gambling.

Previous studies have found social support can help reduce depression and alleviate personal problems, including gambling-related difficulties. However, in this study high social support did not predict lower levels of impaired control. When depression, social support and non-productive coping were included in multivariate analyses with impulsivity, excitement seeking and alcohol use only three factors (depression, non-productive coping and impulsivity) emerged as significant predictors. Although these three factors had moderately strong links to impaired control, three-quarters of the outcome variance was unaccounted for. In other words, many regular electronic gaming machine participants without these attributes also had periods of impaired control. The study authors concluded that impaired control and subsequent problem development is an understandable and "natural" outcome of regular, high intensity gaming machine involvement rather than something confined to a small number of mentally and/or constitutionally predisposed pathological gamblers. It appears that most regular participants need to use active and planned strategies to stay within their preferred time and budget limits – and that even then about half lose control at least occasionally.

The prospective studies considered have added to our understanding of problem gambling. To date, however, they have been narrow in scope and often involved highly selected samples. They also experienced moderate to high attrition and are limited in various ways, conceptually and methodologically. Their findings corroborate early indications that problem gambling is transient for many people, especially when less

severe. While they have confirmed the importance of some factors identified by previous cross-sectional retrospective studies, they have also suggested some factors may be consequences rather than antecedents or causes of problem onset. Some findings are consistent with the pathways model of problem development.

2.11 Conclusion

From the preceding review, it is evident that a wide range of gambling (agent), individual (host) and environmental factors are implicated in the development, maintenance and cessation of problem gambling. Further research is required to determine the strength and relative importance of risk factors, and the extent to which their role is causal. Little is known about protective factors or the extent to which both risk and protective factors are specific to problem gambling, rather than having wider applicability to mental disorders and behaviours that are commonly associated with problem gambling.

The identification of the most important risk and protective factors is necessary to provide a sound knowledge base for policies and programmes designed to protect gambling consumers and prevent problem development. This information is also relevant to the enhancement of early intervention, treatment and relapse prevention.

With respect to the agent, gambling, it is evident that some forms have a particularly strong association with problem gambling. Currently electronic gaming machines, casino table games and track betting are of particular importance in New Zealand, although other continuous forms could assume greater importance if they became more accessible and popular. Internet, cellular telephones and interactive television may play a significant part in this during the next few years. While environmental and individual factors are important, it appears that for many people regular participation alone, in the forms mentioned, is sufficient to lead to diminished control and problem development. Further research is required to advance understanding of this process and how some people who gamble regularly maintain control or experience lapses yet avoid progressing to at-risk or problem gambling. Prevention strategies focussed on the agent include reducing exposure, either by limiting the number and accessibility of sites or through public education and other measures that lead individuals to reduce the frequency, duration and intensity of their participation in high-risk forms. Another approach, focussed on people who gamble, involves identifying and strengthening individual strategies and other protective factors that allow them to gamble with a reduced likelihood of developing problems. These factors may vary for different forms of gambling and socio-cultural groups.

While associated with problem gambling development, relatively little is known about the role of family factors – genetic, socio-cultural and social learning – in problem development. The role of external socialising agencies, for example, media, advertising, peer groups and workmates, is little investigated but may be particularly important, especially for groups such as Pacific peoples and some categories of recent migrants that had little or no gambling involvement in their families of origin.

Some personality traits appear to be particularly important, albeit for a subgroup or groups of people with problem gambling. Impulsivity is clearly in this category. This trait

and some others that are less well established are linked to particular personality disorders that also are associated with problem gambling. How much they play a causal role or are a consequence of underlying factors that contribute to both these disorders and problem gambling is unclear at this stage. Mood states and disorders, as well as a variety of cognitive distortions (irrational thinking), are also clearly implicated in problem development. Biological, including genetic, neurophysiological and biochemical factors, are also important. Many of these are related to personality and mood states/disorders.

A variety of forms of research are required to advance understanding of the contributions, both individually and interactively, of the many risk and protective factors involved in problem development. Prospective general population studies, commencing in childhood and extending over long time periods, as well as more focussed investigation of high risk groups during shorter time periods, are particularly important in this regard. It is likely that while showing some commonality, the significance and relative importance of factors will vary across major forms of gambling. Perhaps the initial focus should be on forms of gambling, notably gaming machines currently in New Zealand, that are implicated in the majority of cases identified in epidemiological studies and presenting for professional help. Attention should also be given to the variability in people who develop problems and the likelihood that there are distinct subtypes of people with problem gambling with different and perhaps distinctive mixes of risk and protective factors. Ethnic diversity is also important in this regard, particularly so in Aotearoa/New Zealand where Mäori, Pacific peoples and some recent migrant groups are at high risk and account for over half of the country's problem gamblers (Abbott & Volberg, 2000).

CHAPTER 3: METHODS

3.1 Introduction

The development of the methodology to evaluate the determinants of the progression to problem gambling proceeded in four stages.

Phase One involved three stages:

(1) literature review;
(2) interviews with key informants and focus groups; and
(3) development of a methodology for pilot testing.

Full ethics approval for Phase One was obtained from the University of Auckland Human Participants Ethics Committee on 4 December 2003 (UAHPEC 2003/346, see Appendices C to H for Information Sheet and Consent Form).

Phase Two involved pilot testing the methodology in a specific community location. Ethics approval for this Phase was granted on 16 September 2004 (UAHPEC 2003/346, see Appendices I & J for Information Sheet and Consent Form).

These four stages were designed to take into account existing knowledge on gambling and the unique cultural context of New Zealand. In order for such a methodology to be an effective means to evaluate environmental influences on gambling, the research team adopted a public health approach (for general discussion on this approach see Korn, 1999, 2003; Korn & Shaffer, 1999; Volberg, 1994). Such an approach sees gambling not only as a product of biological and behavioural dimensions, but as a product of broader population-level factors, such as income, deprivation, employment and poverty (Shaffer, 2003). Past research has suggested a broad range of personal, social and environmental factors are vital to an overall understanding of the progression from intermittent to problem gambling in New Zealand (Abbott, 1999; Adams, 2002). Another major methodological feature of the present study was to enable appropriate data collection and participation from the four main ethnic groups (Mäori, New Zealand European, Pacific peoples and Asian people) and specific at-risk demographic groups such as youth, women, and older people.

The rest of the methodology covers details of each stage separately.

3.2 Phase One, Stage One: Systematic Review of Relevant Literature

A systematic literature review was undertaken with two specific goals. The first was to identify studies relevant to the examination of gambling and to the shift between social and problem gambling, and to review longitudinal studies of substance abuse that may have implications for the development of problem gambling. The second goal was to locate research conducted on specific issues like gambling and older people, use of drug and alcohol and problem gambling. The review covered major literature databases (for example, PsychINFO and MEDLINE), web-based searches to attempt identification of unpublished research, and specific gambling information resources. Members of the

research team also used their own connections in the gambling research community to access reports and literature from overseas. The key findings from the literature review are reported in the Literature Review Chapter of this report and in Appendix B.

3.3 Phase One, Stage Two: Individual Interviews and Focus Groups

3.3.1 Participants

Four groups of people were recruited, namely people with problem gambling, people who gamble, family members affected by problem gambling and professionals working with gamblers. The individuals selected were broadly representative of the four main population groups in New Zealand:

(1) Mäori
(2) Pacific (Niue, Samoan and Tongan)
(3) Asian (migrants from Southeast Asian region residing in Aotearoa/New Zealand for less than 10 years)
(4) Päkehä/New Zealand European and migrants from Europe residing in Aotearoa/New Zealand for more than 10 years.

- **People with problem gambling**
  Very few people with problem gambling, in particular Mäori and Pacific peoples, will willingly volunteer for an exercise that will expose their shame or excessive level of participation in gambling. Therefore the research team adopted an active approach to prospective participants through service agencies, members of reference groups (including the National Mäori Reference Group on Gambling, Te Herenga Waka o te Ora Whänau, National Pacific Gambling Project), and members of the advisory panel for this project (for example, Hapai Te Hauora Tapui, Problem Gambling Foundation of New Zealand, Mental Health Foundation of New Zealand). Participants' status as a person with problem gambling was identified through their use of counselling services. People who are eligible to use the free problem gambling treatment services would have met the diagnostic criteria of problem gambling.

- **People who gamble**
  Individuals who self-identified as people who gamble socially/recreationally in each of the ethnic groups were recruited by the researcher in charge of that population stream.

- **Family members affected by problem gambling**
  This group of people were recruited through problem gambling treatment services and the Mäori and Pacific National Reference Group.

- **Professionals working in the gambling field**
  These individuals were recruited from problem gambling treatment agencies.

Altogether 131 individuals participated in Stage Two of the present project. The rest of this section shows how the number is broken down.

Individual interviews involving people with problem gambling and people who gamble (n= 45)

Each of the four ethnic groups, Asian, Mäori, Pacific peoples and Päkehä, were represented in this group. Although a mixture of people who gamble socially/recreationally and people with problem gambling were interviewed, the majority in each population group were people with problem gambling. The people with problem gambling were at different stages of receiving treatment and had various levels of problem gambling severity.

In total, the research team interviewed 45 people (Table 1). Ten people from the Mäori, Päkehä and Asian population groups were interviewed to approximate data saturation to ensure all categories of explanatory variables emerged from the data. Fifteen people were interviewed from the Pacific population group (five Niue, five Samoan and five Tongan) to access the heterogeneity of the different cultures in this group as well as achieve data saturation. Due to resource constraints, it was not possible to interview ten people from each of the selected ethnicities within the Pacific population group.

Table 1: Demographic information of the individual interview participants (n=45)

Ethnicity	Individuals with problem gambling	Sex		Age range	Employment status	
		Male	Female		Employed	Not in paid employment[2]
Mäori	7	2	8	20-60	7	3
Päkehä	6	3	7	24-84	9	1
Pacific[1]	10	5	10	31-64	9	6
Asian	7	6	4	24-52	8	2

[1]Pacific includes Niue, Samoan and Tongan
[2]Not in paid employment includes parents looking after young children at home

There were slight differences in the demographic makeup of each population group. Overall, the Asian group had a slightly younger age spread and Päkehä had the highest employment status. The Mäori population had more female interviewees and the Asian population had the highest number of male interviewees. Employment codes were assigned according to the Department of Labour.

Individual interviews involving professionals and family members (n= 6)

In order to widen the perspective on the issue of why people gamble, five professionals were interviewed. They were chosen for a number of reasons: 1) seniority or number of years working in the problem gambling field or social services in general; 2) their insights and opinions on various relevant issues; and 3) in addition, some individuals identified themselves as “recovered gamblers”, so they can provide an unique perspective on how they started gambling and shifted from social to problem gambling. They all are in their early 50s. Furthermore, the Mäori researcher conducted an individual interview with a Kaumatua (a respected Mäori Elder), who is the significant other of a person with problem gambling.

Focus groups involving people with problem gambling and people who gamble (n= 53)

Focus groups were run for each of the four populations. Each focus group comprised between two and seven participants, and had a facilitator of a suitable age who was ethnically matched with the majority of participants. Group facilitators were provided with a list of topics to be covered in the discussion. The process for population-based focus groups adhered to the appropriate "hui" or "fono" protocols and practices.

Table 2: Demographic information of the focus groups participants (n= 53)

Ethnicity	Age range	Sex	Number of people	Comments[1]
Mäori	28-50	Mixed	5	Social gamblers
	32-56	Mixed	5	Social gamblers
Asian	40-52	Male	4	Problem gamblers speaks Mandarin
	36-50	Female	2	Problem gamblers speaks Mandarin
	32-60	Male	3	Problem gamblers speaks Cantonese
Päkehä	37-48	Female	2	Problem gamblers
Pacific	Unspecified	Mixed	12	Niue, social gamblers
	As above	Male	5	Tongan, social gamblers
	As above	Female	5	Tongan, social gamblers
	As above	Male	5	Samoan, social gamblers
	As above	Female	5	Samoan, social gamblers

[1]Members recruited to the focused groups were not gambling treatment service clients, except Asian members. However, during the course of discussion it was the researchers' opinions that some of the members could well meet the criteria of people with problem gambling.

Focus groups involving whänau or family members (n= 11)

Focus groups with whänau were held with the Mäori and Asian population groups. The Mäori whänau group involved a parents' support group with seven people aged between 23 and 35 years old. The Chinese whänau group was a mixed sex group with four members of several families aged 40-73 years old.

It was not possible to hold Pacific or Päkehä focus groups with whänau within the research time frame. Several attempts were made to invite members of Päkehä family support groups to take part in this study. These invitations were declined through the problem gambling treatment services as family members indicated they would find it very hard to share their experiences in a group situation in a research context.

Focus groups involving professionals (n= 16)

Two focus groups consisting of five professionals who worked with people affected by problem gambling were conducted. Each of these individuals has had experience working in the gambling field and offered appropriate input regarding their specific ethnic population. Originally, this was to be one group but due to various constraints,

such as the availability of appropriate informants and the need to get representatives from all four ethnic populations, two practitioner focus groups were run.

Members of the research team also took the opportunity to collect data from the National Pacific Gambling Project Group while in a meeting that was attended by eleven people.

3.3.2 Data collection

Data were collected through individual interviews and focus group discussions. These discussions provided both qualitative and quantitative data. Individual interviews and focus groups were conducted to identify factors that might be determinants of the transition from regular to problem gambler, while focusing on definitions of gambling amongst participants. The following specific aims were covered:

- Identify and explore gaps in knowledge identified during the literature review.
- Explore key issues/features specific to the New Zealand context, such as where and when gambling takes place that might lead to problems, what is the meaning given to gambling and when gambling becomes a problem.
- Develop a more precise understanding of themes influence the transition between social and problem gambling.
- Determine the general importance of each theme in relation to the emerging proposition to explain why people gamble.
- Create new factor(s), if existing themes do not encompass the newly identified data from the interviews or focus groups.
- Analyse the links between themes.

Both the interviews and focus groups were conducted in languages preferred by the participants to minimise any language barrier between participants and researchers and ensure cultural safety. Due to the budget and time constraint, the guidelines were not translated but the researchers were fluent in speaking the participants' language.

The structure and questions for interview and focus groups were finalised by the research team after consulting members of the advisory panel, the National Mäori Reference Group on Gambling and National Pacific Gambling Project. Focus groups were run to involve family members of Mäori, Pacific and Chinese peoples experiencing problem gambling. Early consultation with people from specific population groups indicated that it is desirable to run focus groups involving family members of their own culture so that people feel safe, and not ashamed or condemned while sharing their experiences of how gambling unfolded as an issue in the family. Finally, additional focus groups were run to involve professional counsellors and therapists working with problem gamblers.

Data from the initial interviews and focus group discussions were recorded as written notes and audio-taped. These two data sources were compared to ensure the data were being recorded accurately in written form and to allow the interviewer to become familiar with the question format. Once this was achieved (approximately the first four weeks of data collection), the data were only recorded as written notes. Persons who could competently understand languages spoken in interviews or focus groups

transcribed the data obtained from interviews and focus group discussions. Members of the research team or advisory panel have verified the accuracy of the transcribed data.

Pilot study

In order to develop an effective individual interview guideline, a small pilot study was conducted in the early stages of the project. This tested the initial interview guideline to make sure it was clear and easy to understand, user friendly and to test the usefulness of the questions against the aims of the present study. The pilot study was conducted on one member of each of the Pacific, Asian and Päkehä population groups by the respective interviewer.

After the pilot study, several changes were made including:

- Shifting the questions on "gambling experiences" to the beginning of the questionnaire.
- Removing repetitive questions.
- Improving some of the wordings (for example, changing "refused" to "declined to comment")

Consultation with international expert

A meeting was held with Dr Rachel Volberg on 23 February 2004 while she was visiting the Faculty of Health at Auckland University of Technology. A copy of the questionnaire was sent to her prior to the meeting. The major comments from the meeting were summarised as follows:

- Recruitment of participants for gambling research is always a challenge, therefore the research team has to monitor the progress closely.
- Stage Two of the project adopts a qualitative approach; it is appropriate to use a theoretical sampling method to capture the whole spectrum of participants' experiences in relation to gambling.
- The research team has to be mindful of less formal, home-based gambling as opposed to the commercially available gambling activities that participants might be involved in.
- There is a need to explore how people define what is gambling and what is not.
- The role of sociability, escape mechanism and action seeking in gambling (or problem gambling) needs to be explored.
- It is appropriate to explore how the "big win", "lot of small wins" "big loss" and subsequent chasing plays a part in developing gambling problems.
- There was some discussion about whether the DSM-IV screening questions or the SOGS should be used in the questionnaire. (The final decision made by the research team was to use SOGS for the present study as the SOGS can provide useful data on how one shifts from casual to more intense gambling.)
- It is important to find out the type of gambling (for example, gaming machines, horse betting for money) because it may determine how one starts gambling and the possible shift from social to problem gambling.
- Some comments about the format, shifting of questions to different places to improve the flow of discussion and wrong numbering of questions were also made.

3.3.3 Tools: guidelines for individual interviews and focus group discussions

Individual interviews guidelines (see Appendix K)
The individual interview guideline or questionnaire was in three parts. In part one, the semi-structured individual interview began with questions regarding the person's gambling experiences, such as their mode of gambling and level of participation and what meaning the individual gave to gambling. Part two determined when the individual felt gambling became a problem and the transition from social to problem gambling (or vice versa) began. The third part contained questions about the individual's lifetime gambling experiences. Overall, the topics attempted to identify four different types of factors: precipitating, predisposing, perpetuating and protective factors.

Precipitating factors include an individual's background events, such as immigration, marital breakdown, cultural or upbringing environment, that may play a significant role in precipitating problem gambling.

Predisposing factors are the critical features of the person's background, for example, a history of abuse, use of illicit drugs and excessive alcohol, that may have caused a predisposition to the current presenting problems.

Perpetuating factors, or maintaining factors or triggers, are features of the person's presentation including social isolation, severity of problem gambling and gambling mode as well as the background environment that serve to perpetuate them presenting problems.

Protective factors are helpful features such as social support and accessibility to professional help, which are protective of the individual's gambling problems.

Specifically, the second part had questions around the "PRESS" framework:

- **P**ersonal factors – such as cognition, specific personality traits, locus of control, mental health status, motivation for gambling.
- **R**ecruitment (or retention) factors – such as how gambling is normalised, encouraged and promoted through advertising, consumerism and government policy.
- **E**nvironmental factors – such as availability and accessibility of gambling activities, features of the gaming machines, gambling entertaining environment, Internet environment.
- **S**ocial factors – such as modelling and social participation with friends and family members who gamble.
- **S**piritual factors – such as how gambling behaviours are sanctioned by some cultural groups' construct of "tapu" or spiritual-religious sacredness.

On the whole, interviews provided an opportunity to raise issues relevant to the person and the topic of gambling. The focus of individual interviews was to gain in-depth understanding about personal experiences and perspectives on gambling. They investigated individual intimate feelings and thoughts surrounding gambling experiences, such as issues of why people gamble, move beyond social gambling and why/how in some cases the person stops or reduces the gambling.

The same interview format was used for both people who gamble socially/recreationally and people with problem gambling. However, the social/recreational gamblers were not interviewed on the later topics that defined problem gambling and discussed how the individual controlled their problem gambling.

Focus group guidelines
There were three different guidelines for focus groups involving gamblers, family members and professionals.

Generally speaking, the focus group discussion explored common understandings of gambling, gathering group members' opinions on population-level structural factors in relation to gambling, and inequalities of health status between population groups. They aimed to understand the link between socio-cultural background and level of participation in gambling. The focus groups all addressed the following areas:

- identification and definition of gambling;
- the shift from non-problem to problem gambling; and
- the factors involved in the development of problem gambling.

Topics for the people who gamble and family members' focus groups covered how population-level structural factors impact on people's gambling behaviours (Korn & Shaffer, 1999; Ministry of Health, 2002; Schneiderman, Speers, Silva, Tomes & Gentry, 2001). Examples of these population-level structural factors include ethnicity and culture (beliefs, norms, values and rituals), country of origin, length of stay in New Zealand or city urban area, sex and age, geographical location of residency, local government policy on gambling, socioeconomic status, education, employment status, occupation, household income level, and housing. Examples of people's gambling behaviours include household income spent on gambling, level of participation, severity of problems and types of gambling, such as gaming machines, track betting and bingo for money.

Professionals covered four specific topics in the focus groups:

- the meaning of gambling/ problem gambling;
- the shift from non-problem to problem gambling (and vice versa);
- problem gambling and population groups; and
- problem gambling and other addictive behaviours.

3.3.4 Data analysis

Data were collected through individual interviews and focus group discussions. In order to maintain transparency in the data analysis and provide an audit trail, all qualitative data were analysed using QSR N6 (2002). Quantitative data were analysed using Microsoft Excel (2003).

As the PRESS framework was incorporated to direct the questioning process and provide an analysis framework, it was used to develop the three main research questions identified below:

(1) How do people define "problem gambling"?
(2) How do people start gambling?

(3) How do people shift from social/recreational, irregular gambling to problem gambling?

Qualitative data analysis

Initial analyses and summary of the information from the individual interviews and focus groups (except the practitioners' focus group) was conducted by each ethnic specific researcher. Data collected from Mäori participants and focus groups were analysed by Mäori researcher Wiremu Manaia. Data from the Pacific participants and key informants were analysed by Pefi Kingi and her colleagues. Akin to these two population groups, data collected from Asian participants were analysed by Chinese researcher Samson Tse. These findings were then discussed with members of the core research team who conducted further analyses according to the three research questions detailed above. The third part of this process involved further consultation with each ethnic population about the respective findings before final conclusions were drawn.

Data from the interviews and focus group discussions were analysed using a general inductive approach to identify key themes relevant to the research objectives. This approach is evident in much qualitative data analysis, often without an explicit label being given to the strategy. This analytic strategy is similar to grounded theory and leads to a theoretical framework developed inductively from data and emerged themes. Data analysis was composed of concepts formation, concepts development, conceptual modification and integration. Data collection and analysis were concurrent and reflexive. Analysis began with the first interview or focus group discussion. Data from the first participant were analysed as a case analysis and served as a basic framework. Some of the areas of focus for the data analyses included: types of gambling activities, level of participation (for example, frequency and money spent), how the person was introduced to gambling, how people moved beyond social gambling, what were the precipitating, predisposing, perpetuating and protective factors, and how gambling was related to one's ethnicity, culture and other relevant population features.

Subsequent analyses were performed primarily by cross-case analyses and the constant comparative method. Concepts were reduced into themes, sub-themes and their linkages were refined. Themes and sub-themes were developed by studying the written or transcribed data repeatedly. Special attention was given to possible meanings of each emerging theme and sub-theme. New categories were created if existing themes did not encompass the newly identified data from the interviews or focus group discussion. All these findings were synthesised into a theoretical framework to explain why people gamble and transit from social to problem gambling.

To increase trustworthiness and credibility of obtained findings, an expert check was rendered by members of the advisory panel and/or individuals who were not involved in the design and implementation of this project. Details about the expert check are included in the next section of this report.

Quantitative data analysis

A number of questions in each of the three sections of the individual interviews offered limited responses. The structured nature of these responses allowed basic quantitative analyses to be performed using Microsoft Excel (2003).

3.4 Phase One, Stage Three: Development of the Framework for Further Testing

A framework was developed to assess the determinants of the transition to problem gambling at the individual, social and environmental level, based on the above research undertakings.

This framework, in the form of a questionnaire, was informed by the findings obtained from Stage One and Two, which looked at the determinants of gambling-related behaviours, including personal characteristics alongside population-health factors. The framework was tailored for the cultural mix of New Zealand and the unique psychological aspects and consequences of problem gambling.

A particular focus at this stage was to include determinants that might be amenable to policy and therapeutic intervention. This inclusion will allow future research using the developed framework to guide specific policy decisions at the community and national level (DiClemente, Story & Murray, 2000). We see this as a key output in two ways. Firstly, with regards to guiding specific groups to aid those who might be at risk for problem gambling behaviours and, secondly, to aid the identification of those individuals at different levels of therapeutic interventions (Crisp, Jackson, Thomas, Thomason, Smith, Borrell, Ho, & Holt, 2001; Ministry of Health, 1996).

Two expert consultation meetings were held during the Stage Three of the research. The first was held on 28 June 2004 to discuss the preliminary findings from Stage Two of the project and the second was held on 3 September 2004, following further analyses of the results.

At the first meeting, the results of the individual and focus group interviews were presented to a panel of experts, who considered the project's results in relation to previous research findings. Further discussion centred on the development of Phase Two, Stage Four of the research project. Key outcomes of the meeting were:

- Key themes based on Stage One and two findings were identified.
- A questionnaire was devised to investigate relative weighting or ranking of each of the identified factors to explain why people gamble and why people shift from infrequent gambling to gambling at least once a week.
- The ethics application for Phase 2, Stage Four was begun.

The second consultation meeting involved a panel of experts (including a youth gambling researcher, an older people mental health worker and a gambling researcher with experiences working in the justice system) who were presented with the findings and the drafted questionnaire for Phase Two, Stage Four testing. One major comment that emerged from this meeting was that future gambling research should endeavour to recruit individuals who are involved with the legal system, such as people on probation, on bail or from prison. It was concluded that research on the relationship between gambling and criminal offence and re-offending is acutely needed.

3.5 Phase Two, Stage Four: Test the Methodology in a Specific Community Location

The fourth stage (Phase Two) of the project involved pilot testing the key findings from Stage Two. This part of the research project aimed to test the validity and usefulness of the key findings in a specific community location – the South Auckland community. (South Auckland includes the Local Territory Authority and District Health Board of Counties Manukau.)

The key findings from Stage Two were written in a questionnaire format and the testing was conducted in South Auckland, which was chosen as there are several other ongoing gambling research projects in the area and it provides the cultural diversity necessary to ensure that the methods were appropriate for different cultural groups and the answers across groups were reliable. National surveys have also identified Auckland as an area of high gambling prevalence, even after other factors are controlled for statistically (Abbott & Volberg, 2000). South Auckland has a high number of gambling opportunities that have been established for some time, including "pokies bars" and racing facilities, which allow the explicit examination of different types of gambling behaviours in the pilot test.

The primary goal of the trial was to test the level of applicability of various reasons identified in the Stage Two as to why people gamble and what causes the shift from irregular to more frequent gambling. It is hoped that findings from this stage will provide information for the development of a much larger study conducted at the regional or national level. In addition, this tool may assess the appropriateness of different aspects of the qualitative study for different ethnicities, age groups and sex. The preliminary data will also be useful in the development of an appropriately powered questionnaire, which will be specifically targeted toward portions of the population with high gambling prevalence.

3.5.1 Participants

There were 345 consenting adults and descendants of the four ethnic population groups (Mäori, Pacific, Asian and Päkehä) were recruited to complete the questionnaire. These participants were approached individually in various settings in South Auckland. To ensure input from various groups, the researchers selected individuals according to sex, age and ethnicity. The researchers involved in the selection of the individuals were trained Mäori, Pacific, Chinese and Päkehä interviewers who worked on Stage Two of the project.

3.5.2 Recruitment

A convenient sampling procedure was used to recruit participants for Phase Two, given the primary aim of this Phase was to validate findings from Phase One, and pilot-test the usefulness of the proposed framework. Therefore readers should be cautious in generalising the findings from this Phase to the South Auckland area.

Participants were recruited from a variety of sources including training/education institutions, cultural groups (for example, language classes, weekend activities

programmes), and a social service agency, youth groups, flea markets, churches and religious organisations, sports groups and clubs, and through individual networks in the South Auckland area to cover the spread of age groups. Table 3 summarises details of recruiting participants for the four population groups.

Table 3: Recruitment of Phase Two participants

	Period of time for the survey	**Recruitment**[1]
Mäori participants	Between 27 September and 11 October 2004	Approximately 77 people were approached to complete the questionnaire. A total of 62 participants agreed to participate (81%).
Päkehä participants	Between 11 and 29 October 2004	Approximately 104 people were approached to complete the questionnaire. A total of 69 participants, who met the criteria, agreed to participate (66%).
Pacific participants	Between 27 September and 18 October 2004	Approximately 250 people were approached to complete the questionnaire. A total of 119 participants, who met the criteria, agreed to participate (48%).
Asian participants	Between 11 and 21 October 2004	Approximately 150 people were approached to complete the questionnaire. A total of 78 participants, who met the criteria, agreed to participate (52%).

[1] Seventeen participants ticked "other" in the ethnicity category.

Most of the participants filled in the questionnaire without much assistance from the researcher and some were assisted in the completion of the questionnaires. Most of the assistance was in the aspects of clarifying or explaining questions, having difficulty in reading the questionnaire due to small print and literacy issues.

3.5.3 Data collection

As mentioned previously, this Phase of the project was a pilot-test of the framework (in the form of questionnaire) to determine the weighting given to various factors generated from the interviews and focus groups. All participants had to indicate their level of participation in gambling activities (excluding lotteries or scratch tickets), and how and whether they gambled once a week or more. The questionnaires were completed either independently by participants or, if clarification of the questionnaire itself was necessary, they were assisted by the appropriate researcher.

Although the process was conducted primarily in English, several accommodations were made for non-English speakers. Following consultation with several Asian social service providers and researchers, it was decided to translate the questionnaire into Chinese since the majority of the prospective Asian participants would be Chinese. This was to remove unnecessary barriers for Chinese participation in this research project. Furthermore, the Mäori and Pacific researchers were able to communicate with the participants in the appropriate language, to provide additional information about the research or the questionnaire itself, as necessary.

3.5.4 Instrument

A three-page questionnaire was designed to measure and rank potential key indicators, identified during the interviews conducted in Phase One of the research (refer to Appendix L for the questionnaire itself). These indicators were used to trace changes in an individual's gambling behaviour. The questionnaire had nine parts:

(1) The first question determined whether the individual participated in any sort of gambling or betting or games in which there was an element of luck or chance; those that did were asked to complete the rest of the questionnaire, those that did not were asked to proceed to sections eight and nine.
(2) The second section identified the individual's favourite type of gambling.
(3) The next section utilised a five-point scale to rank factors that initiated an individual's gambling.
(4) The fourth question asked about the frequency of the participant's gambling behaviour. If they gambled once a week or more they were asked to complete the next part addressing their gambling experiences. If they gambled less frequently, they were asked to proceed to sections eight and nine.
(5) The response categories for the questions in the fifth section about an individual's lifetime gambling experiences were dichotomous, and used the DSM-IV system enlisted in the clinical identification of pathological problem gambling.
(6) Following this, the sixth section asked for a self-evaluation by the participant as to their gambling status: whether they felt they had a problem with gambling or not.
(7) The seventh section inquired as to whether the participants had changed the type of activities they gambled on and, if so, they were given the opportunity to identify the starting and current forms.
(8) The eighth section asked for the participant's definition of what constituted "gambling activities" (see Appendix L for the list given).
(9) The final section consisted of basic demographic questions identifying sex, age, ethnicity and occupation.

3.5.5 Analysis

All data were entered into an SPSS 12.0 (2003) data file.

To validate the findings from Phase One, frequencies of gambling status, favourite games, reasons for starting and continuing gambling, definitions of gambling and changes from first to current form of gambling were tabulated for the sex, age, ethnic and occupational groups. Factor analyses of the ratings of starting and continuing gambling were performed on the data to ascertain if there were unique sets of reasons for the various demographic groups. Chi-square tests of the significance of differences

in proportions of the groups and *t* –tests of the significance of differences in mean scores were computed.

CHAPTER 4: RESULTS

This chapter reports findings from the interviews conducted in Phase One and the survey data collected during Phase Two.

4.1 Phase One: Qualitative Studies

During Phase One, data were gathered from individual interviews and focus groups involving a range of participants: people who gamble, those who are affected by gambling and professionals working in problem gambling treatment agencies. The data were sorted according to population group and the gambling status of the individual participant (for example, those who sought treatment from problem gambling services and those who gamble occasionally). In addition to the results on the participants' recent gambling experiences and their recall of life-time experiences, the data were further organised into the framework determined by the three main research questions:

(1) Why do people start gambling?
(2) What is problem gambling?
(3) How do people shift from social to problem gambling?

4.1.1 Individual interviews of people who gamble

Altogether 45 individual interviews were conducted. The general background of these participants is summarised in Table 1 (see Chapter Three).

Mäori participants

Ten people were interviewed (eight women and two men), seven of whom had experiences of seeking help from problem gambling treatment services. All of the Mäori participants were born in Aotearoa/New Zealand. Their average age was 36 years old (n=9, one unspecified, and the ages ranged between 20 and 60 years). (See Appendix M for their marital status, total household income and financial sources for gambling or paying gambling debts.)

(A) Participants' recent gambling experiences are summarised as follows:

Advertising

- Eight participants could recall advertising for Lotto, five for a casino, four for pokie machines and animal racing.

Participation in gambling activities and change pattern

- Six out of ten participants played pokie machines, two played Housie and TAB as their preferred gambling activities.
- Six participants gambled several times a week, the rest gambled anywhere between once a week and once a month.
- All ten participants gambled for at least one hour in a typical gambling session.

- Nine participants typically spent between NZ$20 and NZ$100 per session (about five people spent NZ$20 maximum), and one individual would typically spend NZ$500.
- Six participants said they "often" or "always" spent more time or money gambling than they intended during the first 6-12 months.
- Nine participants first took part in gambling, betting or gaming when they were 20 years old or younger.
- Two participants were still gambling in the same form that they first started, five participants have changed to gambling on pokie machines.

Family/Social environment

- Four out of ten participants identified themselves as growing up in a family that gambled a lot, and three of these people identified themselves as problem gamblers.
- Five participants said they had friends that gambled a lot, and four of these people identified themselves as problem gamblers.
- Eight participants usually gamble alone, if they do gamble with anyone it would be their partner/spouse, friends or strangers.

(B) Participants' recall of their life time experiences in gambling are summarised as follows:

- Seven out of ten participants went back another day to win back money they had lost from their gambling activities.
- Five participants claimed to be winning money from their gambling activities when in fact they were losing money.
- Eight participants spent more time or more money gambling than they originally intended.
- Seven participants argued with people over how they handled their money and the majority of these arguments have centred on gambling.
- Two participants had argued with people about their gambling in the last six months.
- Five participants missed time from work, school or study as a result of their gambling.
- Seven participants felt that they had ever had a problem with gambling.

(C) Seven Mäori participants with problem gambling (recruited from treatment services)

Why do people start gambling?

According to the Mäori in this study with problem gambling, people start gambling to win money. One participant said:

"(People who gamble) need to be in to win."

Financial reasons included the following: they may need money to pay debt; a small amount of money can win a big prize, for example, Lotto; it is a quick way to get money. The participant shared:

"I don't have a lot of money so it is good when I win."

On the other hand, some participants said gambling is not really about seeking excitement. Several participants in this project said gambling is fun and a way to

socialise. Gambling is often perceived as an opportunity to improve the quality of life, especially when there is constant boredom.

Gambling is also used as an escape mechanism from the depressing realities of their lives and other forms of grief. It is possible to be alone when gambling and it can be a way to escape relationship problems. Some participants outlined how they liked engaging in an isolated relationship with the pokie machines and did not like to be interrupted during this time.

The influence of people around them, particularly friends and family, can encourage gambling. Family can influence gambling behaviour in two main ways: initiating gambling and normalising gambling. Friends and family are often the initiators. One participant recalled:

> "Sometimes family will take me to XXX casino."
> "My in-laws showed me housie, friends and family showed me pokies."

Often it is normal for family members to gamble:

> "It was normal for my whänau to bet on horses, housie, cards."
> "My dad and uncles played the horses; if I picked a winner I would get a lolly."

Early gambling, especially with rewards, can make gambling acceptable. Other people influence gambling through a variety of ways:

> "Hearing about other people often winning from pokies."
> "People made me want to gamble too."

How do people shift from social to problem gambling?

All interview participants identified the expediency to addiction and were surprised at the speed through which they became addicted to the pokie machines in particular. One participant said:

> "Hearing the noise [from the pokie machines], wanting to kill time with money, hoping to double my money."

Another person commented on the variety of gambling machines:

> "There were lots of different games [in the pokie bar]."

When asked what was special about pokie machines, one interviewee explained:

> "[It is about] the colours, noise, opportunity to make money, with others [people]."

After their very first experiences with pokies, the motivation to gamble again was high and has continued.

The shift from non-problem gambling to problem gambling is caused by the urge to win, the possibility of quick cash or the person is looking to win "the big one". If the person has won once they often want, or believe they can, win again:

> "I believed I could win again."
> "I thought I would win more often."

Another interviewee added:

> "One win made me want to play more often."

Gambling also becomes problem gambling when trying to recoup losses or not stopping when losing large amounts of money:

> "I didn't think about losing just winning. I knew I had to win, especially after a big loss."
> "I knew I had to win and didn't want to think about the losses."
> "Winning made me want to go back again; losing made me depressed but I still wanted to go back."

Apart from the above theme on winning or almost winning, often the person is bored, angry or trying to relieve stress when they increase their level of participation in gambling activities.

However, advertising, especially announcing the value of the jackpots, does encourage more frequent participation in gambling. One participant elaborated:

> "Having easy access to more money. It's a killer. I know I could lose my house. Ads for loans on TV or newspaper does not help."

Some participants said the shift to problem gambling is not related to alcohol use.

(D) Three Mäori participants who gamble occasionally (do not gamble more than once a week)

Why do people start gambling?
People start gambling because the people around them are gambling. The common reflections were:

> "I learnt from my whänau/hapū playing poker."
> "My partner gambles."
> "My husband bet at TAB so I gambled with him."
> "I gamble if others are, I don't do it if I don't want."

Other reasons included:

> "The only reason people gamble is to win money."
> "Pokie machines are easy and require no skill."

How do people shift from social to problem gambling?
Most of the participants who gamble for recreational reasons said the shift to problem gambling is in response to advertising and availability of gambling opportunities.

What is problem gambling?
(Answers were gathered from people who gamble occasionally and individuals with problem gambling)
Problem gamblers have financial issues; they have unpaid bills, no money, and no food. They also often have relationship problems and are sad and depressed.

It was felt that there are many types of problem gambler: "anyone can be a problem gambler". One individual stated:

> "I don't think you can see my gambling problem when you look at me."

The participants stated that gambling (or problem gambling in some cases) is a hidden behaviour for them, that they do not like to have it known, especially when their level of

participation was high. All participants with problem gambling stated they lie to their whänau about their gambling behaviour and tend to be guarded about this topic.

Päkehä participants

Ten people were interviewed, seven women and three men. Six participants had experiences of seeking help from problem gambling treatment services. Eight of the ten Päkehä participants were born in New Zealand and the remaining two were born in England. Their average age was 43 years old (two were unspecified, and the range was between 24 and 84 years old). Five participants were single. Half of the participants declined to comment on their total household income; for those that did, the average total household income was between NZ$30,000 and NZ$40,000 per annum. (See Appendix N for financial sources for gambling or paying gambling debts.)

(A) Participants' recent gambling experiences are summarised as follows:

Advertising

- Five participants could recall advertising for Lotto and a casino.

Participation in gambling activities and change pattern

- Four out of ten played pokie machines and two played Lotto as their preferred gambling activities.
- Three participants gambled several times a week, and five gambled anywhere between once a week and once a month.
- Six participants gambled for at least one hour in a typical gambling session.
- Six participants typically spent between NZ$20 to NZ$100 per session.
- Seven participants said they "often" or "always" spent more time or money gambling than they intended during the first 6-12 months.
- Seven participants first took part in gambling, betting or gaming when they were 20 years old or younger.
- Six participants were still gambling on the same form that they first started with.

Family/Social environment

- Three out of ten participants identified themselves as growing up in a family that gambled a lot.
- Four participants said they had friends that gambled a lot; and two of these people identified themselves as problem gamblers.
- Five participants usually gambled alone.

(B) Participants' recall of their life time experiences in gambling are summarised as follows:

- Six out of ten participants went back another day to win back money they had lost from their gambling activities.
- Three participants claimed to be winning money from their gambling activities when in fact they were losing money.
- Seven participants spent more time or more money gambling than they originally intended.
- Four participants argued with people over how they handled their money, half of these arguments have centred on gambling.

- Only one participant argued with people about their gambling in the last six months.
- Four participants missed time from work, school or study as a result of their gambling.
- Six participants felt that they had ever had a problem with gambling.

(C) Six Päkehä participants with problem gambling (recruited from treatment services)

Why do people start gambling?
People start gambling to win money or because they need money. For some it is a coping mechanism, a form of escape or stress release, a way to relieve boredom. People are encouraged to start gambling by friends, partners or other family members; it is a way to socialise with these people or they grew up with it.

Positive memories of gambling also encourage gambling. Examples of these include gambling being fun and exciting, memories of winning a prize or growing up with people gambling.

What is problem gambling?
Päkehä with experiences of problem gambling acknowledged that, although everyone is different, there are some similarities, financially and socially: not providing financially for family, hurting people and letting people down by lying to them.

A participant said that problem gambling is characterised by:

> "The belief that you can win takes over."

There is a desire for more money, but often to get more money they spend all their money:

> "I was spending all my money."
> "I was spending money I shouldn't."

It can take over and affect social and financial situations. Gambling itself takes over other reasons to gamble and gambling becomes an important part of life:

> "I was socialising but realised not really socialising, I was gambling."
> "It was important, a regular Friday night activity."
> "I always check the jackpot, it encouraged me to play."

Individuals with gambling problems have mood swings which affect relationships with family and friends.

How do people shift from social to problem gambling?
Some people use gambling as a coping mechanism:

> "I had money and I was looking for a coping mechanism."

It can also be used as a way of escaping relationship and work issues:

> "Sometimes I want to do something around people not with people."
> "I felt comfortable with pokies, I didn't have to talk to anyone, didn't have to make conversation, I could socialise, without communicating."

Winning becomes important:

> "Winning was exciting at first, later I was trying to recoup losses, so I bet more."

Some said:

> "I wanted to win all the time."
> "I wanted to win more without losing."
> "Losing made me feel ill, I wanted to win more, need to get back lost money."
> "I tried to win back money I lost."
> "I thought I could outsmart them."

The people that an individual associates with, such as their partner/family and friends, can encourage increased levels of gambling. The promotion and advertising of gambling also encourages participation. In addition, for some individuals, unemployment and boredom encourages gambling.

According to this small group of Päkehä participants, there is very little relationship between alcohol and gambling.

(D) Four Päkehä participants who gamble occasionally (do not gamble more than once a week)

Why do people start gambling?
People start gambling to win and for entertainment.

Some individuals start gambling because people around them are gambling. They are often introduced to gambling by friends and family or by their work environment. For one individual:

> "It's a social activity with work."

For another it is both:

> "I only gamble because my workmates do and I grew up with it."

The accessibility of gambling as well as the prizes were given as other reasons to start gambling.

What is problem gambling?
Päkehä participants defined problem gambling as:

> "Going beyond their financial means."
> "No self-discipline."

How do people shift from social to problem gambling?
According to the Päkehä participants, the shift from social to problem gambling is the result of a:

> "Change of circumstances [which] leads to mental health changes."

Using gambling to solve financial problems accelerates the shift. One participant said:

> "People want money to solve their financial issues; gamblers want [a] return on their money, they want to win."

Pacific peoples

Individual interviews were conducted with 15 Pacific participants (five Niue, five Samoan and five Tongan): five men and ten women, and ten of whom had experiences of seeking help from problem gambling treatment services. None of the participants were born in Aotearoa/New Zealand. The average length of residence in New Zealand was 23 years and the average age was 50 years old (the range was between 31 and 64 years old). The majority of participants were married, only two were single and one was widowed. (See Appendix O for the Pacific participants' distribution of total household income.)

(A) Participants' recent gambling experiences are summarised as follows:

Advertising

- Twelve participants or 80% could recall advertising for Lotto, Keno, a casino and TAB.

Participation in gambling activities and change pattern

- Six out of fifteen participants (or 40%) played pokie machines, five gambled in a casino and three played TAB as their preferred activities.
- Five, or one third, of the participants gambled several times a week.
- Twelve participants (or 80%) gambled for at least one hour in a typical gambling session; five of these people gambled more than three hours in one session.
- Five participants typically spent between NZ$20 to NZ$100 per session.
- Eleven, or three quarters, of the participants said they "always" or "sometimes" spent more time or money gambling than they intended during the first 6-12 months.
- Half of the participants first took part in gambling, betting or gaming when they were aged between 20 and 24 years old.

Family/ Social environment

- Six out of fifteen, or just under half, of the participants identified themselves as growing up in a family that gambled a lot; five of these six participants identified themselves as problem gamblers.
- Twelve participants (or 80%) said they had friends that gambled a lot; and nine of these people identified themselves as problem gamblers.
- Half of the participants gambled with friends or with family members, only four participants said they usually gamble alone.

(B) Participants' recall of their life time experiences in gambling are summarised as follows:

- Eleven out of fifteen (75%) participants went back another day to win back money they had lost from their gambling activities.
- Three participants claimed to be winning money from their gambling activities when in fact they were losing money.
- Nine participants (or 60%) spent more time or more money gambling than they originally intended.
- Eight, or just over half, of the participants argued with people over how they handled their money; all of these arguments have centred on gambling.

- Eleven, or three quarters, of the participants argued with people about their gambling in the last six months.
- Three participants missed time from work, school or study as a result of their gambling.
- Seven, or just under half, of the participants felt that they had ever had a problem with gambling.

During the course of this research project, differences in terms of level and pattern of participation in gambling activities among the different Pacific sub-population groups interviewed became apparent. Therefore the following results were broken into those sub-groups, whenever possible or appropriate. One consequence of this is that it further reduces the size of each group – Niue, Samoan and Tongan – to only five people.

Interviews with five Niue participants

Why do people start gambling?

According to the Niue people with problem gambling interviewed during this research project, people start gambling for a variety of social, financial and mental health reasons. People gamble because their workmates gamble, to relieve loneliness, for companionship and because they are looking for a new activity. Other reasons given were that gambling can be a stress release and a form of time-out. In addition, they indicated there were financial reasons, such as the fact that money can be won, as well as the good feeling that goes with winning.

Niue social gamblers believe people start gambling to win money for their family. They see it as a fun, easy activity that can result in financial gain and is a time-out from family. For example, Lotto was identified by one individual as a family activity. One participant summed it up in the following way:

> "[It is for] money, entertainment and fellowship."

(See Appendix P for Niue participants' sources for financial gambling or paying gambling debts.)

What is problem gambling?

Problem gambling was defined as not doing what someone used to do. It starts to affect mental health; individuals can only concentrate on gambling.

How do people shift from social to problem gambling?

Niue people with problem gambling felt that the shift to problem gambling is associated with winning money, particularly the feelings associated with winning and the encouragement to continue if lots of money is won. Around this time, they start to worry about losing money and keep gambling even if they have no money. Gambling becomes a priority, a fun time-out activity and the person has nothing else to do. In addition, there may be no direction in the person's life and alcohol may be involved in some cases.

The participants felt the shift results from the hope to win, the belief that it is:

> "My turn to win."

Another person added:

> "…I know I can win – I know how to play."

There may be something that the individual wants or needs, for example, one individual:

> "Tried to win money to buy a house."

Furthermore, winning feels good and they are able to help their family.

Interviews with five Samoan participants

Why do people start gambling?

Samoan interviewees felt that people start gambling to win money to help their family, pay bills and fa'alavelave; in general, to ease financial problems. (See Appendix Q for Samoan participants' sources for financial gambling or paying gambling debts.) It is also a form of time-out, a stress release from being part of a large family, and a way of socialising. One participant recalled:

> "I enjoyed family company and outing and eating pies from shops – this was at housie, racing or poker…"

Along a similar theme, another person added:

> "It's like having or participating in a game with others, family, friends and work mates."

Other reasons to start gambling included loneliness, unemployment and lack of education.

Reasons to continue gambling included: winning money and happy memories of winning, which encourages more gambling, and easy access and availability of pokie machines that are also simple to operate. One Samoan interviewee indicated:

> "I'd rather go to the one of the pubs. I can only walk there – it is close to home. I can eat there as well and also have the company that I sometimes don't have when I get home. Easy accessibility and availability. On the other hand it's a good thing as long as people know their limits."

One individual was:

> "Convinced I could win more and help others."

People also start gambling because their family introduces them to it, usually going to the TAB or a casino, and if their family also gambles.

What is problem gambling?

Samoan participants identified gambling as a problem when it impacts on mental health, relationships and finances, and when children are affected. Financially, there is a problem when all the money has been spent on gambling and there is no money for food or bills; when people spend more than they can afford. This can cause relationship issues especially if the individual is lying to their family. Other relationship issues can be caused by increased anger, self-blame and irritability, resulting in family arguments and/or domestic violence. The person becomes irritable and often has a sense of guilt and self-blame.

How do people shift from social to problem gambling?
The individuals interviewed in this project felt that people shift to problem gambling because they want to win more money or recoup their losses. They do not have enough money for bills and fa'alavelave and want more for their family:

> "I couldn't stop gambling, I needed money."

The winning itself can be addictive, for example:

> "I won and wanted to win again because it felt good and exciting."

People enjoy the social aspect of gambling and people can be:

> "Sick of being home alone."

Gambling relieves boredom and is seen as a stress release, as one participant explained:

> "Now that I know I could win some money there, it's an ideal answer to stress and stress relief."

However:

> "Gambling is good for time-out but you never win."

It often causes more stress as one individual commented:

> "I was stressed by my losses, they affected my relationships."

The participants in this project felt that alcohol has no part in the shift to problem gambling.

Interviews with five Tongan participants
Why Start Gambling
According to the Tongan individuals who were interviewed, people start gambling because they need quick money for bills, their mortgage and their family. One participant said:

> "To win some money like I said earlier, to fulfil my dreams, like uplifting my family quality of life from poverty to rich."

(See Appendix R for Tongan participants' sources for financial gambling or paying gambling debts.)

They also gamble to relieve boredom, as a break from housework and as a form of socialising:

> "To have a break from family issues…cooking, washing, etc, pokie machine take my mind away from family boredom issues."

They are introduced to the casino and TAB by family and friends. One Tongan participant recalled:

> "One night I was watching my family play poker and one night I was shown how to play it, I won some money and I started to like it to get more money."

When they start gambling it is fun and exciting; they want to:

> "Try luck."
> "To win, winning encouraged me to do [it] more."

Another person elaborated:

> "Fast money, big fat money, excitement when you win a prize you get at that time…there are some music on pokie machine which relieve your mind from hard working during the week."

What is problem gambling?

Problem gambling was defined by a number of different criteria: when an individual is lying or arguing to family or friends; when they are stressed about money; when they have no money or food; or when they are only able to concentrate on gambling. Others felt trapped or addicted:

> "I tried to stop but just want[ed] to win once more."

They know they are losing money and are guilty about losing but cannot stop.

Problem gambling was also defined by the regularity of gambling. When it becomes more regular, spending more time and money, it is problem gambling.

How do people shift from social to problem gambling?

The Tongan interviewees felt that people shift to problem gambling because they have won and then:

> "Do it more often to win again."

Gambling gradually takes over:

> "I felt controlled, addicted, part of my life."

There is a need to recoup losses, so gamblers continue to play, even if they win, because they need money for their family. One participant simply said:

> "I gamble because my family was poor."

Another participant recalled:

> "Those winning streaks, seeing someone get a jackpot and dreaming to be rich shift me from non gambling to problem gambling."

The participants felt that alcohol has no part in the shift to problem gambling.

Asian participants

Ten people were interviewed (six men and four women). Seven participants had experiences of seeking help from problem gambling treatment services. None of the Asian participants were born in Aotearoa/New Zealand. Eight people were born in China and the others were born in the South-east Asian region. The average age was 38.2 years old (one was unspecified, and there was an age range of between 24 and 52 years old). (See Appendix S for marital status, total household income and financial sources for gambling or paying gambling debts.)

(A) Participants' recent gambling experiences are summarised as follows:

Advertising

- Five participants could recall advertising for a casino, three for Lotto and two for Internet gambling.

Participation in gambling activities and change pattern

- Three out of ten participants played Blackjack, two played pokie machines and the rest played Baccarat, Carobine Star, Roulette, Mah Jong and Tai Sai as their preferred gambling activities.
- Three participants said they gambled everyday, another three people gambled several times a week and the rest gambled once a month or less.
- Eight participants gambled for at least three to four hours in a typical gambling session; three of these participants said they gambled for more than 24 hours continuously.
- Six participants typically spent around more than NZ$1,000 per session; within this group, four participants would spend more than NZ$10,000.
- Six participants said they "often" or "always" spent more time or money gambling than they intended during the first 6-12 months.
- Seven participants first took part in gambling, betting or gaming when they were 29 years old or older.
- Four participants were still gambling on the same form that they first started with, and two participants have changed to gambling on pokie machines.

Family/ Social environment

- Five out of ten participants identified themselves as growing up in a family that rarely gambled and four grew up in a family that never gambled.
- Five participants said they had friends that rarely gambled and two had friends that gambled often.
- Five participants usually gamble alone, while four gamble with friends.

(B) Participants' recall of their life time experiences in gambling are summarised as follows:

- Seven out of ten participants went back another day to win back money they had lost from their gambling activities.
- Four participants claimed to be winning money from their gambling activities when in fact they were losing money.
- Nine participants spent more time or more money gambling than they originally intended.
- Five participants argued with people over how they handled their money, and eight of these arguments have centred on gambling.
- None of the Asian participants had argued with people about their gambling in the last six months.
- Seven participants missed time from work, school or study as a result of their gambling.
- Seven participants felt that they had ever had a problem with gambling.

(C) Seven Asian participants with problem gambling (recruited from treatment services)

Why do people start gambling?
The Asian participants with problem gambling in this research gave several reasons for people to start gambling: financial, entertainment/socialising, stress release and post-immigration adjustment difficulties.

People believe they can win a lot of money quickly, "easy money", easier than working, or they are trying to win money back that has been lost. Another reason is related to having lots of free time either while studying or as a result of being unemployed (or under-employed). Gambling is also seen to be fun and exciting and a way of socialising with partners and friends. It is also important to maintain face with these people:

> "I did not like them to think that I did not have money."

Gambling is a stress release from work, escaping situations or relieving depression. Immigration and all the post-immigration adjustment issues, such as boredom, frustration, unemployment and the absence of friends/family, were all cited as reasons to start gambling. Another reason given was the legality of gambling in New Zealand:

> "In [some] Asian countries, it is illegal to gamble, but in New Zealand, it's legal."

The gambling behaviour of family members and friends influenced participation:

> "Ninety per cent of my friends are gamblers."
>
> "My friends convinced me to gamble I had to show them I had money, to save face."

Family or friends often take them to gamble and the casino when they first arrive in New Zealand, and teach them how to gamble. It is seen as a place to:

> "Spend my time and escape my problems."

Memories are of fun and excitement, winning money, socialising with friends and meeting lots of Chinese people. One participant described in some detail:

> "[Casino is] elegant and warm…[and gives people] hope and opportunity to earn money."

What is problem gambling?
Problem gambling affects relationships with family and friends. It involves lying, drinking, missing time from work, losing money and affects health (mental, physical, and spiritual). Losing money and borrowing off others were generally seen to be indicators of a problem. People with a gambling problem go to the casino a lot and look for happiness. Gambling is the only important thing in their lives. People with problem gambling borrow money and work only to gamble. Others mentioned it becomes a problem gambling when someone keeps going back to a casino to drink and gamble, despite having a self-bar.

How do people shift from social to problem gambling?
The shift from non-problem gambling to problem gambling develops naturally. It can be caused by the desire to win money. The shift involves spending more time and money regularly, encouraged by wins and the desire to win. With increased gambling, money starts to lose value, and the initial happiness of winning is overshadowed by the desire

to win back all the money that has been lost. No matter how high the win is, the individual always wants to win more:

> "They will continue to bet to win back all the losses or to find the level of excitement associated with early winning. The more I gamble, the more I lost; the more I lost, the more I want to win back."

One person saw:

> "Gambling as a type of investment."

Other participants said:

> "The more I lost, the more I wanted to bet for winning back."
> "I wasn't seeking excitement I wanted to win back the money I had lost."
> "I felt I was wasting my life; I kept losing which made my life more difficult."

Gambling is interesting and exciting, a good way to escape from life issues. Regular gambling occurs when life circumstances change, for example, having no friends, having lots of spare time, feeling directionless and looking for happiness.

Gambling becomes the most enjoyed and preferred activity, and is more important than spending time with family. Some see it as the only important thing in their life. In one instance, even though the individual hated gambling, the person said:

> "Could not escape from the gambling problems because gambling was my only hope and opportunity, I could not leave it."

Gambling is used as a way to remain hopeful about living in a new host country and regain "mental balance" from all the turmoil trying to adjust to a new life-style in New Zealand.

There are some issues around occupation and life-style for migrants and international language students. Often they have lots of spare time and no family in New Zealand. They may be unemployed, have unstable jobs or flexible working hours and their workmates gamble. They may feel they have no direction. One participant said:

> "I gambled to find direction."

For individuals who increase their level of gambling, it is to "save face". One participant explained:

> "Most of my friends gamble, if I did not, I must be thought as a strange guy. So I did the same things as them."

Another person added:

> "Those gambler friends called me to gamble, if I did not wish to go, they would say something that really harmed and challenged me, so that I had to bet for my face."

(D) Three Asian participants who gamble occasionally (do not gamble more than once a week)

Why do people start gambling?
People are encouraged to gamble by those around them, for example, family take them to XXX casino and workmates gamble. One person said:

> "Everyone around me gambles."

People also start gambling because they have no money, they want to earn money, and gambling is a chance to win money and winning makes them happy and excited. Furthermore, if they are unemployed they have lots of free time. As well, it is a place to socialise, have fun and develop social cohesion. The availability and access to gambling venues is another reason to gamble. One participant explained:

> "XXX casino is always open and there are many Chinese there, many live close to the Casino."

The participants indicated that most gambling activities are very easy to learn, however, card games and Mah Jong require skill and knowledge.

What is problem gambling?
Asian participants who gamble occasionally defined problem gambling by the amount of time and money spent gambling. They felt that individuals with problem gambling gamble pretend that nothing is wrong and prefer to stay at the casino even if they have no money to spend.

How do people shift from social to problem gambling?
People gamble for money, happiness and entertainment. They start gambling for fun and become addicted without realising. The shift can be the result of boredom, wanting to fill in time.

For some, gambling can become an "occupation", for example, for one person it was:

> "How I earned money while my children were at school."

If everyone else is gambling it is normalised for that group of people:

> "My friends also had the habit."
>
> "Gamblers want to get the most benefits with the least time input, they are looking for excitement which stimulates them to gamble, they think it is a good way to meet people."

One participant asked:

> "I cannot understand why Chinese in particular are addicted to gambling. Is there any concern with our ethnic characteristics?"

A feature particular to the Asian gamblers was the idea of "saving face":

> "I played because people around me did, if I didn't I would have no friends."

4.1.2 Individual interviews with professionals and family members

Why do people start gambling?
Winning money or being/feeling close to a win is the main reason why people gamble, whereas the other psychological issues, like coping with stress, come later. On the other hand, some practitioners observe that for some individuals the gambling activities and associated environment are very attractive (and in some cases addictive). Money only comes later.

The participants indicated that most gambling activities are very easy to learn, however, card games and Mah Jong require skill and knowledge.

Problem gambling is used as a way to cope with boredom and everyday stresses.

It is important to consider the "why people gamble" question in the context of the specific type of gambling activity people are using.

Some practitioners' clients said they used gambling as a form of reward for their hard work during the day.

Specific remarks on different age, sex groups and gambling
Women gamble for different reasons. Few practitioners recalled their clients saying:

> "It's my time…a way to look after myself."

Men use gambling as a way out to cope with frustration at work, where there might be little opportunity for career advancement, and anger. Some older people and youth with problem gambling may have traumatic experiences or unresolved issues from the past.

What is problem gambling?
Problem gambling is characterised by loss of control. A Mäori elder said:

> "Can't leave it alone…got to have it…when it starts to dominate life, has a lot of impact on whänau. I would get home and find the housework not done, washing still to be done."

How do people shift from social to problem gambling?
Practitioners commented that there are some personalities that make a person more prone to developing problem gambling, and this tendency can be exacerbated by relationship difficulties and poor stress-coping skills. It might be related to the design of gambling environment. For instance, the pokie machine that is so potent and powerful that players cannot resist. Problem gambling is not necessarily related to people's weakness or "individual pathology or deficits". One professional said:

> "It is the product [that] causes problem gambling."

4.1.3 Focus group with Päkehä, Asian and Mäori practitioners

Why do people start gambling?
The practitioners interviewed in this research believe that gambling is a behaviour learned from friends and family. It is often an escape from something, a form of stress release. Often an early win will encourage the person to keep gambling. Gambling is

also encouraged by advertising, the availability, accessibility and abundance of both gaming venues and various forms of gambling.

Advertising is a major influence on gambling and is found everywhere, especially in low decile, vulnerable areas. The practitioners in the group feel that advertising is all positive, for example, announcing large jackpots and the opportunity to escape poverty. New campaigns target those at risk, such as XXX casino offering promotional deals featuring Asian, specifically Chinese, cultural iconography to encourage these people to gamble at XXX casino.

Specific remarks about Chinese people and gambling

For the Chinese population, migration is an issue, creating feelings of loneliness/boredom and especially issues around employment and culture shock. Because of the other Chinese faces there, XXX casino is a popular destination. It feels safe and glamorous. Another reason for preferring the XXX casino is that Asian people prefer table games to other forms of gambling. Often gambling is illegal in their home country, so the legal status of gambling in New Zealand encourages them to try it.

Specific remarks about Mäori people and gambling

The reasons that Mäori start gambling are mainly socio-economic. They are trying to "catch up" to the rest of society. This can have negative repercussions, for example, youth learning to use computers to gain skills are exposed to Internet gambling. Furthermore, there are often links between gambling and other activities that some Mäori might be involved in, such as prostitution and drugs. For Mäori women, who often feel isolated at home, gambling can start as a form of socialising and a way to form a social network.

Specific remarks about young people and gambling

As a group, young people are becoming more and more susceptible to gambling. They are often the targets of advertising, which is normalising them to gambling at a very young age. Often there are no age restrictions on gambling activities, such as those on the Internet or phone-line gaming. In addition, youth and children are at risk because they are too young to recognise the problem. The practitioners identified two groups to be particularly at risk: Chinese youth who are alone for the first time, who are trying to deal with migration issues and often have access to large amounts of cash; and young mothers who are often bored and looking for something to do.

What is problem gambling?

The practitioners identified problem gambling as the loss of control over an individual's gambling, where they are spending more time or more money than they intended. It was noted that this definition becomes more problematic in regards to the individual's socio-economic status: if the person is wealthier, financial loss is not so important. Furthermore, problem gambling impacts on the gambler's health and work. The practitioners noted that clients often rationalise their gambling as someone else's fault. In addition, they usually identify other issues before they recognise their gambling as a problem. One practitioner pointed out that the client (gambler) is only borrowing the money until their next win.

How do people shift from social to problem gambling?
The practitioners identified various factors involved in the shift from social to problem gambling. They noted that the introduction of pokie machines to New Zealand and the development of on-line Internet gambling have caused a shift in the type of gambling and gamblers. It was pointed out that Internet gambling has created a new series of issues, around access as well as the gambling being instant and unregulated.

Specific remarks about women and the shift
Often women are not satisfied with their life and are looking for something more. Gambling can give them something to do and is also a time-out from the household. For women, gambling is something to do if their partner is at the pub. It is "safe". Gambling and the associated social environment can be quite attractive for women.

Specific remarks about Chinese people and the shift
The Chinese practitioner present at the focus group discussed the reasons why Chinese shift from social to problem gambling. For Chinese men, migration can upset their traditional role in the family, which is often separated, resulting in low self-esteem. This situation, alongside other issues related to migration, can encourage Chinese men to gamble. Migration causes similar issues for Chinese women who are often employed in a lower skilled job and do not integrate. They look for others like them and find them at the casino. In addition, counselling is not part of Chinese or Asian culture, and they do not trust it and only ask for help at the very last stage.

Specific remarks about alcohol and the shift
All of the practitioners felt that alcohol was connected to the shift to problem gambling as drinking can encourage gambling. However, it was noted by the Chinese practitioner that alcohol is not an issue for Chinese.

4.1.4 Focus groups with Pacific practitioners and the meeting with the National Pacific Gambling Project reference group

Why do people start gambling?
The Pacific/Samoan practitioners interviewed during this project felt that Samoans gamble for fun, as a time-out and to win. More specifically, females gamble as a time-out, a night out with "the girls"; males usually gamble to win money and to socialise with mates. In addition, risk taking is very common in Samoan culture, if they believe they will benefit from something, they will do it.

People gamble because of a "lack of priority" when comparing with other people's material wealth and gradually develop "a sense of grandiosity" (quoted by one practitioner) of wanting a big house, car and other material possessions.

What is problem gambling?
For Pacific peoples, the definition of problem gambling changes with the financial repercussions. Gambling is not labelled as a problem, and people often live under the false pretence that nothing is wrong. They wait until the chronic stages to admit there is an issue with their gambling.

Age differences exist in how gambling is perceived. When younger people gamble or lose money, it is seen as negative. It is felt that they are too young to cope with their behaviour and they are stupid. On the other hand, when elders lose money people are very sympathetic. Because elders are always respected, their behaviour is never wrong and it is not harmful for them to gamble. If there is a problem it is the fault of the family who did not support them properly.

With regards to gambling among older Pacific peoples, members of the Reference Group emphasised that it is important to understand that grown up children taking their parents out to dinner or restaurant (where gambling machines are often present) or to the casino was:

> "As a gift of love, a special treat."

How do people shift from social to problem gambling?
The Pacific practitioners identified a number of causes for the shift to problem gambling for Samoan gamblers.

The practitioners identified particular socio-demographic factors that they felt were important in the development of problem gambling. These included economic factors, migration and cultural traditions. The economic factors included being unemployed, receiving a benefit or being poor. Migration to New Zealand resulted in increased exposure to wealth and a monetary value placed on things. This has affected the traditional obligation to the family/village as the value of what should be given has changed. Boredom is another factor, in the sense that some traditional activities are no longer available in New Zealand.

A lot of stress comes from being unemployed or having no money. In particular, fa'afalavelave, the traditional financial obligation to church or family, can become a financial burden, especially if they are unemployed or:

> "Not everyone [is] pulling their weight."

All these stresses can cause people to gamble to get more money.

Another factor is the exposure to gambling by the family. One example given was the exposure by family members (or in some cases, friends) when they discussed their winnings. It was felt that this can encourage participation in gambling.

The practitioners also identified the repetitive exposure to advertising as important to the shift, for example, sandwich boards located at congregation points, as well as the location, accessibility and availability of pokie machines. Places such as Sky City Casino are seen as exciting and glamorous, a place to take family visiting from overseas.

There is also a belief that if they've won, they can keep winning.

Gambling activities such as housie or bingo are an accepted part of church life, as are raffles for fundraising. Progression from these forms to other types of gambling is not seen as bad but natural.

The practitioners felt that alcohol does not play a significant part in the development of problem gambling.

4.1.5 Mäori focus groups (two groups involving people who gamble and one family focus group)

Why do people start gambling?
The participants in the Mäori focus groups felt that people start gambling to get money. High utilisation rates of gambling are generally associated with those of low socio-economic status, but those Mäori in employment gambled less frequently although for longer.

Other reasons to gamble are for excitement, relaxation or "getting a rush". People gamble if they are depressed, grieving or trying to escape, to improve their life or to rebel. Some added:

> "Their gambling behaviour was a form of relief from depression."

One issue that appears to be specific to Mäori is the changing lifestyle of urban Mäori. Mäori who reside in urban areas, such as Auckland, live fast paced lives with long working hours and more often than not both parents in the family are working. It is a stressful life and managing stress is a priority. Many Mäori seek other forms of rest and relaxation, like gambling.

Other reasons included being brought up in an environment of gambling around people who participated in gambling activities. Some focus group members outlined a "generational trend" of learned gambling behaviours and explained how they had been taught to use pokie machines by older members of their whänau. Furthermore, in the past, whänau gatherings (for example, birthdays and weddings) were often held in the home of a whänau member or at the marae. Today, such occasions are more likely to take place at private function venues such as restaurants, pubs and clubs. These new celebratory facilities usually have easy access to gambling.

In addition, advertising and alcohol play a part in the initiation of gambling.

What is problem gambling?
Problem gambling was defined as gambling that has become detrimental to the individual and their family/friends/partner, affecting their relationships. Financial and time factors are other ways to identifying problem gambling. Financial factors include being unable to pay rent, feed their whänau or never having any money. Time issues include the amount of time spent gambling, when it has become a lifestyle or a priority. One focus group member explained:

> "When they just can't stop, when they feel they just have to spend."

Often it is not fun anymore, it has become an obsessive habit:

> "It's a disease, habit, a buzz, an obsession, craving, a lack of discipline."

Another person added:

> "Gambling can have a huge effect on the wairua – it feels like it's diminishing it, self worth has been lost."

In summation, the focus groups generally identified gambling becoming a problem when it impacts heavily on an individuals' life and when the frequency is high and regular.

How do people shift from social to problem gambling?
The Mäori whänau group identified a number of factors that they believe are involved in the development of problem gambling. These include advertising, which they believe encourages gambling, and the prizes, which tempt people in lower-socioeconomic brackets who need money. Furthermore, one becomes heavily involved in gambling because:

> "Gambling as a status thing (if one can afford gambling and the money spent/ lost)."

Other factors include boredom, gambling is part of the individual's culture, a community/social activity, such as housie, or they are exposed at an early age, as gambling is part of the family background. One member recalled:

> "When I go back to my marae for a hui the kids gamble with lollies, marbles."

People's gambling behaviours are reinforced by money lending behaviour from whänau and credit agencies especially for heavy gamblers.

In general, focus group members felt that gambling is strongly linked to alcohol use.

Specific remarks about youth and elderly
Young people are always gambling/playing games, "if you've been brought up around gambling you will probably gamble". Gambling caters for all ages, older people take pleasure in it, they have nothing else to do, and it is a hobby a way of socialising.

For young Mäori, gambling is fun, exciting and also "peer orientated". For older Mäori, it is about recreation while meeting with other people. It is more of a hobby when there is nothing else to do and they are bored.

Specific remarks about men and women
There is some evidence that more Mäori women tend to gamble than men, especially in the small pokie bars and clubs. Women often play during the day while their kids are at school. They go with their partners who play, but the women will still be there when the men are not. Women think they have an obligation to provide at home and will gamble to pay for kai, but often get so addicted that they spend more than they make. For example:

> "A friend once spent NZ$100.00 to make NZ$300.00, and she would go home and buy things for the kids but it got so addictive for her that she'd spend $500.00 and lose it all go home with nothing."

Women also take relatives to the casino, it is seen as time-out.

Specific remarks about the wider environment that contributes to problem gambling
Gambling is a part of society: gambling supports society while society supports gambling. All bars have pokies; they are everywhere, very accessible and available. They are in family restaurants, they have side entrances and young people play them despite the age restrictions. Pokies are particularly addictive and even housie leads to

problems. Further influence comes from advertising. However, individuals with problem gambling know where and when to go, they know where the bars are and when the good times are to go and not be seen.

In New Zealand society one focus group member elaborated:

> "Where money is a real issue for everyone, we're being sold lotto and the dream of winning it's on TV all the time, network marketing."

4.1.6 Päkehä focus group (one group involving people who gamble)

Why do people start gambling?
The participants in the Päkehä focus group identified three main reasons to start gambling: family history of gambling, advertising and alcohol. They felt that having a family background in gambling increases a person's exposure to gambling, puts them in the gambling environment and normalises gambling behaviours. They also felt that advertising is a major factor, especially the advertising of prizes and the constant exposure to gambling advertising. They also identified alcohol as a trigger for gambling, which can give the individual:

> "[An] excuse to go to the [gambling] venue."

Specific remarks about youth and elders
The lowered drinking age has increased the exposure of young children to pokie machines by putting them in the environment in which they are located. Parents also expose their children and are an example for their children. The elderly often have lots of time, and are bored so go to clubs to socialise and fill in time.

Specific remarks about men and women
The participants felt that females have more time during the day to gamble. Females will go to the pub to be with their partner and end up playing pokie machines; although it is intended to be a social activity with their partner, they end up gambling.

Specific remarks about availability of gambling opportunities
These participants felt that the availability of pokie machines, which are "everywhere", and the variety of gambling facilities available was linked to problem development, especially the gambling forms that cannot be age-controlled: 0900 numbers, text messaging and Internet gambling.

What is problem gambling?
These participants defined problem gambling as going over the limit with time and money. Problem gamblers need to be gambling, they want to recoup their losses and will spend more than they can afford. They identified gambling as problem gambling when:

> "You need to get the money back, you think your chances are good and you just need one more win. It happens over time, an increase in the time and money spent, the regularity of going, you stop doing other things, only gamble."

How do people shift from social to problem gambling?
Environmental factors contribute to problem gambling including the number and access to pokie machines, such as the development of side-door access, which can avoid the

bar. The variety of games available on pokie machines can be used as a draw card; a new machine will often be advertised. The placement of machines, which are usually very close together and close to banks, ATMS and finance companies, also compounds the problem.

4.1.7 Chinese focus groups (three groups involving people who gamble and one family focus group)

Why do people start gambling?
The participants in the Chinese focus groups identified entertainment and the chance to gain a "big return by a small investment" as reasons why Chinese start gambling. In the beginning, gambling is "recognised as a kind of entertainment and most of the people can gain some winnings".

Migration was also identified as a major reason why Chinese start gambling; many Chinese gamble in New Zealand because it is legal. Migration creates many difficulties for migrants: language barriers; issues around communications and relationships; and the absence of places to socialise and express themselves. Some members said New Zealand is boring and does not provide suitable entertainment for Asian people. In addition, friends invite people to gamble for entertainment and the casino is a good place to meet people. Gambling is also a problem for international/Chinese students studying in New Zealand who are without a proper role model. One group member elaborated:

> "The parents of these children have always over spoiled them or pass too much pressure on these young generations who do not have good self-control."

The participants in focus groups focused heavily on casinos. They felt that:

> "In New Zealand the government only acknowledges that Casinos can increase the employment rate and domestic income, but ignores much more important negative aspects that produce serious damages towards the whole country, families, and individuals."

What is problem gambling?
The Chinese whänau group identified problem gambling as always wanting to win and beat the odds:

> "When they win, they want to win more; when they lose, they want to win back."

The amount of money spent or lost is not an important criterion to define problem gambling. One definition of problem gambling offered by the focus group was:

> "[Problem gambling] is totally out of control. Gamblers lose their reliabilities in their lives, they cheat, and lie to others in any way. Finally they cause lots of family problems, or even worse, a broken family."

One member said that problem gamblers are:

> "Selfish, greedy, over confident [in some way, they feel shamed]. In fact, the more they gamble, they more they loss; the more they lose, the more they gamble and hence their gambling behaviours were bounded by a very bad cycle."

Furthermore, people with problem gambling only concentrate on gambling. They would:

> "Rather stay in the casinos to enjoy the atmosphere than going somewhere else."

How do people shift from social to problem gambling?

According to the focus group participants, people shift from social to problem gambling for many reasons, including they chase the losses, they have too much spare time and stress in their life. Sometimes they suffer a big tragedy or work/study related stress from which they are trying to escape by "self-destructive behaviours" (or maladaptive coping mechanisms), which was to gamble (quoted from a focus group member).

The group added that some individuals could not stop gambling because they want to "save face":

> "When gamblers try to stop their gambling behaviours, but other people might say something to laugh at him/her…"

Some form of superstitious beliefs or practice might also reinforce the continuous and increased level of participation in gambling:

> "Some people are quite superstitious, they have bad luck in a casino, they will go to another casino (another city) to bet their luck…"

When these people first started they won some money. Following this, they started to gamble more frequently and for longer periods, for example, staying at the casino for a few days. One explained:

> "The more they bet, the more they lose, but because of their "sure win" thoughts."

They continue to gamble, often lying about their behaviour. In some instances:

> "Everytime they go gambling, they would always promise that was the last time, but in fact, they never fulfilled their promises."

The focus group identified that people who continue to gamble because:

> "Their [lack of] self-control and greed. They all know gambling is a dead end, but still go ahead, cannot blame anyone or anything."

There are many difficulties, particularly around immigration, such as language difficulties, limited job opportunities, very few entertainment options relative to what migrants are used to enjoying, financial difficulties, lack of respect from children and little integration within the host community. Often immigrants feel "there is too much to cope with". Gambling can be used as an escape from these issues.

In particular, XXX casino was identified and discussed by the Chinese whänau group as a place where Chinese go. One focus group member expanded:

> "XXX casino offers a series of comprehensive services."

One participant said the casino attracted a lot of people who go there for entertainment purposes and casino workers are well-trained and make gamblers, most of who are:

> "At a low tide in their lives, feel like special, elegant people with their pleasant and polite greetings, VIP rooms and consumer cards."

The promotional material used by casinos was also identified as an element that tempts self-barred gamblers back.

The interactions between people who gamble and their influences on each other are also important factors that affect their gambling problems. People who gamble tend to support each other by lending each other money and encouraging each other to accompany them gambling.

For international students, one member said:

> "[The] lack of suitable supervision and education from schools and parents or legal supervisors, and the pressure from studies lead [them] into casinos to seek for a balance in life."

On the other hand, some students:

> "Initially wish to reduce the burdens on their parents, [so] they would gamble by investing their study fees, living expenses sent by their parents. They cannot control their gambling, lost all the money but still want to win back their losses."

Specific remarks about youth and elders

Young people do not seem to worry about money when they gamble:

> "Usually they can bet a lot on each session."

Whereas older people show better control and gamble for fun and small wins.

Some focus group members observed that young Asian people were treated unfairly by gambling facilities:

> "Casino staff do not stop them (young people) from entering the casino but they will immediately approach them and chase them out as soon as they try to claim their winnings. It is really unfair!"

Specific remarks about men and women

Men tend to gamble in a more decisive manner, "when they win, they leave" compared to women who seem to have poor self-control and have less concern about the amount of money spent because they were betting on money given by their husband as household expenses or sent by their husband who works overseas. In some cases, when gambling is getting out of hand, some women turn to other income sources like prostitution.

Specific remarks about advertising and availability of gambling venues

A contributing factor to the development of problem gambling was that the government is seen to benefit from large tax payouts made by casinos. It was felt that the government:

> "Does not really care about gamblers."

It was also felt that the government should take more responsibility for the current gambling problems and that it does not have any effective policy to restrict casinos, particularly its advertisements and franchise development. One focus group member commented:

> "One casino in New Zealand is enough, why were the others also approved? Advertising certainly has some level of effect on gamblers. Those ads always promote the excitement of winning and of course encourage people to go."

4.1.8 Pacific focus groups (one group involving Niue people, two groups involving Tongan people and two groups involving Samoan people)

Niue focus group

Why do people start gambling?
This group felt that people start gambling innocently, but then some develop gambling problems. They also felt that whether to gamble or not is a personal choice; some people choose to spend money on leisure activities and family, some on gambling.

People who are not employed have more free time than those who work. They get bored and are tempted to gamble, especially on pay day or benefit day. The group felt that if people were provided with jobs, they could work rather than gamble. Otherwise people gamble for enjoyment, time-out or as a form of escape from boredom and the mundane in everyday life.

What is problem gambling?
There is no definition for "problem gambling" in the Niue language except it is a form of addiction. When compared to a person with an alcohol problem, it is harder to identify a person with problem gambling. One member commented:

> "[It can be] anyone of us here in this room or anywhere."

The focus group mentioned some possible behaviours associated with problem gambling: sensitivity to people's comments, a change in eating habits, lying, becoming agitated, being verbally aggressive and angry, and a deterioration in physical health.

The group added that usually one person in the family handles the finances at home. They usually keep it hidden. Only when everything is falling apart do they admit that they have a problem.

How do people shift from social to problem gambling?
People participate in gambling more intensely because they do have not a very fulfilled life or if they are surrounded by people who gamble regularly. Some said the casino is an "unsafe environment".

The group felt that gambling leads some individuals to use alcohol as another form of escape after losing most of their money through gambling.

Tongan focus groups

Why do people start gambling?
The main reason is poverty or low socio-economic status. One of the group members explained in detail:

> "We Tongan people as well as other PI (Pacific people) came to New Zealand as a site/ place of milk and honey. But now there is no milk and honey anymore. So we are looking for a new site/ place within New Zealand for milk and honey and no wonder we chose gambling areas as now the expected site/ place for milk and honey."

After paying the bills for accommodation, petrol and power there is hardly any money left for food. Some individuals gamble to get an extra few dollars to help out their family and they end up developing problem gambling.

What is problem gambling?
The groups defined gambling as:

> "A game of fun and joy, releasing tension after work…a game of luck and opportunity."

An individual with problem gambling looks like:

> "A thief, a murder, a killer, a selfish person, an unhappy person, a trouble maker and a greedier."

Some family members in the focus group added that problem gambling brings problems and trouble to the family, for example, arguments, violence, swearing at home, sadness, no peace at home and a shortage of money in the family. The participant added:

> "[Problem gambling is] a game of madness…gambler becomes…abnormal, start thinking of committing suicide."

Some group members noted that people with problem gambling also suffer:

> "They sometimes feel guilt for what they have done to affect their own flesh blood. There was much stress in their lives especially when they think about lots of money they lost in gambling with no contribution at tall. They were trying to stop or quit gambling but not work at all either…"

How do people shift from social to problem gambling?
One group member answered:

> "Easy access is another main factor that contributes to develop problem gambling because lots of poky (pokie) machines around in our pubs/ small casinos areas…"

Exposure to advertising (for example, Lotto, casino and TAB on TV, radio, newspapers and the Internet) is another factor involved in the development of problem gambling. All the advertising for these forms of gambling emphasise an element of luck and encourage people to have a go.

A winning streak makes some people develop problem gambling.

Gambling is becoming accepted as part of church or religious life.

Finally, the general consensus of the group was that alcohol use is related to gambling:

> "Some of our people love to drink alcohol in a place where there are some forms of gambling like poky machines, pool table which people play for money."
>
> "Alcohol help ease their mind while gamble without realising how big money has lost."

Specific remarks about sub-groups within the Tongan community
Young people gamble for fun, while adults gamble to make money and have a high expectation of winning, which may lead them to develop problem gambling. More

Tongan women are gambling than men. It was noted that women seem to be developing problem gambling faster than Tongan men.

Samoan focus groups

Why do people start gambling?
One focus group member explained that people started gambling to:

> "Use money to get some more money."

Another member explained they did:

> "Not [have] enough money to pay things so look at other ways of getting money…"

In contrast, others start gambling for the thrill of the challenge rather than to try and make money from it. Some people start gambling when they participate in social events where gambling is seen as normal.

What is problem gambling?
Problem gambling is seen as a waste of money and time. A person with problem gambling will ask relatives for money and use money intended for food and rent on their gambling. Some said problem gambling is related to "shameless people". A person with problem gambling visits the casino regularly and may look angry, sad and neglect their personal care. However, one participant said:

> "[You] can't tell by looking at someone."

Another member added:

> "Anybody can be a problem gambler because everyone has an element of the gambler in them; when it becomes unmanageable that is when it is problem gambling."

How do people shift from social to problem gambling?
The shift to problem gambling can be the result of winning the first time they gamble. The expectation of winning big money makes the person not want to stop. Or a winning streak makes some people develop problem gambling. In addition, the adrenaline rush of winning, the elation and feeling of winning keeps the person returning to gamble.

Other factors in the shift included low incomes, long-term unemployment, a breakdown in the family and dissatisfaction with self or life.

The participants felt that gambling outlets and money machines (for example, TAB and pokie machines) are too accessible. One group member elaborated:

> "Machines, housie, TAB all forms of gambling are targeted to low income areas for example, XXX where poverty is high."

This is compounded by advertising.

Other comments around this shift included "faa' Samoa" because money is always needed for family and/or church:

"For Samoans there are too many demands like fa'alavelave, church, aiga, work, children."
"Pressure from congregation to participate in fund raising- housie; it starts out as fundraising and now becomes problematic…"

In general, the group felt the church's acceptance of gambling behaviours has been linked to problem gambling.

The breakdown in communication within New Zealand Samoan families let the problem gambling behaviours continue unnoticed often until it is too late.

4.1.9 Summary of Phase One results

Why do people start gambling?

The results are summarised in Table 4 using an "e-PRESS" analysis.

Table 4: Summary of Phase One results: "why do people gamble" e-PRESS analysis

	Themes (in bold) and sub-themes	Issues for specific population groups
Economic	**Win money** **Close to win** (It is unsure if winning money or the individual factors [see below] are the primary reasons to gamble.)	For some Pacific peoples: gamble for money to help their family, pay bills and fa'alavelave; "catch up with the rest of society" For some Mäori: gamble for socio-economic reason, for money to meet the needs For some Päkehäs: gamble for money, are attracted by advertising material For some Asians: gamble for "easy money" especially for people who are not in workforce or under-employed
Personal (and individual factors)	**Seek excitement** • Do it for fun, try out new activities • Take risk, do it for the thrill/challenge **Minimise negative affect** • Reduce boredom • Escape from depression, negative mood or grieving • Avoid interacting with people • Release stress • Cope with unemployment • Avoid loneliness • A form of self-reward	For some Mäori: stressful city living style in modern New Zealand For some Asians: cope with post-immigration adjustment difficulties; have access to cash (cash investment, as part of immigration requirement); gambling is a new, legalised experience in New Zealand For some Päkehä: use gambling as a form of coping with stress and boredom; alcohol influences gambling behaviours
Recruitment	**Attractive prizes**	For some Mäori & Pacific peoples: are targeted in terms of high concentration

	Target specific groups • Promotional/advertising activities targeted specific ethnic or community groups (for example, young people, elderly)	of pokie machines in low socio-economic areas
Environment	**The 4As** • Advertising on TV, newspaper & radio • Availability of gambling activities • Accessibility to gambling venues • Abundance in terms of various forms of gambling activities **Friendly gambling product** • Machines/games are easy to learn, to play • Caters for different skills levels	For some Mäori: celebratory venues have gambling activities, pub and club where people drink can also gamble For some Asians: gambling venues in particular casinos, are attractive environment
Social	**Gambling is a learned behaviour** **Family and peers influences** • Family initiates & normalises gambling • Introduced by workmates, family and friends	For some Asians: friends and family take new comers or visitors to gamble when they first arrive; gambling venue is a place to meet other Asian people For some Mäori: generational trend, passing down, young children are taught to gamble For some Päkehä: influenced by family and peers
Spiritual (or religion)		For some Pacific peoples: gambling activities are accepted as part of fundraising efforts for churches and ethnic communities

What is problem gambling?

Table 5 summarises the themes and sub-themes to provide an explanation of what problem gambling is, as considered by participants in the Phase One study.

Table 5: Summary of Phase One results: "what is problem gambling?"

Themes that problem gambling is related to	Sub-themes
Losses of money	• Financial losses • Chasing the money lost • Borrowing money • Spending excessive amount of money and time
Mental health problems	• Affecting mental health negatively • Mood swings
Hidden problem	• An element of secrecy • It's hard to tell if a person has problem gambling

Strained interpersonal relationships	• Lying to family • Relationship difficulties • Affecting family negatively
Personal characteristics	• The person has changed • Impact on the person's wairua • It is about a "bad person" • Losing self-discipline or self-control • Missing from work • Doing nothing but gambling

Professional comments

The notion of "financial losses" is relative to the person's wealth and people presenting to the treatment services sometimes may deny the "gambling" itself as the problem, and choose to deal with the symptoms of problem gambling or reasons leading to problem gambling.

Why do people shift from social to problem gambling?

The third important question embedded in this study is to investigate how people shift from social to a more intense level of gambling. Table 6 summarises the themes and sub-themes as analysed from the Phase One, Stage Two of the study. Attempts were made to identify key issues for specific population groups.

Table 6: Summary of Phase One results: "Why do people shift from social to problem gambling?"

	Themes (in bold) and sub-themes	Issues for specific population groups
Economic	**Have winning experiences** **Urge to win or belief to win** • Use gambling to solve money problems **Recoup the losses**	For some Pacific peoples: increased exposures to wealth drive them to gamble heavily; they gamble at intense levels to meet traditional and familial obligations to family (close, extended and non-blood links), village, church For some Päkehä: gamble to recoup losses
Personal (and individual factors)	**Minimise negative affect** • Release stress • Reduce constant boredom • Cope with anger • Escape from problems • Cope with unemployment • Have unpleasant changes in life circumstances • Have no Päkehä direction in life **Enjoy gambling**	For some Asians: related to work related life-style (for example, finish work at late night, or have mid-day breaks) For some Päkehä: gamble to cope with stress and emotional problems

	• Are comfortable with the gambling environment **Loss of control** **Some personalities are vulnerable to problem gambling**	
Environment	**Family and peers influences** **Reinforced by advertising** **Gambling environment** • Some gambling activities are addictive • Gambling environment is glamorous, attractive and relatively safe (for example, for women) • Close to banks, money machines and finance companies • Easy access to gambling outlets **New gambling products** • Surging of Internet gambling and soaring in number of pokie machines • Gambling is part of the community; both gambling industry and community benefits from it	For some Asians: gambling venues are very welcoming and sensitive to their needs For some Päkehä: are influenced by advertising For some Päkehä people-having ease access to money machines and gambling activities
Social	**Peer reinforcement for people with problem gambling** • Money lending within whänau sustains high level of gambling • People with problem gambling "support" each other's gambling behaviours	For some Mäori: gambling becomes part of community/social activity for example, gambling activities in marae For some Samoan people: breakdown in communications within a family allows gambling problems to go undetected

Specific sub-groups within the community

- **Men:** gamble to win and use gambling to cope with problems and release stress.
- **Women:** tend to gamble in the day time at small facilities like pubs or clubs. Some women go out at night to gamble for socialisation and take it as a special treat, a time for themselves.
- **Young people:** gamble for fun and some may be under peer-pressure to gamble. Some young people start gambling because they have easy access to technology (like the Internet and mobile phones), coupled with little parental supervision. Some feel they are targeted by advertisements. The lower drinking age and various age limits for different gambling activities (for example, Lotto and gambling at casinos) make them more prone to gamble.
- **Older people**: gamble to socialise and reduce boredom.

4.2 Phase Two: Quantitative Studies

All of the differences below were statistically significant *($p < .01$)*, except where indicated. The probability that the differences were due to chance was less than 1%.

4.2.1 Participants and gambling

The sample consisted of 345 adults and descendants of four ethnic population groups in New Zealand (Päkehä/New Zealand European, Mäori, Pacific peoples and Asians). Table 7 shows the characteristics and percentages of the total sample classified into four gambling categories:

(1) "people who gamble" (PWG): respondents who ticked they had participated in gambling before;
(2) "people who gamble regularly" (PGR): respondents who indicated they gambled at least once a week;
(3) "individuals with probable pathological gambling" (PPG): respondents who scored five or more symptoms of current probable pathological gambling;
(4) "individuals who self-identified as having problem gambling" (SPG): respondents who ticked the box and self-identified they might have problem gambling.

Each respondent could belong to more than one category.

The percentages of people who gamble regularly (PGR) and people with probable problem gambling (PPG) were calculated from people who gamble (PWG). The percentages of people self-identified having problem gambling (SPG) were calculated from people with probable problem gambling.

Compared with the 2001 census population for the South Auckland district, there were proportionately more females (65% vs. 51%) and fewer males (34% vs. 49%), $\chi^2 = 8.43$. The proportions of Pacific peoples (34%) and Asians (23%) were higher than the census population (22% and 13%, respectively), $\chi^2 = 12.78$.

Ages ranged from 14 to 81 years, with an average age of 39.51 (SD = 12.84) years. The oldest age group (50+) was under-represented (21% vs. 35%), but the percentages for the other age groups were equivalent to the census data (<29, 23%; 30-39, 22%; 40-49, 21%).

Most of the sample (92%) gambled, 66% gambled regularly, and 38% met the DSM-IV criteria of five or more symptoms of persistent and recurrent maladaptive gambling behaviours.

All of the Mäori and Pacific peoples, excluding Niues (85%), gambled. Asians were the least regular gamblers (28%). Päkehä (77%) and Mäori (69%) contributed the heaviest weights to probable pathological gambling frequencies. Cook Islands participants (7%) and Asians (14%) contributed the least. Although there were more male (46%) than female (34%) PPG in the sample, twice as many Päkehä, Mäori and Samoan females were classified as PPG as their respective group's males.

Among the occupational groups who gambled, the unemployed/beneficiary group and the factory/manual worker groups had the highest percentages of PPG (49% and 47%, respectively). Office/clerical employees had the least (16%).

PPG were more likely to be regular gamblers (84%) than non-PPG (8%). From Table 7, 68% of all the PPGs circled “no” to the question asking them if they felt that they had a problem with gambling, leaving a substantial proportion of them (32%) who did not admit it, even though they had just answered “yes” for at least five symptoms of current probable pathological gambling.

PPG with relatively low admissions that they had a problem with gambling included males (55%), and those in the oldest age group (56%). The unemployed/beneficiary (61%) and factory/manual worker (57%) groups gave the lowest admissions of the occupational groups.

Although the absolute numbers of PPG in the minority ethnic groups were small, 50% of the Cook Islands participants and Asians, 25% of the Samoans, and none of the Niues or Tongans felt that they had a problem.

Table 7: Percentages of total sample (*N* = 345) classified into four groups

	Sample	People who gamble (PWG)		People who gamble regularly (PGR)		People with probable pathological gambling (PPG)		People self-identified having problem gambling (SPG)	
	n (%)	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Sex									
Male	*117 (35)*	106	91	73	69	49	46	27	55
Female	*225 (65)*	209	93	135	65	71	34	54	76
Total	*342 (99)*	315	92	208	66	120	38	81	68
Age									
< 29	*72 (21)*	66	92	40	61	34	52	26	76
30-39	*119 (34)*	113	95	75	66	29	26	20	69
40-49	*76 (22)*	75	99	52	69	32	43	21	66
50+	*71 (21)*	63	81	43	68	27	43	15	56
Ethnicity	*322*								
Päkehä	*69 (20)*	53	77	48	91	41	77	37	90
Mäori	*62 (18)*	62	100	43	69	43	69	33	77
Cook Island	*27 (8)*	27	100	19	70	2	7	1	50
Niue	*26 (8)*	22	85	15	68	4	18	0	0
Samoan	*30 (9)*	30	100	24	80	8	27	2	25
Tongan	*30 (9)*	30	100	27	90	8	27	0	0
Asian	*78 (23)*	71	91	20	28	10	14	5	50
Occupation									
Unemployed / Beneficiary	*52 (15)*	47	90	32	62	23	49	14	61
Student	*31 (9)*	29	94	14	45	12	41	9	75
Homemaker	*51 (15)*	50	98	33	66	21	42	15	71
Office / Clerical	*65 (19)*	58	89	38	64	9	16	6	67
Manual/Factory	*49 (14)*	64	96	50	75	30	47	17	57
Professional / Management	*65 (19)*	58	89	36	53	22	38	17	77

Note: *n*s and percentages vary due to missing values.

4.2.2 Favourite games

Table 8 shows the choices of favourite games for each of the groups. Internet gambling was the least preferred game. Päkehä (17%), Mäori (15%) and students (21%) were the most likely Internet players.

The participants were able to write unlisted activities on the questionnaire if they checked the "other" category. Lotto was added most frequently by females (34%). It was also the most frequently added by Mäori (45%), Pacific peoples (30-56%) and Asians (22%). Other games entered by the participants were Mah Jong (1.3%), Daily Keno (0.3%) and Baccarat (0.3%).

From the activities listed, pokie machines were the most popular choice for all of the groups, especially for the Tongans (80%). They were less popular for the Niue (36%), Asian (32%) and student (41%) groups, although they were among the highest selections for these three groups.

Casino gambling was the next most frequent choice for men (41%), women (37%), students (45%), and all age groups except the oldest (25%) whose second choices were housie and raffles (30% each). For homemakers, housie was the second most frequent selection (56%) after pokie machines (62%).

Table 8: Favourite gambling activities by sex, age, ethnicity and occupation

		Sex		Age			
N = 317	Total (%)	**Male**	**Female**	**<29**	**30-39**	**40-49**	**50+**
Game		*n = 106*	*n = 209*	*n = 66*	*n = 113*	*n = 75*	*n = 63*
Housie/Bingo	29	22	33	32	24	36	30
Casino	38	41	37	53	35	41	25
Internet	8	12	7	17	6	9	3
Cards	19	19	18	18	15	29	14
Pokies	58	52	61	67	62	55	45
Raffles	27	28	26	29	24	28	30
Lotto	31	25	34	18	37	40	20
TAB	4	10	1	5	3	5	6
Horses	2	5	1	0	1	1	8
Other	1	4	1	0	3	0	3

N = 298	**Päkehä**	**Mäori**	**Cook Island**	**Niue**	**Samoan**	**Tongan**	**Asian**
Game	n = 54	n = 62	n = 27	n = 22	n = 30	n = 30	n = 73
Housie/Bingo	48	37	19	14	20	27	25
Casino	67	57	41	14	33	17	15
Internet	17	15	0	0	10	3	3
Cards	30	39	15	5	17	0	7
Pokies	69	69	63	36	60	80	32
Raffles	39	26	19	18	13	3	40
Lotto	4	45	56	50	33	30	22
TAB	0	3	0	14	10	13	0
Horses	0	10	4	0	0	0	0
Other	0	0	4	0	0	0	7

N = 308	Unemployed/ Beneficiary	Student	Home-maker	Office/ Clerical	Factory/ Manual	Professional/ Manager
Game	*n = 48*	*n = 29*	*n = 50*	*n = 58*	*n = 64*	*n = 59*
Housie/Bingo	25	28	56	19	33	20
Casino	31	45	42	31	47	36
Internet	6	21	8	5	9	9
Cards	10	21	20	12	34	15
Pokies	60	41	62	62	56	61
Raffles	23	38	28	24	28	27
Lotto	29	17	22	35	36	41
TAB	2	3	2	2	14	0
Horses	8	0	0	0	3	2
Other	4	0	4	0	0	3

4.2.3 Reasons for starting and continuing gambling

Factor analysis was applied to the scores for ratings of reasons for starting gambling, and then to the scores for ratings of reasons for continuing gambling. A unique factor solution emerged for each set of scales, with extraction values for each item in a set greater than .500, other than for lowered drinking age (.246), and associated difficulties with migration (.112). Their internal consistencies, as measured by Cronbach's alpha, were very high (.94 and .95, respectively), indicating that each set was measuring a single construct. Participants who gave a high rating to any one item consistently gave high ratings to all the other items in a set. Conversely, low ratings on an item were associated with low ratings on the other items.

Table 9 shows the average scores for each of the reasons for starting gambling, and for each of the reasons for continuing gambling. Means between 2.00 and 3.00 indicate that the reason applies at least "generally" to "a lot".

The top reasons for starting were "hoped to win some money", "the places I socialise have gambling facilities" and "a form of socialising", followed by excitement and entertainment. For continuing gambling, current regular gamblers gave relatively high ratings to "small wins encourage me to keep gambling", "easy access to money machines" and "easy access to gambling activities".

A series of paired samples, *t* – tests (not shown), were computed to compare regular gamblers' reasons for starting gambling with their corresponding, correlated reasons for continuing gambling.

Two reasons for starting gambling ("a form of socialising" and "places of socialising have gambling facilities") were rated significantly ($p < .001$) higher on average than the corresponding reason for continuing gambling ("enjoy being with people in gambling venues"), t (236) = 6.00 and 5.92, respectively. This finding implies that socialising initiated people into gambling, but social contact was less important for continuing gambling.

Similarly, introduction to gambling by friends and family was rated significantly higher than invitation by friends, colleagues and family to continue gambling, t (237) = 2.39, p < .05. Gambling to escape from stress and troubles was rated more highly for continuing than for starting gambling, t (239) = 2.54, p < .05, indicating that escaping from stress by gambling becomes entrenched. Similarly, trying to solve money problems initially degenerates into needing money to cover losses, t (239) = 2.36, p < .05.

Table 9: Average scores of reasons for starting and continuing gambling

Reason for starting gambling	*n*	Mean	Standard Deviation	Rank Order
Advertisements encouraged me to think I could win	*310*	1.59	1.52	13
I saw gambling as a form of reward	*313*	1.82	1.44	8
I hoped to win some big money	*314*	2.81	1.36	1
I needed to solve my money problems	*313*	1.87	1.40	7
I needed money for my family	*311*	1.77	1.46	9
Friends and family introduced me to gambling	*310*	1.64	1.40	12
I needed money to fulfil my obligations	*307*	1.42	1.38	14
It began with a social activity	*307*	2.01	1.39	6
It was a form of socialising	*307*	2.10	1.48	3
The places I socialise have gambling facilities	*310*	2.12	1.44	2
I needed time-out	*306*	1.67	1.53	10.5
I got involved in fund-raising	*313*	1.31	1.42	17
I looked for excitement and entertainment	*309*	2.07	1.37	4
Gambling is one of my few entertainment options	*308*	2.03	1.35	5
I had a lot of spare time	*313*	1.40	1.46	15
I wanted to get rid of my boredom	*313*	1.67	1.39	10.5
I used gambling to escape from my stress and troubles	*311*	1.32	1.46	16
Gambling helped me deal with my loneliness	*308*	1.09	1.41	18
Lowered drinking age increased my exposure to gambling	*309*	0.33	0.88	19
Migration and associated difficulties initiated my gambling	*309*	0.31	0.87	20

Reason for continuing regular gambling	*n*	Mean	Standard Deviation	Rank Order
I have easy access to money machines	*241*	2.89	1.47	2
I want big wins	*245*	2.98	1.32	1
Small wins encourage me to keep gambling	*238*	2.56	1.37	4
I need the money to cover what I lost	*242*	2.25	1.47	5
I have easy access to gambling activities	*242*	2.64	1.44	3
I enjoy being with people in gambling venues	*242*	1.80	1.47	9
I like the sound and excitement of gaming venues	*242*	1.92	1.61	7
Gambling helps me get rid of my boredom	*245*	1.88	1.41	8
Gambling helps me escape from my stress and troubles	*245*	1.63	1.58	10
I have a lot of free time	*246*	1.59	1.53	11.5
My friends, workmates or family invite me to gamble	*244*	1.55	1.44	13
Gambling - one of the few activities I can do outside of work	*244*	1.49	1.43	14
I gamble to “save face” with my friends/family/colleagues	*243*	0.86	1.28	15
Gambling gives me hope and an opportunity for a better life	*246*	2.14	1.47	6
I lose control of myself	*243*	1.59	1.51	11.5

4.2.4 Differences between groups' reasons for starting and continuing gambling

A series of *t*-tests (not tabled) showed that male and female mean scores on each of the reasons for starting and continuing gambling were not significantly different ($p > .05$). Because of the small numbers of participants per cell, multiple comparisons of differences in average ratings for age, ethnicity and occupation were not computed. Hence, to compare differences between the groups on each item, ratings for each scale were grouped into two categories: "applies at least a little to me" and "does not apply".

The upper sections of Tables 10 to 12 show the groups' percentages of reasons for starting gambling, which applied at least a little. For all groups, lowered drinking age exposing one to gambling, and migration and associated difficulties had the lowest frequencies of endorsements. The former reason was notable for males (19%), the youngest (23%) and oldest (21%) age groups, Mäori (23%), Asians (27%) and students (28%). The migration choice was relatively frequent for males (20%), the oldest age group (19%), Niues (27%), Asians (36%) and students (21%).

For gamblers' reasons for starting gambling, advertisements were endorsed mainly by the youngest age group (75%), Päkehä (89%), Mäori (80%) and students (79%). For the rest of the items, with a few notable exceptions, the percentages between groups were comparable.

Across age groups, dealing with stress and troubles (43%) and loneliness (33%) were lowest for participants aged 30 to 39 years. These reasons were also lower among Pacific peoples and Asians (7-44%), than among Päkehä and Mäori (72-89%), and relatively low in the office/clerical group (26% and 25%, respectively).

Needing money for family, obligations, and beginning as a social activity were highly endorsed for starting gambling among Samoans (93%, 90% and 87%, respectively), and Tongans (93%, 93%, and 80%, respectively). Yet, enjoying being with people in gambling venues was not as important for these two groups to continue gambling (56% Samoan and 48% Tongan).

In contrast, needing money to fulfil obligations was much less important for Mäori (54%). Although gambling began as a social activity for many Mäori (95%), enjoying being with people in gambling venues continued to be important for the regular Mäori gamblers (96%).

Getting involved in fundraising was more prominent among Päkehä (83%) and Mäori (69%) than among the Pacific Island and Asian groups (22-54%). Samoans (53%) and Asians (54%) were the most involved of the latter.

Needing time-out and having a lot of spare time were not important for the Cook Island group (11% each). Friends and family introducing one to gambling had the lowest frequency for Asians (43%) in comparison to all other sex, age, ethnic and occupational groups.

Table 10: Reasons for starting and continuing gambling by sex and age

N = 317	Sex		Age			
	Male	**Female**	**<29**	**30-39**	**40-49**	**50+**
Reason for starting gambling *n =*	*106*	*209*	*66*	*113*	*75*	*63*
Advertisements encouraged me to think I could win	63	62	75	58	66	51
I saw gambling as a form of reward	78	73	82	76	72	67
I hoped to win some big money	91	92	97	94	91	82
I needed to solve my money problems	76	79	83	78	79	73
I needed money for my family	67	74	73	73	73	68
Friends and family introduced me to gambling	67	74	77	69	73	69
I needed money to fulfil my obligations	59	65	61	67	64	56
It began with a social activity	80	82	85	84	75	83
It was a form of socialising	79	81	83	80	83	75
The places I socialise have gambling facilities	78	81	80	84	79	75
I needed time-out	69	62	69	55	70	71
I got involved in fund-raising	55	57	61	43	70	62
I looked for excitement and entertainment	89	83	86	90	80	80
Gambling is one of my few entertainment options	85	83	83	87	79	82
I had a lot of spare time	61	57	68	47	60	70
I wanted to get rid of my boredom	69	71	79	72	64	66
I used gambling to escape from my stress and troubles	59	50	65	43	60	52
Gambling helped me deal with my loneliness	46	45	59	33	51	49
Lowered drinking age increased my exposure to gambling	19	14	23	12	12	21
Migration and associated difficulties initiated my gambling	20	12	15	13	15	19

N = 246	Sex		Age			
	Male	**Female**	**<29**	**30-39**	**40-49**	**50+**
Reason for continuing regular gambling *n =*	*83*	*161*	*47*	*87*	*59*	*53*
I have easy access to money machines	83	88	92	93	85	73
I want big wins	93	89	98	94	92	77
Small wins encourage me to keep gambling	90	87	92	94	88	74
I need the money to cover what I lost	79	79	87	83	79	67
I have easy access to gambling activities	84	85	92	92	80	74
I enjoy being with people in gambling venues	74	64	85	52	75	71
I like the sound and excitement of gaming venues	80	70	81	67	83	65
Gambling helps me get rid of my boredom	76	76	81	81	73	67
Gambling helps me escape from my stress and troubles	63	56	77	43	67	60
I have a lot of free time	70	59	77	49	64	72
My friends, workmates or family invite me to gamble	66	67	83	62	66	60
Gambling - one of the few activities I can do outside of work	68	61	81	51	64	69
I gamble to “save face” with my friends/family/colleagues	45	34	53	27	39	41
Gambling gives me hope and an opportunity for a better life	75	81	83	86	71	72
I lose control of myself	71	61	83	66	58	56

Table 11: Reasons for starting and continuing gambling by ethnicity

N = 295	Päkehä	Mäori	Cook Island	Niue	Samoan	Tongan	Asian
Reason for starting gambling *n* =	*53*	*62*	*27*	*22*	*30*	*30*	*71*
Advertisements encouraged me to think I could win	89	80	44	50	38	37	61
I saw gambling as a form of reward	94	84	81	64	80	57	59
I hoped to win some big money	98	100	93	86	100	83	78
I needed to solve my money problems	85	89	82	81	93	80	51
I needed money for my family	83	75	78	68	90	93	38
Friends and family introduced me to gambling	90	83	78	68	77	77	43
I needed money to fulfil my obligations	76	54	74	55	87	80	36
It began with a social activity	87	95	81	64	93	93	61
It was a form of socialising	93	86	78	82	80	100	52
The places I socialise have gambling facilities	91	93	82	77	90	93	46
I needed time-out	83	87	11	41	57	41	77
I got involved in fund-raising	83	69	22	41	53	43	54
I looked for excitement and entertainment	93	92	89	82	83	93	70
Gambling is one of my few entertainment options	91	92	82	73	97	100	57
I had a lot of spare time	81	82	11	32	55	50	58
I wanted to get rid of my boredom	81	84	59	59	83	93	41
I used gambling to escape from my stress and troubles	89	87	7	32	33	30	44
Gambling helped me deal with my loneliness	76	72	7	24	35	23	40
Lowered drinking age increased my exposure to gambling	4	23	4	14	10	13	27
Migration and associated difficulties initiated my gambling	2	15	4	27	7	7	36

N = 231	Päkehä	Mäori	Cook Island	Niue	Samoan	Tongan	Asian
Reason for continuing regular gambling *n* =	*49*	*52*	*21*	*18*	*27*	*27*	*37*
I have easy access to money machines	98	94	91	71	96	85	56
I want big wins	98	98	95	89	100	85	61
Small wins encourage me to keep gambling	94	98	81	89	96	93	57
I need the money to cover what I lost	94	92	76	50	89	82	46
I have easy access to gambling activities	92	98	76	78	100	92	50
I enjoy being with people in gambling venues	96	92	24	39	56	48	54
I like the sound and excitement of gaming venues	96	85	48	50	73	89	40
Gambling helps me get rid of my boredom	90	90	71	50	74	74	50
Gambling helps me escape from my stress and troubles	94	96	5	11	33	30	58
I have a lot of free time	88	94	14	22	56	46	62
My friends, workmates or family invite me to gamble	92	79	52	39	77	44	50
Gambling - one of few activities I can do outside of work	85	85	19	56	62	44	47
I gamble to “save face” with my friends/family/colleagues	83	46	0	17	15	19	35
Gambling gives me hope and opportunity for a better life	92	83	81	56	89	85	51
I lose control of myself	88	89	48	28	56	73	31

Table 12: Reasons for starting and continuing gambling by occupation

N = 305	Unemployed /Beneficiary	Student	Home-maker	Office/ Clerical	Factory/ Manual	Professional/ Manager
Reason for starting gambling *n* =	*45*	*29*	*50*	*56*	*64*	*58*
Advertisements encouraged me to think I could win	67	79	63	46	64	61
I saw gambling as a form of reward	76	83	66	71	75	74
I hoped to win some big money	92	97	88	93	89	93
I needed to solve my money problems	72	79	79	75	80	80
I needed money for my family	64	59	76	68	78	74
Friends and family introduced me to gambling	69	68	68	61	78	75
I needed money to fulfil my obligations	51	50	67	62	71	70
It began with a social activity	80	75	81	79	89	81
It was a form of socialising	75	69	83	79	85	85
The places I socialise have gambling facilities	76	69	85	79	80	83
I needed time-out	80	78	81	36	56	57
I got involved in fund-raising	57	76	67	39	52	53
I looked for excitement and entertainment	84	86	88	80	87	88
Gambling is one of my few entertainment options	87	66	89	82	84	81
I had a lot of spare time	78	66	69	31	49	54
I wanted to get rid of my boredom	74	69	74	63	72	68
I used gambling to escape from my stress and troubles	65	72	61	26	44	49
Gambling helped me deal with my loneliness	50	64	54	25	40	41
Lowered drinking age increased my exposure to gambling	15	28	13	11	13	19
Migration and associated difficulties initiated my gambling	19	21	17	7	15	14

N = 234	Unemployed /Beneficiary	Student	Home-maker	Office/ Clerical	Factory/ Manual	Professional/ Manager
Reason for continuing regular gambling *n* =	*36*	*16*	*38*	*42*	*57*	*45*
I have easy access to money machines	83	88	81	93	81	100
I want big wins	92	94	82	95	91	96
Small wins encourage me to keep gambling	83	94	81	91	88	95
I need the money to cover what I lost	81	88	78	81	77	82
I have easy access to gambling activities	83	88	83	86	83	93
I enjoy being with people in gambling venues	69	75	81	71	75	77
I like the sound and excitement of gaming venues	81	94	81	52	61	64
Gambling helps me get rid of my boredom	78	69	81	79	72	78
Gambling helps me escape from my stress and troubles	76	88	74	29	54	56
I have a lot of free time	84	94	74	38	63	53
My friends, workmates or family invite me to gamble	72	75	68	60	77	59
Gambling - one of the few activities I can do outside of work	78	69	74	45	65	61
I gamble to “save face” with my friends/family/colleagues	44	44	50	18	46	31
Gambling gives me hope and an opportunity for a better life	76	88	71	79	81	84
I lose control of myself	78	69	65	56	61	64

Reasons endorsed by percentages of individuals for continuing gambling appear in the lower sections of Tables 10 to 12. Relative to the other age and ethnic groups, except for "saving face", the youngest group, Päkehä and Mäori had consistently very high percentages across all the items.

The frequencies for unemployed/beneficiary and student groups were also relatively high. "Easy access to money machines" was rated highly by all sex, age, ethnic and occupational groups (71-100%), excluding the Asian group (56%).

Frequencies for losing control of oneself, an indicator of pathological gambling, were especially high for the youngest age group (83%), Päkehä (88%), Mäori (89%) and the unemployed/beneficiary group (78%).

Continuing for social reasons ("being with people" and "friends/workmates/family invite one to gamble") was also much higher for Päkehä (96% and 92%, respectively) and Mäori (92% and 79%, respectively), than for the other ethnic groups (24-56%), except for Samoans being invited (77%). These two reasons were also higher for the youngest age group (85% and 83%, respectively), than for the other age groups (52-75%).

None of the Cook Islands group and relatively few of the other ethnic groups (15-46%) indicated that they gambled to "save face" with friends/family/colleagues, in contrast to Päkehä (83%).

4.2.5 Reasons for starting and continuing gambling by favourites

For each of the reasons for starting and continuing gambling, the percentages of the sample who endorsed each of the favourite games appear in Table 13. Compared with the frequencies for other activities, the percentages for Lotto's reasons for starting gambling were relatively low, except for hoping to win big money (96%).

Advertisements applied very strongly to casinos (83%) and Internet (93%) activities, but not to pokies (64%). Hoping to win big money (93-100%), looking for excitement (87-96%) and entertainment (83-93%) were common across all activities for starting gambling.

Internet gambling had the highest frequencies for escaping boredom, loneliness, stress and troubles (89-96%). Migration and associated difficulties had a higher frequency (21%) for raffles than for all the other activities (8-14%).

The percentages of individuals' reasons for continuing gambling were high for all activities, except for "saving face". "Easy access to money machines and gambling activities", "wanting big wins", "reinforcement by small wins", and "needing to recover losses" resulted in very high frequencies.

Internet gambling had the highest frequencies across all reasons. "Losing control" applied less to raffles (63%) and Lotto (60%) than to the other activities (76-96%).

Table 13: Percentages of the sample who endorsed each of the favourite games

	Housie	Casino	Internet	Cards	Pokies	Raffles	Lotto
Reason for starting gambling *n* =	*94*	*122*	*27*	*60*	*181*	*85*	*96*
Advertisements encouraged me to think I could win	76	83	93	75	64	77	63
I saw gambling as a form of reward	75	92	89	85	79	78	71
I hoped to win some big money	96	99	100	93	95	93	96
I needed to solve my money problems	86	91	96	87	88	74	84
I needed money for my family	83	82	85	81	82	67	72
Friends and family introduced me to gambling	80	84	77	88	81	74	72
I needed money to fulfil my obligations	78	70	74	76	75	63	61
It began with a social activity	90	88	85	95	89	86	81
It was a form of socialising	92	87	78	93	91	77	75
The places I socialise have gambling facilities	91	89	85	92	89	79	82
I needed time-out	76	81	88	82	65	74	46
I got involved in fund-raising	77	66	74	78	56	71	49
I looked for excitement and entertainment	90	94	96	92	92	87	78
Gambling is one of my few entertainment options	91	92	93	90	93	83	77
I had a lot of spare time	75	77	96	77	61	67	41
I wanted to get rid of my boredom	85	81	96	82	83	62	64
I used gambling to escape from my stress and troubles	71	76	96	73	59	59	39
Gambling helped me deal with my loneliness	65	68	89	75	49	54	31
Lowered drinking age increased my exposure to gambling	16	22	30	13	14	23	7
Migration and associated difficulties initiated my gambling	14	14	11	8	14	21	12

	Housie	Casino	Internet	Cards	Pokies	Raffles	Lotto
Reason for continuing regular gambling *n* =	*79*	*105*	*22*	*54*	*160*	*61*	*84*
I have easy access to money machines	92	94	100	94	92	90	89
I want big wins	94	97	100	100	96	92	95
Small wins encourage me to keep gambling	92	95	100	92	94	85	86
I need the money to cover what I lost	87	91	96	91	89	78	75
I have easy access to gambling activities	89	91	100	94	92	84	88
I enjoy being with people in gambling venues	81	87	95	87	83	73	62
I like the sound and excitement of gaming venues	79	83	96	87	72	78	48
Gambling helps me get rid of my boredom	86	88	100	87	85	74	70
Gambling helps me escape from my stress and troubles	73	83	96	80	62	72	42
I have a lot of free time	76	82	91	85	65	77	72
My friends, workmates or family invite me to gamble	79	78	91	85	72	75	55
Gambling - one of the few activities I can do outside of work	77	77	86	83	68	73	53
I gamble to “save face” with my friends/family/colleagues	48	55	59	56	39	53	19
Gambling gives me hope and an opportunity for a better life	84	84	91	89	85	82	86
I lose control of myself	76	84	96	83	78	63	60

4.2.6 Definitions of gambling

The participants selected one or more of the activities listed in Table 14 as definitions of gambling. The forms that they frequently considered as definitions of gambling included TAB (89%), Lotto (83%), but less frequently for Mah Jong (40%) and money wagers with friends/colleagues (50%).

There were no significant differences between proportions of males and females for any of the activities, and very few differences for other groups. Participants 30 to 39 years of age were more likely to consider Daily Keno as a form of gambling (81%) than the youngest age group (56%).

Asians did not frequently endorse raffles (53%), Lotto (58%) or Daily Keno (46%) as gambling, but strongly indicated that Mah Jong was a form of gambling (72%) in contrast to the other ethnic groups (22 to 45%). There were no significant differences in frequencies between the occupational groups for any of the activities.

Table 14: Percentages of the sample who defined different activities as gambling

	Sex			Age			
	Total	**Male**	**Female**	**<29**	**30-39**	**40-49**	**50+**
N = 345		*n = 117*	*n = 225*	*n = 72*	*n = 119*	*n = 76*	*n = 78*
Raffles	68	71	68	67	66	72	69
Instant Kiwi/ scratchies	77	73	79	72	80	76	77
Mah Jong	40	42	40	46	44	32	39
Housie	79	78	80	75	82	79	78
Lotto	83	86	82	86	87	79	78
Internet casino games	59	59	59	60	61	54	59
Daily Keno	70	65	73	56	81	71	65
TAB	89	90	89	90	89	90	87
Sport betting	76	74	78	67	80	76	80
Horse/dog racing	81	84	80	74	80	80	89
Card games for money	78	75	80	78	77	78	78
Dice games for money	66	69	65	61	69	67	65
Money wagers	50	53	48	46	50	49	55

	Päkehä	**Mäori**	**Cook Island**	**Niue**	**Samoan**	**Tongan**	**Asian**
N = 322	*n = 69*	*n = 62*	*n = 27*	*n = 26*	*n = 30*	*n = 30*	*n = 78*
Raffles	80	81	63	73	63	77	53
Instant Kiwi/ scratchies	81	76	78	85	87	97	60
Mah Jong	22	45	37	31	27	27	72
Housie	75	86	70	85	87	90	74
Lotto	84	94	96	92	83	100	58
Internet casino games	45	69	44	69	60	67	67
Daily Keno	59	79	82	89	87	100	46
TAB	91	92	85	96	100	100	81
Sport betting	65	81	74	85	90	93	74
Horse/dog racing	68	89	74	89	90	90	82
Card games	74	76	70	77	83	87	83
Dice games for money	55	63	70	77	67	87	73
Money wagers	52	60	41	50	33	60	51

	Unemployed / Beneficiary	Student	Home-maker	Office/ Clerical	Factory/ Manual	Professional / Manager
N = 331	*n = 52*	*n = 31*	*n = 51*	*n = 65*	*n = 67*	*n = 65*
Raffles	73	61	75	60	73	71
Instant Kiwi/ scratchies	81	65	80	77	81	74
Mah Jong	42	68	28	37	25	51
Housie	77	74	82	75	81	82
Lotto	77	87	86	83	85	85
Internet casino games	67	55	53	62	54	60
Daily Keno	62	55	67	79	72	77
TAB	85	84	90	88	88	95
Sport betting	79	65	73	79	73	82
Horse/dog racing	87	74	75	80	84	80
Card games for money	77	84	82	74	79	72
Dice games for money	60	74	63	68	67	66
Money wagers	52	42	47	54	45	57

4.2.7 Problem gambling symptoms by demographics

For each of the sex, age, ethnic and occupational groups, the percentages indicating DSM IV symptoms within the last 12 months appear in Table 15. For all groups, the main symptoms were going back to try to win the money lost, claiming to be winning when actually losing, and feeling guilty about gambling. There were no significant differences in percentages between males and females. The youngest age group tended to affirm more of the symptoms, and the group 30 to 39 years of age consistently affirmed fewer symptoms than the other age groups.

Mäori missed more work, school or study due to gambling than Päkehä (50% vs. 26%), and both groups admitted more symptoms than the other ethnic groups. Cook Islands participants affirmed the fewest symptoms of the Pacific and Asian groups.

Hiding betting slips, lottery tickets, gambling money or other signs from one's spouse, partner, children or other important people was relatively high for Niues, Samoans and Tongans (30% each), but not for Cook Islands participants (7%).

In comparison to their percentages for the remaining symptoms, Asians also hid signs (24%), but were less likely to admit arguing with people with whom they live over how they handle money or that the arguments centred on gambling (5% each).

Table 15: DSM-IV symptoms by sex, age, ethnicity and occupation

	Total	Sex		Age			
		Male	Female	<29	30-39	40-49	50+
Symptom	*N = 345*	*n = 111*	*n = 213*	*n = 68*	*n = 117*	*n = 76*	*n = 65*
Gone back to win again	59	65	55	74	51	54	62
Claim won when lost	46	51	43	54	43	47	40
Spent more than intended	33	38	30	41	23	38	35
People criticised gambling	40	44	38	47	34	42	42
Felt guilty about gambling	54	61	49	63	78	53	55
Like to stop betting but can't	35	43	31	44	22	41	43
Hidden signs of gambling	37	46	32	41	23	47	48
Argued over handling money	23	28	20	27	9	28	37
Arguments on gambling	19	23	17	22	10	22	28
Missed work due to gambling	19	18	19	21	10	22	28

	Päkehä	Mäori	Cook Island	Niue	Samoan	Tongan	Asian
Symptom	*n = 54*	*n = 62*	*n = 27*	*n = 23*	*n = 30*	*n = 30*	*n = 78*
Gone back to win again	85	84	44	39	43	50	44
Claim won when lost	76	69	33	44	50	40	12
Spent more than intended	74	60	4	22	20	20	10
People criticised gambling	74	76	11	13	20	23	24
Felt guilty about gambling	82	82	22	35	50	53	33
Like to stop betting but can't	65	64	11	22	23	33	15
Hidden signs of gambling	54	62	7	30	30	30	24
Argued over handling money	43	39	4	22	17	30	5
Arguments on gambling	35	39	7	13	13	17	5
Missed work due to gambling	26	50	0	4	0	10	10

	Unemployed /Beneficiary	Student	Home-maker	Office/ Clerical	Factory/ Manual	Professional /Manager
Symptom	*n = 49*	*n = 31*	*n = 50*	*n = 59*	*n = 66*	*n = 59*
Gone back to win again	63	68	58	53	59	54
Claim won when lost	47	39	52	39	61	34
Spent more than intended	33	29	40	20	38	36
People criticised gambling	53	42	46	24	42	37
Felt guilty about gambling	67	61	56	34	58	51
Like to stop betting but can't	37	32	48	16	46	32
Hidden signs of gambling	39	45	44	20	46	32
Argued over handling money	29	23	24	12	23	25
Arguments on gambling	35	39	13	13	17	5
Missed work due to gambling	37	16	18	7	20	17

4.2.8 Favourites, reasons and definitions for probable pathological gamblers

Because of the large number of probable pathological gamblers (PPG) in the sample (38%), sufficient data were available to compare them to individuals not so classified (non-PPG). Table 16 shows the comparisons.

PPG were more likely to prefer any activity, excluding Lotto (25% vs. 34%) and raffles (27% each). While track betting among PPGs was low (4%), rates for housie (41%), card games (31%), raffles (27%) and Lotto (25%) were relatively high.

Except for Lotto (90% vs. 79%), raffles (87% vs. 59%), and sports betting (66% vs. 81%), PPG were comparable to non-PPG in defining all the listed activities as forms of gambling.

Table 16: Comparison between probable (PPG) and non-probable (non-PPG) pathological gamblers on favourite activities, activities considered gambling, and consistency of PPG activities

	Favourites (%)		Activities considered gambling (%)		PPG's same gambling activities (%)
	PPG	Non-PPG	PPG	non-PPG	
Game	*n = 113*	*n = 186*	*n = 113*	*n = 186*	*n = 80*
Card games	31	11	77	77	26
Casino	64	22	-	-	66
Daily Keno	1	0	66	72	1
Dice games	-	-	57	69	-
Horses/dog racing	4	1	73	84	3
Housie	41	22	83	77	36
Instant Kiwi/ scratchies	-	-	79	75	-
Internet casino games	17	3	57	58	16
Lotto	25	34	90	79	20
Mah Jong	0	2	32	45	0
Money wagers	-	-	57	44	-
Pokies	66	53	-	-	65
Raffles	27	27	87	59	25
Sports betting	-	-	66	81	-
TAB	6	4	90	88	3

A series of *t*-tests (Table 17) showed that PPG had significantly higher average scores on all the items for both starting and continuing gambling, except for lowered drinking age and migration difficulties as reasons to start gambling. Means of 2.00 or greater indicate that the reason applies generally; for means greater than 3.00, the reason applies a lot.

Table 17: Mean differences between probable (PPG) and non-probable (non-PPG) pathological gamblers on reasons for starting and continuing gambling

	PPG	non-PPG		
	n = 122	*n = 190*		
	Mean (SD)	Mean (SD)	Difference[1]	Rank Order
Reason for starting gambling				
Advertisements encouraged me to think I could win	2.57 (1.45)	0.97 (1.21)	1.60	5
I saw gambling as a form of reward	2.70 (1.26)	1.27 (1.26)	1.43	7
I hoped to win some big money	3.25 (1.10)	2.52 (1.43)	0.73	17
I needed to solve my money problems	2.53 (1.25)	1.44 (1.33)	1.09	14
I needed money for my family	2.26 (1.39)	1.43 (1.40)	0.83	16
Friends and family introduced me to gambling	2.35 (1.32)	1.19 (1.26)	1.16	13
I needed money to fulfil my obligations	1.71 (1.46)	1.24 (1.29)	0.47	18
It began with a social activity	2.65 (1.32)	1.59 (1.27)	1.06	15
It was a form of socialising	2.88 (1.39)	1.59 (1.30)	1.30	9.5
The places I socialise have gambling facilities	2.92 (1.31)	1.59 (1.28)	1.32	8
I needed time-out	2.67 (1.27)	1.02 (1.33)	1.65	3
I got involved in fund-raising	2.08 (1.43)	0.78 (1.15)	1.30	9.5
I looked for excitement and entertainment	2.82 (1.23)	1.57 (1.23)	1.25	12
Gambling is one of my few entertainment options	2.79 (1.15)	1.53 (1.24)	1.26	11
I had a lot of spare time	2.39 (1.33)	0.76 (1.16)	1.63	4
I wanted to get rid of my boredom	2.56 (1.22)	1.09 (1.19)	1.47	6
I used gambling to escape from my stress and troubles	2.56 (1.15)	0.53 (1.03)	2.04	1
Gambling helped me deal with my loneliness	2.17 (1.39)	0.40 (0.07)	1.78	2
Lowered drinking age increased my exposure to gambling (1)	0.43 (1.03)	0.27 (0.77)	0.16	19
Migration and associated difficulties initiated my gambling (2)	0.30 (0.88)	0.32 (0.86)	0.02	20

	PPG	non-PPG		
	n = 131	*n = 113*		
	Mean (SD)	Mean (SD)	Difference[1]	Rank Order
Reason for continuing regular gambling				
I have easy access to money machines	3.16 (1.28)	2.64 (1.58)	0.52	15
I want big wins	3.38 (1.05)	2.63 (1.45)	0.75	13
Small wins encourage me to keep gambling	3.24 (1.04)	1.98 (1.36)	1.26	11
I need the money to cover what I lost	2.98 (1.19)	1.62 (1.40)	1.36	9
I have easy access to gambling activities	2.99 (1.11)	2.33 (1.62)	0.67	14
I enjoy being with people in gambling venues	2.68 (1.26)	1.03 (1.19)	2.12	2
I like the sound and excitement of gaming venues	3.05 (1.14)	0.94 (1.30)	1.65	6
Gambling helps me get rid of my boredom	2.73 (1.14)	1.15 (1.21)	1.58	7.5
Gambling helps me escape from my stress and troubles	2.82 (1.16)	0.58 (1.10)	2.24	1
I have a lot of free time	2.66 (1.27)	0.68 (1.09)	1.98	3
My friends, workmates or family invite me to gamble	2.39 (1.35)	0.82 (1.08)	1.58	7.5
Gambling - one of the few activities I can do outside of work	2.42 (1.26)	0.69 (1.03)	1.73	5
I gamble to “save face” with my friends/family/colleagues	1.56 (1.44)	0.25 (0.68)	1.31	10
Gambling gives me hope and an opportunity for a better life	2.56 (1.34)	1.79 (1.50)	0.77	12
I lose control of myself	2.58 (1.41)	0.71 (0.97)	1.87	4

Note: [1]Independent samples *t*-tests (two-tailed) showed that all differences in means were significant ($p < .001$), except for (1) lowered drinking age and (2) migration difficulties.

The top mean differences for starting gambling were “gambling to escape trouble”, “gambling to deal with loneliness”, “needing time-out”, “spare time” and “advertisements”.

For continuing gambling, “escaping from stress and troubles”, “liking the sound and excitement of gaming venues”, “having lots of time” and “losing control” were reasons with large differences. “Small wins encouraging one to continue gambling” was a highly rated reason for all gamblers, and received the second highest average rating (3.24) by the PPG in the sample.

4.2.9 First and current forms of gambling

Most of the participants (67%) stated that they were using the same form of gambling as the form they first started, including the individuals with probable pathological gambling (PPG) (66%). Among the latter (see Section 4.2.8, Table 16), most started and continued with casinos (66%) and with pokies (65%); fewer started and stayed with the other favourites (0-36%).

Very few (*n* = 68) participants changed from their first to another form of gambling. For each changer, the direction of change was calculated. The largest proportion of changers (42%) began with cards, housie or casinos and changed to pokies.

Of the 21 females who started with cards, 71% switched to pokies. All but one of the females (*n* = 8) and all but one of the PPG (*n* = 7) who began with housie switched to pokies.

Of the 14 PPG who started with cards, 79% changed to pokies. Eight of the PPG started in casinos, and five of the eight changed to TAB. Because of their small numbers, changers were not grouped by age, ethnicity or occupation.

CHAPTER 5: DISCUSSION

5.1 Results from Phase One

Although a number of different findings emerged from Phase One of this project, the following discussion focuses on five specific areas. The first of these involves the impact of the environment on gambling behaviours. As one of the major aims of this project was to compare gambling experiences and patterns over four New Zealand population groups, the second area of discussion covers culture and gambling. The third area addresses the relationship between spirituality and gambling behaviours for individuals with problem gambling. Fourthly, it seeks to answer the questions: "why do people gamble" and "why do people shift from social to problem gambling" by referring to the key findings from Phase One, the qualitative study. The fifth and final area of discussion addresses what the participants in this project defined as problem gambling.

5.1.1 Environment and gambling behaviours

The last decade in New Zealand has seen both an increase in the availability of gambling opportunities for individuals, such as the opening of casinos in Queenstown (two facilities), Dunedin and Hamilton as well as an increase in the participation of New Zealanders in gambling activities. Abbott (2001) suggested:

> "Gaming machines play a particularly important role in the development of problem gambling, especially among women, and in diverse "mature" gambling markets, they emerge as the dominant form in this regard." (p. 147)

Pinge (2000) drew a very similar conclusion about the introduction of gaming machines in the Victorian city of Bendigo having significant negative economic and social impacts. By 30 June 2003, the number of venues with pokie machines was 2,128 (2,164 on 30 June 2002) and the number of pokie machines totalled 28,031 (24,651) over the country. On average, there was a 13.7% increase in the number of pokie machines over this 12 month period (GamblingWatch, 2003).

To date, most of the research explaining why people gamble and why some individuals continue to gamble at an intense level has focused on idiosyncratic, psycho-pathological motivations and the biological make-up of people who gamble (for example, Petry & Armentano, 1999; Toneatto & Millar, 2004). By comparison, one of the major findings from this research is the impact of gambling activities and the environment on the gambling behaviour of individuals. With respect to problem gambling and according to the literature review of this report, the agent is exposure to gambling activities, the host is the person with problem gambling, and the environment is the physical, social and cultural context in which the host lives and gambling occurs. The themes and sub-themes under the headings of "environment", "recruitment" and "social" reported in the findings of Phase One yield further details on how environment encourages people to start gambling and continue to gamble on a regular basis.

In summation, the qualitative data from this project indicates the environment impacts on gambling behaviours in a number of ways:

How does “environment” introduce people to gamble?

- Gambling activities promise attractive prizes
- Promotional/advertising activities targeted specific ethnic or community groups
- Advertising about gambling on TV, newspaper & radio
- Availability of gambling activities
- Accessibility to gambling venues
- Abundance in terms of various forms of gambling activities
- Machines/games are easy to learn, to play and they cater for different skill levels
- Family initiates and normalises gambling
- Introduced by workmates and friends

How does “environment” reinforce the shift from social to problem gambling?

- Influences from family and peers
- Reinforced by advertising
- Some gambling activities are addictive
- Gambling environment is glamorous, attractive and relatively safe (for example, for women)
- Close to banks, money machines and finance companies
- Easy access to gambling outlets
- Surge of Internet gambling and soaring number of pokie machines
- Peer reinforcement for people with problem gambling
- Money lending within whänau sustains high level of gambling

According to participants in this project, most could recall details of the advertisements on media. They were impressed by the amount of prizes and some participants said they have been actively “recruited” or targeted by the gambling related promotional/ advertising activities. Community concerns about social impacts of gambling and the level of advertising activities have been mentioned in a number of reports (for example, Community Service and Research Centre, 2003; Rankine & Haigh, 2003). According to these reports, different population groups, for example, indigenous people and people in low socioeconomic areas, are drawn to gambling activities. For instance, In New Zealand, the Te Herenga Waka o te Ora Whänau, National Mäori Reference Group on Gambling (2004) asserted that:

> “The Treaty of Waitangi should be the framework for the development and implementation of any gambling policy…International developments in relation to gambling should consider the interests of indigenous peoples as gambling has and is now part of the process of globalisation in which multi-national and international companies have used to take resources away from countries and specific groups to service their interests.” (p. 2 & 5

Another report (Tepperman, Korn & Lynn, 2003) made a similar assertion against the historical and political context of indigenous peoples gambling:

> “…for First Nations people, cigarettes, pop, alcohol, gambling, all of those things are very addictive behaviours. For First Nations people, if you look at history, First Nations people never really had these kinds of behaviours. Nothing against Europeans, but when Europeans came it seems to be something that was in their backgrounds for many, many years. So it was something introduced.” (p. 80)

Research has also shown that: 1) there is higher exposure to gambling, particularly pokie machines, in low incomes areas 2) Mäori women are the fastest growing population presenting to treatment services 3) residents of less affluent areas participated in gambling activities at a higher level than those in more affluent areas (GamblingWatch, 2003; Rankine & Haign, 2003).

The notion of "environment" is not confined just to advertising on gambling or availability of opportunities for gambling. It also includes the wider socio-political and societal attitude towards a certain group of people in the community. Speaking at the National Association for Gambling Studies, Pitcher (cited in Newscan, 2002) observed that elderly people and recently arrived Asian immigrants were affected by problem gambling in both New Zealand and Australia. He also added that:

> "The problem would get worse if society continued to "disenfranchise" certain groups…I see more of the older generation and also recently arrived Asian people coming to the casino as a safe and neutral venue to enjoy themselves…because society is not providing them with the security and fulfilment they desire, they gravitate to places where they feel wanted and respected…problem gambling will get worse if we continue to harshly judge people who are different, or alienate groups as worthless and unwelcome."

This understanding of gambling and its relationship to environment resonates the public health approach to gambling. This approach views gambling in the gambling environment and takes into account the level of gambling activities available in the area and the associated advertising activities. Contemporary public health perspectives are not limited to the biological and behavioural dimensions, but can also address socioeconomic determinants such as income, employment, poverty, and access to social and healthcare services related to gambling and health (Shaffer & Korn, 2002). Utilising a public health perspective can lead to effective strategies for preventing, minimising and treating individuals affected by problem gambling (Volberg, 1994). Public health approaches to problem gambling help policy makers distinguish acceptable from unacceptable risks and develop policies that support the promotion of health and wellbeing (Korn & Shaffer, 1999; Shaffer & Korn, 2002). Consistent with the public health approach to problem gambling, governments and gambling industry have adopted the principle of harm minimisation or reduction, which seeks to:

(1) Prevent vulnerable individuals from developing gambling problems.
(2) Reduce the current prevalence and incidence of problem gamblers within the community.
(3) Reduce the negative social and health consequences associated with problem gamblers for individuals, their families and their communities
(4) Make sure an evidence-based harm minimisation policy is in place to deal with expected increase of gambling opportunities in the region.
(5) Maintain a reasonable level of enjoyment from gambling by recreational gamblers.
(6) Ensure the livelihood of those associated with the gambling industry is not unnecessarily compromised.

(Dombrowski, Uchtenhagen & Rehm, 2001; modified from Blaszczynski, Sharpe & Walker, 2001, p. 25)

There are four basic harm minimisation strategies that can be applied:

(1) Informing community members of the potential risks associated with gambling.
(2) Modifying gambling products and machine characteristics; for example, prize size and structure; event frequency, such as the time gap between each gamble, reinforcement schedule, speed of wager cycles and reel spin; and light, sound and colour effects.
(3) Modifying the gambling environment; for example, availability of gambling opportunities, and nature of venues (such as restaurants and drinking establishments) in which gambling occurs, to minimise or reduce the potential for causing harm to gambling patrons or the wider community.
(4) Implementing changes to public policy.

(Blaszczynski et al., 2001; Griffiths, 2001; Kyngdon & Dickerson, 1999; Marlatt, 1998)

5.1.2 Ethno-cultural perspective on gambling behaviours

According to the researchers' knowledge, this is the first gambling study in New Zealand to examine gambling behaviours across four population groups in one single study. Qualitative data obtained from the four population groups present a snapshot of the responses from participants in each group.

For some Mäori participants:

- They gamble for socio-economic reasons, for money to meet their everyday needs.
- Stressful city living encouraged them to gamble and/or gamble at an intense level
- Individuals in low socio-economic areas (for example, some areas in Counties Manuka) are targeted in terms of having a high concentration of pokie machines.
- Their celebratory venues have gambling activities. Pubs and clubs where people go to drink also have gambling facilities.
- A "generational trend" exists: gambling is passed down to the younger generation; for example, young children are taught to gamble by their whänau.
- Gambling becomes part of Mäori community/social activity; for example, gambling activities in marae.

For some Päkehä participants:

- They gamble for money and are attracted by advertising material.
- They gamble to recoup losses.
- They use gambling as a form of coping with stress and boredom.
- They are influenced by family and peers.
- They are influenced by advertising.
- They have easy access to money machines and gambling activities.

For some Pacific peoples:

- They gamble for money to help their family, pay bills and fa'alavelave, and to "catch up with the rest of society".
- Individuals in certain locations are targeted, in terms of a high concentration of pokie machines in low socio-economic areas.

- Fund raising related gambling activities is accepted as a part of fundraising efforts of churches.
- Increased exposure to wealth in New Zealand drives them to gamble heavily.
- They gamble at an intense level to meet traditional and familial obligations to family (close, extended or non-blood links), village, church and community.
- For some Samoan people, the breakdown in communications within family allows gambling problems to go undetected.

For some Asian participants:

- They gamble for "easy money" especially for people who are not in workforce or under-employed.
- Gambling is related to post-immigration adjustment difficulties and having access to cash (cash investment, as part of immigration requirement).
- Gambling is a new, legalised experience in New Zealand.
- Gambling venues, in particular casinos, are an attractive environment.
- Gambling venues are places to meet other Asian people, and are very welcoming and sensitive to their needs.
- Friends and family take newcomers or visitors to gamble when they first arrive.
- Gambling is linked to some occupational groups; for example, employees who finish work late at night or who have mid-day breaks find that gambling is one of the few entertainment options in those hours.

The research team acknowledges that these snapshots merely suggest the range of variation and cannot fully address the inter-relationships between gambling and culture. Most importantly, the results should be read with caution with respect to the enormous variations *among and within* these four population groups.

A similar qualitative study (Tepperman et al., 2003) conducted in Canada investigated gambling behaviours across six ethnic groups: Aboriginal, British Isles, Caribbean, Chinese, Latin American, and Russian adult participants. Comparing the results of the Canadian study with the findings of this project, First Nation peoples and New Zealand indigenous people both see gambling as a possible way out of poverty.

> "Others cite the centrality of poverty and the belief that gambling is the only possible way to get out of it, and escape from boredom and other addictive behaviours." (p. 81)

When people from the British Isles, equivalent to Päkehä in this study, were asked why they gambled, their answers suggested a variety of reasons similar to the Päkehä responses, including an individual's need for excitement, relief from stress and poverty, and the fact that gambling was a form of addictive behaviour.

One noticeable difference between the Asian participants in this study and the respondents in the Canadian study is that the Canadian respondents commented how gambling at home differed from gambling in a public facility like casinos. The Asian participants in this study did not mention private gambling at all:

> "Chinese people normally play Mah Jong and poker with friends and each time they need four people to play along. In Western world, however, people gamble on their own…Chinese people gamble against their friends and this more or less harms the friendship among these when some of them won and others have to

> ‘say Uncle’.” (“say uncle” in Mandarin sounds like “losing”) (Tepperman et al., 2003, p. 93)

However, Asians in Canada and New Zealand face similar post-migration adjustment difficulties like language barriers, a boring life in their new host country, “gambling in the casino, therefore, seems a possible way for the gamblers to put aside the problems facing them” (Tepperman et al., 2003, p. 95).

A study by the Chinese Family Life Services of Metro Toronto (1995) in Canada found that Chinese gamble for many reasons. These reasons include to make money, escape from problems, for excitement, entertainment, social activity, fantasy, charity and to improve low self-esteem. These reasons are very consistent with the findings in the present research.

Two critical questions remain unanswered with respect to culture and gambling. Firstly, are indigenous peoples, immigrants from culturally and linguistically diverse backgrounds more affected by problem gambling than members from mainstream society? Secondly, what are the critical factors that will shape gambling behaviours and help-seeking behaviours for problem gambling interventions?

Around the world, anecdotal accounts and media reports have made reference to the increasing level of participation in gambling by indigenous people and individuals from Asian countries. Bell and Lyall (2002) recalled:

> “At Sky City Casino last night Päkehä made up perhaps five percent of those present. Numerous young Mäori and Pacific Islanders, smart in their gold metallic waistcoats, were croupiers and cashiers. A few older Polynesian women smoked and drank beer at the poker machines, perhaps running two or three machines at one time. Everyone else was Asian.” (p. 233)

> “Although Mäori are one of the few indigenous people with no history of gambling, drinking or smoking, many Mäori social structures are now dependent on gambling, in particular.” (GamblingWatch, 2003, p. 33)

In Aotearoa/New Zealand, approximately 31% of people with serious gambling problems identify as Mäori. Given each person with problem gambling affects the lives of five-seven other people in their whänau, workplace and other organisation, it is estimated up to 235,000 people are affected by Mäori problem gambling in New Zealand. Mäori reported spending an average of NZ$538 per year on gambling, which is higher than non-Mäori counterparts in the country. Mäori make up about 50% of the prison population and it is estimated one in four male Mäori has or has had gambling problems; while 45% of female inmates report gambling problems (GamblingWatch, 2003; see Dyall, 2002 and Te Herenga Waka O Te Ora Whanau, Newsletter, July 2004 for further discussion).

The first study of gambling behaviour in New Zealand in 1991 showed that Pacific peoples who gambled were six times more likely than non-Pacific peoples to develop problem gambling (Abbott & Volberg, 1991). Eight years later, in 1999, Pacific peoples and Mäori remained at very high risk (Abbott & Volberg, 2000). Living in large households and Auckland residence also remained risk factors.

> "Pacific people spend on average NZ$740 per year on gambling, considerably above the national average for all people." (GamblingWatch, 2003, p. 34).

In the 1991 New Zealand National Survey (Abbott & Volberg, 1991), Asians had similar prevalence rates (1.2%) of probable pathological gambling (past 6 months) to Päkehä. However, in the 1999 National Survey no Asians who had current gambling problems were identified (Abbott, 2001a). The researchers added that these findings have to be treated with extreme caution because of the small sample size and other methodological factors, which may reduce the quality of the information obtained (Abbott, 2001b). Contrary to New Zealand findings, Blaszcynski and associates (1998) distributed Chinese and/or English versions of questionnaires to parents (n= 508) through children attending a local Chinese speaking school in Sydney, Australia. They found that 2.9% of the sample could be classified as pathological gamblers during the previous 6 months (using South Oaks Gambling Screen [SOGS] cut off 10) compared to 1.2% for the Australian population. The Victorian Casino and Gaming Authority (Australia) commissioned another study using specific cultural groups' language in interviewing their research participants via telephone. It was found that 10.7% of Chinese (n= 159) and 10.5% of Vietnamese (n=173) scored 5 or more on the SOGS, compared to 1.5% of the general community (Cultural Partners Australia Consortium, 2000). Another study in Australia, using the South Oaks Gambling Screen (SOGS) and a cut-off score of 10, found that members of the Chinese community might be almost 50% more at risk of developing problem gambling compared with their Caucasian counterparts (Raylu & Oei, 2004).

Raylu and Oei (2004) in their recent review concluded that:

> "Although studies investigating prevalence rates of gambling and PG (problem gambling) in different cultures are not opulent and have methodological problems (for example, SOGS false positive, not representative of all cultural groups), evidence does suggest that most cultures appear to have gambling as well as presence of problem gambling. However, research that does exists suggests high rates of gambling among some cultural groups (for example, Jews and Chinese), ethnic minorities, and indigenous groups (for example, the Mäori in New Zealand and American Indians in the U.S.) in several countries." (p. 1093; T. Oei, Professor of Psychology, Department of Psychology, The University of Queensland, Brisbane, Australia, personal communications, November 26, 2004)

It has been shown that there are several sub-groups of people within the Asian population who are identified as at risk to developing problem gambling. Those disproportionately affected by problem gambling include Asian immigrants who are employed in shift work (for example, restaurants, factories and takeaway food spots) and recent young Asian adult migrants studying English (Goodyear-Smith, Arroll, & Tse, 2004). A survey carried out by the Chinese Family Service for Greater Montreal in 1997 found that up to 19% of Chinese restaurant workers were pathological gamblers (Scalia, 2003), and a survey conducted by Asian Services based in Christchurch, New Zealand, found a similar trend (Tan & Tam, 2003). New Zealand treatment services recently identified tourist operators as another at-risk occupational group (Tse, Wong, Kwok & Li, 2004). Tourist operators will usually take overseas Asian visitors to casinos as part of their travelling experience. Unfortunately, a number of individual operators become

addicted to gambling themselves. Petry and colleagues (2003) also recently found that the lifetime prevalence of pathological gambling among South East Asian refugees to the U.S. was up to 59%.

In New Zealand there was an increase in the number of female Asian clients seen by problem gambling counsellors during 2003 when compared with the previous year (Paton-Simpson, Gruys & Hannifin, 2003). This trend is consistent with mothers feeling isolated and unsupported in their host country, having access to large amounts of disposable money and facing the stresses associated with raising children in a new cultural environment. This makes solo mothers from astronaut families (where the husbands go back to their country of origin to work) particularly vulnerable to developing gambling problems.

Raylu and Oei (2004) have offered several reasons to explain the elevated rates of problem gambling among indigenous people and immigrants. First, gambling may be more available in comparison with the availability in the country of origin or they are targeted by gambling promotional activities. Secondly, gambling changes its meaning when individuals move to another country; for example, gambling is seen as a legitimate way for "quick, easy money". Thirdly, gambling is used as a coping mechanism to deal with difficulties while trying to adapt to the mainstream culture. Fourthly, and most ironically, the increased level of problem gambling among indigenous people and Asian immigrants might be related to a successful acculturation process. In other words, those newcomers who try to integrate with mainstream culture take up gambling because it is common, accepted, accessible and liberalised in the host country, such as New Zealand and Australia.

Despite the likelihood of higher levels of gambling problems, research has indicated that Mäori, Pacific peoples and Asians may be less likely to seek help for problems (Paton-Simpson et al., 2003). One explanation for this is that:

> "Like Mäori, Pacific-oriented support services have been poorly resourced or completely un-resourced until very recently, although Pacific demographics in New Zealand have always suggested a high susceptibility to problem gambling…" (GamblingWatch, 2003, p. 34)

Another possible explanation is the shame associated with problem gambling (Raylu & Oei, 2004):

> "Losing more money than what one can afford and thereby jeopardizing the future prospects of one's family in a new country leads a person to experience intense shame, devastating remorse, and the feeling of being a total failure." (Tse, Wong & Kim, 2004)

Perceptions and beliefs related to problem gambling intervention programmes which are primarily counselling and psychotherapy may also influence the level of service utilisation:

> "It is also possible that gambling treatments, which are based on Western models, are not sensitive enough to address the needs of ethnic minorities and indigenous communities." (Raylu & Oei, 2004, p. 1098)

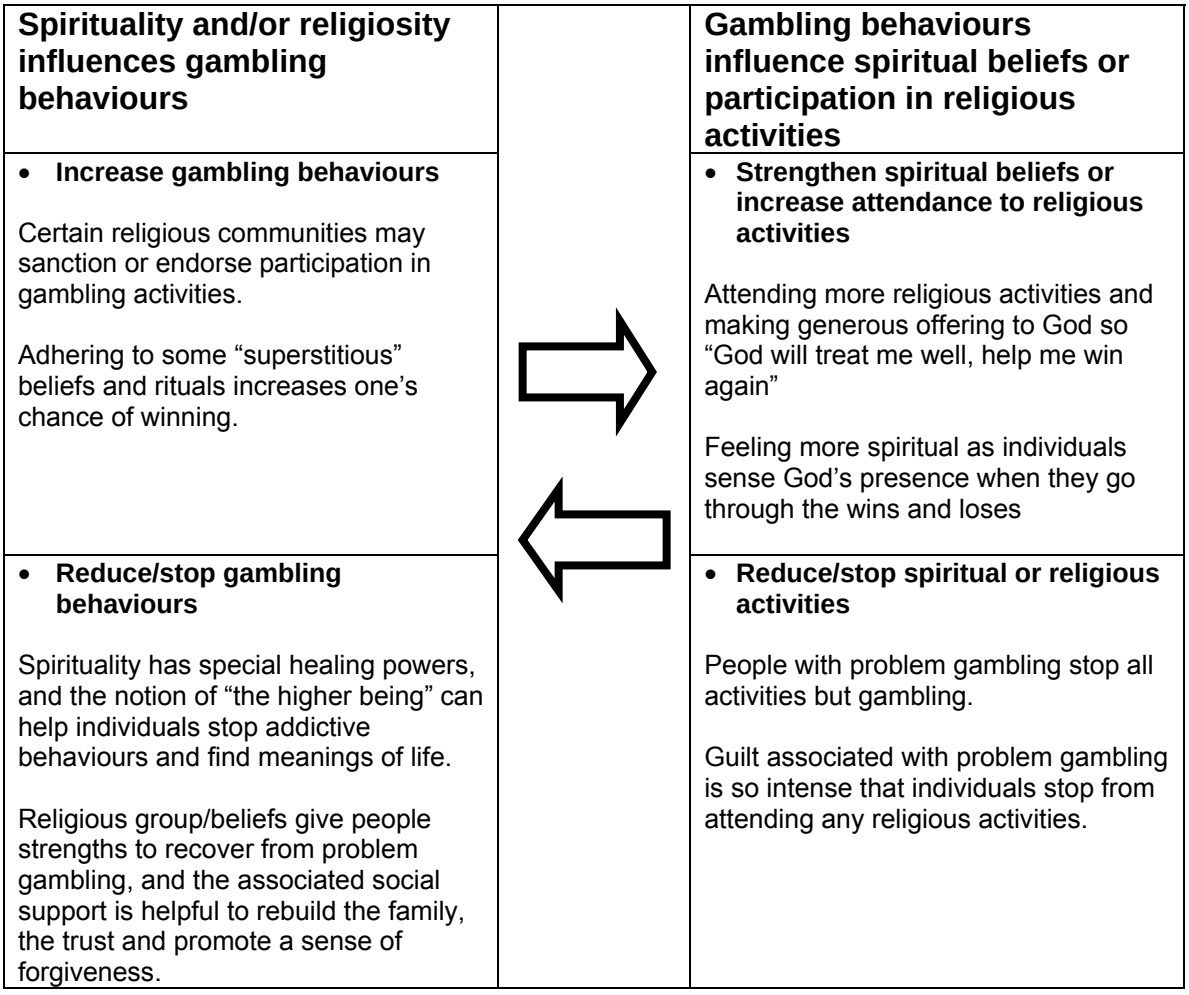
5.1.3 Spirituality (or religion) and gambling behaviours

The impact of spirituality on gambling remains an under-researched topic. Several Pacific and Asian people who participated in Phase One of this study alluded to a link between spirituality/religious activities and their gambling behaviours.

There are differences between religion and spirituality. Boswell et al. (2001) defined religion as the system of worship and dogma that is shared by a group. Spirituality is a broader term that refers to the overall belief system a person has about the meaning and purpose of life. Piedmont (2001) believed that spirituality is an attempt by humans to understand life in the light of death, again stressing the importance of validating why we exist. In this sense, Piedmont (2001) viewed spirituality as a dimension for exploring what motivates us, and what goals we are striving to achieve. Longo and Peterson (2002) recognised that religion is part of spirituality. They believe that religion is organised spirituality, whereas the term spirituality has within it the concept of being individual. In contrast, Spaniol (2001, p. 321) asserted that spirituality, although individualized, involves relationships – "a relationship with someone or something that sustains and comforts us, guiding our decision making, forgiving our imperfections and celebrating our journey through life". Spirituality is about living and being human.

The present authors propose the link between spirituality and gambling exits in the following way (refer to Figure 1) and the relationship between spirituality and gambling is bi-directional. In other words, in some cases spirituality or religiosity might start, reinforce or shape gambling behaviours; alternatively, gambling behaviours might influence how one interprets his/her spiritual beliefs.

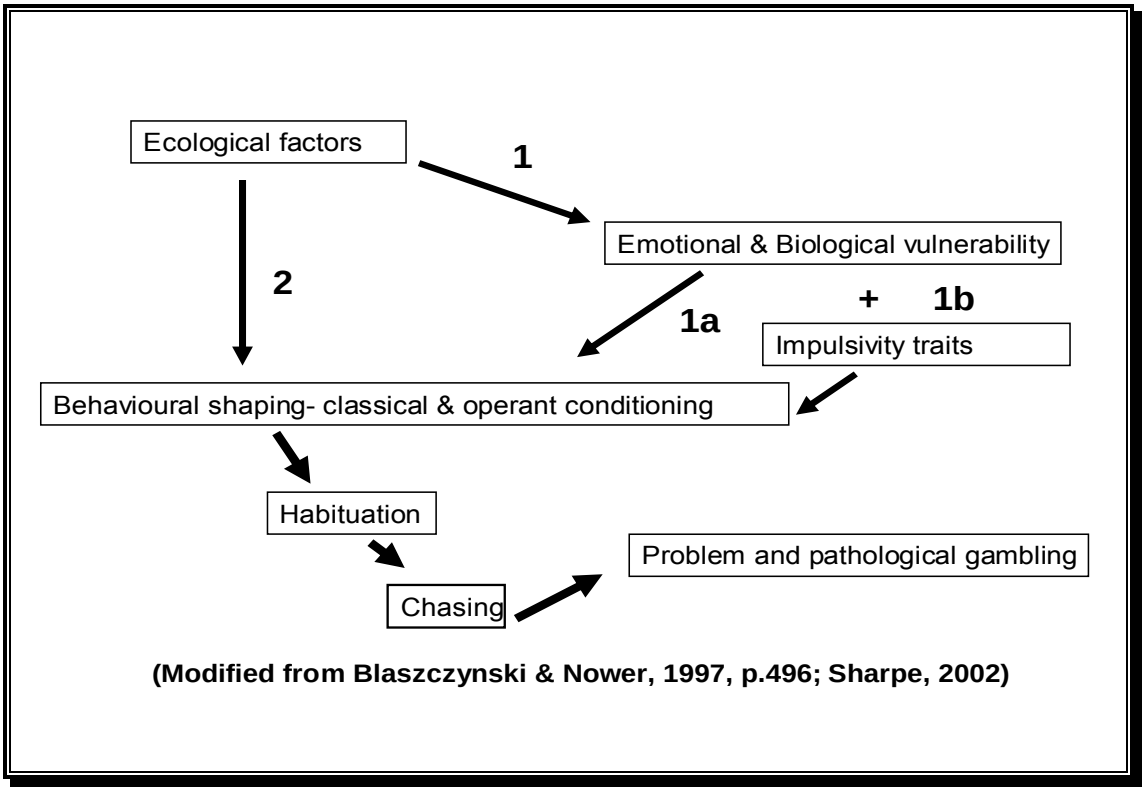
Figure 1: Interplay between spirituality/religious activities and gambling behaviours



5.1.4 Two important questions: "Why do people gamble?" and "Why do people shift from social to problem gambling?"

The literature review section of this report has already provided a comprehensive review on the abovementioned questions so the material will not be repeated here. Instead, the following figure has been used to compare and contrast those findings with the information from the present report.

Figure 2: Compare and contrast of present findings with literature



In general, the present findings are consistent with current literature using the explanatory model to understand why people gamble and how people develop problem/pathological gambling.

Ecological factors: These factors are well represented in our findings or are equivalent to the themes and sub-themes used in this report (i.e., recruitment, environment and social, see summary of Phase One results).

Route 1 (from "Ecological factors" to "Emotional and biological vulnerability"): This route is partially consistent with findings from the Phase One project in terms of the themes and sub-themes outlined under the "personal (or individual)" factor. However, findings obtained from this study did not cover anything related to "biological vulnerability" such as depression, substance abuse disorder and attention deficit disorder (Toneatto & Millar, 2004). The omission of this finding is likely due to the fact that none of the questions on "biological vulnerability" were asked in the interviews.

Route 1a (from "Emotional and biological vulnerability" to "Behavioural shaping - classical & operant conditioning"): Fits very well with results from this study. Gambling is a kind of thrill. Unless better ways of entertainment or obtaining immediate gratification are found, people who gamble will remain unmoved to persuasion. Participants mentioned how they used gambling as a form of stress-releaser:

"I see poking machine as still part of my own time-out and relaxation schedule…"

Some participants described how their gambling behaviours were shaped by the possibility of winning:

"I enjoyed gambling because I win sometimes."

> "I felt like I'm a gambling slaver. There is no way out I was totally suck in."

Route 1b ("emotional and biological vulnerability" interacts with "impulsivity traits"): The only thing mentioned in the qualitative data was about loss of self-control or discipline, but not impulsive traits per se. Again this omission of findings is because this aspect was not covered in the qualitative interview.

Route 2 (from "Ecological factors" to "Behavioural shaping - classical & operant conditioning", then move to the rest of the figure including "habituation" and "chasing"): The behavioural shaping can be understood in two ways. Firstly, people's gambling behaviours are modified by the gambling environment, features of the gambling products and its reward structure (Delfabbro & Winefield, 1999). Secondly, an individual's gambling behaviours are shaped by friends' and families' participation in gambling activities. In this study, between 40% and 60% of individual interview participants (among Mäori, Pacific peoples and Päkehä) described themselves as growing up in a family that gambled a lot; high percentages of these interviewees also identified themselves as problem gamblers. Families influence children's attitudes towards gambling. Grandparents as well as parents who gamble may have this effect on children. A family history of gambling also teaches cognitive distortions; that is, a person's beliefs that they are able to control or predict gambling outcomes.

The notion of winning (including winning streaks or losing in some cases) is not explicit in this explanatory model (Blaszczynski & Nower, 2002) whereas the theme of "people gamble to win or for economic reason" was very strong and evident in this study. Another study by Turner and associates (2003) identified "winning or being close to a win" as a key determinant with respect to gambling or developing problem gambling:

> "Five general types of risk factors were identified as playing a role in problem gambling: a big win, boredom susceptibility, a poor understanding of random events, use of escape as a coping mechanism, and a stressful life without support around the time when the persons start gambling." (Turner, Sharp, Zengench & Spence, 2003, p. 4)

Economists believe people gamble because they want more money, but do not understand they have virtually no chance of actually winning. The present study collected a lot of data about why people gamble for money, particularly those from socially and financially deprived backgrounds. Individuals gamble because they need money for different reasons. Particular examples included money for daily necessities, contributions to extended family, the need to make offerings to church, to pay the debt and to recoup losses.

Another way to try to understand gambling behaviour involves the concept of habituation (Mizerski & Mizerski, 2004). Habituation is about formation of habits that are behavioural tendencies that will re-occur in the context of a stable environment. In an analysis of studies that compared the effects of cognitions and habit on everyday behaviour, Ouellette and Wood (1998) found that habit provided a better explanation and prediction of frequent activities (for example, gamble on a daily or weekly basis). Therefore, the cognitive-based view may not be the best paradigm to understand a frequently repeated behaviour like participation in gambling activities.

> "Although some research has suggested gambling behaviour is driven by the misconceptions of the likelihood of winning that may happen only in the initial

stages of game play. It may be that once a habit develops, there is very little cognitive control over continuing the activity. That does not mean thinking does not take place. It just means that the gambling patrons' thinking appears to have little effect on their participation." (Mizerski & Mizerski, 2004)

A number of observations can be made about why people gamble at various levels of intensity from the Phase One qualitative data:

- It is necessary to put the question "why people gamble" into a specific context, such as addressing a particular sex or age group, and which specific gambling activity to find an answer.
- Why people gamble and shift from social to problem gambling is related to a nexus of economic, psychological, social and environmental factors.
- Gambling behaviours and the subsequent development of problem gambling can be better understood as a result of a combination of factors and personal circumstances rather than one single factor.
- Those personal factors and personal circumstances may have varying degrees of influence at different stages of forming the gambling behaviours; for example, a social factor coupled with gambling advertising may be important to the initiation of gambling; whereas winning or chasing losses is a key risk factor leading to problem gambling.
- Gambling behaviours are influenced by an individual's perception, values and beliefs about gambling, which are contextualised in their ethno-cultural background.
- Finally, there are important variations as to why people gamble and develop problem gambling within and across different populations or cultural groups.

5.1.5 What constitutes problem gambling?

The final section of this discussion compares how participants in this study described problem gambling with respect to two popular problem/pathological gambling screening instruments, namely the Diagnostic Statistics Manual IV and South Oaks Gambling Screen. (See Table 18)

Table 18: Comparison of the present findings with the DSM-IV criterion and the South Oaks Gambling Screen[1]

DSM-IV criterion	Present study (sub-themes)	South Oaks Gambling Screen
• Preoccupied with gambling	• Doing nothing but gamble • The person has changed	• Has a problem with gambling
• Need to gamble with increasing amounts of money	• Spending excessive amount of money and time • Financial losses	• Gambles more than intended to • Borrows from banks or credit cards to gamble • Has cashed in stocks or bonds or sold property to gamble
• Repeated unsuccessful efforts to cut down or stop gambling • Restless or irritable when attempting to cut down	• Losing self-discipline or self-control	• Wants to stop but can't
• "Chases" lost money. Returns to gambling to get even	• Chasing money that has been lost	• Goes back to win lost money
• Lies to others to conceal extent of gambling • Commits illegal acts to finance gambling • Jeopardises or loses important relationship or job due to gambling	• An element of secrecy • Lying to family • Relationship difficulties • Affecting family negatively • Impact on the person's wairua • Missing from work	• Claims to be winning when not • Hides gambling signs from others • Write bad checks to gamble • People criticise gambling • Has arguments over gambling • Loses time from school or work due to gambling
• Relies on others to relieve desperate financial situations caused by gambling	• Borrowing money	• Borrows from loan sharks to gamble • Borrows money from friends, spouse, or household for gambling
	• Affecting mental health negatively • Mood swings	• Feels guilty about gambling
• Gambles to escape problems or relieve negative mood		

[1] **Note:** Modified from Petry and Armentano, 1999

The above table shows how the present findings fit with screening criterion included in DSM-IV and SOGS. However, two sub-themes from this study were not included in the screening instruments. They are:

- It is hard to tell if a person has problem gambling.
- It is about a "bad person".

The first of these sub-themes is less relevant to this study, as it is exactly what screening instruments seek to achieve in an empirical fashion. The second sub-theme tries to associate negative personal attributes to the individual with problem gambling. Upon closer examination of the data, those bad or negative personal attributes like "greedy", "selfish", "they cheat", "directionless" or "soul-less" were more likely to be made by Asian and Pacific respondents. For many Asians, emotional problems, including problem gambling, are caused by bad thoughts, a lack of will power and personal weaknesses, which do not need to be treated or cannot be helped by professional intervention. The attribution of the problems to character flaws is common within Asian culture in general (Pearson, 1993; Sue & Morishima, 1982). These kinds of negative personal labels may exacerbate the individuals' shame and loss of face and go beyond the individual to the family. Negative labelling or stereotyping can further influence the individual's gambling behaviours as well as discourage early help-seeking behaviours. Individuals are less likely to get help when they initially begin experiencing problems with their gambling, increasing the likelihood of continuing their gambling and subsequently develop problem gambling (Kung, 2004; Raylu & Oei, 2004).

5.2 Results from Phase Two

5.2.1 Representativeness of the sample

To ensure an adequate number of people from selected various ethno cultural groups in an urban setting, participants were recruited from convenient locations in the South Auckland area. Hence, the sample was not representative of the South Auckland urban population, but the results from the responses provide very useful indicators of demographic differences in the transition from regular to problem gambling. From Table 3 (Section 3.5.2), response rates ranged from 48% of Pacific Island peoples to 81% of Mäori. There were disproportionate numbers of culturally diverse group members in the sample. The sample also had a disproportionate number of females. Päkehä were under-represented.

Compared with six-month problem gambling rates among representative national populations in New Zealand and in other countries, ranging from 1-7% (Abbott & Volberg, 1999), the rate of respondents with probable pathological gambling (PPG) in the present sample (38%) was extremely high, especially among Päkehä, Mäori and participants aged less than 30 years. People with current problem gambling are typically defined as having three or more DSM-IV symptoms, whereas individuals with probable pathological gambling have five or more of symptoms based on DSM-IV criteria (Abbott & Volberg, 1999).

5.2.2 Factors associated with probable pathological gambling

The finding that PPG selected significantly more favourite gambling activities than non-PPG was consistent with findings from other well-controlled studies (for example, Welte et al., 2004). The rates for gambling on electronic gaming machines or in casinos, which generally range from 15 to 25% for people affected by problem gambling (Abbott & Volberg, 2000; Gerstein et al., 1999; Productivity Commission, 1999; Smith & Wynne, 2004), were greatly exceeded by the PPG in the present sample (66% and 64%, respectively). The preference for these two forms of gambling has been found consistently among problem gamblers in New Zealand and other countries (Abbott & Volberg, 2001; Gupta & Derevenski, 1998).

This latter figure is consistent with the recent finding that in New Zealand during 2003, approximately 90% of new gambling helpline callers and face-to-face counselling clients reported that their problems primarily involved gaming machines, predominantly in non-casino settings (Paton-Simpson et al., 2004). This change from earlier times has mirrored the increased accessibility of and rising proportion of total gambling expenditure on gaming machines. Indeed, the vast majority of the present sample, excluding Asians, endorsed easy access to gambling activities and money machines as reasons for continuing gambling.

However, the differences between PPG and non-PPG average ratings for these two reasons were the smallest of all the differences in reasons for continuing gambling. What distinguished PPG from non-PPG were escaping from stress and troubles, liking the sound and excitement of gaming venues, having lots of time, and losing control. The two most highly ranked of these reasons (escaping from stress and troubles and excitement) were also the main motivations found among individuals with problem gambling in other samples of New Zealanders (Abbott & Volberg, 2001; Clarke, 2004).

Previous studies (Abbott & Volberg, 2000; Volberg, 2001; Welte et al., 2004) reported that currently only a small percentage of people regularly gamble on the Internet and that it does not appear to be a significant risk factor for problem gambling. While Internet gambling was not popular among the present sample, for those individuals who played Internet games, it had the highest frequencies for escaping boredom, loneliness, stress and troubles. Because these two reasons of escape and excitement predominate among people with problem gambling in New Zealand for other gambling activities, this finding points to the possibility that Internet gambling could lead to more problem gambling in the future.

As noted in the literature review (Abbott & Volberg, 2002; Productivity Commission, 1999), the spread of gambling among women has increased, especially on electronic gaming machines, with concomitant increases in the prevalence of problem gambling among them. From the findings in the present study, females who started gambling with housie or card games for money and switched to electronic gaming machines seem especially at risk of becoming PPG.

Compared with PPG's track betting, their rates of casino gambling, housie, card games for money, raffles and Lotto were very high. These activities are commonly available for residents and their communities in the South Auckland area. As noted in the literature

review, the higher dosage and duration of exposure might account for the differences from track betting.

Especially notable is the very large proportion of PPG indicating housie as one of their favourite games. From an earlier study of gambling among a sample of 68 first year psychology students at Massey University in Auckland (Clarke & Rossen, 2000), there were three PPG and all of them played housie. Close friends and relatives provided at least some of the funding for all three, and the main reason they gave for their gambling was for social activity with their relatives and friends.

The demographic risk factors of male and young adulthood noted in prevalence studies reviewed in the present report, were also found to be risk factors for problem gambling in the present sample, as indicated by the high frequencies of PPG among these two groups. Low occupational status (unemployed, beneficiary or manual worker) was a risk factor in the 1991 New Zealand national survey, but not in the 1999 survey (Abbott & Volberg, 2000). In the present study, the prevalence of PPG among them was relatively high.

Non-Caucasian ethnicity is also usually considered to be a risk factor (Abbott & Volberg, 1999, 2000). While the prevalence of probable pathological gambling was very high among Mäori in the present sample, it was relatively lower for the Pacific peoples and Asians. One possible reason for this is that the latter two groups might have been reluctant to reveal problems listed as symptoms on the DSM-IV scale.

5.2.3 Validation of findings from Phase One

As expected from Phase One, winning was the most outstanding reason for starting and continuing gambling for all groups. Obligations and the need for money for family predominated among Samoans and Tongans, less so for Mäori, Niues and Asians. Starting gambling to deal with loneliness was not strongly supported by Niues and Samoans, in comparison with the other ethnic groups. Päkehä and Mäori rated this reason very highly.

Continued gambling for hope and the opportunity for a better life was not highly rated by Niues and Asians, but was by Samoans and the other ethnic groups. Needing money to cover gambling losses was also frequently rated by Samoans and Tongans for continuing gambling, as expected from Phase One.

Alcohol seems to have played a part in the initiation of the youngest age group, Mäori and Asian into gambling. The frequencies of these three groups endorsing the reason that lowered drinking age increased exposure to gambling were the greatest of all the groups.

Affiliation with substance-using peers has been found to be a risk factor for young people becoming heavy alcohol users (Fergusson et al., 1995). As evidenced by the high frequencies of the youngest age group in the present sample gambling for social reasons, the influence of peers is probably also a risk factor for youth becoming PPG. Because the drinking age was lowered only a few years ago, its impact on the incidence

of problem gambling may increase as more young people become exposed to gambling in drinking venues that have electronic gaming machines.

Advertisements played a major role in attracting Päkehä, Mäori and the youngest age group to start gambling. The images and their associations with pleasure and social status are more accessible in memory, and will automatically come to mind when decisions are being made without rational thought (Hills & Dickerson, 2002).

Confirming the findings from the interviews and focus groups in Phase One, migration and associated difficulties were relatively important for Asians starting gambling, in comparison to the other ethnic groups. Saving face with friends, family or colleagues was important for them to continue gambling.

Contrary to the responses in Phase One, gambling in casinos was not frequently endorsed by Asians. However, they did strongly define Mah Jong as a form of gambling, in comparison to all the other ethnic groups, perhaps because many of the latter did not know what the game was. Also, contrary to what was expected from Phase One, becoming involved in fundraising, such as at church, was not as important among Pacific peoples as it was among Päkehä and Mäori.

The results for Päkehä and Mäori participants were very similar compared to the other ethnic groups. Both groups had extremely high rates of probable pathological gambling and, except for Mäori selecting Lotto, preferred the same gambling activities.

Almost all the reasons for starting and continuing gambling were very frequently endorsed by both groups. Mäori were less likely than Päkehä to continue gambling by accepting invitations from friends, family or colleagues, or to “save face” by gambling with them. Both groups considered the same games as definitions of gambling and had equivalent symptoms of problem gambling.

5.2.4 Key indicators of transition from social to problem gambling

The following key indicators identified from the data collected in Phase Two, seem to be important indicators for whether social gamblers will become problem gamblers in the South Auckland area:

Environmental

- Proliferation of electronic gaming machines and easy access to money machines.
- Advertisements for casinos and Internet games, which have an influence especially on young people, Päkehä, Mäori and students.
- Beginning on electronic gaming machines, housie, casino games, card games for money, and continuing on or changing to electronic gaming machines, especially among females.

Social/Cultural/Socioeconomic

- Starting for social reasons, including obligations and the influence of family and friends, but continuing for other personal reasons, especially among Pacific peoples.
- For Asians, difficulties associated with migration and saving face.
- Solving money problems, which becomes needing money to cover losses.

Personal

- Escape from stress and loneliness, especially Päkehä and Mäori, and on Internet gambling.
- Losing control.

CHAPTER 6: CONCLUSIONS

6.1 Strengths of the Studies

The strengths of this study lie in the setting and design. This study was a population-based cross-sectional study involving members of the Mäori, Pacific, Päkehä and Asian communities. In order to achieve a true representation of the variation in the Pacific communities in South Auckland, specific Pacific groups (Samoan, Niue, Cook Islands [recruited in only Phase Two] and Tongan) were targeted for participation in both Phases One and Two of the research. In addition, collecting data from one geographical location in Phase Two reduced the possible bias of inter-regional differences in access to gambling activities.

The combination of qualitative and quantitative methodology achieved two specific purposes in this study. Firstly, the qualitative research provided a wealth of information about how participants start participating in gambling activities, participants' gambling experiences and perceptions regarding the shift from social to a more intense level of gambling, and the specific context of individual experiences. This information highlighted a variety of factors or indicators that shaped the development of the survey questionnaire used in Phase Two of this study. Secondly, the quantitative data collected during Phase Two were able to assess and validate the relative weighting of different personal, socio-economic and cultural factors identified in each of the study groups in relation to their gambling behaviours.

Furthermore, this project is one of the few multi-disciplinary, multi-university and externally funded studies on gambling in Aotearoa/New Zealand. This project drew expertise from various disciplines, including psychology, cultural studies, public health and addictions, from three different universities in Auckland over 15 months. This study demonstrated the collaborative efforts undertaken to work together with a unique skills-base and skills-match of people from strong diverse backgrounds. All researchers have been encouraged to undertake and to proceed with designing processes that are appropriate to their respective cultural backgrounds. Each component has been respected as having its own individual mana, and how this adds to the final result of the study. The research team sincerely hopes that this project will assist those problem gambling treatment practitioners and policy makers who are trying to minimise harm caused by problem gambling to individuals and families in Aotearoa/New Zealand.

6.2 Limitations of the Studies

Like most research studies, the present project is subject to several limitations and qualifications. It is important to note that the literature review included in this report is limited to articles published in the English language. This language restriction may create a bias in this review with respect to the contextualisation of the findings in these studies. However, the direction of this bias cannot be determined.

Another potential limitation of the study is the fact that very few representatives of each demographic group (for example, sex, age and sub-groups within population group)

were interviewed in Phase One of the study. However, the participants that were interviewed provided a wealth of information about gambling behaviour, reasons for starting and continuing gambling, and directions for the development of the questionnaire used in Phase Two. Although the number of participants who completed this questionnaire was reasonably large, it is not representative of the South Auckland population. A much larger sample would be needed to detect differences in gambling preferences, reasons and problems among each ethnic group by sex, age and occupational status. For example, young, unemployed or lowly-paid males might have different reasons to gamble than middle-aged, female office workers.

The information and data provided retrospectively by the respondents in both phases were probably subject to the problems of response bias and faulty recall. Some of the participants might have been unaware of the influence of their own thinking and beliefs, which can inflate the chance of winning has on their reasons for starting gambling.

By asking about current behaviour and DSM-IV problems in the last twelve months on a questionnaire, research participants might have a tendency to minimise the effect of gambling on their behaviours and general wellbeing. Nevertheless, in general, data from the questionnaires supported many of the findings from the interviews conducted during Phase One.

Although the present authors intended to ascertain clusters of reasons for starting and continuing gambling, which would distinguish each demographic group from the others, no clearly discernible factors emerged from the data analysis. Each reason was therefore examined independently for each group.

Lastly, it has been complex for Pacific peoples to be involved in this study (as with all research studies) where they have few appropriate ethnic models to light the pathway (for example, the Heilala model for the Tongan peoples, or the Tivaevae model for the Cook Islands people). However, in the area of problem gambling, which is fledgling and fraught with many new initiatives and developments, it is difficult for Pacific communities to agree that any one model or way of conducting research interviews is best. On the other hand, this research has effectively sought to provide a snapshot for Pacific peoples at this point in time. Members of Pacific communities consider some of the findings are insightful and some are very interesting because it highlights the need for increased education, awareness and intervention services, preferably provided by Pacific peoples for Pacific peoples.

6.3 Implications

Discussions of the implications of this research project are grouped under the following three headings: policy makers, problem gambling treatment practitioners, individuals and familes affected by family gambling.

6.3.1 Policy-makers: implications at the population level

The influence of advertising, “advertisements encouraged me to think I could win”, was ranked at 13th place among the twenty factors to explain why people start gambling by

respondents in Phase Two. A large number of participants commented that they were drawn (some said they were targeted) by advertising or promotional materials to gamble and subsequently developed problem gambling. One recommendation that could be made is for gambling related policy-makers to consider reviewing policy around the advertising of gambling products. It is important to consider whether certain at-risk groups (including young people, Päkehä, Mäori and students) have been targeted at a disproportionate level. Another important consideration should be whether the product is presented in a fair and accurate manner given the addictive elements and potential harms.

Another issue that emerged from both phases of the project related to the accessibility of gambling venues, the availability of gambling activities and the abundance in terms of options of gambling activities catering for different interests and abilities. Responses from Phase Two of the study rated "I have easy access to money machines" and "I have easy access to gambling activities" as the second and third factors why they gamble at regular levels. All of these findings raise the issue that the distribution of gambling activities needs to be controlled and that there needs to be regulation of the whole gambling environment (for example, physical proximity to money machines, withdrawal of cash through EFTPOS when making a purchase) at the national and local government level.

It is apparent from the findings of this research project that in order to reduce or minimise harm related to problem gambling or to prevent people from becoming involved in regular gambling, there are many issues that need to be dealt with other than gambling. These wider issues include employment, the distribution of wealth in society, the level of income support for those in need, social integration for immigrants and the variety of entertainment available in the community. "Winning" or "the hope of winning" has been identified in this project as the major reason for people to gamble or to continue to gamble at a regular level. Closer examination of the qualitative data revealed that some participants thought gambling was their only way to get out of poverty or a way to make ends meet.

6.3.2 Problem gambling treatment practitioners: implications at interventions level

As discussed above, "winning" or being "close to a win" is the most salient reason for people to start gambling and continue to gamble at least once a week. From these results it appears that one way to address this is for problem gambling treatment practitioners to provide clients with accurate information and analysis about the possibility (or "impossibility") of winning. This may help change some of the cognitive distortion surrounding gambling and the chance of winning held by people who gamble at intense levels.

In Phase Two of this study, 59% of men and 50% of women regarded gambling as a way to escape from stress and troubles. A further 63% of men and 56% of women endorsed the statement that: "Gambling helps me escape from my stress and troubles". This trend was strongly supported by the data obtained in Phase One. Participants gave detailed explanations of how gambling was used as a form of coping; for example, one individual described how gambling saved his life, giving the only hope or reason to live.

Approximately 80% of respondents regarded gambling venues as places to socialise with people, seek excitement and have fun. It is suggested that, in addition to the control of gambling behaviours, problem gambling treatment practitioners will need to look at problem solving skills, stress coping skills and identify alternative forms of entertainment with their clients.

Another implication for health promotion practitioners is the need to continue educating the community about which activities are considered as forms of gambling. Of note was the fact that only 59% of participants, particularly among Mäori, Niues and Asians, defined "Internet - casino games" as gambling (refer to Appendix O for a full list of the activities that could be defined as gambling activities). Admittedly, some of the casino games on the Internet are played for points or competition, not necessarily gambling for money. However the difference between Internet-based "casino games" and "casino gambling for money" is not entirely clear, especially for young people. This is important as many people have easy access to the Internet and there is currently no control over Internet gambling in New Zealand. Another significant result was that only 68% of those individuals who actually met the "probable pathological gambling criteria" identified themselves as having a problem with gambling. There is an acute need for educators to work with individuals, family members, church groups or any relevant organisations (for example, schools and workplaces) about the early warning signs of problem gambling and where people can seek help.

6.3.3 Family and individuals affected by problem gambling: implications at community level

One intended outcome of this study was to gain an in-depth understanding of the meaning and relevance of gambling in an individual's life. The responses to this by the participants in the study were varied. Some participants reflected on how gambling has been their main entertainment option, "special nights out", and gave people the chance to socialise with friends from a similar cultural background or, alternatively, to be with family members. For some individuals, gambling has helped alleviate their financial hardship, at least temporarily. As mentioned previously, an individual's gambling behaviour is also influenced or modified by a range of environmental factors, including media advertising and the characteristics or "addictive" nature of certain gambling products. It is hoped that this awareness of the importance of external factors can help remove the stigma associated with gambling or people with problem gambling as the fault of an individual.

Most people have a reason to gamble at some time in their life. It is important to acknowledge that problem gambling is not the result of a person being weak or "wrecked" and that it is appropriate and important for individuals and family or significant others affected by gambling problems to seek help from professionals. Practitioners and researchers alike should endeavour to find out ways to reach this population, especially those who are very reluctant to seek help because of the shame factor associated with an addiction. Recent developments in problem gambling intervention are investigating the effectiveness of a self-help programme, which can be completed in an individual's own environment at their own pace without the need to present at clinical services.

Finally, data from this project confirms the bi-directional relationship between family and gambling behaviours. Not only do family practices affect gambling behaviour, but gambling behaviour in turn affects family practices, including how the family functions. Therefore it is important that families from different socio-economic and cultural backgrounds should be informed about the adverse impacts of problem gambling in a family and how they can educate family members about responsible gambling.

6.4 Directions for Future Research

This project has established a framework to suggest why people start gambling, why some shift to more frequent gambling and some experience problem gambling. The next stage is to advance and test theoretical models that identify causal paths and determinants of problem gambling in the Aotearoa/New Zealand context.

It is recommended that an investigation should be made into identifying effective preventive measures to ensure that people gamble in moderate ways and resist the social and cultural factors that might otherwise draw them into gambling problems.

Some participants in Phase One clearly identified they participated in gambling activities, but would not develop any gambling problems. The research team recommends studying the incidence of problem gambling among resilient and at risk populations and the associated protective and risk factors that may lead to developing problem gambling.

Finally, it is recommended that a longitudinal study of people who gamble in a New Zealand urban setting should be undertaken.

It is proposed that the focus should be on two groups of individuals for each ethnic group, in order to examine the transition from social to regular to problem gambling. One group would be individuals at risk of becoming problem gamblers; the second group would be individuals with problem gambling not currently in treatment. It would also be desirable to ascertain the characteristics and variables associated with people with problem gambling who have quit gambling on their own or after a single session of counselling.

These individuals would be followed from adolescence to middle age. Variables such as sex, age, occupational and socioeconomic status, physical health, substance use, life events, perceived stress, coping abilities, social support, impulsivity and loss of control would be assessed at regular intervals. Individuals who are involved with the justice system, such as on bail, in jail or on probation, would also be included.

It is paramount that population groups be further encouraged and motivated to investigate their respective ethnic and cultural issues in more depth. This study lends some direction in the areas that demand urgent attention; for example, the extent of participation in pokie machine gambling for Tongan, Mäori and Päkehä. Of greater importance, are the groups of people being targeted by gambling promotional activities, such as Mäori and Pacific women, youth, the elderly and immigrants. Some Samoans have identified the politics of poverty as being an extremely important driver for developing problem gambling, and a cost-benefit analysis for respective ethnic groups

could be extremely significant. There are many areas of potential study that could be conducted, and this study has been a catalyst for a few ideas for future research in problem gambling amongst members of ethno-cultural groups in Aotearoa/New Zealand.

6.5 Final Conclusions

Over the last decade, we have witnessed a rapid expansion of gambling activities in Aotearoa/New Zealand, but there are still very few local studies examining why people gamble and why some develop problem gambling. This project attempted to address this situation and provided an important opportunity to gain an in-depth understanding of gambling behaviours among four population groups – Mäori, Päkehä, Pacific peoples and Asians in the New Zealand context.

Although the project had four stages, each one overlapped and was able to inform the others. To elaborate this concept, the key findings from the literature review (Stage One) directed the development of the semi-structured interview guide used in Stage Two. The third stage concentrated on the analysis of data obtained from Stage Two and formed the framework to explain why people gamble. This framework was then developed into a questionnaire and tested during Stage Four.

The literature review (Stage One) examined literature on why people gamble and how some people shift from social to problem gambling. The review covered the environmental, biological, personality and cognition determinants associated with problem gambling. Despite a great deal of prior work supporting the feasibility of various theoretical propositions, relatively few studies have explicitly examined these models. The literature review concluded that there is a need for studies on the incidence rate of problem gambling as well as a longitudinal investigation of people who gamble and how some people shift between social and problem gambling in the Aotearoa/New Zealand context.

The results from the qualitative and quantitative studies addressing the question of why some individuals move from social to problem gambling is summarised in the following Table X.

Table X: Phases one and two: key indicators of the transition from social to problem gambling[1]

	Phase One: Themes (in bold) and sub-themes	**Phase Two:**
Economic	**Have winning experiences** **Urge to win or belief to win** • Use gambling to solve money problems **Recoup the losses**	• Solving money problems which becomes needing money to cover losses.
Personal (and individual factors)	**Minimise negative affect** • Relieve stress • Reduce constant boredom • Cope with anger • Escape from problems • Cope with unemployment • Have unpleasant changes in life circumstances • Have no direction in life **Enjoy gambling** • Are comfortable with the gambling environment **Loss of control** **Some personalities are vulnerable to problem gambling**	• Escape from stress and loneliness, especially for Päkehä and Mäori, and on Internet gambling. • Losing control.
Environment	**Family and peers influences** **Reinforced by advertising** **Gambling environment** • Some gambling activities are addictive • The gambling environment is glamorous, attractive and relatively safe (for example, for women) • Close to banks, money machines and finance companies • Easy access to gambling outlets **New gambling products** • Increase in Internet gambling and number of pokie machines	• Proliferation of electronic gaming machines and easy access to money machines. • Beginning on electronic gaming machines, housie, casino games, card games for money, and continuing on or switching to electronic gaming machines, especially among females. • Advertisements for casino and Internet games, which have an influence especially on young people, Päkehä, Mäori and students.

[1] For a summary of the results on why people gamble, refer to Section 4.1.9 Summary of Phase One results

	• Gambling is part of the community; both the gambling industry and community benefit from it	
Social	**Peer reinforcement for people with problem gambling** • Money lending within whänau sustains high level of gambling • People with problem gambling "support" each other's gambling behaviours	• Starting for social reasons, including obligations and influence of family and friends, but continuing for personal reasons, especially among the Pacific peoples.
Cultural/ spiritual		• For Asians, difficulties associated with migration and saving face.

In conclusion, the reason why people gamble and shift from social to problem gambling is related to a combination of economic, psychological, social, environmental, cultural and spiritual factors, rather than one single factor. These personal factors and environmental influences may also have varying degrees of influence at different stages of the formation of gambling behaviours. It is very important to acknowledge that the reasons why people gamble and develop problem gambling vary within and across different population or cultural groups. With regard to direction for future research, a number of key indicators based on the e-PRESS model and indicators of transition from social to problem gambling were generated in this study, which could track changes in a large sample (or at risk group) of people who progress from social to problem gambling and recovery.

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Appendix A: Problem gambling treatment services in Auckland, New Zealand

This list does not purport to be a comprehensive list of problem gambling treatment services in Auckland. However, it does include those that are easily identified via a phone or website contact as of November 2004. Some of the services listed are provided for specific population groups and many operate within the non-government organisation (NGO) sector.

Auckland based problem gambling treatment services

Centre name	address	phone & fax	remarks
Problem Gambling Foundation, Auckland Clinic	7 Alpers Ave, Epsom; PO Box 26-533, Epsom	(P) 09 522 4823 or 0800 664 262 (F) 09 522 4826	Daily 9am – 5.00pm; Some late night appointments PGF Epsom office making bookings for all PGF Auckland offices - can do 3 way calling
East, Glen Innes Family Centre	99 Leybourne Circle – next to Glenbrae School	(P) 09 522 4823	
West, Henderson	CAB, 5 Ratanui St, Henderson	(P) 09 522 4823	
South Mangere, Mangere Peoples Centre	366 Masey Rd, Mangere East	(P) 09 522 4823	
South, Manukau, Friendship House,	Putney Way, Manukau	(P) 09 522 4823	
South, Papakura, Papakura C A B.	4A Opaheke Rd, Papakura	(P) 09 522 4823	
North, Takapuna Mary Thomas Centre	3A Gibbons Rd, Takapuna	(P) 09 522 4823	
Oasis Center, Mt Albert Clinic	726 New North Rd, St Lukes; PO Box 41309, St Lukes	(P) 09 846 0660 (F) 09 846 8440	Daily 9 am - 5 pm
Henderson Clinic, Faith Factory	7 View Rd, Henderson	(P) 09 846 0660	

Glen Eden Clinic, Corps & Community Centre	275 Glengarry Rd, Glen Eden	(P) 09 846 0660	
North Shore Clinic Shakespeare House	cnr Shakespeare and Alma Rds, Milford	(P) 09 846 0660	
Otahuhu Clinic	99 Church St, Otahuhu	(P) 09 846 0660	
Manukau Clinic	16 Bakerfield Place, Manukau	(P) 09 846 0660	
Howick Clinic	37 Wellington St, Howick	(P) 09 846 0660	Salvation Army building - down the hill below RSA and Beaurepairs
South Auckland, Hauora Waikato Te Hihiri-a-nuku for people of all ethnicities Partnership with Raukura Hauora O Tainui	Otahuhu, 519 Great South Rd Clendon Shopping Centre, Raukura Hauora O Tainui Office, next to WINZ	(P) 09 2702582	Will also arrange home visits or meet at mutually agreeable venue in South Auckland; Area covered is from Otahuhu to Mercer Male and female counsellors available to see people of all ethnicities
Wai Health Addiction Services, for people of all ethnicities	Waipareira House, 13-15 Ratanui St PO Box 21081, Henderson	(P) 09 839 0288 ext 5 (F) 09 839 0842	Do not attempt 3 way calls; fax confirmation ask for Elaine Porter or Russell Phillips

Appendix B: Review of literature on factors leading to substance abuse and implications for gambling in New Zealand

Abstract

This paper reviews the literature on the cultural, socio-demographic, social and personal factors that contribute to the initiation and continuation of the use of alcohol and other addictive substances. Special emphasis is on the findings from two longitudinal studies in New Zealand. The inter-relationships between problem gambling and substance abuse are examined. Implications for the changes from social to intense, to problem gambling, and to recovery are presented. Key indicators for assessing the effects of gambling policy on gambling behaviour are suggested.

Many of the findings discussed below are derived from two longitudinal studies that have provided much information about alcohol and substance use among two cohorts in New Zealand. The first, the Dunedin Multidisciplinary Health and Development Study (DMHDS), began with 1,037 children at three years of age, who were born in Dunedin between 1 April 1972 and 31 March 1973, and who were subsequently assessed on a wide range of topics every two years until the age of 15, then at 18, 21 and 26 years. Data on alcohol and substance use were included from the age of 9. The second, the Christchurch Health and Development Study (CHDS), examined a birth cohort of 1,265 children followed yearly from 1977. Questions on alcohol, smoking and drug use began at approximately 10 years of age. Data on gambling among the Dunedin sample were collected when the cohort was 21 years of age, and interviews on gambling are scheduled for 32 and 38 years of age, so that no meaningful results have been published to-date (Nada-Raja, personal communication, December 13, 2003). Both samples are of slightly high socioeconomic status. Single parent families, Mäori and Pacific people are under-represented, compared with the New Zealand population.

Cultural Factors

Sussman and Ames (2001) have outlined a number of cultural factors that may be involved in changes in frequency and amount of substance use. Cultural antecedents include important life habits and rituals that are meaningful to the culture, normative structures, expectations, beliefs and attitudes about reasons for substance use and its effects. Changes in rituals, norms and beliefs can occur through acculturation, the preference or adoption of a culture to which individuals have been more recently exposed. Failure to bond successfully to the new culture and conflict with the old culture may increase stress and the likelihood of substance use to relieve the stress. For example, rates of admission to psychiatric hospitals for Mäori have increased from the 1950s with rapid increases in first admissions and frequency of re-admissions through the 1960s to 1980s (Sachdev, 1989). The main problems were alcohol abuse and dependence, and Mäori males aged 20 to 40 years were especially at risk. Rates of increase in admissions were greater for Mäori than for non-Mäori, and were attributed to urbanisation, socioeconomic conditions and government policy changes.

From the 2000 national survey of alcohol use among 1,992 Mäori (Barnes, McPherson, & Bhatta, 2003), reasons for drinking were mainly increased availability (40 to 45% of the 13 to 17 year olds said it was easy) and affordability. More than 40% of the total sample thought that the laws on selling alcohol to adolescents under 18 were not adequately enforced.

The Alcohol Advisory Council of New Zealand (ALAC) surveyed the major Pacific Island groups to ascertain drinking patterns among them (Alcohol Advisory Council of New Zealand, 1997). Across all groups, more women were drinking than their respective communities acknowledged, young people who drank tended to decrease or stop attendance at church, there was no one view of alcohol within any one Pacific Island group, it was important to drink in a group until all the alcohol was consumed, heavy drinking peaked between 30 and 35 years of age, and most participants, apart from the Niue group, seemed totally unaware of the health effects of binge drinking. In the Islands, alcohol was produced and consumed away from the home, but when in New Zealand, it was brought into the home, so that women and children became more exposed to alcohol and its effects. The tradition of kava and similar ceremonies in which alcohol is drunk until it is all consumed, probably contributed to binge drinking and to the lack of awareness and concern of associated detrimental health effects. Wanting to drink alone was seen as problematic because the individual was rejecting the group. Generosity of giving food enhances the status of the hosts, and alcohol was considered a food to be lavished on guests. If guests went home without getting drunk, then the host was being mean and stingy.

In Western cultures that emphasise individual freedoms, laws, norms and advertising are favourable to substance use. For example, in the Dunedin study (Casswell, Pledger, & Hooper, 2003; Casswell, Pledger, & Pratap, 2002), drinking in licensed premises at 18 (82% of the drinkers did so illegally) was related to availability of alcohol at 15 and was one of the predictors of greater frequency and heavier drinking into early adulthood for both sexes. Availability involves ease of setting up a drug business, establishing a distribution network, proximity to potential customers, knowledge about the substances, and ability to acquire the substances by access to money legally or illegally, or through the provision of services (Sussman & Ames, 2001). Although educational efforts to stem excessive alcohol use have had little success, policies of social control that limit availability have been more successful (Harford, 2003).

Media and advertising

Sussman and Ames (2001) summarised the potential effects of worldwide exposure to hedonistic portrayals of substance use on people's use of such substances. Television programmes, films and the Internet provide ready access to knowledge about the substances, role models and idols glamorise the consumption of them, and advertising makes them attractive. Mere repeated exposure to such images is sufficient to alter people's preferences for the substances, even if they are not paying attention to them. The images and their associations with pleasure and social status are more accessible in memory, and will automatically come to mind when decisions are being made without rational thought (Hills & Dickerson, 2002). Further, people who are using or abusing substances, or predisposed to using them, have their beliefs and behaviours reinforced by the media.

For example, liking advertising for alcohol at age 18 and the amount drank at age 21 influenced the frequency of drinking at age 24 among the Dunedin cohort (Casswell et al., 2002; Casswell & Zhang, 1998). In earlier reports on the cohort, Casswell et al. (Casswell, Brasch, Gilmore, & Silva, 1985; Casswell, Gilmore, Silva, & Brasch, 1988) found that peers were not important for 8- and 9-year-olds in getting information and attitudes about alcohol. Information came primarily from television (37%), and parents

and siblings (26%). The children tended to associate alcohol with getting drunk, vomiting and silliness, based on their observations of familial behaviour. They also associated it with drink-driving accidents from television health-promotion advertisements. However, the effect of moderation messages on the reduction of alcohol consumption is probably outweighed by television advertising and entertainment. With the Dunedin cohort, Connolly et al. (Connolly, Casswell, Zhang, & Silva, 1994) found that the number of beer commercials recalled by males when they were aged 15 predicted the amount of beer consumed at age 18. Although there were no relationships between recall of advertising and consumption of wines and spirits for both sexes, for young women at 18 the number of hours watching television was associated with amounts of these two substances consumed. There were no associations between recall of moderation messages and amounts of alcohol consumed.

Spiritual factors

Some cultural and religious groups use drugs ritualistically and symbolically (Sussman & Ames, 2001), for example, in kava ceremonies before political meetings and as the blood of Christ in the Catholic Mass. Most religious groups operate under two basic assumptions: (1) something is not right with the human condition, and (2) higher powers can remedy the situation (Sussman & Ames). For example, Koski-jannes (1999) found that religious revival and the Alcoholics Anonymous 12-step programme were especially effective in changing polydrug abusers. Orford (2001) noted that the majority of substance abusers relinquish their excessive appetites without professional treatment, and emphasised underlying processes from the *transtheoretical model of change* (Prochaska, DiClemente, & Norcross, 1992) that seem to be common to different treatment programmes that could explain natural recovery. In addition to support from others and the reinforcements of self-liberation, such as day-to-day commitment to quit and self-control or willpower, moral reform seems to be important. There are common processes, such as the admission of having a problem and needing help, symbolic death, surrender and re-education, which lead to experiential peace (lack of negative affectivity), changes in beliefs, and character change towards conscientiousness, selflessness, humility, ego-reduction, and forgiveness.

Sociodemographic and Social Factors

The prevalence of alcohol and substance use among males is generally greater than that among females, both for frequency of consumption and amounts consumed (Sussman & Ames, 2001). Sussman and Ames suggested that males and females are taught to handle problems differently. Males are more likely to seek instrumental ways of dealing with their problems rather than being expressive or seeking help, while females are more likely to look for social support. The authors suspect that as women become more career- and goal-oriented, the incidence of substance use and abuse will increase among them.

In Western countries, the prevalence of alcohol use tends to peak between 26 and 34 years of age, and of illicit substance use between 18 and 25 years of age (Harford, 2003; Sussman & Ames, 2001). Freedom from family constraints, and the ability to purchase alcohol and tobacco legally, possibly account for some of the increase in substance use into young adulthood. Job and new family responsibilities may contribute to decreases in use afterward. From data in the Dunedin study, Casswell, et al. (Casswell et al., 2003; Casswell et al., 2002) examined trajectories and predictors of

drinking from 18 to 26 years of age. Unlike prevalence rates in other countries, drinking peaked at 21. They found that drinking in licensed premises at 18 (illegally then) and lack of educational achievement led to greater frequency and heavier drinking through early adulthood for both males and females. Risk factors for drinking and driving incidents up to the age of 26 were male, lower socioeconomic status, no school qualifications, dependent on alcohol or marijuana at age 21, drinking at bars, and lack of foresight (Morrison, Begg, & Langley, 2002). At 15, if access to alcohol was easy, drinking in licensed premises at 18 was more likely. Similarly, in Denmark (Andersen, Due, Holstein, & Iversen, 2003), drinking at 15 increased the odds of heavy drinking at 19. Drunkenness among boys and use of spirits by girls at 15 in Denmark were the strongest predictors of excessive drinking at 19.

Among the Dunedin cohort at 15, more alcohol than usual was consumed away from the home, during the evening, among lower socioeconomic status adolescents with more money to spend (Connolly, Casswell, Stewart, & Silva, 1992). Approval of drinking by female friends affected amounts consumed for both sexes, and female disapproval of males' drinking had a notable effect on lowering the amounts the males normally drank. Frequency was also predicted by maternal drinking at the cohort age of 9, and heavy drinking by the same-sex parent. The authors noted that similar trajectories from longitudinal studies in other countries also included failure to monitor adolescents' whereabouts, living at college, and cohabiting with a member of the opposite sex. Marriage prevented an increase or led to a decrease in alcohol consumption.

In another DMHDS report (Droomers, Schrijvers, Casswell, & Mackenbach, 2003) on high alcohol consumption at 15, 18 and 21 years of age, predictors from 9, 11 or 13 years were examined. The 15 year-old group, whose fathers were in the lowest occupational group when the cohort was 9, had twice the odds of heavy drinking as the highest paternal occupational group. This finding was explained by family alcohol problems, peer approval of drug use, lower intelligence and lower parental attachment at all earlier ages.

From the Christchurch study, path analysis (Fergusson, Horwood, & Lynskey, 1995) showed that three factors with a 50% probability of risk predicted hazardous alcohol use (frequency, amounts and related problems) at 16 years of age: sex (males), heavy consumption at 14, and affiliation with substance-using peers at 15. Family social position, conduct problems at 8 years, age first used alcohol, parental use at 11, and changes of parents were associated with early heavy consumption and affiliated peer usage. Children who were introduced to alcohol before the age of 6 and whose home environments had permissive attitudes towards alcohol use were twice as likely to drink heavily or have alcohol-related problems at 15 (Fergusson, Lynskey, & Horwood, 1994). Low risk (<1%) adolescents were female with no evidence of early consumption nor affiliation with substance-using peers. Further, the predictors of vulnerability to substance use at 16 (affiliation with delinquents or substance-using peers, novelty-seeking, and parental illicit drug use) were applicable to all classes of substance use, alcohol, tobacco, cannabis, and other illicit drugs, rather than to only one class (Lynskey, Fergusson, & Horwood, 1998).

A prospective study of 1009 representative sixth grade students in Maryland (Simons-Morton, 2004) found that frequency of drinking increased from the beginning to the end

of the school year. The factors accounting for the increase were peer influence, lack of engagement in school-related behaviours, and high personal expectations about drinking combined with low expectations that parents would be upset if they found out. The results were the same for both sexes, and for both White and Black students.

Among the Christchurch cohort, the progression of smoking from non-smoking to occasional to regular smoking was traced from 10 to 16 years of age (Fergusson & Horwood, 1995). The development of smoking was largely progressive, one-way and accelerated with age. Early onset of frequency of cannabis use at 16 was related to increased risks of juvenile offending, mental health problems, school dropout, and unemployment at age 18 (Fergusson & Horwood, 1997). Similarly, with the Dunedin cohort, 12-month prevalence rates of cannabis use and dependence did not decline from 21 to 26 years as expected (Poulton, Moffitt, Harrington, Milne, & Caspi, 2001). Dependence was related to high rates of use of harder drugs, selling drugs and drug convictions. Risk factors for heavy use of tobacco and cannabis for both cohorts were also similar to those for excessive alcohol consumption.

Personal Factors

A number of personality traits have been associated with excessive substance use: sensation-seeking, impulsivity, lack of self-regulation, inability to bond to social institutions, unconventionality, rebelliousness and tolerance of deviance (Sussman & Ames, 2001). From the Dunedin longitudinal study, Caspi et al. (1997) ascertained the connection between stable personality traits at age 18 and the health-risk behaviours of alcohol dependence, violent crime, unsafe sex and dangerous driving habits at age 21. They found that the same personality type applied to all four health-risk behaviours. Compared with controls, the at-risk cohort at 18 was lower on traditionalism (conservative, high moral standards), on harm avoidance (preference for safe activities), on self-control (reflective, cautious, careful, rational, planful), and on social closeness. They were higher on negative emotionality, including aggression and alienation (feeling mistreated, victimised, betrayed). At age 3, they were under-controlled and had high negative emotionality, which led to low traditionalism, low harm avoidance, low self-control and negative emotionality at 18. The authors noted that from behavioural-genetic studies, over 50% of the variation in these four traits has been attributed to genetic factors.

The Christchurch study examined the relationship of conduct problems and attention deficits to substance use. After controlling for the confounding effects of sex, family socioeconomic status, parental use of illicit drugs and marital conflict, Lynskey and Fergusson (1995) showed that use of alcohol, tobacco and illicit drugs at 15 was attributable to conduct problems at 8, and not to attention deficit disorders. In a report based on the Dunedin sample (McGee, Williams, Poulton, & Moffitt, 2000), cannabis use was associated with mental health problems at 15, 18 and 21 years of age. Lower socioeconomic status, conduct problems in childhood, low adolescent parental attachment and cannabis use at 18 led to mental health problems at 21.

The addictive personality

Various research has provided some support for the existence of a cluster of characteristics that could be described as an addictive personality trait (Hudak, 1993; Ibanez et al., 2001; Orford, 2001). Multiple addictions have been found among more than half of adolescents who have a compulsive behaviour problem (Griffin-Shelley,

Sandler & Lees, 1992, cited in Gupta & Derevensky, 1998). Compulsive problems can include substance abuse, food, sex, relationships and gambling. From earlier studies of drug dependence (Gupta & Derevensky, 1998), the trait of addiction among adolescents precedes the addiction itself; in other words, addiction to an activity does not create the addictive personality.

Orford (2001) has defined addiction as "an attachment to an appetitive activity, so strong that a person finds it difficult to moderate the activity despite the fact that it is causing harm" (p. 18), and discusses the theory that addiction is basically excessive appetite. Internally or externally generated substances that affect neurotransmission, reward mechanisms, cognitive processes and emotional cycles are involved. An addiction develops from exciting reward mechanisms, which affect neurotransmitter activity and emotionality, from cues in the social environment, and from memories and cognitions that strengthen connections to the desired activity (for example, "have fun – drink alcohol"). The associations become automatic, and rational decision making is lost (Hills & Dickerson, 2002). A secondary process called the *abstinence violation effect* (Orford, 2001) involves feelings of guilt and self-blame, self-attributions that the situation is internally caused, affects all of one's life and is uncontrollable, and feelings of helplessness and hopelessness. The feelings may be temporarily relieved by indulging in the activity, which further strengthens the cycle, leading to increased costs, conflict, guilt, depression, anxiety, apprehension, anticipation of stressful events, confusion and biased or non-vigilant information processing. Negative emotions such as depression and anxiety lose their inhibitory effect (Hills & Dickerson, 2002).

The Development of Substance Use and Abuse

This section consists of a synopsis of the above review using Sussman and Ames' (2001) integration of theories of substance use toward abuse, which were supported primarily by findings from longitudinal and prospective studies. In general, social, cultural, situational and environmental factors are likely to be more influential than personal factors in initiation, low-level or early substance use, while personal factors influence continuation, higher and later levels of use. Table 1 summarises the risk and protective factors that contribute to the initiation and continuation of substance use, which could also apply to problem gambling.

Table 1.

Risk and protective factors that contribute to the initiation and continuation of substance abuse. (Adapted from S. Sussman and S. L. Ames, 2001, *The social psychology of drug abuse* (Table 6.1, p.76). Buckingham, England: Open University Press.)

Risk Factors	Protective Factors
Environmental	Environmental
Availability and accessibility	Unavailability of substances
Advertising, favourable media portrayal	Neighbourhood cohesiveness, stability
Permissive social policy	Enforcement of legislation
Cultural	Cultural
Minority group status	Majority group status
Norms that favour substance use	Norms that mitigate substance use
Acculturation pressures	Cultural adaptation and cooperation
Socio-demographic	Socio-demographic
Male	Female
Adolescent or young adult	Adulthood (30+)
Young age at initiation	Later age of initiation
Poverty, unemployment, poor housing	Higher economic status, employment
Family separation	Intact families and marriage
Social	Social
Conflict and chaotic home environment	Stable home environment, family rituals
Ineffective parenting, child abuse	Effective parenting, control
Disengaged and hostile families	Cohesive and affectionate families
Negative peer influence	Conventional friends
Modelling use from significant others	Abstinent role models
Leisure and social activities with substances	Recreational, leisure and social activities without substances
Personal	Personal
Genetic predisposition to impulsivity and negative affectivity	Genetic predisposition to emotional stability and positive affectivity
Lack of attachment to parents / caregivers	Attachment to parents / caregivers
Poor social and coping skills	Social competence
Early childhood conduct disorders	High intelligence
Failure in school	High academic achievement, preschool
Peer susceptibility	Self-confidence, conscientiousness
Lack of self-control	Self-control, self-efficacy
Antisocial behaviours	High moral standards
Novelty-seeking	Preference for safe activities
Unawareness of memory associations	Rational planning and foresight
Liking advertising for substances	Awareness of substance-inducing cue

Orientation towards substance use begins in families which use, encourage or tolerate the substances. Peer influence, role models, advertising and media promote experimentation with and acquisition of knowledge of substances from the pre- to mid-teens. Family conflict and separation, poor supervision, parental modelling and tolerance of substance use, early introduction to substances, deviant peer group associations, youth unemployment and lack of educational attainment, are factors that are likely to lead to frequent or excessive substance use among adolescents and young adults. Personal factors such as genetic predisposition towards impulsivity and negative affectivity (anxiety, depression, aggression, alienation), susceptibility to peer pressure, early conduct problems, and rebelliousness make the individuals more vulnerable to acquisition of substance use habits. Sussman and Ames (2001) summarise the problem behaviour theory that adolescents have a general propensity to deviance. Problem behaviours satisfy psychosocial functions such as display of opposition to norms and values of conventional society, demonstration of unity with peer groups and affirmation of personal identity. During experimentation, associations between feelings, memories and expectations about substances are strengthened, and the physiological reinforcing effects are experienced. With the availability of alcohol and tobacco legally, there is an increase in the use of these two substances during young adulthood, followed by a decrease for the majority of users when employment, marriage and other social responsibilities become more important.

Regular use of legal substances continues for a substantial number of social users. A small minority becomes addicted to these and illegal substances. Addicts tend to be heavier consumers initially, with more substance abuse and life problems, and loss of control. Substance use becomes strongly entrenched, maladaptive habits are strengthened, and alternatives are limited or inaccessible. However, youth and young adults who take responsibility for caring for others, emotionally distance themselves from problem peers and significant others, get involved in positive social and recreational activities, have a hopeful outlook, have good communication skills and seek out social support when needed are more resilient against problematic substance use.

Recovery from addiction is a long-term commitment, which follows the processes of admission that there is a problem, resistance, ego-reduction, surrender, compliance, re-education and maintenance. Abusers must genuinely want to solve their problems, to work hard, to make a commitment not to use the substances, and to honestly comply with formal or informal treatment plans. Relapse can occur due to failure to avoid risky settings and social groups, failure to exert effective coping skills such as self-control when confronted with unexpected risky situations, cravings or intrusive thoughts, negative affect, and interpersonal problems and conflict. In addition to changing habits and entrenched personal characteristics, there are post-acute physiological symptoms that need to be overcome. These include inability to think clearly, over-reactivity, memory problems, sensitivity to stress and sleep disturbances. Self-liberating behaviours, such as day-to-day commitment to quit and self-control or willpower, spouse, family and friends' support, and changes towards conventional activities help maintain the recovery. Cohesive and affectionate families are more conducive to maintaining change than disengaged and hostile families (Sussman & Ames, 2001). However, families need to avoid enabling the abuser to continue abusing, such as not cleaning up the consequences of the abuse for the abuser, letting the abuser reach a

low point where he or she is honestly receptive to assistance, seek support for themselves apart from the abuser, and with emotional detachment.

Problem Gambling and Substance Abuse

Substance abuse is frequently associated with problem gambling, especially with alcohol use among young males (Abbott, 2001; Arseneault, Ladouceur, & Vitaro, 2001; Baron & Dickerson, 1999; Echeburua, Frenandez-Montalvo, & Baez, 2001; Giacopassi, Stitt, & Vandiver, 1998; Greenberg, Lewis, & Dodd, 1999; Gupta & Derevensky, 1998; Hendriks, Meerkerk, van Oers, & Garretsen, 1997; Hodgins & el-Guebaly, 2000; Hraba & Lee, 1996; Ibanez et al., 2001; Ladouceur, Arseneault, Dubé, Freeston, & Jacques, 1997; O'Connor & Dickerson, 2003b; Orford, Morison, & Somers, 1996; Petry, 2000, 2001a; Shaffer & Hall, 1996; Spunt, Dupont, & Lesieur, 1998; Sussman & Ames, 2001; Tavares, Martins, & Lobo, 2003; Welte, Barnes, Wieczorek, Tidwell, & Parker, 2004). Similar problem areas are involved, including obsessions, compulsions, loss of control, craving, relapse, depression, and financial, social and legal problems (Spunt et al., 1998; Sussman & Ames, 2001). In New Zealand, a recent national survey (Abbott, 2001) reported that 37% of lifetime problem gamblers engaged in hazardous alcohol use, more than double that of the adult population. For the 12 months before the national survey, 16% of the problem gamblers used cannabis, and 12% other illicit drugs, compared to the adult population rates of 7% and 1%, respectively. In an experimental study (Kyngdon & Dickerson, 1999), college males randomly assigned to a low alcohol group persisted twice as long at electronic gaming machines as the placebo group, and more than three times as many of them played to losing all their cash stakes, indicating that even at low levels of consumption, alcohol can diminish self-control and rationality. Some evidence (Orford et al., 1996; Rozin & Stoess, 1993) suggests that although problem gamblers seek pleasure and are as attached to gambling as drinkers are to drinking, they do not seem to suffer to the same extent the problems of neurological adaptation, tolerance and withdrawal.

In a longitudinal study (Vitaro, Ferland, Jacques, & Ladouceur, 1998) with self and teacher ratings of impulsivity of young adolescents (12-14 years), more problem gamblers among them at 17 years of age used alcohol, marijuana and other drugs than non-problem adolescents. Like other investigators, they found that impulsivity, disinhibition and antisocial behaviour were linked to comorbidity rather than to problem gambling alone, or to substance abuse only (Arseneault et al., 2001; Blaszczynski & Nower, 2002; Briggs, Goodin, & Nelson, 1996; Feigelman, Kleinman, Lesieur, Millman, & Lesser, 1995; Petry, 2001a). The authors suggested that a longitudinal study should be done to see if the probability of problem gamblers becoming substance abusers is greater than that of substance abusers becoming problem gamblers.

However, the strength of the association between problem gambling and substance abuse varies depending upon sociodemographic variables and the gambling activity involved. For example, Petry (2003) found that among problem gamblers in treatment, horse/dog-track gamblers had moderate rates of current substance abuse problems, sports gamblers had high rates of abuse problems, card and slot-machine players few substance problems, and scratch/lottery gamblers severe symptoms of substance abuse. It was explained that low rates occurred for slot-machine gamblers in the sample because they were generally older women, and women are less likely to have substance abuse problems than men. Conversely, the scratch/lottery gamblers had

more severe symptoms, possibly because of the finding that they also suffered from severe psychiatric problems.

Theoretically, problems associated with substance abuse and problem gambling can be construed along a continuum of control, from maladaptive behaviours over which users have some control to behaviours over which individuals have no control (Sussman & Ames, 2001). At the lower extreme, users may exhibit very few problem behaviours and recover easily. At the other extreme, substances or gambling are engaged in excessively, a greater range of substances and activities are tried to regain pleasurable mood states, more problems are experienced, and recovery is very difficult. Problems with substance use can progress for several years before becoming debilitating, but for problem gambling, the decline is more rapid, possibly in less than a year (Evans, 2003).

In comparing recoveries from gambling problems to recoveries from alcohol problems, Hodgins and el-Guebaly (2000) used the transtheoretical model of change (Prochaska et al., 1992) to ascertain the factors perceived to initiate and maintain recoveries, the role of life events in recovery, and differences between natural and assisted recoveries. The major reason for people not seeking treatment for either addiction was the desire to handle the problem on one's own, which perhaps reflects the stigmatisation, embarrassment and pride associated with alcohol and gambling addiction. From among the factors of sex, age, type of gambling, problem severity, comorbid diagnoses for alcohol, drugs, or depression, and changes in life events, only severity of problem gambling (number of DSM-IV criteria) predicted entry into treatment. Compared to drinkers, fewer gamblers evaluated the pros and cons of their behaviours in their decision to seek change. Fewer also reported that life-style changes precipitated recovery, perhaps because regular drinking is frequently a part of social life, whereas regular gambling is not. Two major actions were taken to resolve their gambling situation: stimulus control by limiting access to gambling or venues associated with gambling, and new activities such as exercise, reading and family activities. Very few reported limiting access to money. The authors' recovered gamblers gave reasons for maintaining the changes, which were similar to the reasons given by recovered alcoholics and drug abusers, including not liking to see themselves as having a problem; self-liberating behaviours such as day-to-day commitment to quit and self-control or willpower (especially for naturally-recovered gamblers and drinkers); spouse, family and friends' support; change in recreational, leisure or social life activities; and physical health change. While life events did not precipitate steps to recovery, a reduction in negative life events and an increase in positive events after recovery, especially in health and financial areas, helped to maintain changes.

Key indicators of changes in gambling behaviour

From the literature on alcohol and substance abuse, the following questions could be asked of each cultural group in tracking changes from social to intense to problem gambling, and recovery.

General

(1) Is the process of transition from social to intense to problem gambling progressive and one-way, or discontinuous and regressive, how rapid are the changes, and does the process accelerate with age?

(2) Are there different trajectories for different cultural groups and for different gambling activities? For example, do machine gamblers move through the process to excessive gambling faster than gamblers on other activities?

Environmental

(3) What are the community sources of knowledge, attitudes and concepts of gambling that lead young people into gambling?

(4) How have the changes occurred in relation to availability, accessibility, advertising, including the introduction of casinos and the proliferation of gambling machines?

Cultural

(5) Are some types of gambling culturally reinforced, while others are shunned?

(6) How do cultural values and traditions affect the process (for example, social and family events where gambling takes place, who gamble with, types of gambling preferred)?

(7) To what extent do acculturation pressures influence the process?

(8) To what extent does church attendance and moral reform have on the process?

(9) To what extent do stigmatization, guilt and shame hinder seeking help with recovery?

Socio-demographic

(10) What changes in demographics occur with the changes in gambling behaviour (e.g., education, employment, socioeconomic status, living arrangements, marital status)?

(11) Do women progress from social to intense to problem gambling faster than men, and on what types of gambling activities?

(12) When gambling starts to become problematic, how do men and women differ in dealing with the problems?

Social

(13) What are the relative strengths of the effects of the following on gambling initiation and continuation into adolescence and adulthood: chaotic home environments, childhood adversity, parent involvement in gambling or permissive attitudes toward gambling, lack of social bonding to family and social institutions, early introduction to gambling, peer influence (including affiliations with delinquent and substance-using peers), and access to money?

(14) To what extent do parents care about their adolescents' gambling, know about the extent of their gambling, are able to influence and control their teenagers' gambling?

Personal

(15) What changes in self-control, substance use, involvement in risky activities and social behaviours occur with changes in gambling behaviour? For examples:

(16) Do childhood conduct disorders and early involvement in gambling (<16 years of age) lead to other problems such as substance abuse, offending, mental health problems, unemployment and school dropout?

(17) Do problem gambling and substance abuse develop simultaneously during adolescence, and have a common impulse control deficits origin?

(18) To what extent is substance use associated with gambling, and are problem gamblers with co-morbid substance abuse more entrenched in problem gambling than problem gamblers without co-morbidity?

(19) What expectations, feelings and emotions accompany gambling changes?

(20) To what extent do gamblers at the different stages of the process like advertisements for gambling, alcohol and tobacco?

Recently the Alcohol and Advisory Council (ALAC) of New Zealand initiated the Youth Drinking Campaign in New Zealand to lower the prevalence of drinking among youth (de Bonnaire, Fryer, Kalafatelis, & Whitfield, 2000; Kalafatelis, 2000). Prior to the commencement of the campaign, three key indicators were established in a benchmark survey to track changes in parents' attitudes towards drinking among youth 14 to 18 years of age: (1) parents' recognition of, and concerns with alcohol as an issue for teenagers, (2) feelings of empowerment in regard to dealing with teenagers and alcohol, and (3) their level of involvement in providing alcohol to adolescents and in seeking help for alcohol-related problems. In general, few parents were especially concerned about the issue, few knew the extent of their adolescents' binge drinking, very few knew where to get help for teenage alcohol problems, many overstated how well they were managing their teenagers' alcohol use, but 65% were the suppliers of alcohol for the 14 to 17 year olds and 25% had given their teenager alcohol to take to a social event that they were not attending themselves, and 23% thought that it was OK for their teenager to get drunk sometimes.

Based on the literature on changes in substance use and its relationship to gambling that were reviewed above, the following key indicators are proposed to monitor changes in gambling behaviour among various ethnic groups:

- Environmental – availability of gambling activities (ease of access, advertising)
- Cultural – degree of empowerment (community, family control of members' gambling)
- Socio-demographic – socioeconomic status (unemployment, sources of income)
- Social – number of significant others who gamble (family, peers, friends)

- Personal – control of gambling (number of gambling activities, other addictions)

With changes in gambling policy or community interventions, it may be possible to track the effects of the changes on these indicators. Like the alcohol campaign, it is assumed that with changes in these indicators, there will also be concomitant changes in gambling behaviour.

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Appendix C: Information sheet (problem gambling treatment services practitioners)

THE UNIVERSITY OF AUCKLAND
FACULTY OF MEDICAL AND HEALTH SCIENCES

CENTRE FOR GAMBLING STUDIES
University of Auckland
Level 2, 83 Grafton Road, Grafton
PO Box 26-533,
Epsom, Auckland

Title: Examining the determinants of problem gambling

To: **PROBLEM GAMBLING TREATMENT SERVICES PRACTITIONERS**

My name is ..... I am a member of a research team based at the Centre for Gambling Studies, The University of Auckland. I am conducting this research on why people gamble. This project was chosen because we know very little about why people participate in gambling activities in New Zealand and how some individuals move from mild, moderate level of participation in gambling to problem gambling. The project is funded by the New Zealand Health Research Council. Towards the end of the project, the research team will submit a report on the findings to the Council which might help develop a comprehensive research programme on problem gambling in New Zealand. No information which could personally identify you will be used in any reports of the study.

You are invited to participate in my research and I would appreciate any assistance you can offer me.

I would like to invite you to join a group discussion but you are under no obligation at all to be involved. Group discussion or focused group can take up to two hours. I may audio tape the discussion but this would only be done with your consent.

If you do wish to be involved please let me know by filling in a Consent Form and sending it to me at (researcher's contact address):

All information you provide in an interview or focus group is STRICTLY confidential and your name will not be used.

Thank you very much for your time and help in making this study possible. If you have any queries or wish to know more please phone me on (researcher's work phone number):

The principal investigator for this research is: Dr Samson Tse
Address: Centre for Gambling Studies, School of Population Health, Faculty of Medical and Health Sciences, University of Auckland
Phone number: 09-373 7599 extn 86097

For any queries regarding ethical concerns please contact:
The Chair, The University of Auckland Human Subjects Ethics Committee,
The University of Auckland, Research Office - Office of the Vice Chancellor, Private Bag 92019, Auckland. Tel. 373-7999 extn 87830

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS COMMITTEE on 4 December 2003 for a period of 12 months, from January 2004 Reference: 2003/346

Appendix D: Information sheet (people who gamble)

CENTRE FOR
GAMBLING STUDIES
University of Auckland
Level 2, 83 Grafton
Road, Grafton
PO Box 26-533,
Epsom, Auckland

Title: Examining the determinants of problem gambling
To: **PEOPLE WHO GAMBLE**

My name is ..... I am a member of a research team based at the Centre for Gambling Studies, The University of Auckland. I am conducting this research on why people gamble. This project was chosen because we know very little about why people participate in gambling activities in New Zealand and how some individuals move from mild, moderate level of participation in gambling to problem gambling. The project is funded by the New Zealand Health Research Council. Towards the end of the project, the research team will submit a report on the findings to the Council which might help develop a comprehensive research programme on problem gambling in New Zealand. No information which could personally identify you will be used in any reports of the study.

You are invited to participate in my research and I would appreciate any assistance you can offer me.

I would like to interview you or invite you to join a group discussion but you are under no obligation at all to be involved. Interviews would take about an hour. Group discussion or focused group can take up to two hours. I may audio tape the interview but this would only be done with your consent and could be turned off at any time or you can withdraw information any time up to where you start.

If you do wish to be involved please let me know by filling in a Consent Form and sending it to me at (researcher's contact address):

All information you provide in an interview or focus group is STRICTLY confidential and your name will not be used.

Thank you very much for your time and help in making this study possible. If you have any queries or wish to know more please phone me on (researcher's work phone number):

The principal investigator for this research is: Dr Samson Tse
Address: Centre for Gambling Studies, School of Population Health, Faculty of Medical and Health Sciences, University of Auckland
Phone number: 09-373 7599 extn 86097

For any queries regarding ethical concerns please contact:
The Chair, The University of Auckland Human Subjects Ethics Committee,
The University of Auckland, Research Office - Office of the Vice Chancellor, Private Bag 92019, Auckland. Tel. 373-7999 extn 87830

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS COMMITTEE on 4 December 2003 for a period of 12 months, from January 2004 Reference: 2003/346

Appendix E: Information sheet (family members)

CENTRE FOR
GAMBLING STUDIES
University of Auckland
Level 2, 83 Grafton
Road, Grafton
PO Box 26-533,
Epsom, Auckland

Title: Examining the determinants of problem gambling

To: **FAMILY MEMBERS**

My name is ..... I am a member of a research team based at the Centre for Gambling Studies, The University of Auckland. I am conducting this research on why people gamble. This project was chosen because we know very little about why people participate in gambling activities in New Zealand and how some individuals move from mild, moderate level of participation in gambling to problem gambling.

You are invited to participate in my research and I would appreciate any assistance you can offer me.

I would like to invite you to join a group discussion but you are under no obligation at all to be involved. Group discussion or focused group can take up to two hours. I may audio tape the interview but this would only be done with your consent.

If you do wish to be involved please let me know by filling in a Consent Form and sending it to me or phoning me on Tel: ..... All information you provide in an interview or focus group is confidential and your name will not be used.

Thank you very much for your time and help in making this study possible. If you have any queries or wish to know more please phone me on (researcher's work phone number):

The principal investigator for this research is: Dr Samson Tse
Address: Centre for Gambling Studies, School of Population Health, Faculty of Medical and Health Sciences, University of Auckland
Phone number: 09-373 7599 extn 86097

For any queries regarding ethical concerns please contact:
The Chair, The University of Auckland Human Subjects Ethics Committee,
The University of Auckland, Research Office - Office of the Vice Chancellor, Private Bag 92019, Auckland. Tel. 373-7999 extn 87830

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS COMMITTEE on 4 December 2003 for a period of 12 months, from January 2004 Reference: 2003/346

Appendix F: Information sheet (in Mäori)

THE UNIVERSITY OF AUCKLAND
FACULTY OF MEDICAL AND HEALTH SCIENCES

CENTRE FOR GAMBLING STUDIES
University of Auckland
Level 2, 83 Grafton Road, Grafton
PO Box 26-533,
Epsom, Auckland

HE TAUIRA

HE PEPA WHAKAMÄRAMA KÖRERO
HEI ARATAKI I A KOE TE KAITONO

Tuhia te ingoa o täu Kaupapa Rangahau ki tënei wähi

Ki a ……

Ko …… töku ingoa, a, he kaimahi / kaiako / tauira ahau, i Te Whare Wänanga o Tämaki Makaurau. E whakahaere ana ahau tëtahi Kaupapa Rangahau hei …… / E mahi ana ahau, i töku tohu mätauranga …….. i raro i te mana o Te Tari ……
E whakahaere ana ahau i tënei kaupapa rangahau hei …… / mo taku tuhinga whakapae …….
Kua whakaritea e au ko tënei …… hei pütake no te mea …….

He pöhiri tënei ki a koe, hei whakauru mai ki ngä mahi, o taku kaupapa rangahau.
He mihi tënei, mehemea ka taea e koe, te äwhina mai i ahau.
Ko tënei tëtahi wähanga o taku kaupapa rangahau, ara, he titiro ki tëtahi ähuatanga whakatauira, i tö wähi mahi. Ko tëtahi atu, he tirotiro ki ngä ahuatanga kua tau mai ki konei, nä runga anö i ënei ähuatanga hou, i nga tau tekau kua taha atu. ……. Tua atu i tënei, ka tirohia mehemea kua rerekë, kaore ränei, äu ake mahi me töu wähi mahi hoki.

E hiahia ana ahau ki te whiuwhiu pätai ki äu kaimahi toko maha. Mo tënei, kei a koutou te körero whakakore i tënei uiuitanga. Ka whakahaerehia ngä pätaitai nei, i te wä mahi ai koe. Häwhe haora nuku atu ki te haora te roanga.

Ko taku hiahia kia whakamaua äu körero ki runga rïpene, heoi anö kei a koe tënä. Ka taea te whakahängu te mihïni hopu reo, i te wä hiahia ai koe. Ko tëtahi atu, mehemea e pirangi ana koe kia whakakorea äu körero, kei te pai.

Mehemea he pai kia uiuitia koe, mä tö whakaae-a- tuhi, e whakaatu mai. Ka tonoa mai e koe, e waea mai ränei ki a au, i te wä kaore ahau i te mahi i konei.
Te Waea ……

Ko äu körero katoa ka homaitia ki ahau, he tikanga muna, a, e kore tö ingoa e möhiotia e te tangata.

Tënä rawa atu koe, i a koe e huri mai nei ki te äwhina i ahau, kia ü ai tënei rangahautanga. Mehemea he pätaitai äu, he aha ränei, waea mai ki ahau ki taku käinga, ki te waea kei runga ake nei. Mehemea he mea tuhi, tonoa mai äu tuhi körero ki te wähi kua tängia ki raro nei:

Te Tari ……
Te Whare Wänanga o Tämaki Makaurau
Pëke Tuku Reta 92019
Äkarana Waea ……..

Töku Kaitirotiro: Täkuta ……..
Te Tari ……
Te Whare Wänanga o Tämaki Makaurau
Pëke Tuku Reta 92019
Äkarana Waea. 373-7999 peka ……..

Tö te Tari Kaihautü ko: Te Pouako Ahurei
Te Tari ……
Te Whare Wänanga o Tämaki Makaurau
Pëke Tuku Reta 92019
Äkarana Waea. 373-7999 peka …….

Tonoa ki te tangata kua whakaingoatia ki raro nei, mehemea he pätaitai äu:

Te Heamana
Komiti Manaaki Tängata Tauira o Te Whare Wänanga o Tämaki Makaurau
Te Whare Wänanga o Tämaki Makaurau
Te Tari Rangahau
Te Tari o te Upoko Tuarua
Pëke Tuku Reta 92019
Äkarana Waea. 373-7999 peka 87830

HE TIKANGA KUA WHAKAMANAHIA E TE KOMITI MANAAKI TÄNGATA TAUIRA O TE WHARE WÄNANGA O TÄMAKI MAKAURAU i te rä …… mo ngä tau ……, mai …./…../…..

Appendix G: Consent form

CENTRE FOR
GAMBLING STUDIES
University of Auckland
Level 2, 83 Grafton
Road, Grafton
PO Box 26-533,
Epsom, Auckland

THIS CONSENT FORM WILL BE HELD FOR A PERIOD OF SIX YEARS

Title: Examining the determinants of Problem Gambling

Principal Researcher: Dr Samson Tse

I have been given and have understood an explanation of this research project. I have had an opportunity to ask questions and have them answered.

I understand that I may withdraw myself or any information traceable to me at any time up to where you start.

- I agree to take part in this research.
- I agree that the interview may be audio taped.

Signed:

Name:
(please print clearly)

Date:

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS COMMITTEE on 4 December 2003 for a period of 12 months, from January 2004 Reference: 2003/346

(This section is to be completed **after** advice of approval has been received from the UAHSEC, and **before** the sheet is given to prospective subjects)

Appendix H: Consent form (In Mäori)

THE UNIVERSITY OF AUCKLAND
FACULTY OF MEDICAL AND HEALTH SCIENCES

CENTRE FOR
GAMBLING STUDIES
University of Auckland
Level 2, 83 Grafton
Road, Grafton
PO Box 26-533,
Epsom, Auckland

HE TAUIRA
HE PEPA WHAKAAE - A - TUHI
WHAKAAETANGA KI ……..
KA PURITIA TËNEI PEPA WHAKAAE -A-TUHI MO NGÄ TAU E ONO

Te Karangatanga o te Kaupapa Rangahau:
Te Kairangahau:

Kua homaihia he whakamäramatanga mo tënei kaupapa rangahau, a, kei te märama rawa atu ahau. Kua whai wä ahau hei whiuwhiu pätai me te rongo hoki i ngä whakaututanga. E märama nei ahau kei a au anö te tikanga ki te puta ki waho, ki te tango hoki i aku körero. Mo ngä körero nei, kei te märama ahau e kore e möhiotia i ahu mai i ahau, ahakoa haere ai te wä. Kei te möhio ahau, kaore he körero whakamärama mäku mo tënei. [tuhia te rä tutuki ai te kauapapa]

[Ka ähei te kairangahau te hurihuri nga kupu, ki ngä mea e whakaaro ana ia, e tika ana]

*[Ï ëtahi wä ka hiahia te kairangahau te äta whakahua te rä, tëtahi tino take ränei, o tana kaupapa rangahau. Kua tuhia ngä kupu körerorero o te whakatauiratanga nei, kia märama ai, kei ngä tängata tauira tonu te mana, hei whakaputa i a rätou, me a rätou whakaaro körerorero hoki i te kaupapa nei. Mehemea he nui rawa te hurihanga o ngä kupu körerorero a te kairangahau, mä te Komiti tënei e whakaaetia. Tirohia te wähanga 8.1 o Ngä Körero Arataki]

[ëtahi atu takotoranga hei whakaaetanga]

E whakaae ana ahau ki te whakauru mai ki tënei kaupapa rangahau.

[ko tënei ränei, ' Kei te whakaae ahau kia whai wähi taku tamaiti, tamaiti whängai ränei a ..…….. .. hei whakauru mai ki tënei kaupapa rangahau']

Tuhia tö mokotä:

Tö Ingoa:
(Kia märama te tuhi, kia ora)

Te Rä:

HE TIKANGA KUA WHAKAMANAHIA E TE KOMITI MANAAKI TÄNGATA TAUIRA O TE WHARE WÄNANGA O TÄMAKI MAKAURAU i te rä …… mo ngä tau ……, mai …./…../
(Whakakïa tënei wähanga **i muri i** te rirotanga o te whakaaetanga mai i UAHSEC a, **i mua** hoki i te hoatutanga ki ngä tängata tauira kua whakaritea)**TÄPIRITANGA 2**

Appendix I: Information sheet (Phase Two)

CENTRE FOR GAMBLING STUDIES
University of Auckland,
Tamaki Campus
Private Bag 92019
Glen Innes, Auckland

Title: Examining changes in gambling behaviour

Thank you for agreeing to help us with this project funded by the Health Research Council. **Completion of the anonymous questionnaire implies that you have given your consent to take part in this survey.**

This project was chosen because we know very little about why people participate in gambling activities in New Zealand and how some individuals move from mild, moderate level of participation in gambling to problem gambling.

We don't need to fill in your name and confidentiality will be guaranteed. If the information you provide is reported or published, this will be done in a way that does not identify you as its source. All the completed questionnaires shall be stored in a locked cabinet located at Tamaki Campus' School of Population Health. Please be assured that any data gathered from this survey will be destroyed after 12 months, in December 2005.

The questionnaire takes between 5 and 10 minutes to complete and does not require you to fill in your name. When you have completed the questionnaire, please deposit it in the box labelled "QUESTIONNAIRES" beside the table. If you wish to find out the results of our study later in the year, please give us your. We will not match your questionnaire with the addresses. A two-page summary sheet will be mailed to you.

If you have concern about your participation in gambling activities, please contact:

1. Problem Gambling Foundation of New Zealand (Telephone: 0800 664 262)
2. Gambling Problem Helpline (Telephone: 0800 654 655
3. National Pacific Gambling Project (Telephone:09 529 1492)
4. Hapai Te Hauora Tapui (Telephone: 09 520 4797)
5. South Auckland, Hauora Waikato Te Hihiri-a-nuku (Telephone: 09 2702582)
6. Asian Services (Mandarian, Korean & Chinese) (Telephone: 0800 862 342)

Thank you very much for your time and help in making this study possible. If you have any queries or wish to know more please contact the researcher.

The principal investigator for this research is: Dr Samson Tse
Address: School of Population Health, Faculty of Medical and Health Sciences, University of Auckland
Phone number: 09-373 7599 extn 86097

For any queries regarding ethical concerns please contact:
The Chair, The University of Auckland Human Participants Ethics Committee,
The University of Auckland, Research Office - Office of the Vice Chancellor, Private Bag 92019, Auckland. Tel. 373-7999 extn 87830

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE on 15 September 2004 for a period of THREE years, from 15 Sept 2004 Reference 2004/ 296

Appendix J: Instructions for interviewers (Phase Two)

CENTRE FOR GAMBLING
STUDIES
University of Auckland,
Tamaki Campus
Private Bag 92019
Glen Innes, Auckland

Title: Examining changes in gambling behaviour

"My name is ..... I am a member of a research team based at the Section of Social and Community Health, The University of Auckland. We are conducting this research on **why people gamble**. This project was chosen because we know very little about why people participate in gambling activities in New Zealand and how some individuals move from mild, moderate level of participation in gambling to problem gambling."

"Would you have 5 to 10 minutes to complete a brief questionnaire on gambling? No names are asked for"

[If yes:]

"Thank you. Please take this sheet over to the table with pencils on it."

"When you have completed the questionnaire, please deposit it in the box labelled "QUESTIONNAIRES" beside the table."

"If you wish to find out the results of our study later in the year, please address a blank prepaid envelope to yourself. We will not match your questionnaire with the envelope. Deposit it in the box separate from the completed questionnaires, labelled "ENVELOPES". A two-page summary sheet will be mailed to you.

If you do not wish to complete the questionnaire, you may put it in the box. No one will know who has completed the questionnaires.

Thank you very much for your time and help in making this study possible.

Appendix K: Individual interview questionnaire (Phase One)

Part 1: Gambling and its changes over time

TOPIC 1: GENERAL INFORMATION

Q1 "Firstly can you recall seeing or hearing any advertising for any sort of gambling or betting or games, in which there is an element of luck or chance, for example, on TV, radio, or in newspapers, magazines, church, or Internet?"

If yes, goes to Q2 **If no, goes to Q3**

Q2 "Can you tell me what gambling activities you have seen advertised?" eg: "lotto on TV, the colour and fun, it's on every week" (PROBING: "Any others?")

Gambling activity	What was it about the ad that got your attention?")

"In this study we use the word 'gambling' to mean any type of gambling, betting or games played for money. So it includes Lotto, raffles, betting on horses and sporting events, card and dice games played for money, TAB, Casino, etc. I want to know about your gambling involvement in the past 12 months), or, if you are no longer gambling, when you last took part regularly."

No longer gambling, last took part regularly ……..

Q3

"Can you tell me what is your **preferred type** of gambling?"	How often do you gamble? **CARD A**, record a number	How much time do you typically spend in one gambling session?	"How much money would you typically spend on this activity in one gambling session?" "Please include amount actually bet/gambled only."	"Can you tell me who you usually gamble with on this activity?" (**CARD B**, record number)
And what **other types of gambling do you frequently** take part in?" if none, go to Topic 2	How often do you gamble? **CARD A**, record a number	How much time do you typically spend in one gambling session?	"How much money would you typically spend on this activity in one gambling session?" "Please include amount actually bet/gambled only."	"Can you tell me who you usually gamble with on this activity?" (**CARD B**, record number)

TOPIC 2: WHY DO PEOPLE GAMBLE

Q4 "Can you tell me the main reason why you gamble?" (RECORD VERBATIM, PROBE FULLY)

Q5 "You said that <PREFERRED TYPE> was your preferred gaming activity. Can you tell me why you enjoy that activity particularly?"
PROMPT: "Any other reasons?" (RECORD **ALL REASONS** FOR PREFERENCE, THEN **PROBE EACH REASON FULLY**.)

Reasons: Further explanation/ elaboration:

IF RESPONDENT SAYS SOMETHING LIKE …….	ASK:
"To win prizes or money"	"Why do you try to win prizes or money from <X activity> particularly?"
"I like to use my skill or knowledge to beat the odds:"	"How do you do that with <X activity>
"For excitement"	"What is it about <X activity> that's exciting?"
"As an entertainment or for fun"	"What is it about <X activity> that's entertaining/fun?"

Q6 "Do you think your gambling affects your quality of life?" (SINGLE RESPONSE)
If yes, "How?" **if no, goes to Q7** (PROBE, RECORD)

CARD C

Q7 "How much did people gamble in the family you were mainly brought up in?"	Q8 "How much do your present family, or other you live with now, gamble?"	Q9 "How much do your friends gamble?"	Q10 How much do people at your place of work gamble?"	Q11 Do you go to church or any religious organisations such as temple? **If no, go to Q12**
				If yes, How much do people

				at your Church (or any religious organisations such as temple) gamble?"

Q12 On the whole, how do you think the influence of people around you gambling such as your friends, family members has affected your own gambling behaviours? (PROBE, RECORD)

TOPIC 3: CHANGE OF GAMBLING OVER TIME

"Now I would like you to think about **how** your gambling, betting or gaming have changed over time.

Q13 At what age did you first take part in gambling, betting or gaming?" (PROBE FOR EXACT AGE IN YEARS, IF RANGE GIVEN)

☐☐ years Don't know ☐ Declined to comment ☐

Q14 "Who, or what, introduced you to gambling?"
(IF ANSWERED 'NOBODY/NO-ONE/NOTHING/MYSELF', PROBE FOR CIRCUMSTANCES OF ITS HAPPENING.)

Q15 "When you first took part in gambling what was your preferred type of gambling?"

(RECORD TYPE) _____

Q16 "Did you take part in other types of gambling at that time?"

(RECORD TYPE) _____

Q17 "Tell me about your memories of gambling when you first started gambling?" PROBE: e.g. "What did it feel like when you gambled?")

Q18 "What do you think led to your shift from gambling sometimes to gambling on a regular basis?"(RECORD FULLY, PROBE TO CLARIFY, FURTHER PROBES, e.g. "Anything else?")

Q19 "How would you describe your life generally at the time you started gambling on a regular basis?" (RECORD FULLY, PROBE TO CLARIFY, FURTHER PROBES, e.g. "Was there much stress in your life then?" "Was there direction in your life?"

Q20 "Did the way you thought about gambling, winning and losing, change in any way when you started gambling on a regular basis?" (RECORD FULLY, PROBE TO CLARIFY, e.g. "Tell me more about that")

SHOW CARD D,
Q21 "During the time when you started gambling on a regular basis, let's say during the first 6 – 12 months you gambled regularly, were there times when you spent more time or money gambling than you intended?"

1 2 3 4 5

Q22 "During this time, what, if anything, did you do to keep your gambling and gambling losses within limits?" (RECORD, PROMPT IF REQUIRED, e.g. "Anything else")

(PROMPT: "How well did this/these methods work?" RECORD)

Q23 "How did you feel about gambling and its place in your life at this time?" (RECORD, PROMPT IF REQUIRED)

Q24 "What are the reasons you continued to gamble regularly at this time?" (RECORD, PROMPT IF REQUIRED)

TOPIC 4: DEFINING PROBLEM GAMBLING

Q25 “What does a problem gambler look like to you?” (RECORD, PROBE)

“Do you feel that you have ever had a problem with gambling?” If YES, ask the following questions, **if no go to Q45 on page 10**

Q26 “How old were you when you first noticed that you had a problem with gambling?”

Q27 “Why did you think you had a problem?” (RECORD, FULLY, PROBE)

Q28 “What form/forms of gambling were you most involved with at that time?”

Q29 “What do you think led to your shift from non-problem gambling to problem gambling?” (PROBE, e.g. “Anything else?”) (RECORD, PROBE)

CARD E

Q30 “Which, if any of the **following people** have ever had a problem with gambling?”

1	2	3	4	5	6	7
8	9	10	11	12	13	14

Q31 “How, if at all, did <u>their problem gambling</u> affect your gambling?” (RECORD, PROBE)

Q32 “Did the way you thought about **winning and losing**, change in any way when you developed a gambling problem? (RECORD FULLY, PROBE TO CLARIFY, e.g. “Tell me more about that”) (RECORD, PROBE)

Q33 “Did the way you thought about **seeking excitement** change in any way when you developed a gambling problem? (RECORD FULLY, PROBE TO CLARIFY, e.g. “Tell me more about that”) (RECORD, PROBE)

Q34 “Did the way you thought about **trying to avoid/ escape from problems (such as relationship, financial, studies)** change in any way when you developed a gambling problem? (RECORD FULLY, PROBE TO CLARIFY, e.g. “Tell me more about that”) (RECORD, PROBE)

Q35 “What part has **alcohol** played, if any, in your gambling or problem gambling?” (RECORD, PROBE)

Q36 “What part has your **occupation or life-style** played, if any, in your gambling or problem gambling?” (RECORD, PROBE)

Q37 “What part has your **cultural upbringing and spiritual beliefs** played, if any, in your gambling or problem gambling?”(RECORD, PROBE)

Q38 “What part has **advertising** played, if any, in your gambling or problem gambling?” (RECORD, PROBE)

Q39 “What effects did your problem gambling subsequently have on your life and the lives of people close to you?” (RECORD, PROBE)

Q40 “How would you describe your life generally at the time you first considered that you had a problem with gambling?” (PROBE TO CLARIFY, FURTHER PROBES, e.g. “Was there much stress in your life then?” “Was there direction in your life?”) (RECORD, PROBE)

TOPIC 5: CONTROL ON PROBLEM GAMBLING

Q41 "Since you first considered that you were concerned about your gambling behaviours, have you been free or mostly free of gambling problems for six months?" **If no, go to Q45 on page 10**

Q42 "During the time or times when you were free or mostly free of gambling problems, did you stop gambling altogether, reduce your involvement, or change your gambling in some other way?" (RECORD, PROBE)

Q43 "What do you believe were the main factors in cutting down your gambling problems during this/these time/s?"(RECORD, PROBE)

Q44 "Have you ever returned to having problems with your gambling following a problem-free or largely problem-free period?" "What do you believe were the reasons for this?"(RECORD, PROBE)

TOPIC 6: ENDING

Q45 "Is there anything else about your gambling (or problem gambling experiences) that you believe is helpful in understanding why people gamble and why some people develop gambling problems? (RECORD, PROBE)

Thank you so much for your willingness to share your experiences about gambling. That has been very useful. Let's move to part 2 to ask some questions about yourself and your household.

Part 2: Relevant personal information

"Here are some general questions about yourself and your household."

Q.1 Were you born in New Zealand?"

Yes ------- -------- **GO TO Q.5** No→ -------------------------

Q.2 "What country were you born in?" ---

Q.3 "Can you tell me which of these ethnic groups you belong to?" Tick all that apply.

NZ European/ Päkehä? ☐ Other European ☐

NZ Mäori? ☐

Pacific Island? ☐ RECORD SPECIFIC GROUP e.g. Samoan ----------------------------------

Asian? ☐ (please identify specific group such as Chinese)

____

Or another ethnic group

Do not know ☐ Declined to comment ☐

Q.4 "When did you first arrive to live in New Zealand?" Month ☐☐
Year ☐☐☐☐

Q.5 "What is your occupation?" --

Q.6 "What is the highest qualification you have obtained?" (Tick all that apply)

Vocational or trade . . . .
School Certificate (Primary School, Intermediate School, High School)
(examples are: Trade Cert, Advanced Trade Cert, NZ Cert or Diploma, Technicians Cert, Polytech Cert or diploma, Teachers Cert or Diploma, University Cert or Diploma below Bachelor level, Other qualification)

Degree . . . .
(examples are: Bachelors Degree, Post Graduate Degree, Cert or Diploma.)

Q.7 "How old are you?" ☐☐ Years

Q.8 "Are you currently?"

Married ☐ Living with a partner ☐

Single ☐ Separated ☐

Divorced ☐

(If divorced or previously married, please ask: "what do think about the role of gambling/ use of alcohol or other problems in your separation?"

Widowed ☐ Did not know ☐ Declined to comment ☐

Q.9 "What is your religion?"

Anglican	☐
Presbyterian	☐
Catholic	☐
Methodist	☐
Baptist	☐
Latter Day Saints/Mormons	☐
Pentecostal	☐
Christian (unspecified)	☐
Other religion – specify	☐
No religion	☐
Did not know	☐
Declined to comment	☐

Q.10 (**SHOW CARD F)** "I'd like you to tell me which of these groups covers your total household income from all sources. This is before tax, and is for the 12 months ending today."

1 2 3 4 5 6 7 8

Part 3: Evaluation on life time gambling

"The following questions might not apply to you, but your answers will help us understand your gambling experiences. There are no right or wrong answers – just say what's true for you."

Q.1 "When you participate in the gambling activities we have discussed, did do you go back another day to win back money you lost?"

Yes/No

- How old were you when this first happened?
- When was the last time this happened?

Q.2 "Have you ever claimed to be winning money from these activities when in fact you lost?"

Yes/No

- How old were you when this first happened?
- When was the last time this happened?

Q.3 "Do you ever spend more time or more money gambling than you intended?"

Yes, more time Yes, more money No

- How old were you when this first happened?
- When was the last time this happened?

Q.4a "Have you ever argued with people you live with over how you handle your money?"

Yes - No- - - - - - - - - - - - - - - - - - - -(go to Q5)
Did not know - - - - - - - - - - - - - Declined to comment - - - - - -(go to Q5)

Q.4b "Have these arguments ever centred on your gambling?"

Yes - No- -
Did not know - - - - - - - - - - - - - - - Declined to comment - - - - - - - - -

Q.4c "Were violence involved in any of those arguments about your gambling?"

Yes - No- -
Did not know - - - - - - - - - - - - - - - Declined to comment - - - - - - - - -

Q.4d "Have you had any of those arguments about your gambling in the last 6 months?"

Yes -No- -
Did not know - - - - - - - - - - - - - - - Declined to comment - - - - - - - - -

Q.5 "Have you ever missed time from work, school or study due to gambling?"

Yes/No

- How old were you when this first happened?
- When was the last time this happened?

Q.6 "Have you ever borrowed from someone and not paid them back as a result of your gambling?"

Yes/No

- How old were you when this first happened?
- When was the last time this happened?

Q.7 "I am going to read out a list of ways in which some people get money for gambling. Can you tell me which of these, you have used to get money for gambling or to pay gambling debts?"

- How old were you when this first happened?
- When was the last time this happened?

		Record here	Record here
a)	Borrowed household money		
b)	Borrowed from your spouse or partner		
c)	Borrowed from your friends		
d)	Borrowed from other relatives or in-laws		
e)	Loans from banks, loan companies or other finance companies		
f)	Cash withdrawals on credit cards. INTERVIEWER – does not include EFTPOS and other instant cash cards to access bank account		
g)	Loans from loan sharks		
h)	Cashed in shares, insurance policies or other securities		
i)	Sold personal or family property		
j)	Borrowed from your cheque account by writing cheques that bounced		

Q.15 "Do you feel that you have ever had a problem with gambling?"

Yes/No

- How old were you when this first happened?
- When was the last time this happened

"That brings us to the end of the interview – thank you for your help. Do you have any further comments you would like to make, or any questions"?

SHOW CARD A

1	Everyday
2	Several times a week
3	Once a week
4	Once a fortnight
5	Once a month
6	Less often than once a month

SHOW CARD B

1	Partner/ spouse
2	Other family members
3	Friends
4	Acquaintances
5	Strangers
6	No-one
7	Workmates
8	Other (specify)

SHOW CARD C

1	Not at all
2	A little
3	Moderate amount
4	A lot

SHOW CARD D

1	Never
2	Rarely
3	Sometimes
4	Often
5	Always

SHOW CARD E

1	Father
2	Mother
3	Brother
4	Sister
5	Grandparent
6	Spouse/ partner
7	Boarder
8	Cousin
9	Children
10	Another relative
11	Friend or someone important in your life
12	Workmate
13	Other (please specify)
14	None of these

SHOW CARD F

1	$20,000 or less
2	$20,001 to $30,000
3	$30,001 to $40,000
4	$40,001 to $50,000
5	$50,001 to $70,000
6	$70,001 or more
7	Do not know
8	Declined to comment

Appendix L: Questionnaire used in Phase Two study

THE UNIVERSITY OF AUCKLAND
FACULTY OF MEDICAL AND HEALTH SCIENCES

CENTRE FOR GAMBLING STUDIES
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GAMBLING STUDY QUESTIONNAIRE

1. Do you participate in any sort of gambling or betting or games, in which there is an element of luck or chance, for example, on TV, radio, or in newspapers, magazines, church, or Internet? (Please circle one of the following)

YES **NO (Go to Section 8)**

2. What are your favourite games? (Please circle one or more.)

a. Housie or Bingo b. Gambling at a casino c. Gambling on the Internet
d. Playing cards for money e. Pokies machines f. Raffles

Others (please specify):_____

3. How did you start gambling?

For each of the choices below, please indicate the extent to which each statement applies to you. For example, if the statement does not apply to you at all, circle 0, if it applies to you generally, circle 2; if it very definitely applies to you, circle 4.

Does not apply to me at all	Applies to me a little	Applies to me generally	Applies to me a lot	Very definitely applies to me
0	1	2	3	4

Advertisements encouraged me to believe that I can win.	0	1	2	3	4
I saw gambling as a form of reward.	0	1	2	3	4
I hoped to win big money.	0	1	2	3	4
I needed to solve my money problems.	0	1	2	3	4
I needed money for my family.	0	1	2	3	4
Friends and family introduced me to gambling.	0	1	2	3	4
I needed money to fulfill my obligations (e.g. family, church).	0	1	2	3	4
It began with social activity (at home, clubs or church).	0	1	2	3	4
It was a form of socialising.	0	1	2	3	4
The places I socialise have gambling facilities.	0	1	2	3	4
I needed time-out.	0	1	2	3	4
I got involved in fundraising.	0	1	2	3	4
I looked for excitement & entertainment.	0	1	2	3	4
Gambling is one of my few entertainment options.	0	1	2	3	4
I had a lot of spare time.	0	1	2	3	4

I wanted to get rid of my boredom.	0	1	2	3	4
I used gambling to escape from my stress & troubles.	0	1	2	3	4
Gambling helped me deal with my loneliness.	0	1	2	3	4
The lowered drinking age has increased my exposure to gambling.	0	1	2	3	4
Migration and associated difficulties initiated my gambling.	0	1	2	3	4

4. Do you gamble <u>once a week</u> or more? Please circle one of the following:

YES (please fill in the following section) NO (please go to section 5)

For each of the choices below, please <u>indicate the extent</u> to which each statement applies to you. For example, if the statement does not apply to you at all, circle 0, if it applies to you generally, circle 2; if it very definitely applies to you, circle 4.

Does not apply to me at all	Applies to me a little	Applies to me generally	Applies to me a lot	Very definitely applies to me
0	1	2	3	4

I have easy access to money machines.	0	1	2	3	4
I want big wins.	0	1	2	3	4
Small wins encourage me to keep gambling.	0	1	2	3	4
I need the money to cover what I lost.	0	1	2	3	4
I have easy access to gambling activities (e.g., txt message, Internet).	0	1	2	3	4
I like the sound and excitement of gaming venues.	0	1	2	3	4
I enjoy being with people in gambling venues.	0	1	2	3	4
Gambling helps me to get rid of boredom.	0	1	2	3	4
Gambling helps me to escape from my stress & troubles.	0	1	2	3	4
I have a lot of free time.	0	1	2	3	4
My friends, workmates or family invite me to gamble.	0	1	2	3	4
Gambling is one of the few activities I can do after or in between work.	0	1	2	3	4
I gamble to *'save face'* with my family/friends/colleagues.	0	1	2	3	4
Gambling gives me hope and an opportunity for better life.	0	1	2	3	4
I lose control of myself.	0	1	2	3	4

5. The next 10 questions refer to events in the past YEAR, please circle the best answer:

1. Have you found yourself thinking about gambling (in other words, reliving past gambling experiences, planning the next time you will play, or thinking of ways to get money to gamble)	Never/At least once
2. Have you needed to gamble with more and more money to get the amount of excitement you are looking for?	Never/At least once
3. Have you become restless or irritable when trying to cut down or stop gambling?	Never/At least once
4. Have you gambled to escape from problems or when you were feeling depressed, anxious or bad about yourself?	Never/At least once
5. After losing money gambling, have you returned another day in order to get even?	Never/At least once
6. Have you lied to your family or others to hide the extent of your gambling?	Never/At least once
7. Have you made repeated unsuccessful attempts to control, cut back, or stop gambling?	Never/At least once
8. Have you been forced to go beyond what is strictly legal in order to finance gambling or to pay gambling debts?	Never/At least once
9. Have these you risked or lost a significant relationship, job, educational, or career opportunity because of gambling?	Never/At least once

10. Have you sought help from others to provide money to relieve a desperate financial situation caused by gambling? Never/At least once

6. Do you feel that you have had a problem with gambling? (Circle one) YES NO

7. Is the form of gambling you do now the same as when you started?

YES NO

If NO, please fill in the following:

First form of gambling _____ Current form of gambling _____

8. Which of the following do you define as gambling? Please circle as many as are appropriate.

a. Raffles

b. Instant kiwi/scratchies

c. Mah jong

d. Housie/bingo for money

e. Lotto

f. Internet –casino games

g. Daily Keno

h. TAB

i. Sports betting

j. Horse/dog racing

k. Card games for money

l. Dice games for money

m. Money wagers with friends/colleagues

9. DEMOGRAPHICS

1. What is your sex? (Tick one) Male Female

2. What is your age? _____ years

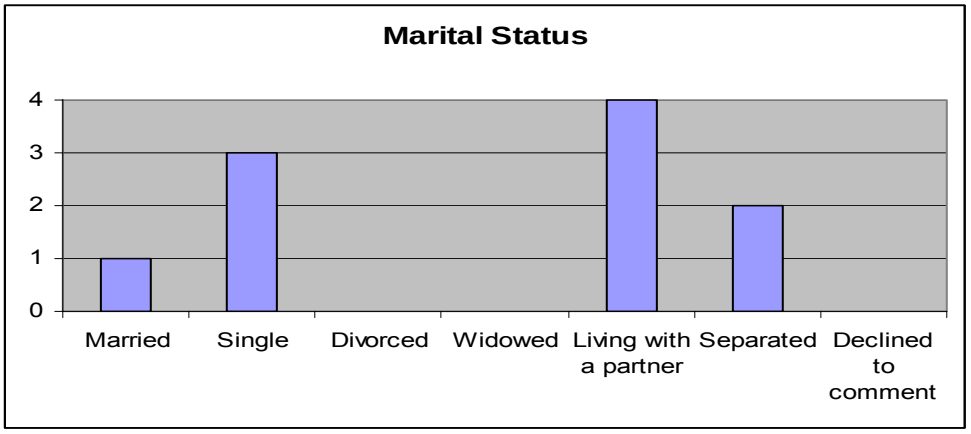
3. Which group do you primarily identify with? (Tick one)

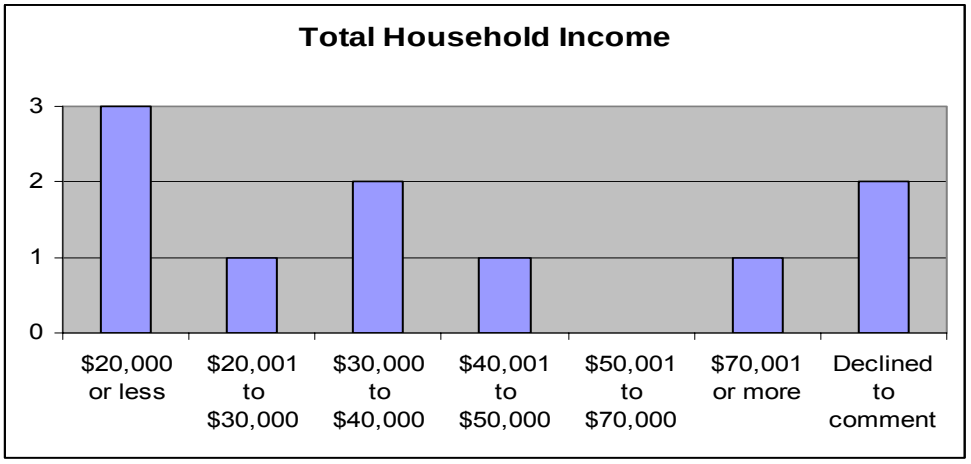
Päkehä /NZ European
Māori
Pacific Island Group: (Please name)_____
Asian: (Please name)_____
Other: (Please name)_____

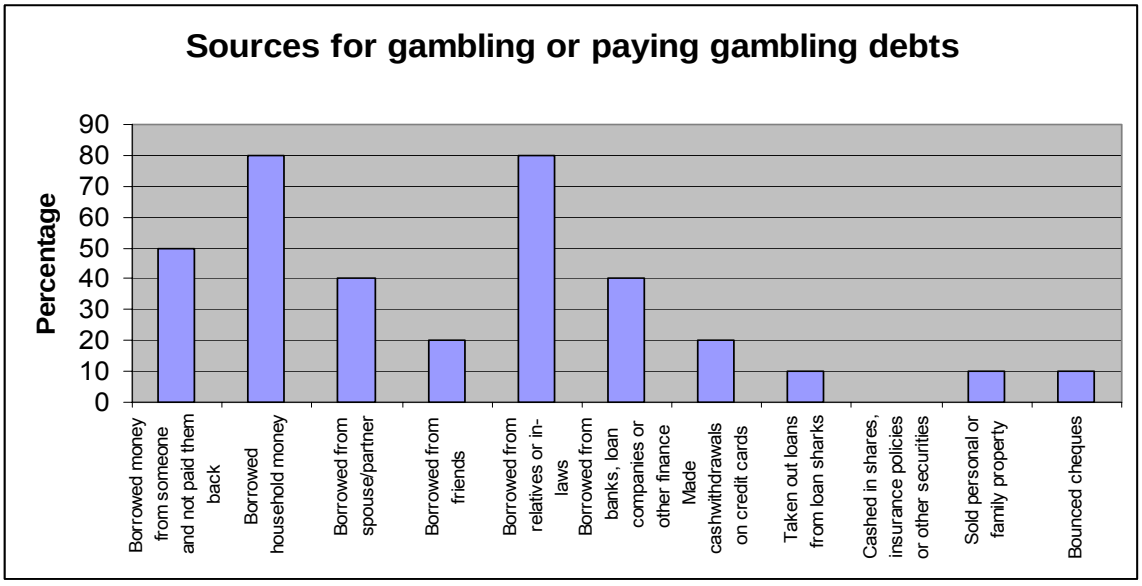
4. What is your occupation? (Please name)_____

Thank you for completing this questionnaire.
Please deposit it in the box labelled "QUESTIONNAIRES".

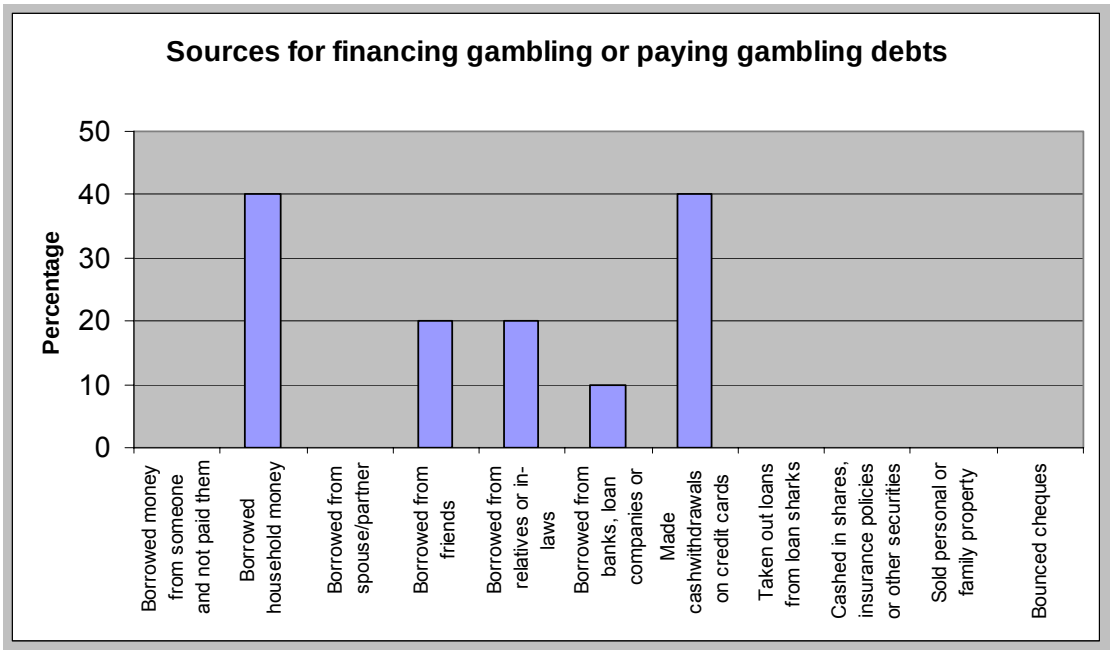
Appendix M: Ten *Mäori* participants in individual interviews – marital status, total household income and financial sources for gambling or paying gambling debts



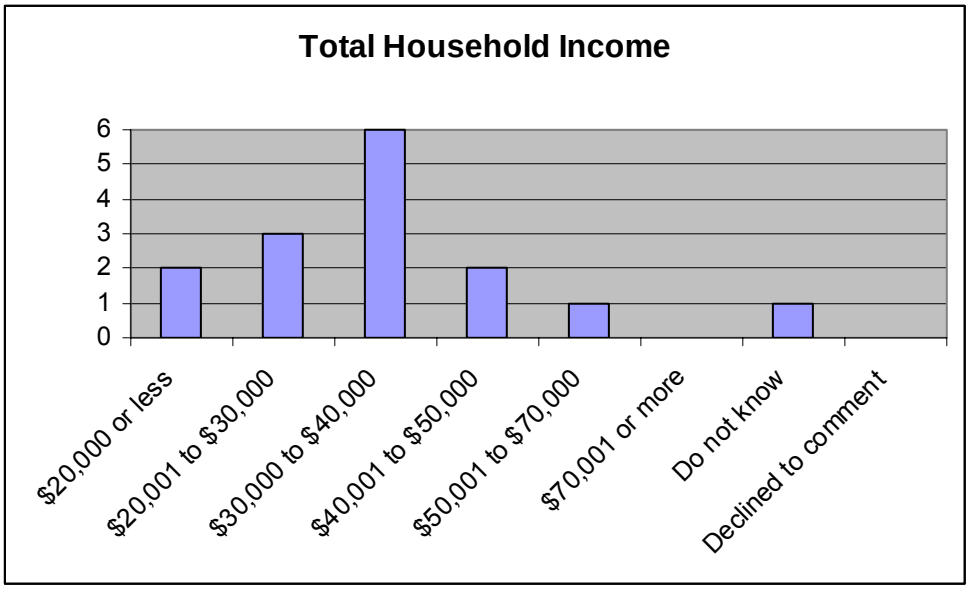




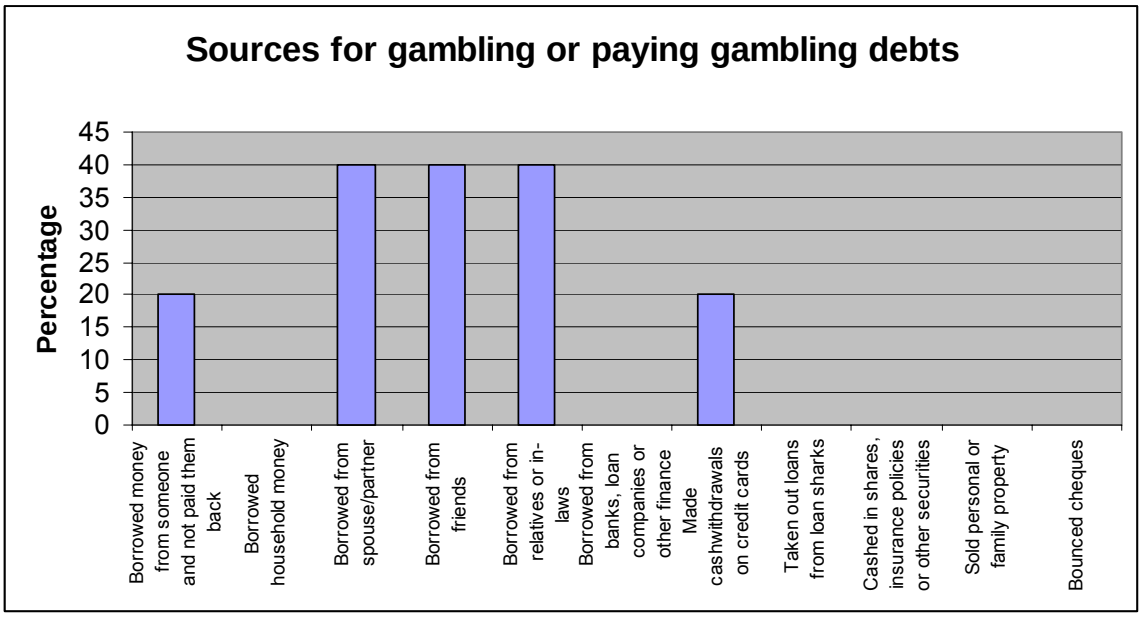
Appendix N: Ten *Päkehä* participants in individual interviews – financial sources for gambling or paying gambling debts



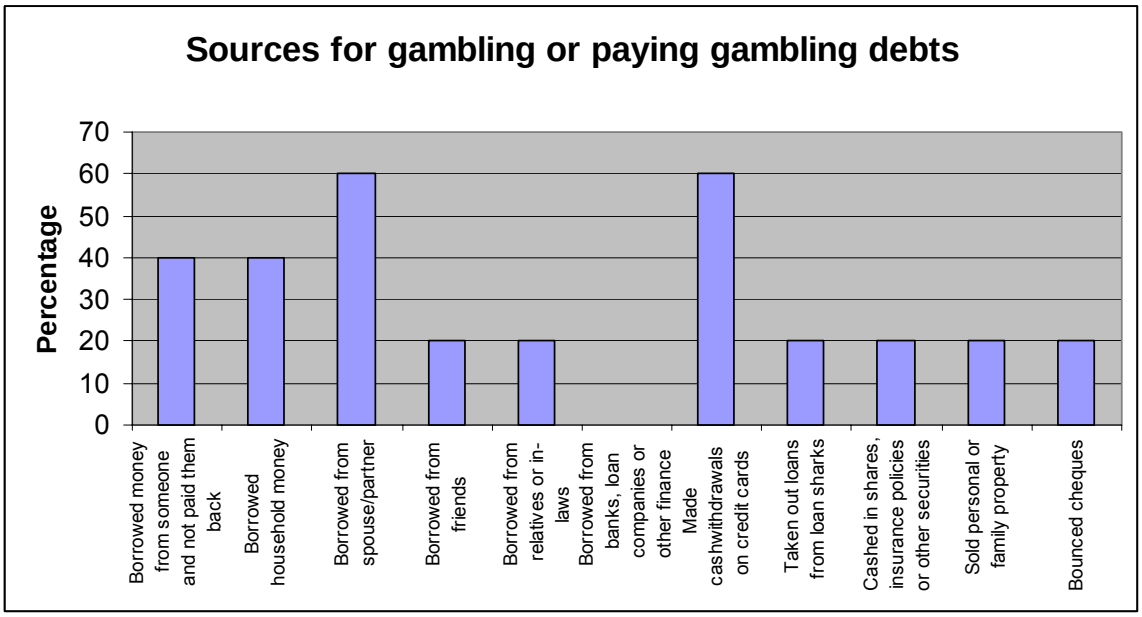
Appendix O: Fifteen *Pacific* participants' distribution of total household income



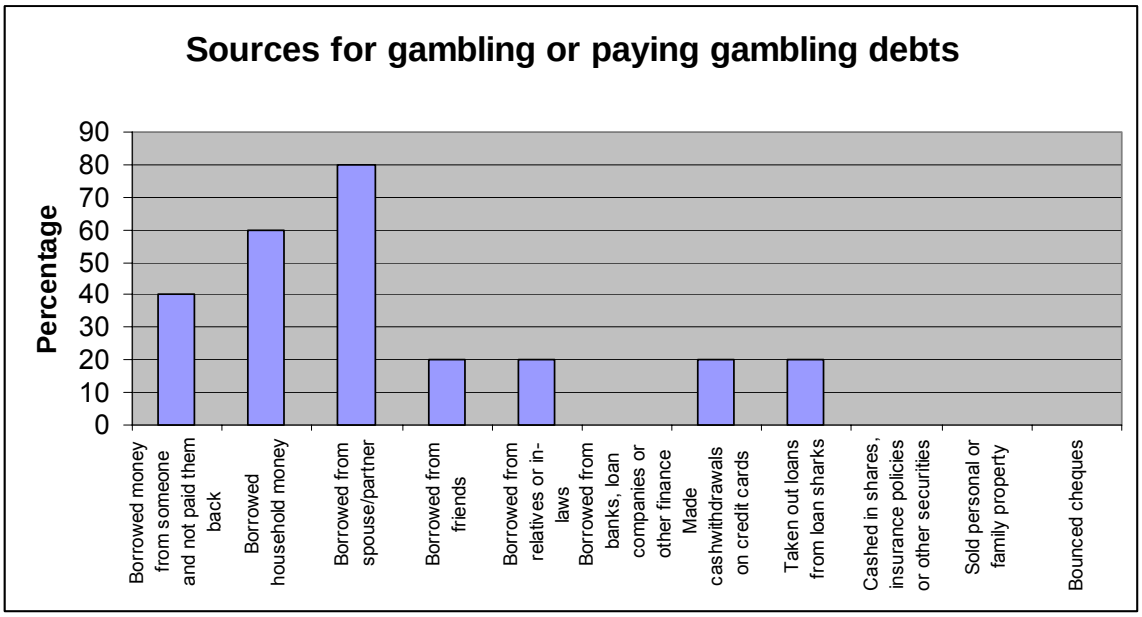
Appendix P: Five *Niue* participants' sources for financing gambling or paying gambling debts



Appendix Q: Five *Samoan* participants' sources for financing gambling or paying gambling debts



Appendix R: Five *Tongan* participants' sources for financing gambling or paying gambling debts



Appendix S: Ten *Asian* participants in individual interviews – marital status, total household income and financial sources for gambling or paying gambling debts